IN SEARCH OF GIBALA

An archaeological and historical study
based on eight seasons of excavations at Tell Tweini (Syria)
in the A and C fields (1999-2007)

AULA ORIENTALIS – SUPPLEMENTA

Director: G. del Olmo Lete

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J. Bretschneider & K. Van Lerberghe (eds.)

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Joachim Bretschneider and Karel Van Lerberghe
Leuven, summer 2008.

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Director: Karel Van Lerberghe; **Field Director**: Joachim Bretschneider; **Team**: Karl-Heinz Bäumler, Nic Cairns, Tim Cunningham, Frank Duchene, Greta Jans, Harald Röhsa, Patricia Vandorpe, Nele Vangompel, Klaas Vansteenhuyse, Benedikt Verstraete; **Students**: Céline Simonet, Joke Vansweevelt

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The Syro-Belgian 'Tell Tweini' project

Joachim Bretschneider and Karel Van Lerberghe[1]

The 'Tell Tweini' project is an interdisciplinary Syro-Belgian project initiated at the behest of Dr. Bassam Jamous, Director-General of Antiquities, Syria. It is directed by Professor Dr. Michel Al-Maqdissi and Professor Dr. Karel Van Lerberghe and with Dr. Massaoud Badawi and Professor Dr. Joachim Bretschneider as field directors, representing the 'Syrian Directorate-General of Antiquities' and the 'Katholieke Universiteit Leuven' respectively.

The Syro-Belgian excavations project at Tell Tweini, begun in 1999, plans to study the history of the site in its Syro-Mesopotamian context. The archaeological and historical research is integrated into a larger interdisciplinary research program whose goal is to recreate the environment in which the civilizations of the Levant developed. Situated in a contact zone between the Aegean world and northern Mesopotamia, the ancient city of Gibala, most probably to be identified with modern Tell Tweini (according to the following scholars: G. Sa'adé, M. Astour[2], J. Lund[3] and W. van Soldt[4]), is of considerable historical and cultural importance. Indeed, the city had been in contact with the great Bronze Age centers such as Alalakh, Qatna, Jamhad (Aleppo) and Ebla, as well as with the Levantine cities of Ugarit, Tell Sianu, Tell Kazel, Kamid el-Loz and Byblos.

The excavations of the metropolis Ras Shamra/Ugarit are the main source for understanding the history of the region during the second half of the second millennium B.C.E. (the 14th and 13th centuries). The earlier periods, the Ancient and Middle Bronze Ages, and the later periods, Iron I - III periods, are less prominent, or even non-existent at Ras Shamra. The eight seasons of excavations at Tweini have shown that the site is of exceptional importance since it was occupied during the lesser known periods at the beginning of the second and first millennia B.C.E. The Tweini project thus is a considerable contribution to the understanding of the political and cultural developments of the northern Levant in the pre- and post-Ugaritic periods.

The first results of the project were published by the members of the research group in preliminary reports[5]. A full report on the excavations by the Syrian team (Field B) and by the Belgian team (Fields A and C) was written by M. Al-Maqdissi, K. Van Lerberghe, J. Bretschneider and M. Badawi under the title, *Tell Tweini, huit campagnes de fouilles Syro-Belges (1999-2007)*, Documents d'Archéologie Syrienne, Damas, 2008. The articles published in this volume present the first synthesis of the results of eight excavation campaigns by the Belgian partners in Fields A and C and integrate the historical and

1. This article presents research results of the Belgian Program on Interuniversity Poles of Attraction VI/34, Belgian State Federal Office for Scientific, Technical and Cultural Affairs. The project is also sponsored by the 'Onderzoeksfonds K.U.Leuven' and the 'Fonds voor Wetenschappelijk Onderzoek'. We thank David Owen for correcting and improving the English.

2. Astour 1995, 63.

3. Lund 2004, 69.

4. van Soldt 2005, 67.

5. See: Al-Maqdissi et al. 2004 and 2007; Bretschneider et al. 1999 and 2005.

archaeological data. The archaeological results, based primarily on architectural and ceramic data, are placed within their historical context. In the second half we will present an overview of the urban structures, the tombs and the most unusual small finds. A first attempt to recreate the ancient environment of the Jebleh plain will conclude these articles.

'In search of Gibala'

For many years several scholars, e.g. G. Sa'adé and W. van Soldt, have attempted to identify Tell Tweini with the Ugaritic city of Gibala, the southernmost harbor of the Ugaritic kingdom. Eight seasons of excavations at the site have revealed the importance of the ancient city at the end of the second millennium –the period contemporary with Ugarit – as well as in earlier and later periods. The site – almost 2/3 the size of Ugarit – is, together with Tell Sianu, ancient Siyannu, among the largest in the Jebleh plain. In the second millennium B.C.E. it had direct access to the sea and thus functioned as an ideal harbor for the kingdom of Ugarit. This excavation report contains data that supports the equation of Tell Tweini with Gibala. However, there remains no conclusive evidence for the equation but new Syrian excavations at the centre of the modern city of Jebleh may provide the answer (it has to be said that no early first or second millennium layers have been excavated there yet). Nevertheless, we still support the hypothesis that Tell Tweini is to be identified with Gibala, at least for the periods preceding the Hellenistic period. There can be no doubt that the layout of the modern city of Jebleh reflects the Hellenistic settlement, which was renamed Gabala. This is discussed here *in extenso* by T. Boiy who provides an overview of the history of the town in the Hellenistic and Roman periods.

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Gabala. Jebleh during the Hellenistic and Roman Periods

Tom Boiy

The following article intends to supplement the archaeological excavations by studying classical texts and numismatic sources to reconstruct the history of Gabala during the Hellenistic and Roman period, or from the arrival of Alexander the Great in the Near East (333 BC) until 638 AD, when Gabala was conquered by Muᶜāwīya, the later Umayyad caliph.

Since no major political events took place in or near Gabala during the Hellenistic and Roman period, the classical historiographers did not pay any attention to the city in their books on political history. Gabala is mentioned on the other hand by the geographers Strabo (XVI 2.12) and Pausanias (II 1.8), but also these authors do not supply much useful information on the city's history. According to Strabo there existed three cities in the neighbourhood of Laodikeia (Poseidion, Herakleion and Gabala) and then the area of Arados started. Pausanias only mentions a sanctuary of Doto in Gabala. Therefore the history of Gabala during the Hellenistic and Roman period is especially based on some small sporadic references in several classical works and on the coins minted in Gabala, which have been a great help since their discovery and study by H. Seyrig.[1]

A map of present-day Jebleh shows a rectangular street pattern identifying this part of town as the Hellenistic settlement. The western irregular part of town in the vicinity of the harbour on the other hand may be the Iron Age settlement.[2] Another "Greek" feature of Gabala still visible today is the theatre building, a typical trace of Greek culture dating to the Roman period, when theatres were constructed in several towns in Syria. Restoration and study of the theatre is a part of the Syro-Belgian project.

As far as the history of Gabala during the Hellenistic period is concerned, the political fate of the nearby island city state Arados/Arwad[3], the most powerful city of the region, was of direct vital importance for Gabala. Arados was an independent kingdom during the Achaemenid period that not only included the island of Arados itself, but also a large part of the nearby mainland (the so-called "peraia"). The region extending from the northern Nahr el-Kebir in the north until the Eleutheros river (the southern Nahr el-Kebir) in the south probably was Aradian territory.[4] During the Achaemenid period the kingdom

1. See H. Seyrig, *Questions aradiennes (XII)*, in Rev. Num. 6 (1964), pp. 9-50 (esp. pp. 9-28: *1. Gabala*) and id., *Monnaies hellénistiques: XVII. Séleucus III et Simyra*, in Rev. Num. 13 (1971), pp. 7-11.

2. See J. Lund, *The Northern Coastline of Syria in the Persian Period. A Survey of the Archaeological Evidence*, in Transeuphratène 2 (1990), p. 19 and P.J. Riis, I. Thuesen, J. Lund and T. Riis, *Topographical Studies in the Ġabla Plain* (Det Kongelige Danske Videnskabernes Selskab. Historisk-Filosofiske Skrifter 28; Publications of the Carlsberg Expedition to Phoenicia 13), Copenhagen, p. 184 (Fig. 133).

3. For more information on Arados, see J.-P. Rey-Coquais, *Arados et sa pérée aux époques grecque, romaine et byzantine. Recueil des témoignages littéraires anciens, suivi de recherches sur les sites, l'histoire, la civilisation* (BAH 97), Paris, 1974 and J.D. Grainger, *The Cities of Seleukid Syria*, Oxford, 1990.

4. Little is known on the exact extent of Arados' peraia during the Persian period, see e.g. J. Lund, in Transeuphratène 2 (1990), pp. 29-30. For an overview of the finds in the Jebleh plain during the Iron Age and the Graeco-Roman Period, see P.J.

of Arwad co-operated with the Achaemenid rulers, especially by rendering naval services. During the expedition of Xerxes against Greece at the beginning of the fifth century BC the Aradian king Maharbaal was one of the commanders of the Persian fleet.[5] When Alexander the Great invaded the Achaemenid empire 150 years later, Aradian ships headed by their king Gerostratos (Ger-ᶜAštart) took part in the operations of the Persian fleet in the Aegean. After Alexander the Great defeated Darius III a second time at Issos in 333 BC, the king's son Straton came to meet Alexander in his camp to offer the surrender of Arados and all places belonging to the city's territory.[6] Although Gabala is not mentioned expressis verbis, it probably also was a part of the territory surrendered by Straton. From the moment king Gerostratos learned that Alexander held Arados, he deserted the Persian fleet and offered his ships to Alexander.[7] He probably helped Alexander with his fleet to besiege Tyre and he probably was restored to power in Arados. The quickly changing political situation after Alexander's death caused rapid changes at the head of each region in the Levant. It was not until after the battle of Ipsos (301 BC) that Syria and northern Phoenicia remained in the hands of the Seleucid dynasty for a long period.[8]

During the third century BC Arados was of strategic importance for its Seleucid overlords because of its naval force and its position on the Seleucid-Ptolemaic border. The Eleutheros river was not only the southern border of Arados' peraia, but also the end of the Seleucid sphere of influence and northern limit of Ptolemaic territory. Since several Seleucid-Ptolemaic so-called "Syrian wars" were fought during the third century for the possession of the province "Syria and Phoenicia"[9], Arados was able to take advantage of its location and it was rewarded by the Seleucid dynasty for its loyalty. The Seleucid careful attitude towards Arados is most clear in the attribution of land to the newly founded polis of Laodikeia-ad-mare (present-day Lattakiah) by Seleukos I. It is startling how small the chora of this royal foundation is, especially south of town. This was probably not caused by Seleukos' wish to keep the territory of his foundation within certain limits, but he probably was forced to do so because of the political and regional conditions. Not far south of Laodikeia-ad-mare the Aradian peraia started and it was unwise for Seleukos to risk his good relationship with these allies by taking away some of their land.[10] 259 and 243/3 BC are two crucial dates for the reconstruction of the history of Arados in the third century BC. 259 BC was apparently important for the Aradians themselves because at least from 243/2 onwards they dated according to an era starting in 259 BC, the so-called Aradian era. The historical implication of the start of this Aradian era has been interpreted differently by modern scholars:

1. a so-called "civic" era or the abolition of the Aradian kingship and the establishment of another (democratic or aristocratic?) regime in Arados[11]

2. a so-called "liberty" era or the formal Seleucid concession of "freedom and autonomy" to Arados (in this case the Aradian kingship had already been abolished before 259 BC)[12].

Riis, I. Thuesen, J. Lund and T. Riis, *Topographical Studies in the Ğabla Plain* (Det Kongelige Danske Videnskabernes Selskab. Historisk-Filosofiske Skrifter 28; Publications of the Carlsberg Expedition to Phoenicia 13), Copenhagen, pp. 38-84.

5. Herodotos VII 98; for Maharbaal as king of Arados see E. Lipinski, *art. Maharbaal*, in Dictionnaire de la civilisation phénicienne et punique, p. 269.

6. Arrian, *Anabasis Alexandri* II 13.7-8 and Curtius IV 1.6.

7. Arrian, *Anab.* II 20.1.

8. Demetrios Poliorketes might have been able to keep the island of Arados in his power. If so, he certainly did have to give it up to Seleukos in 298 BC when he made peace with Seleukos and gave him his daughter Stratonike as wife (see J.D. Grainger, *The Cities of Seleukid Syria*, Oxford, 1990, p. 144 n. 32 and the map on p. 231).

9. The region from the Eleutheros in the north until Egypt proper (starting at the city Pelousion) in the south; the later Seleucid province "Koile-Syria and Phoenicia".

10. See H. Seyrig, *Questions aradiennes (XII)*, in Rev. Num. 6 (1964), p. 21.

11. A.H.M. Jones, *The Cities of the Eastern Roman Provinces*, Oxford, 1971, p. 238 and J.D. Grainger, *The Cities of Seleukid Syria*, Oxford, 1990, pp. 144-145.

Both a "civic" and a "liberty" era are possible and both explanations have attractive and weak points. A "liberty" era in Arados and "freedom and autonomy" granted by the Seleucid authorities in 259 BC is perfectly plausible in the political context of that time: the second Syrian War (260-253 BC) between the Seleucid and Ptolemaic dynasty was going on and the new Seleucid king Antiochos II might have been trying to bind Arados to the Seleucid cause by granting them "freedom and autonomy". The weak point of a "liberty" era for Arados in 259 BC is Arados' coin mintage. The signature par excellence of a free and autonomous city in the Hellenistic period was the mintage of its own tetradrachmes and they therefore minted tetradrachmes soon after they were granted freedom and autonomy.[13] The first Aradian tetradrachmes on the other hand date to the year 17 of the Aradian era (243/2 BC[14]). Since the Seleucid and Ptolemaic empire were fighting their next Syrian War (or so-called Laodikeian War, 246-241 BC) in 243/2 BC and the then Seleucid king, Seleukos II, had the same reasons as his father in 259 BC to be on good terms with Arados and his inhabitants, it is also reasonable that Seleukos II granted Arados "freedom and autonomy" during the third Syrian War and that the Aradians immediately minted tetradrachmes dated to their own era. In this case the Aradian era could not have been a "liberty" era and, since a new era always marks a new start, some other prominent event must have happened in 259 BC. The abolition of royalty certainly was a common marker of a new era and there are at first sight no other comparable major events.[15] The weak point of this hypothesis on the other hand is that we know nothing of the Aradian royal house after the arrival of Alexander the Great in the Ancient Near East. Because Gerostratos left the Persian fleet when Arados was in the hand of Alexander and helped him with the siege of Tyre, he probably was restored to power in Arados, but from that moment onwards our sources are silent concerning the Aradian kings for over a century. At least at the beginning of the fourth Syrian War (219-217 BC) royalty was certainly past time in Arados because according to Polybios (V 68.7) the Seleucid king Antiochos III starting a campaign against Ptolemaic Egypt welcomed the "Aradians" who offered him an alliance (*summachia*). The collective expression "Aradians" as citizens representing the Aradian state is in Greek incompatible with a monarchic regime.

Whatever the reason for the start of the Aradian era in 259 BC, Arados certainly was "free and autonomous" during the reign of Seleukos II when they minted their own tetradrachmes. Moreover, Strabo (XVI 2.14) mentions the right of asylum for Arados granted by Seleukos II during the dynastic problems with his brother Antiochos Hierax following the third Syrian War: Arados was allowed to receive refugees from the Seleucid mainland (and they were rewarded for their hospitality by these refugees with land donations on the Seleucid coast), but in return they could not allow them to leave the island without royal consent. The formal freedom of Arados from the Seleucid empire is attested by Strabo, who explains that

12. H. Seyrig, *Antiquités syriennes. 49. Arados et sa pérée sous les rois Séleucides*, in Syria 28 (1951), p. 216; J.-P. Rey-Coquais, *Arados et sa pérée aux époques grecque, romaine et byzantine. Recueil des témoignages littéraires anciens, suivi de recherches sur les sites, l'histoire, la civilisation* (BAH 97), Paris, 1974, p. 157; O. Mørkholm, *Early Hellenistic Coinage from the Accession of Alexander to the Peace of Apamea (336-188 B.C.)*, Cambridge, 1991, p. 115 and M. Sartre, *d'Alexandre à Zénobie. Histoire du Levant antique (IVe siècle av. J.-C. - IIIe siècle ap. J.-C.)*, Paris, 2001, pp. 173-174.

13. For a critical position concerning this prestige and propaganda value of coinage, see T.R. Martin, *Sovereignty and Coinage in Classical Greece*, Princeton, 1985 (for Arados in particular see pp. 235-236) and A. Kushnir-Stein, *Was Late Hellenistic Silver Coinage Minted for Propaganda Purposes?*, in Numismatic Chronicle 161 (2001), pp. 41-52. They both stress the practical needs to mint coins for economic reasons.

14. A few Aradian tetradrachmes are not dated and they have been attributed to the period 259-244/3 BC (see H. Seyrig, in Syria 28 (1951), pp. 215-216). Since there are six different obverse dies for these undated coins and normally two were used every year for the Aradian tetradrachmes Duyrat (*Arados hellénistique* [unpublished Ph.D. Paris IV], Paris, 2000, p. 512; see M. Sartre, *d'Alexandre à Zénobie*, p. 174 n. 80) proposed 246 as the year when mintage of Aradian tetradrachmes started.

15. It is not very probable that Arados was granted autonomy during the second Syrian War and freedom during the third Syrian War because "freedom and autonomy" normally was a undivided set of rights used by the Seleucid dynasty to reward the loyalty of cities. Moreover, the grant of simple autonomy probably was not important enough to start a new era.

the Aradians were friends of the Seleucid kings together with the other cities of Phoenicia[16], and Polybios, who informs us about the allegiance offered by the Aradians to Antiochos III.

All coins minted in Arados bore a monogram combining A and P, the first two letters of the Greek word for Arados. Also in the Aradian peraia tetradrachmes of the Aradian type dated to the Aradian era were minted, but each locality had its own distinctive monogram. Some of these were clearly minted in Gabala because their monogram shows a combination of Γ and B, the first two consonants of Gabala.[17] There is therefore no doubt that Gabala belonged to the Aradian peraia at the middle of the third century BC and that it was allowed to mint Aradian coins because of the autonomy of Arados granted by the Seleucid king.

During the 220s Arados might have lost its grip on the peraia as is indicated by an autonomous tetradrachm issued by Marathos in 227/6 BC.[18] This possible loss of Aradian control did not last long. In 219 BC, at the start of the fourth Syrian War, the Seleucid king Antiochos III reconciled the Aradians of the island with those living on the mainland when the Aradian delegation came to propose an alliance (Polybios V 68.7; see above).

After more than a century of silence without information concerning Gabala, coins from the first century BC do shed some light on the situation again. A second series of Aradian type coins dated to the Aradian era from Gabala reveal that also in the first half of the first century BC (the coins date from 86/5 until 53/2 BC), Gabala was still a part of the Aradian peraia.[19] In contrast with several other Syrian cities[20] the transformation of Syria into a Roman province in 64 BC apparently did not change anything to the local political conditions for Arados and Gabala: Arados minted tetradrachmes as a "free and autonomous" community and Gabala, minting Aradian type coins dated to the Aradian era, was part of the Aradian peraia. The local political situation did change after the Roman civil war between Pompey and Caeser was finished. Because Arados supported Pompey during the war, it was punished by Caesar when he was in Syria in 47 BC: Arados stopped minting tetradrachmes[21] and Gabala, starting a so-called Caesar era in 46/5 BC[22], was lifted from the Aradian peraia. Gabala probably was rewarded some sort of autonomy because it started to mint its own coins from 31/30 BC onwards.[23] When Strabo (XV 2.12) described the towns of the Syrian coast (including Gabala) in his geography, he mentioned after Loadikeia three Syrian cities (Poseidion, Herakleion and Gabala) before the Aradian territory (including Paltos,

16. Probably the cities of the Aradian peraia in northern Phoenicia are intended.

17. The other localities of the Aradian peraia minting coins of the Aradian type are Marathos, Karne and Simyra (See H. Seyrig, in Rev. Num. 6 (1964), pp. 12-15).

18. See J.D. Grainger, *The Cities*, p. 146 and O. Mørkholm, *Early Hellenistic Coinage*, p. 144. According to Grainger, Arados' lost influence on the Seleucid mainland might have been a reaction of Seleukos II after the privileges he had to concede to Arados during his problems with his brother Antiochos Hierax.

19. H. Seyrig, in Rev. Num. 6 (1964), pp. 16-21.

20. Several Syrian cities were apparently granted freedom when the Roman province of Syria was installed because they all started a new era, a so-called Pompeian era (see H.R. Baldus, *Syria*, in The Coinage of the Roman World in the Late Republic [edd. A.M. Burnett and M.H. Crawford; BAR International Series 326], Oxford, 1987, p. 123).

21 .H. Seyrig, in Syria 28 (1951), p. 220.

22. Several other Syrian cities also started a so-called Caesar era, see H.R. Baldus, *Syria*, p. 124. In one case (H.R. Baldus, *Syria*, n° 4452) .two dates appears on a coin from Gabala: one according to the Caesar era and on according to the era of Actium (starting in 31/0 BC). In one other case (H.R. Baldus, *Syria*, n° 4451), it is not certain that the normal Caesar era was used. The coin could be dated according to the Actium era, but in that case it would be the only coin from Gabala without a reference to the Caesar era.

23. See H. Seyrig, in Rev. Num. 6 (1964), p. 11 n. 9; the last coin from Gabala dates to the reign of Macrinus (AD 217-218), when a lot of the local mintages in Syria disappeared (see C. Augé, *La monnaie en Syrie à l'époque hellénistique et romaine (fin du IVe s. av. J.-C. - fin du Ve s. ap. J.-C.)*, in Archéologie et histoire de la Syrie. II. La Syrie de l'époque achéménide à l'avènement de l'Islam [edd. J.-M. Dentzer and W. Orthmann; Schriften zur Vorderasiatischen Archäologie 1], Saarbrücken, 1989, p. 176).

Balanaia, Karne, Enhydra and Marathos) started. Because Gabala is not included in the Aradian peraia, Strabo describes the political situation after Caesar's intervention in Syria. Thanks to the enumeration of the localities belonging to the Aradian peraia, it is even possible to narrow down the period described in Strabo's account even further: Balanaia started a new era in 37 BC and minted its own coins from the same year onwards,[24] so that its inclusion in Strabo's list means that his description must reflect the political situation before 37 BC.

According to its coinage Gabala's autonomous status lasted at least until the beginning of the third century AD. Apart from the fact that the coins mentions the ΓΑΒΑΛΕΩΝ or "citizens of Gabala", presupposing some democratic institution in the city, nothing is known concerning the official and institutions of the autonomous Gabala. Though the city was without doubt a small community, it might have had several of the officials and institutions found in larger localities. We might compare Gabala with the nearby and similar town Balanaia, also a former part of the Aradian peraia and, according to its era, some ten years after Gabala freed from the Aradian overlordship (see above). Although only a few inscriptions from Balanaia have survived, they show a full range of functions and institutions comparable to the larger Syrian cities such as Antioch. Apart from a council (*boule*) and an assembly (*demos*), the people of Balanaia also had a strategos, agoranomos, dekaprotos and archon.[25] Nothing similar is preserved from Gabala.

Gabala's theatre, probably the centre of cultural city life, was a typical example of Roman architecture.[26] The theatre might also have had a political function in Gabala: a theatre was the natural meeting place for a large amount of people and therefore it was regularly used in the Greek world for meetings of the people's assembly and informal gatherings.[27]

Information on Gabala from the Late Antiquity can be found in christian literature. Saint Peter is reported to have spent a night in Gabala (Clementina, Homeliae XIII 1,3) and according to Theodoretos of Kyrrhos (Historia Religiosa 28 [Thalelaios], 1) Gabala was "a very charming town". During Late Antiquity Gabala became the seat of a bishopric with Severianos of Gabala as its most famous bishop.[28]

In September 475 AD Gabala was struck by an earthquake and the emperor Basiliskos (475-476 AD) donated 50 pounds of gold for its reconstruction.[29] During the reign of Justinian (527-565 AD) Gabala was incorporated in the new province Theodorias, named after the emperor's wife. In AD 638 Syria was conquered by the Arabs and Muᶜāwīya constructed a new fortress outside Gabala's city walls

24. See A. Burnett, M. Amandry and P. Ripollès, *Roman Provincial Coinage. I. From the death of Caesar to the death of Vitellius (44 BC - AD 69)*, London-Paris, 1992, p. 639-640.

25. F. Millar, *The Roman Near East. 31 BC – AD 337*, Cambridge-London, 1993, p. 260, see IGLS 1302 and 1303.

26. See Ed. Frézouls, *Les édifices de spectacles en Syrie*, in Archéologie et histoire de la Syrie. II. La Syrie de l'époque achéménide à l'avènement de l'Islam (edd. J.-M. Dentzer and W. Orthmann; Schriften zur Voderasiatischen Archäologie 1), Saarbrücken, 1989, pp. 389-399. For a recent evaluation of the theatre of Jebleh, see Prof. Dr. Jamal al Ahmar, arch. T. Patricio and Prof. Dr. K. Van Balen, *Report on the Restoration of the Roman Theatre at Jebleh*, spring 2002 and S. Saleh, K. Van Balen and M. Waelkens, The Syrian Roman Theatres after 50 years ofInterventions, in Proceedings of the International Symposium, 30 years RLICC, The Conservation in Changing Societies, Leuven, 2006, pp. 277-284. On the popularity of theatres during the Roman period, see Ed. Frézouls, *Les édifices de spectacles en Syrie*, pp. 385-406.

27 For references see R.J. van der Spek, *The Theatre of Babylon in Cuneiform*, in Fs. Veenhof (edd. W.H. van Soldt, J.G. Dercksen, N.J.C.. Kouwenberg and Th. J.H. Krispijn; PIHANS 99), Istanbul, 2001, pp. 447-448.

28 See e.g. L. Hofmann, *art. Severianos*, in Der neue Pauly 11 (2001), col. 483. On the other bishops of Gabala, see R. Janin and L. Stiernon, *art. Gabala*, in Dictionnaire d'histoire et de géographie ecclésiastiques 19 (1981), col. 504.

29. Johannes Malalas, *Chronographia* 15.4 (378) and *Chronicon pseudo-Dionysianum* 229. Malalas mentions the wrath of God and the reconstruction of the town, whereas the Syriac *Chronicon* mentions the earthquake expressis verbis (J.-B. Chabot, *Chronicon pseudo-Dionysianum vulgo dictum* [Corpus Scriptorum Christianorum Orientalium 91, Scriptores Syri 43], Louvain, 1927, p. 229 with a Latin translation J.-B. Chabot, *Chronicon pseudo-Dionysianum vulgo dictum* [Corpus Scriptorum Christianorum Orientalium 121, Scriptores Syri 66], Louvain, 1949, p. 170). See E. Guidoboni, *Catalogue of Ancient Earthquakes in the Mediterranean Area up to the 10th Century*, Rome, 1994, p. 302.

(Yāqūt, Muᶜğam al-Buldān II 25).[30] This conquest marks the end of Antiquity for Gabala and the beginning of Islamic overlordship.

30. According to Dussaud (R. Dussaud, *Topographie historique de la Syrie antique et médiévale* [Bibliothèque archéologique et historique 4], Paris, 1927, p. 136) this fortress has to be identified with the theatre, which had been transformed into a stronghold. Since the theatre is located inside the city walls and its transformation into a fortress cannot be dated exactly, Dassaud's identification is unlikely.

Tell Tweini, ancient Gibala, between 2600 B.C.E. and 333 B.C.E

Joachim Bretschneider and Karel Van Lerberghe[1]

1. *The Topography of Tell Tweini*

The fertile Syrian coast, south of the modern port of Lattakia is known as the Jebleh plain, an area that has had little archaeological investigation. This region is situated at the crossroads between the West and the East, between northern Mesopotamia and the Mediterranean, and between Anatolia and Egypt. In the Late Bronze Age the center of the region was the city of Ugarit, a city that developed into a center of international importance because of its strategic situation (Ill. 1-3). The archives discovered at Ugarit contain the only Bronze Age documentation for the city of Gibala that we believe is to be identified with Tell Tweini. According to these sources, Gibala is the southernmost harbor of the Ugaritic kingdom, close to the border of Sianu[2].

Tell Tweini is located outside the limits of modern Jebleh, 1.5 km from the sea, at the juncture of two rivers (Ill. 4-7). The larger of these, the Rumailah, was navigable as recently as the early part of the 20th century. This river flows directly from the tell to a sandy cove at the northern end of the modern town. Although no systematic exploration of the cove has been made yet, one may surmise that the ancient port of the site was located there. The tell is roughly pear-shaped, with the narrow end pointing due west. The longest east-west dimension is ca. 350 meters, while the north-south axis is 290 meters. The tell rises 15-20 meters above the surrounding fields; the surface at the top varies in absolute height from 19-27 meters above sea level. Palynological and geomorphological research at the site suggest that during the Bronze Age a sea incursion occurred here, thus providing the city of Tweini direct access to the sea in antiquity (Ill. 8-9)[3].

In antiquity, commercial routes which traversed the Jebel Ansariyeh connected Tell Tweini with the Orontes valley. This direct access from the Mediterranean to the Syrian heartland, Anatolia and even Mesopotamia was at the basis of the wealth of the port. Equally, the numerous springs, surrounding the tell, contributed to the prosperity of the Bronze and Iron Age city.

1. This article presents research results of the Belgian Program on Interuniversity Poles of Attraction VI/34, Belgian State Federal Office for Scientific, Technical and Cultural Affairs. The project is also sponsored by the 'Onderzoeksfonds K.U.Leuven' and the 'Fonds voor Wetenschappelijk Onderzoek'.

2. See: Bretschneider et al. 1999, 78-87.

3. See: Al-Maqdissi et al. 2007, 3-10.



Ill. 1. *The northern Levant.* (Map based on Le Royaume d'Ougarit, p. 19)



Ill. 2. Map of the Tweini region (view towards the north)



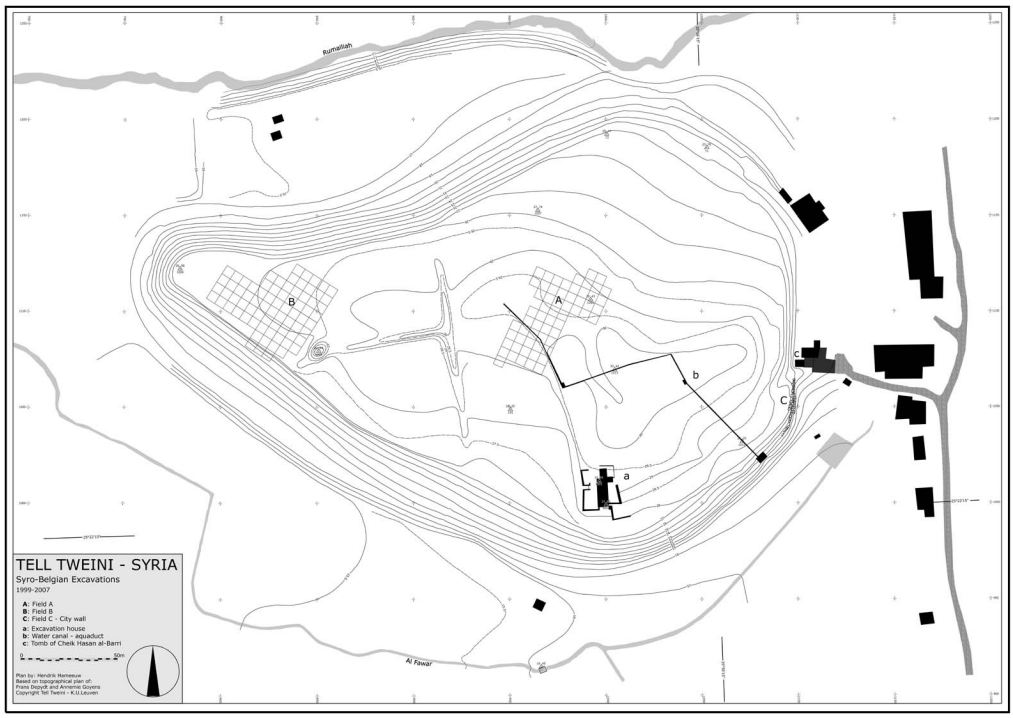
Ill. 3. The harbor of Jebleh (view towards the east)



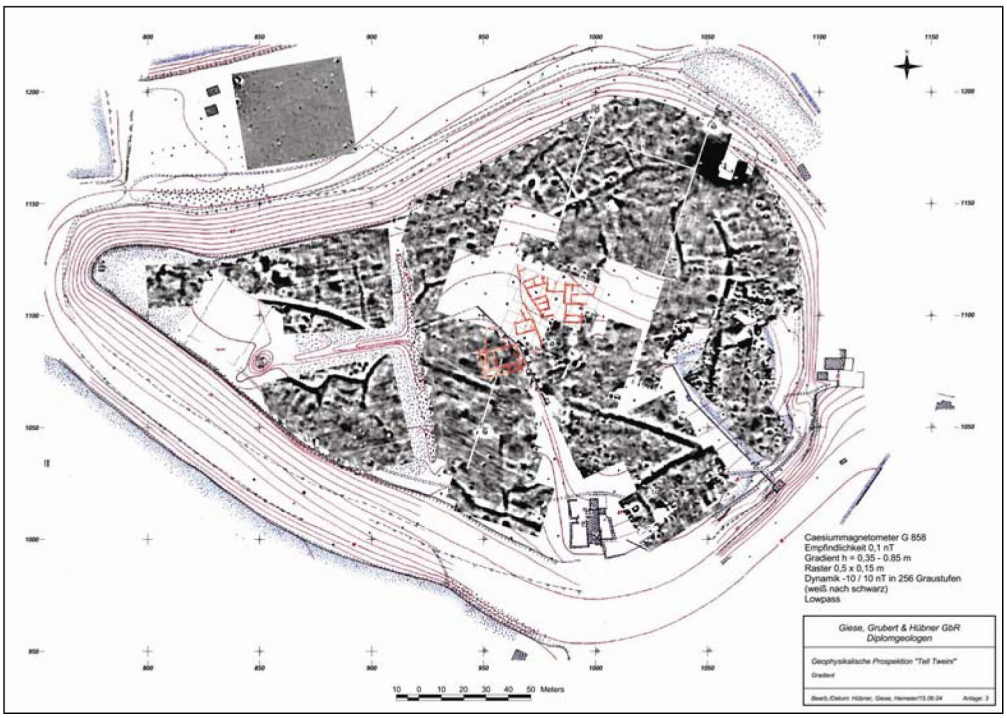
Ill. 4. Tell Tweini (view towards the north-west)



Ill. 5. Tell Tweini (view towards the south)



Ill. 6. The fields (A, B, C) under excavation



Ill. 7. Geophysical map



Ill. 8. Reconstruction of the sea incursion in the Bronze Age



Ill. 9. Tell Tweini today

2. *Tell Tweini through time: history and archaeology*

2.1. *The Early Bronze Age (ca. 3200-2000 B.C.E.)*

During the Early Bronze Age, the northern Levant was characterized by the transition from agriculturally based to complex urban societies[4]. Tell Tweini, being almost continuously occupied from ca. 2600/2400 B.C.E. , is one of the rare settlements in the northern Levant that offers an opportunity to study this transition at one and the same site and in the same environment.

The early Bronze Age lasted for over 1000 years (ca. 3200-2000 B.C.E.) in the Jebleh region. Two archaeological sites have been recently studied – Tell Tweini and Tell Sianu – both located near one another, have strata dating to this period. The results of the Tweini excavations offer the possibility to reconstruct, in part, the earliest urbanization of the site and to obtain information on its organization. Periods of extensive urbanization (Early Bronze III-IV occupation phase) and of social complexity were followed by phases of partial destruction and reduced complexity. According to the ceramics and to the architectural remains (Ill. 10-13), the end of the Early Bronze Age can be subdivided into several phases (Tweini XI-X A/B). Until now no structures of the earliest periods of the Early Bronze Age (I and II) have been unearthed. Since virgin soil has been reached in the soundings of field A and B, and since parallels were found by the Syrian team working in Tell Sianu[5], we have sufficient evidence to date the earliest settlement of Tell Tweini to ca. 2600-2400 B.C.E. (Early Bronze III-IVA).

Written evidence remains extremely rare for the period. The economic and administrative texts from Ebla refer to the region, but provide almost no information on the socio-economic events taking place there. The reason for this lacuna is partially to be found in the problems of identification of ancient Eblaitic geographical names with modern tells of the Jebleh plain[6]. The recently published survey of the Jebleh plain by Danish scholars[7] identified only few Early Bronze Age tells in the area[8].

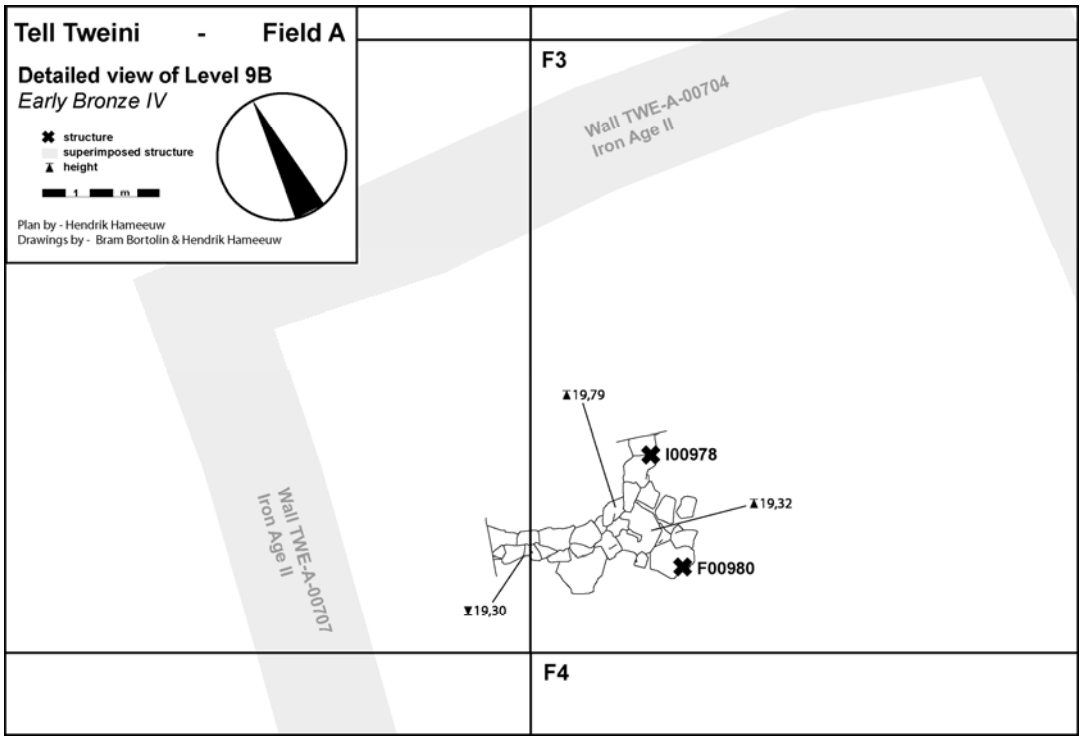
Fortunately some information related to the region can be found in third millennium literary texts and royal inscriptions from Mesopotamia. These texts reveal the economic importance of the plain as well as its control over the maritime trade along the Mediterranean coast. Lugalzagesi, ensi of Umma and king of Uruk[9], proclaims that he controlled all the lands between the Lower and the Upper seas. These Lower and Upper seas refer to the international harbors of the Arabian Gulf and of the Mediterranean Sea. The exchange of goods between the Mediterranean Sea coast and Egypt is best known from Byblos where the Egyptians obtained their cedar wood. The cedars of the Lebanon were sought by Mesopotamians as well as Egyptians and this phenomenon became legendary in Mesopotamian literature from the third millennium B.C.E. onwards[10]. Beginning in this period, the great kings of Mesopotamia regularly campaigned to the Mediterranean coast[11]. Sargon of Akkad (2340-2284 B.C.E.) boasts to have conquered the 'western countries' in his eleventh regnal year and claims to have crossed the sea to the island of Cyprus. A much later 'historical' text, dating to the Neo-Assyrian period[12], informs us that all the lands between the Arabian Gulf, Kaptara (Crete) and Anaku (presumably Cyprus) have surrendered up to three times to Sargon. Also Sargon's successors, Rimush, Naram-Sin and Sharkalisharri, each claims to have secured the international trade via the Mediterranean by controlling the Levantine harbor cities. This direct contact with Mesopotamia, as well as the international trade with the Aegean, with its economic, cultural

4. For the Early Bronze Age III and IV, see: Thalmann 2006, 19-32; Contenson 1993, 85-92; Al-Maqdissi 2006, 6-21.
5. Al-Maqdissi 2006, 6.
6. Klengel 1992, 30.
7. Riis, Thuesen, Lund and Riis 2004.
8. For general studies of the Early Bronze Age pottery, see Bounni and Al-Maqdissi 1994; for Sianu: Al-Maqdissi et al. 2002.
9. Cooper 1986, 94.
10. Klengel 1992, 25.
11. Hirsch 1963, 1-82.
12. Grayson 1975, 152.

and technological influences, contributed considerably to the rapid evolution of smaller localities into the urban centres, each with economic specializations.



Ill. 10. Installation TWE-A-00978 and floor TWE-A-00980, view towards the north, Early Bronze Age IV



Ill. 11. Detail of Level 9B (Early Bronze Age)



Ill. 12. Sounding in Field A (view towards the south-east)



Ill. 13. Sounding in Field A (view towards the north-east)

2.2. *The Middle Bronze Age (ca. 2000-1600 B.C.E.)*

The political situation in the Levant at the beginning of the second millennium B.C.E. was favorable for the merchants from Crete and Cyprus since there was no Syrian center that could compete with these islands over the control of maritime routes. On the other hand, the emergence of a series of small states helped develop complex commercial relations and the royal houses of the new dynasties participated intensively in this commerce by importing precious merchandise and by gift exchange (as attested by the Old-Babylonian term: *ashilalu*).

Around 1800 B.C.E., Crete and Cyprus appear in cuneiform sources. The presence of typical Middle Minoan II ceramics, called 'Kamares ware' underlines the commercial relations between the Aegean and the Levant during this period. It seems probable that the northern Levant played a more active role in these commercial exchanges as attested by the Mari texts from the 18th century B.C.E. The urban development and the economic growth of the coastal Syrian cities, like Tweini, were the results of a state sponsored, social organization. In particular, Syrian harbor towns were important in the commerce of tin and copper. Tin came to Syria from Mesopotamia by overland trade (from the East, probably from Badakhsan through Mari), and copper was imported from Cyprus via the various harbor towns. The Syrian harbor towns offered the merchants from Mari and other centers a convenient venue to exchange goods with those from Crete and Cyprus.

The Middle Bronze Age documentation concerning the historical events of the Tweini region remains scarce. Although recent archaeological excavations at Ugarit have exposed significant archaeological strata from this period, no architectural remains can be attributed to the first phase of the

Middle Bronze Age at Ras Shamra[13]. The remains of public architecture at the site, dated in the past to the (early) Middle Bronze Age, have been re-dated to the end of this period or even later[14]. The textual sources of the Middle Bronze Age, come, almost exclusively, from the Mari archives. According to these sources, Zimri-Lim, king of Mari, visited the king of Ugarit[15] at the beginning of the 18th century B.C.E. This event is an indication of the importance of Ugarit as a commercial partner. The name of the king of Ugarit is, however, not mentioned and thus his ethnic or linguistic identification is unknown[16]. The only other information from this period comes from excavated tombs at Ugarit. These funerary data suggest that the site of Ugarit was reoccupied at the beginning of the Middle Bronze Age, presumably by Shaeffer's so-called "porteurs de torques", most probably to be identified as the Amorrite tribes that settled the region.

Most recently, an Old-Babylonian cuneiform tablet has been excavated at Tell Sianu[17], which is most informative. In this administrative document a number of objects are enumerated. These include several hundred golden rings, sixty oil jars, textiles, chairs etc... These items originated from regions such as Shubartum (Upper-Mesopotamia) and Alasia (Cyprus). Paleographically the tablet must be dated under the reign of king Yahdun-Lim of Mari. The link with the Mari tablets underlines the existing Amorrite cultural unity that existed during this period[18]. Also, at Tell Iris, a site near Sianu, an urban settlement with hypogea has been unearthed[19]. The rich contents of these tombs date these strata to the Middle Bronze Age II. The best comparisons with this funerary material come from contemporary collective graves at Tell Sukas[20], Ras Shamra and recently at Tell Tweini.

At Tell Tweini two occupation phases (Tweini IX A-B) can be dated to the first half of the second millennium (Ill. 14-15). The buildings of that period have been only excavated to a limited extend. In general the walls of the excavated buildings have a width of approximately one meter. The buildings are characterized by stone floors, under which individual tombs were built.

During the 1999 excavation season a sounding at the western part of the Tell (field B) has exposed a communal grave from the Middle Bronze Age. The grave gifts, including Levantine Painted Ware as well as a fenestrated duck bill axe[21], date the tomb to the Middle Bronze Age I (ca. 1800 B.C.E.)[22]. Comparable finds occur in Syria (Baghuz near Mari) and in Egypt[23] (Tell el-Daba'a, Hyksos period). These graves are often attributed to a military elite.[24]

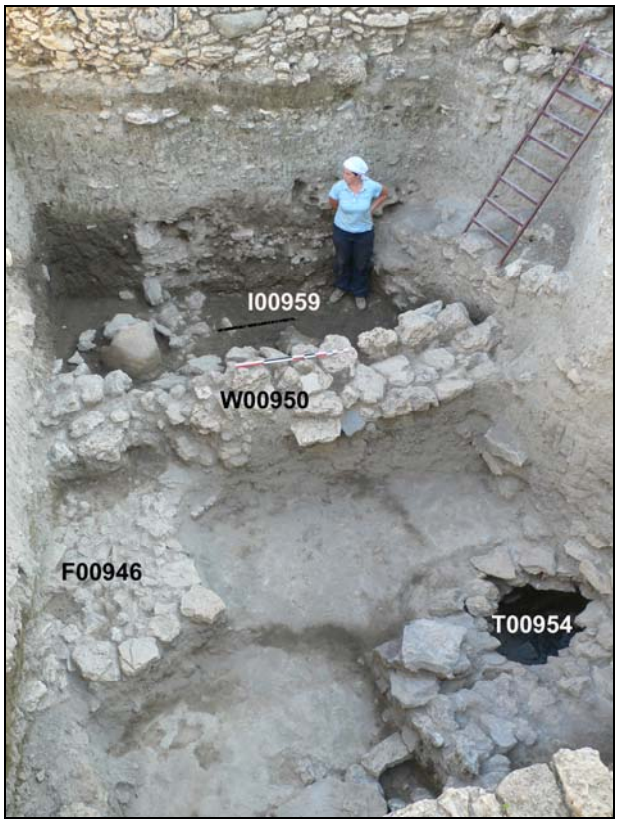
In the 2004 season a communal tomb was discovered under the floor of a house in the center of the ancient city (Ill. 16-21). In its immediate vicinity stood a basin made of reddish plaster (Ill. 19). Several of the stones on top of the tomb revealed man-made perforations (Ill. 18). The location of the basin, the perforations and the communal tomb, cannot be coincidental and can be interpreted as evidence for the 'kispu'-libations[25] performed by the living for deceased family members. In addition, fifty-eight skeletons

13. Mallet 1996, 443; Singer 1999, 609, citing Yon 1997b, 26.
14. Yon 1997a, 258; Yon 1997b, 26.
15. Villard 1986, 387-412.
16. Singer 1999, 616-618.
17. Al-Maqdissi 2004, 110.
18. Charpin 2004, 111.
19. Al-Maqdissi and Souleiman 2004, 64.
20. Thrane 1978.
21. For parallels of the fenestrated duckbill axe, see: Bietak 1996, 14, fig. 11, pl. B (tomb of stratum d/2: 19th century B.C.E.) and tomb F/I-0/19-nr. 6139; Philip 1995, 140-154.
22. Al-Maqdissi et al. 2004, 60; Bretschneider, Cunningham and Van Lerberghe 1999, 116. For the dating of the pottery, see: Bagh 2003, 231; Akkermans and Schwartz 2003, 320.
23. The funerary scenes at Beni Hassan show 'Canaanites' who invaded Egypt under the 12th dynasty carrying such weaponry.
24. An overview of the relevant literature can be found in: Rehm 2003. The author considers the occurrence of weaponry in tombs as a status symbol but does not see a direct link with a military elite.
25. Texts from Mari and Ugarit refer to the cult of the deceased, see e.g.: Loretz 1993, 285-318; Mayer-Opificius 1981, 285-287.

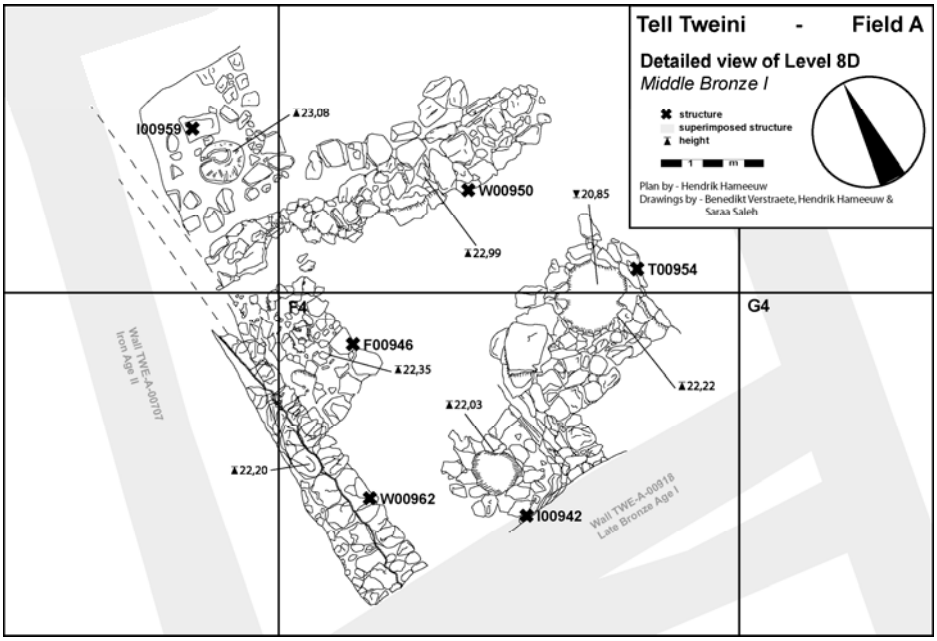
were found in the communal tomb. The tomb can, with certainty, be dated to Middle Bronze IIB/C, approximately 1700 B.C.E. (Ill. 27-29), based on the luxury (158 items in total) and common ware, oil lamps and a figurine. In particular, the great number of Cypriotic pottery is remarkable and points to intensive exchange with the island during this period. Other tombs, excavated at Tweini and dating to the Middle Bronze Age, are rectangular in shape. Large jars are also used as containers for deceased children[26].

At the eastern side of the Tell the remainder of the monumental city wall (field C) is visible. Today the wall still stands high above the surrounding fields (Ill. 22-25). Although there is no absolute proof, there are indications that the ancient city wall of Tweini was erected at the beginning of the second millennium B.C.E. This impressive construction was excavated over a length of 40 meters on the east side of the site. The best preserved part of the wall reaches a preserved height of over five meters. In antiquity the facing of the wall consisted of monumental quadrangular, man-made blocks. These blocks were extracted for building purposes over the centuries and have mostly disappeared; only the base remains in situ. Behind the facing blocks, a filling of large, natural stones made up the inner structure of the wall. The topographic map of the French cartographer Duraffoud, drawn up in 1926, suggests that the wall surrounded the Tell in its totality. The excavations of the 2002 season did not reveal any clear evidence. Indeed, the impressive construction disappears towards the west. At that place, near the Mediterranean Sea, the tell is terraced. The following excavation seasons should provide a better understanding of this intriguing and still mysterious structure that, until now, shows neither gates nor towers. New soundings at the base might help us date the initial construction, determine the way it was constructed and understand better its use as fortification against enemies in time of war or possibly against inundations.

26. Hameeuw et al. (in print) and see also the article of Hameeuw & Jans in this volume..



Ill. 14. Structures of the Middle Bronze Age I period (view towards the north-east)



Ill. 15. Detail of Level 8D (Middle Bronze Age I)



Ill. 16. Tomb TWE-A-00170 and installation TWE-A-00167 (view towards the west, Middle Bronze Age II)



Ill. 17. Tomb TWE-A-00170 and installation TWE-A-00167 (view towards the north, Middle Bronze Age II)



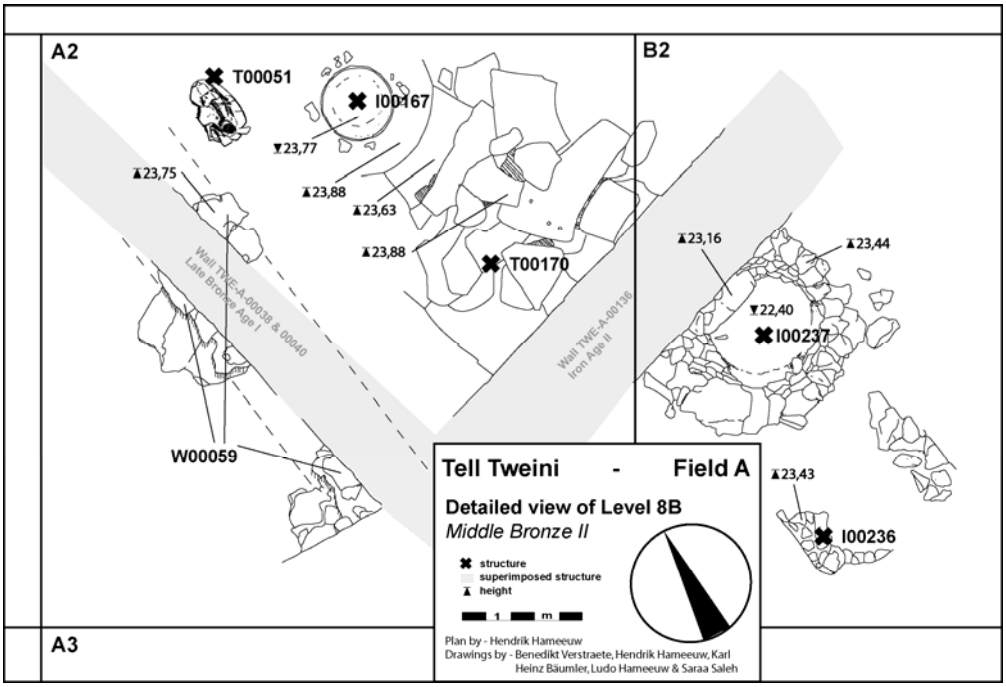
Ill. 18. Tomb TWE-A-00170 and installation TWE-A-00167 (Middle Bronze Age II)



Ill. 19. TWE-A-00170 and TWE-A-00167 (view towards the north, Middle Bronze Age II)



Ill. 20. Entrance of tomb TWE-A-00170 (view towards the north, Middle Bronze Age II)



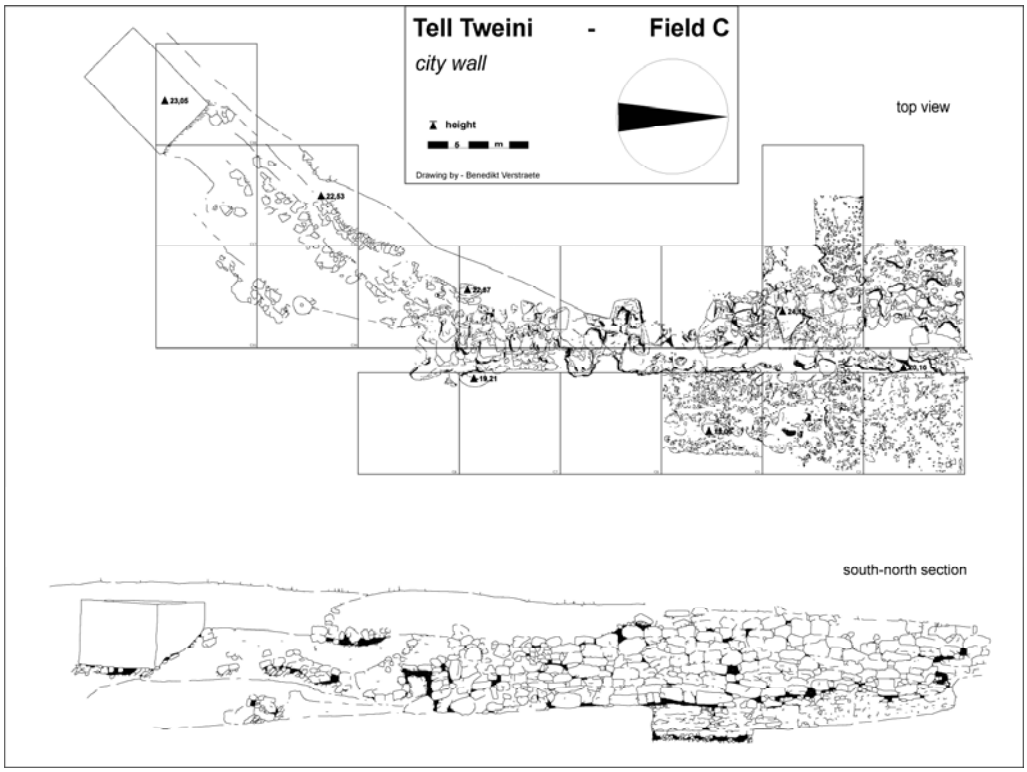
Ill. 21. Detail of Level 8B (Middle Bronze Age II)



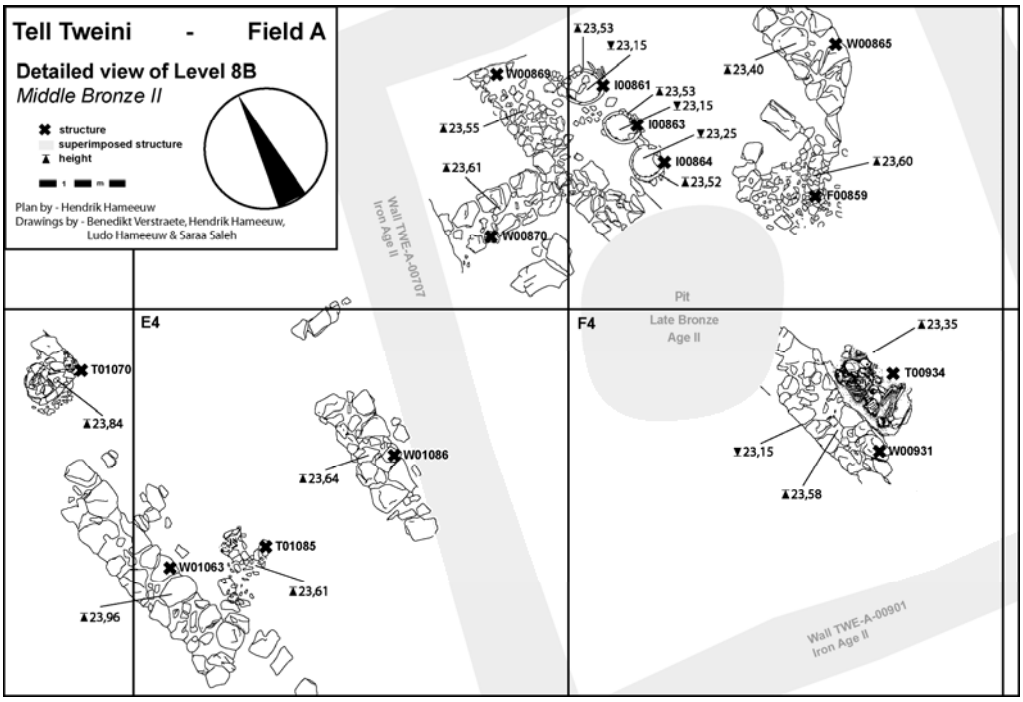
Ill. 22. Field C: the city wall (view towards the north-east)



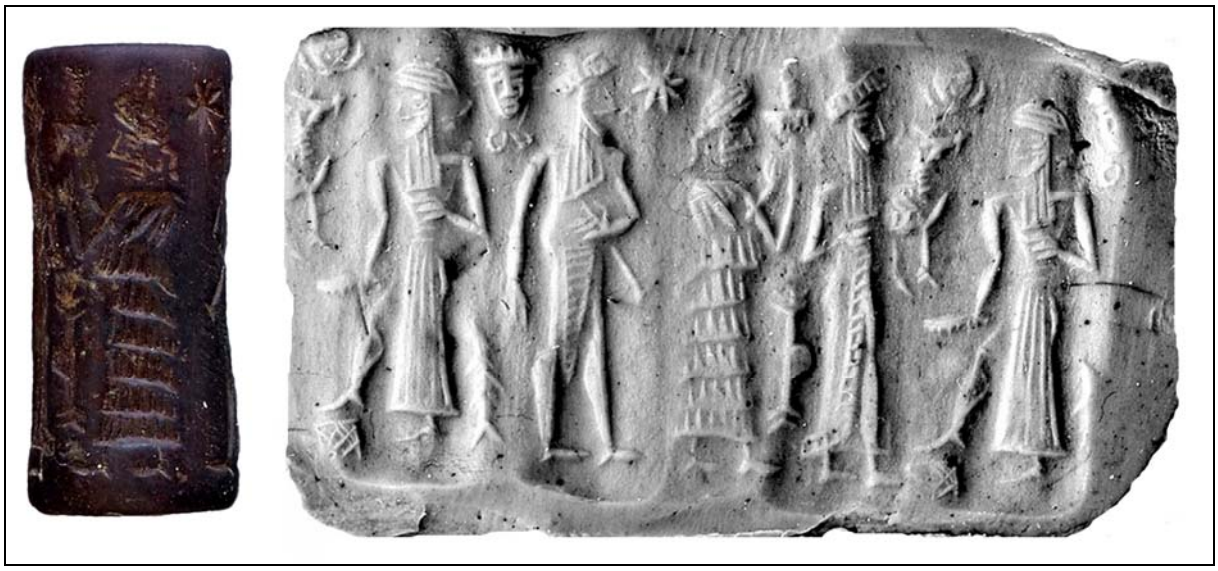
Ill. 23. Field C: the city wall (view towards the north)



Ill. 24. Field C: The city wall



Ill. 25. Detail of Level 8B (Middle Bronze Age II)



Ill. 26. Seal (Middle Bronze Age II)



Ill. 27. Selection of pottery from the communal tomb TWE-A-00170 (Middle Bronze Age II)



Ill. 28. Selection of pottery from the communal tomb TWE-A-00170 (Middle Bronze Age II)



Ill. 29. Cypriot pottery from tomb TWE-A-00170 (Middle Bronze Age II)

2.3. *The Late Bronze Age (ca. 1600-1200 B.C.E.)*

2.3.1. *Historical data*

The Late Bronze Age I-II represents a period of prosperity and revival in the economic and cultural history of Syria and of the entire eastern Mediterranean. The inhabitants of the region were part of a widespread, east Mediterranean trade network in the second part of the second millennium. They were able to maintain this network in relative peace, notwithstanding the existing political problems[27]. Their fate was, nevertheless, dependant on often changing diplomatic and economic relations with the empires to the south and north. However, this situation also had positive consequences in that it stimulated the creation of intensive international commercial networks in which the population of the Levant actively participated. In this way this population was able to integrate Egyptian, Mediterranean and Syro-Mesopotamian influences and adapt them in such a way that they created their own cultural identities.

At the end of the Hyksos period in Egypt, in the 16th century B.C.E., the political ambitions of the XVIIIth dynasty were oriented towards controlling Palestine and Syria. The kingdom of Mitanni was then situated in northern Syria. Towards the end of the 15th century, under the threat of Hittite expansion, Mitanni conducted negotiations with Egypt. Under Touthmosis IV both nations concluded a diplomatic agreement over the border between both states, which resulted in a peace treaty. To the northwest, the region remained under Egyptian influence and included the territory of Ugarit[28] and consequently the Gibala region. The border in inner Syria was situated more to the south: Qatna belonged to the Mitanni sphere, whereas Qadesh and Amurru remained under Egyptian control. During the Amarna period, the kingdom of Ugarit, and its influential king Niqmaddu II (ca. 1350-1315 B.C.E.), remained loyal to Egypt; five letters coming from Ugarit and dated to the period were discovered in the Amarna archives[29].

In 1365 or 1340 an earthquake accompanied by a flood destroyed the city of Ugarit.[30] The king of Tyre, Abimilki, informed Amenophis IV in the following words: 'And Ugarit, the king's city, was destroyed by fire, half of the city was on fire, the other half isn't there anymore'. Later on the new palace of Ugarit, rebuilt by Niqmaddu II, will be highlighted in an Amarna letter as an example of the exuberance of palatial culture in the Levant.[31]

The second half of the 14th century B.C.E. was characterized by the expansion of the Hittite empire. Under Suppiluliuma I, around 1330 B.C.E., a military expedition by the king of Hatti resulted in the submission of Mitanni to the Hittites. Ugarit, Amurru, Qadesh and several other small kingdoms fell under Hittite rule. From then on, Egypt and Hattusha were in continuous conflict over the control of the Syrian coast and heartland. The northeast of the country came under Hittite influence and the Hittite king installed his viceroy in Karkemish. Local Syrian rulers were forced to sign vassal treaties with the Hittite king. During this period, the border of the Egyptian zone depended on the loyalty of the kings of Amurru, the vassal state to the extreme south of the Hittite zone. The kings of Amurru frequently changed sides and they often negotiated with Egypt. Ugarit however, remained a Hittite vassal as is illustrated by various cuneiform tablets describing the relation between the Ugaritic king and the Great King, the Hittite Lord.

Gibala is mentioned for the first time in a Ugaritic document from the second half of the 14th century when Niqmepa was king of Ugarit, The akkadian tablet PRU 4, 71-76 is a treaty between king Niqmepa and king Abdi'anati from Sianu-Ushnatu[32]. Sianu was, according to this document, situated to the south of the Ugaritic kingdom[33] and is likely identified with Tell Sianu, a site located at only 7 km to the east of

27. Akkermans and Schwartz 2003, 327; Klengel 1992, 84.

28. For the political history of Ugarit and its neighbors, see: Singer 1999, 603-733. For an overview of the history of the coastal sites of the region, see: Lagarce and Lagarce 2000, 140-146.

29. Moran 1987.

30. Singer 1999, 733.

31. It is interesting to note that – according to the mythological literature from Ugarit – the palace was built by artisans from Crete (ancient Kaptara).

32. van Soldt 1997, 696; Singer 1999, 662-666.

Jebleh. For the past several years it has been excavated by Michel Al-Maqdissi[34]. This Ugaritic text shows that Sianu belonged to the Ugaritic state and that its king Abdi'anati was a vassal of Niqmepa, king of Ugarit. Abdi'anati was not pleased by this situation and he approached the Hittite king to become a direct vassal of the viceroy of Karkemish, thus abandoning the Ugaritic king. Mursili II, the Hittite king, was most pleased by this demand. It resulted in the new treaty PRU 4, 71-76. In this text two lists of geographical names are enumerated: one gives the names of all places belonging to the Ugaritic state, the other is a list of places under control of Sianu. The Ugaritic list contains the name Gi_5-bá-la, thus revealing that the city belonged to the kingdom of Ugarit, both before and after the separation between Sianu and Ugarit.

Most recently, in a study of the topography of Ugarit, van Soldt[35] discovered that the toponyms in administrative documents are ordered according to their geographical location. The groups of towns are located in various areas or districts. The southwestern group includes seven towns located near the Mediterranean Sea, the ports of this group being Atallig and Gibala. Atallig is mentioned in connection with border disputes with people from Sianu. Gibala was located more to the south. It is the most southerly harbor of the Ugaritic kingdom and close to the border with Sianu.

In sum we conclude that Gibala was part of the Ugaritic kingdom during the Late Bronze Age. Written evidence for this conclusion exists for the second half of the 14th century at the time when Niqmepa was king of Ugarit. As noted above, the tablet PRU 4, 71-76 is a treaty between the king Niqmepa and king Abdi'anati of Sianu. The double kingdom of Sianu-Ushnatu is mentioned often in the Late Bronze Age tablets from Ugarit (14th - 13 centuries B.C.E.). The capital of that kingdom was in the immediate vicinity of Gibala and is almost certainly to be identified with modern Tell Sianu.

Around 1200 B.C.E the kingdom of Ugarit was destroyed as a result of the so-called 'invasion of the Sea-Peoples'. Dramatic Ugaritic letters from that period warn the Ugaritic king of the impending attack by the invading armies. Other letters sent by the king of Ugarit to his colleague in Alashiya (Cyprus) describe the disaster at Ugarit. The sources for Gibala cease as soon as Ugarit is destroyed. Like Ugarit, Gibala disappears from the written sources. The terminus post quem that dates the fall of Ugarit is the well-known letter of Beya written between 1194 and 1186 B.C.E. by the Egyptian Beya to Ammurapi, last king of Ugarit.[36] It is precisely in that period that the archaeological remains are characterized by a massive layer of ashes and burnt debris at Ugarit.[37]

2.3.2. *Archaeological data*

Archaeologically, two occupation levels can be recognized for the Late Bronze Age at Tweini (VIIIA/B). The oldest phase, Tweini VIIIA (Late Bronze Age I), has been identified until now only in the sounding in field A (Ill. 30-31). The large buildings dating to that period were constructed of crude, rough stones. The associated ceramics include Cypriote Base-Ring Ware I, White Slip I and Red Lustrous Wheelmade Ware.

The buildings of the Late Bronze Age II Period (Tweini VIIIB) are characterized by their large size, stone pavements and staircases (Ill. 32-35); all features occurring at the same time at Ugarit. At about 1200 B.C.E., probably before the destruction of Ugarit, parts of the site of Tweini were destroyed by fire, recognizable today by ashy layers. The occurrence of bronze arrowheads might suggest that this event is linked to fierce fighting within the city. The ceramic repertoire of this destruction layer includes a large number of Mycenaean sherds dating to Late Helladic IIIA:2 (Ill. 46) and the Late Helladic IIIB periods. This provides a synchronism with Ugarit where these types of ceramics were found in the final occupation

33. Astour 1979, 11-28.
34. Bounni and Al-Maqdissi 1998, 254-264.
35. van Soldt 2005, 67.
36. Singer 1999, 713-714.
37. Yon 1992, 111-122.

phase of the Late Bronze Age[38]. For the moment, no Late Helladic IIIC sherds, dating to the 12th century B.C.E. (after 1190 B.C.E.), are attested at Tweini and only a small quantity is known from Ugarit[39]. Next to local ware, the different types of ceramics at Tell Tweini are Cypriote Base-Ring Ware II, White Slip II, Red Lustrous Wheelmade Ware and Red on Black Ware. A sealing on the handle of a Canaanite storage jar representing a boat is a unique feature for the northern Levant (Ill. 39).

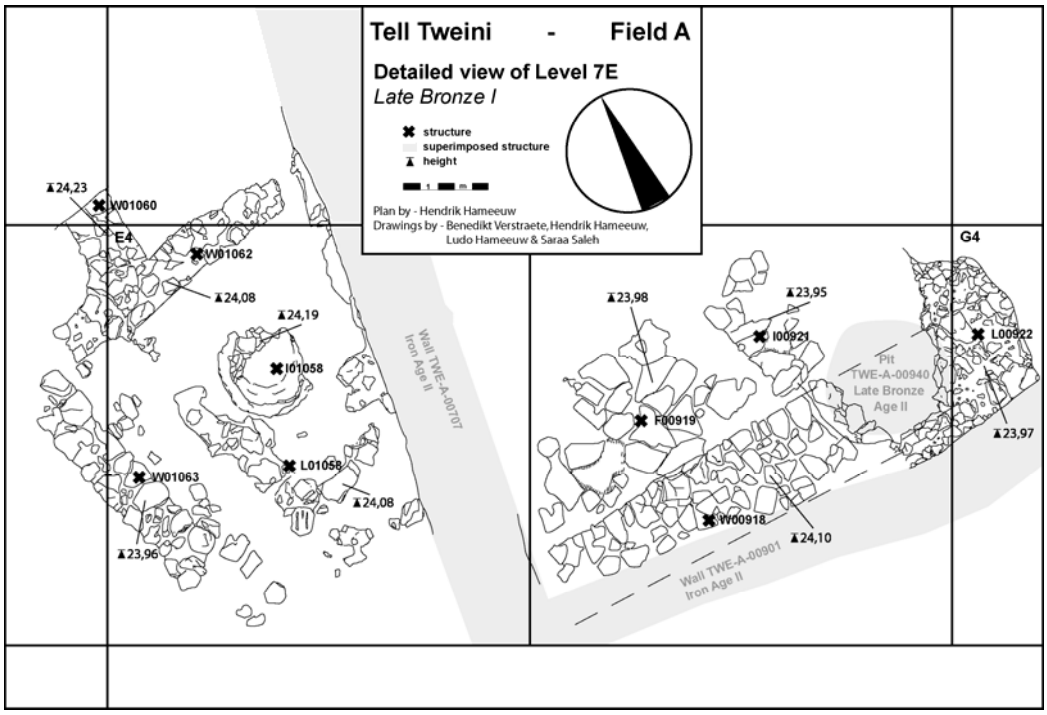
Several remarkable discoveries dating to this period can be mentioned here: seal cylinders (Ill. 36), a bronze ring with some illegible signs (Ill. 38) and a bifacial seal with an inscription in hieroglyphic-luwian containing the personal name 'Sakapiya' (Ill. 37). Based on the many imported luxury goods found at Tweini one can conclude that the material culture of the Late Bronze Age points to the existence of an elaborate network of international relations and commercial activities. The discoveries of the latest phase of the Late Bronze Age at Tweini (phase VIIIB) parallel the same cultural developments at Ugarit (Ill. 36, 40-45, 47).

Large destruction layers now being excavated at Tweini, are more or less contemporary with those at Ugarit. The texts from Ugarit mention that several cities of the kingdom were attacked by the "Sea People". The smaller cities and towns were likely destroyed shortly before Ugarit. Comparable destruction layers have been unearthed at Ras ibn Hani[40], Ras el-Bassit[41], Tell Kazel[42] and Tell Sukas[43]. Ugarit, the capital of a great kingdom, thus disappeared forever and only traces of occupation are known from dependent cities in the 12th century B.C.E.



Ill. 30. Late Bronze Age I structures (view towards the north-east)

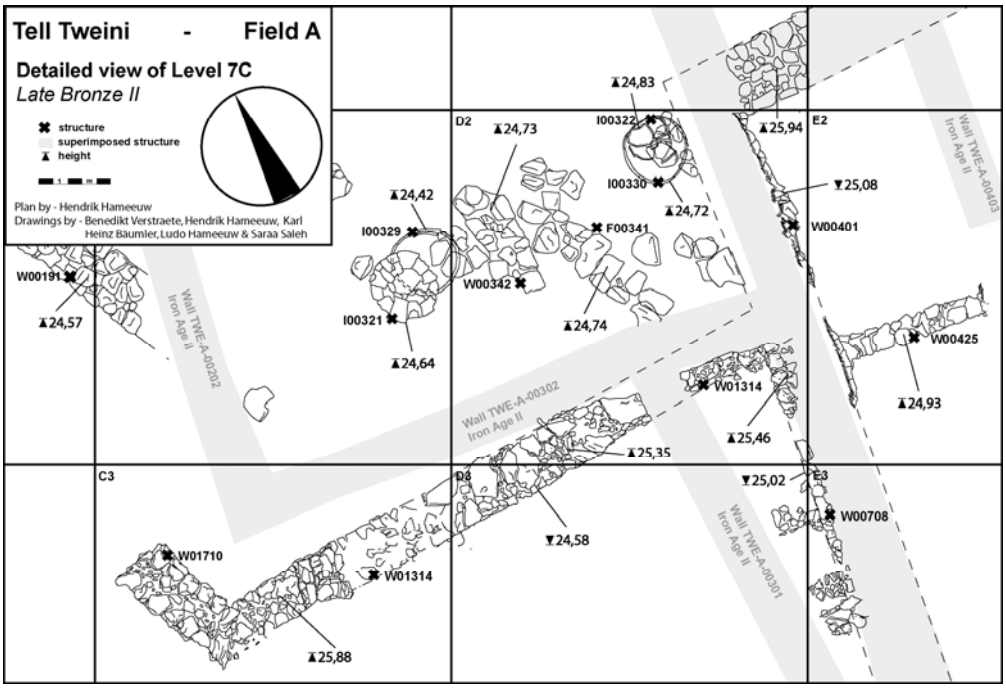
38. Yon, Karageorghis and Hirschfeld 2000; Jung 2007, 551-570; Al-Maqdissi and Matoïan 2008, 143.
39. Monchambert 2004, 322; Yon, Karageorghis and Hirschfeld 2000, 69; Al-Maqdissi and Matoïan 2008, 154.
40. Bounni and Lagarce 1998, 101.
41. Courbin 1986, 187.
42. Badre and Gubel 1999-2000; Capet 2003.
43. Lund 2004, 63.



Ill. 31. Detail of Level 7E (Late Bronze Age I)



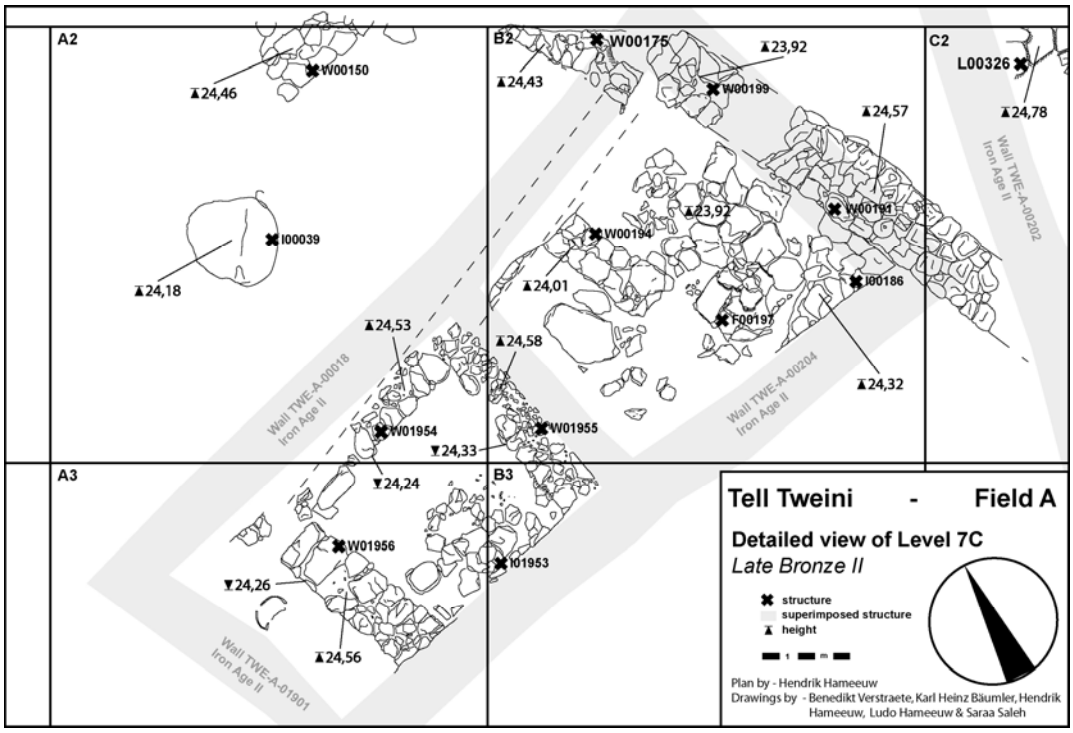
Ill. 32. Late Bronze Age II structures (view towards the north-west)



Ill. 33. Detail of Level 7C (Late Bronze Age II)



Ill. 34. Late Bronze Age II structures (view towards the south-east)



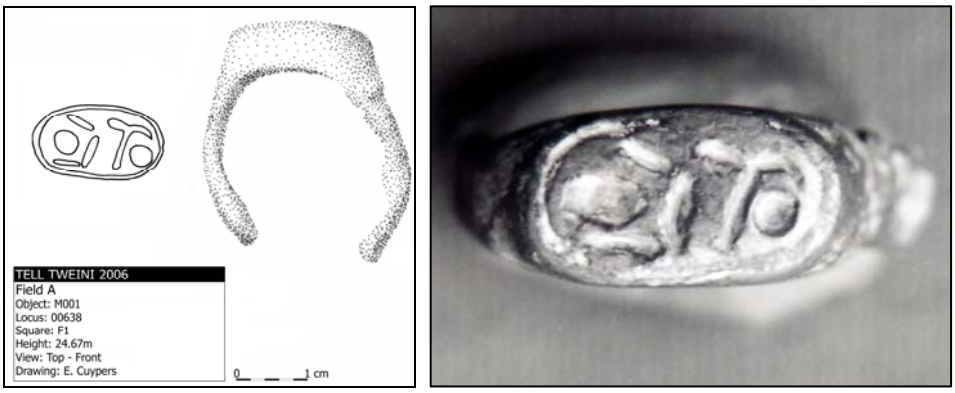
Ill. 35. Detail of Level 7C (Late Bronze Age II)



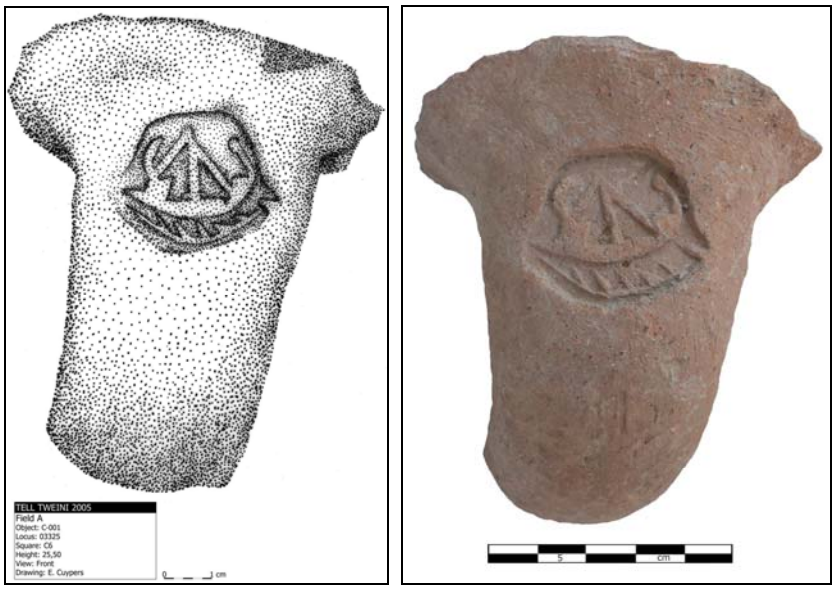
Ill. 36. Seal (Late Bronze Age)



Ill. 37. Biconvex seal of the Late Bronze Age. Inscription in hieroglyphic-luwian



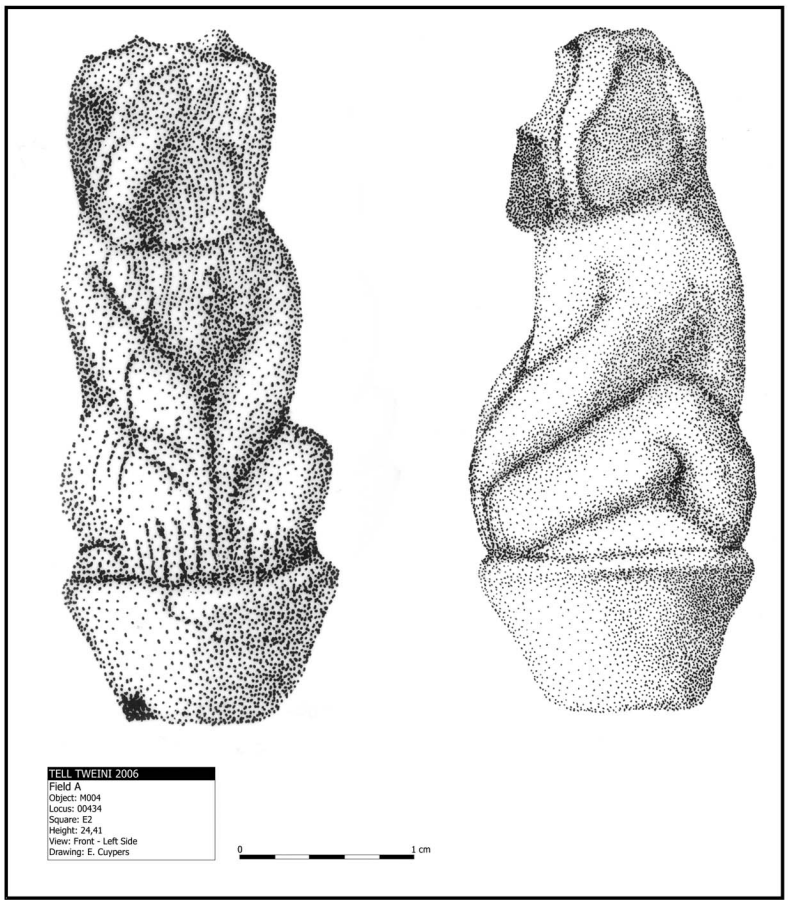
Ill. 38. Inscribed bronze ring (Late Bronze Age II)



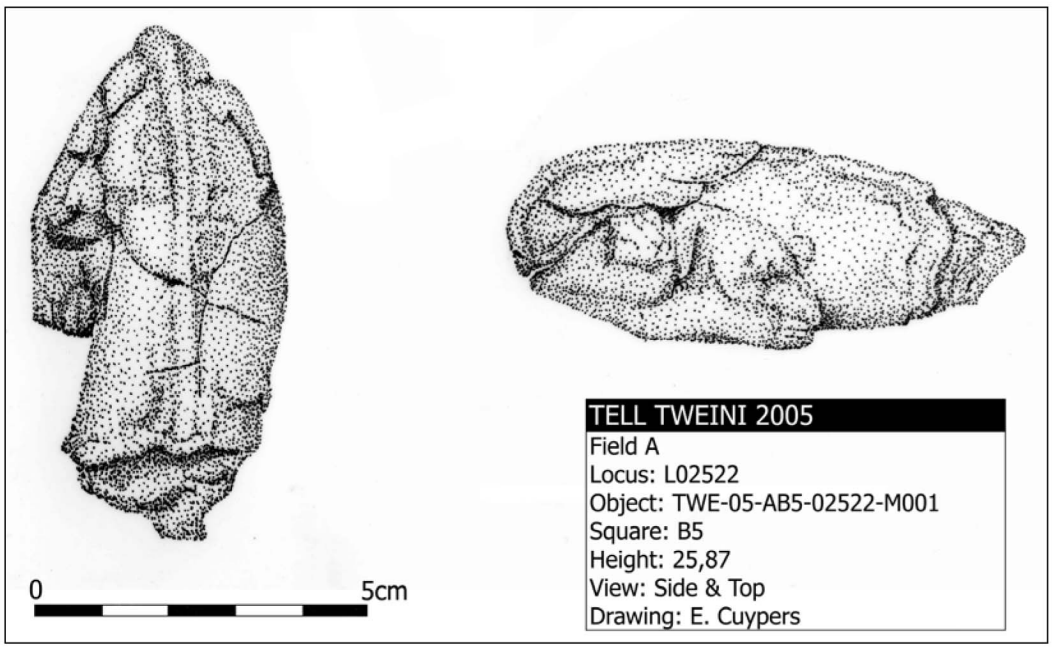
Ill. 39. Seal impression showing a boat (Late Bronze Age II)



Ill. 40. Scarab in Egyptian style (Late Bronze Age)

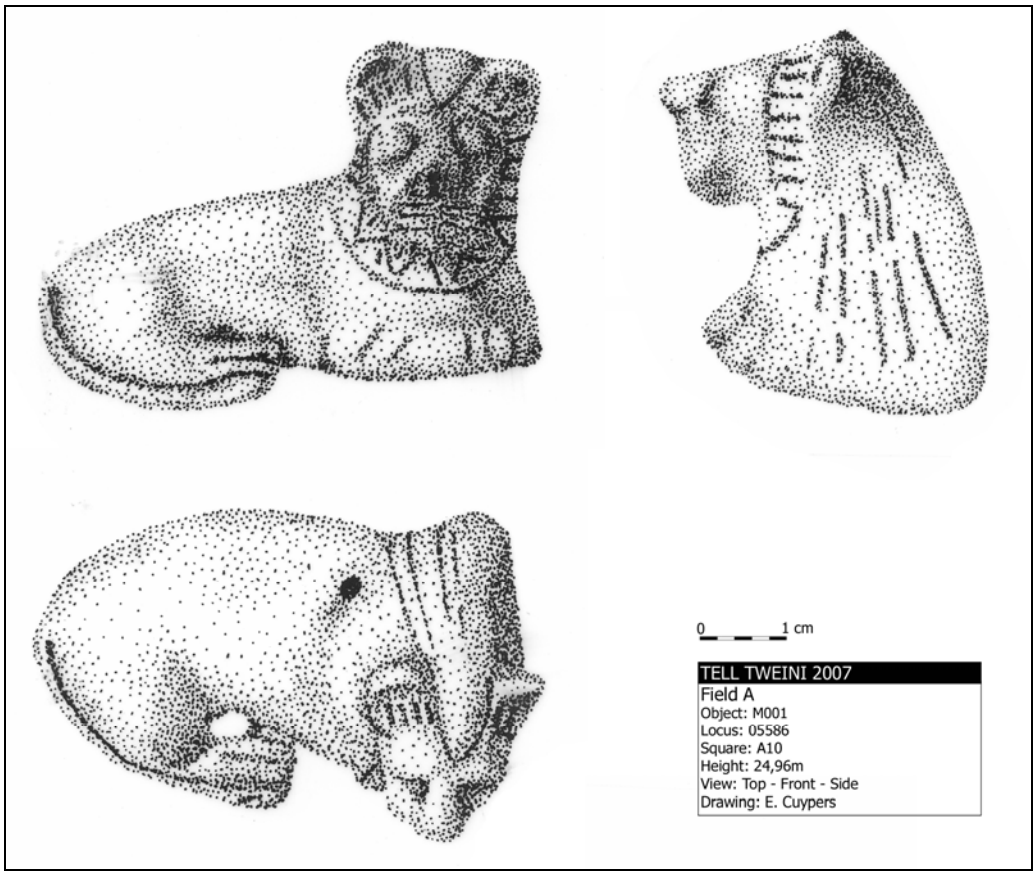


Ill. 41. Baboon in hippopotamus bone (Late Bronze Age II)



Ill. 42. Weight in the shape of an oxen (lead and bronze, Late Bronze Age II)





Ill. 43. Weight in the shape of a lion (lead and bronze, Late Bronze Age II)



Ill. 44. Bronze dagger (Late Bronze Age)



Ill. 45. Arrowheads and spearhead (Late Bronze Age II)



Ill. 46. Late Helladic IIIA:2 sherd with a chariot scene



Ill. 47. Terra cotta horse (Late Helladic)

2.4. *The Iron Age (ca. 1200-333 B.C.E.)*

In the northern Levant the most important sites for the less-known Iron Age I period are Ras Ibn Hani[44] and Tell Kazel[45]. The material culture and in particular the ceramics from the Iron Age I period are to a great extent unknown[46]. The increase in Iron Age I settlements in the eastern Amuq region has been explained as being the result of the resettlement of people who fled from the coastal area to a new country after the destruction of their region[47]. As mentioned before, Tweini underwent the same fate as many other coastal cities of the northern Levant in the beginning of Iron Age I (Tweini VII/12th century) and the site was at least partially destroyed. A short hiatus after the Late Bronze destruction (Level 7A) and a reoccupation in the earliest Iron Age I (Level 6G-H) were reconstructed. According to the results of our recent study of the architectural and ceramic finds at Tweini, a resettlement of the site during the 12th century, as in Ras Ibn Hani[48] and Tell Kazel[49] has taken place. For the 11th century, a second architectural phase of Iron Age I – with large quantities of ceramic in situ – was recognized in the southern part of Field A in the 2008 campaign.

At the end of Iron Age I and the beginning of Iron Age II, the urbanization of the Near East was marked by the creation and reorganization of new cities and villages and the transformation of society indicated by important political and social changes[50], possibly stimulated by abrupt climate changes. A more arid climate has been recorded between 1100 – 800 B.C. in the Jebleh region and in the northern Levant.[51] Under the Aramaean kingdoms of Syria, the coastal region was subject to new political and economic influences. The Phoenician cities became the link between the Near East and the eastern Mediterranean, controlling the international maritime trade.[52] This control over the maritime trade as well as the wealth of the Phoenician cities attracted the Assyrians and led to a series of military campaigns against the western states, resulting in an incorporation of these states into the Neo-Assyrian empire (ca. 900-609 B.C.E.).[53]

Tell Tweini has been totally redeveloped by the beginning of the 9th century B.C.E. The entire surface of the tell is by now covered by urban structures (Ill. 48-56). The city structure – streets, squares, monumental buildings and workshops – is easily recognizable on the map created by the geophysical prospection (Ill. 7). To the east of the tell, the city is protected by a massive wall (field C)[54]. The main entrance gate of the city is most likely to be found there. When entering from the plain one had, presumably, to climb stairs or a ramp to reach the gate in order to access the city center that was about 15 meter above the plain. The city was divided into two parts by the central street that ran from east to west. At about 40 or 50 meters from the entrance gate was a square from which the streets ran to the north, south and west. A system of curved streets, linked with each other by transversal streets, encircled the peripheral city quarters.[55] The map also reveals large monumental buildings divided by several rooms, dating to the 10th and 9th centuries B.C.E. The orientation of the houses dating to the Iron Age II has changed when compared with the houses of the Late Bronze phase. Even the street system seems to have changed between the second and the first millennia. However, the design of the houses remains similar and they continue to be being built out of rough stones associated with floors with flat pavements.

44. Bounni, Lagarce and Lagarce 1998, 101.
45. Badre and Gubel 1999-2000, 198; Capet 2003, 117.
46. Klengel 2000, 21-30; Venturi 2007; Badre 2006.
47. Pruss 2002, 161-176.
48. Bounni, Lagarce and Lagarce, 1998, 101.
49. Badre and Gubel 1999-2000, 198; Capet 2003, 117.
50. Akkermans and Schwartz 2003, 360.
51. Kaniewski et al. 2007, 13941-13946.
52. Niemeyer 2002, 177-195; Röllig 2003-2005, 537; Lipinski 2004, 37.
53. Lipinski 2000; Klengel 1992, 222.
54. Bretschneider et al. 2005, 226, 15-17, Fig. 3.
55. This system of curved streets is a parallel to the layout of Bronze Age Ugarit.

Until now, only one Iron Age II grave was found. The majority of the Iron Age II graves are presumably to be found outside the city.

In the 2006 season, official buildings were discovered in the southern part of field A. The 'A Building' is well preserved. Originally it was made up of one long room (Langraum) fronted by an entrance-hall. Later it was extended on both sides by rows of attached rooms (Ill. 49-50, 54-55, 58-59). The floors were made of stone. The open space outside of the entrance hall appears to have been a courtyard.

A second building, parallel to the 'A Building', was partially excavated but only the 'Langraum' was uncovered. Both buildings are fronted by open courts and the entrances have monumental door-sockets. It remains uncertain what function the buildings had. It is very likely that they were initially built to be used as twin temples or as 'pre-temples' characterized by their 'Langraum'. Comparable building complexes at Kition/Bamboula[56] and Tell Kazel, dating to the same period, have been interpreted as sanctuaries. At Tweini, small chambers next to these 'sanctuaries' were added later and some were used as metal workshops.

The most remarkable object found in the main room of the 'A Building' is a small 12 cm tall, bronze statuette, representing a naked goddess (Ill. 65). The exact dating, as well as its geographical provenance, can not be determined as yet. It might originate from Cyprus and date to the Late Bronze Age or Early Iron Age. If so, then it would have been worshipped for a long period of time. In the Near East a naked goddess with upraised arms is not common. Cypriot figurines of the 12th and 11th century have stylistic similarities. A necklace and two cylinder seals (Ill. 69) come from the Iron Age II 'A Building'. One of the two: an early Neo-Assyrian cylinder seal of high quality, contains a scene of a hero attacking a Pegasus.

The end of the occupation of Tweini phase VI A may be situated at the beginning of Iron Age II. This might be related to the military expansion of the Assyrian empire in the 9th century B.C.E. At that time, the temple area near Tell Kazel was being destroyed[57]. Similarly, at Tell Sukas, comparable destructions have been attributed to the Assyrians, who often undertook military campaigns to the Syrian coast between 858 and 844 B.C.E.[58]

During the second half of the 9th century B.C.E. the urban plan of Tell Tweini changed. Official buildings were reused and enlarged and new residential houses were constructed. The renewal of the urban culture at Tell Tweini (phase VI B and V) as well as on the Phoenician coastal plain may be linked to the development of an economic and commercial network between Cyprus, Phoenicia and inner Syria. The numerous imports of Cypriot pottery at Tweini reflect this expanding economic development.

The end of Iron Age II at Tweini, during the final decades of the 8th century B.C.E., must be associated with the new westward expansion policy of the Assyrian empire. The Assyrian annals mention the military campaigns of Tiglatpileser III (in 738 B.C.E) and of Sargon II (in 720 B.C.E.) against the Aramaean states of Syria. From 720 on the Syrian coast came under Assyrian control. The military presence of the Assyrians has been revealed by the discovery of an Assyrian fort at the Syrian excavations of Tell Sianu directed by Michel Al-Maqdissi[59]. The ancient city of Gibala itself is mentioned in an inscription of Tiglatpileser III (744-727 B.C.E.)[60]. In any case, the Phoenician harbor towns enjoyed a certain autonomy under Assyrian domination, although they were obligated to pay large tributes.

At the end of the 8th century a significant architectural renewal occurred at the centre of Tell Tweini (field A)[61]. The production of olive oil and probably wine becomes the main economic activity of the town and oil presses (Ill. 63) and refining installations were found in every house[62]. The monumental buildings

56. Yon 2006, 88, Fig. 49-50.
57. Badre and Gubel 1999-2000, 197-198; Capet 2003, 117.
58. Riis 1970, 161.
59. Bounni and Al-Maqdissi 1998, 257-264.
60. See: Wittke 2004, 40.
61. See for the pottery of the Iron Age III: Lehmann 1996.
62. For the pottery, see Vansteenhuyse, Al-Maqdissi and Van Lerberghe, 2002, 29-44.

(the A and B buildings) loose their original (sacred?) function and were divided into small chambers where specific economic or commercial activities took place. These architectural and functional developments could be the consequence of the international politics in the 8th century, when the Assyrian domination of the northern Levant was a fact.

From the foregoing it becomes clear that Tell Tweini – probably to be identified with ancient Gibala in the Ugaritic texts – was an important city in antiquity. The excavations at Tweini allow us the possibility of studying a settlement over an extremely long, almost uninterrupted, period of time from the mid-third to early first millennium B.C.E. and ending with the Achaemenid period.

The subsequent periods – Hellenistic, Roman and Byzantine – are present at the western part of the tell (field B), albeit on a very limited scale, and in the centre of the tell (field A) only scattered sherds and the remains of destroyed tombs refer to these periods.



Ill. 48. Iron Age II house (view towards the south)



Ill. 49. The ‘A Building’ (view Iron Age II, towards the west)



Ill. 50. The ‘A Building’ (view Iron Age II, towards the north-west)



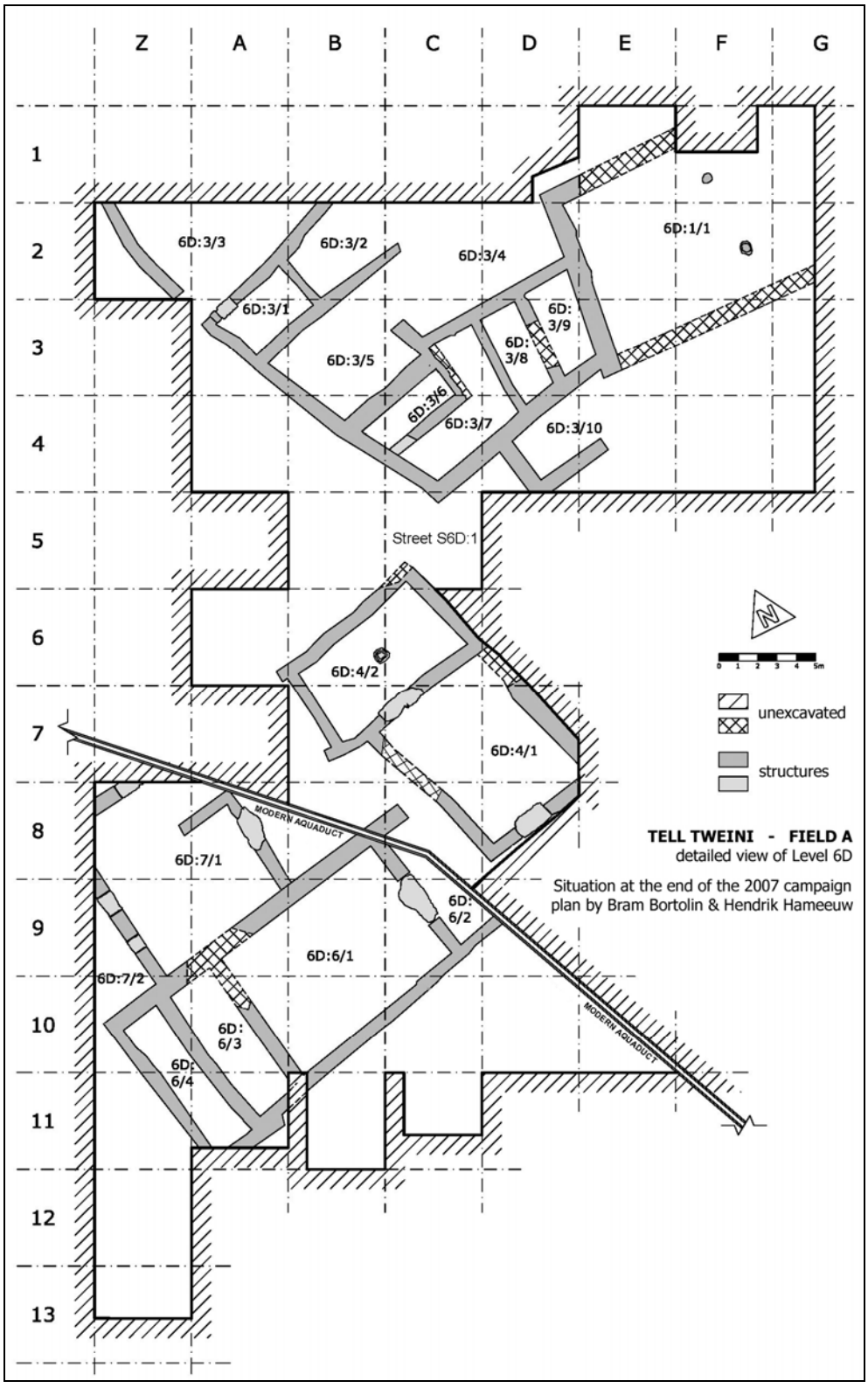
Ill. 51. Iron Age II house (view towards the north)



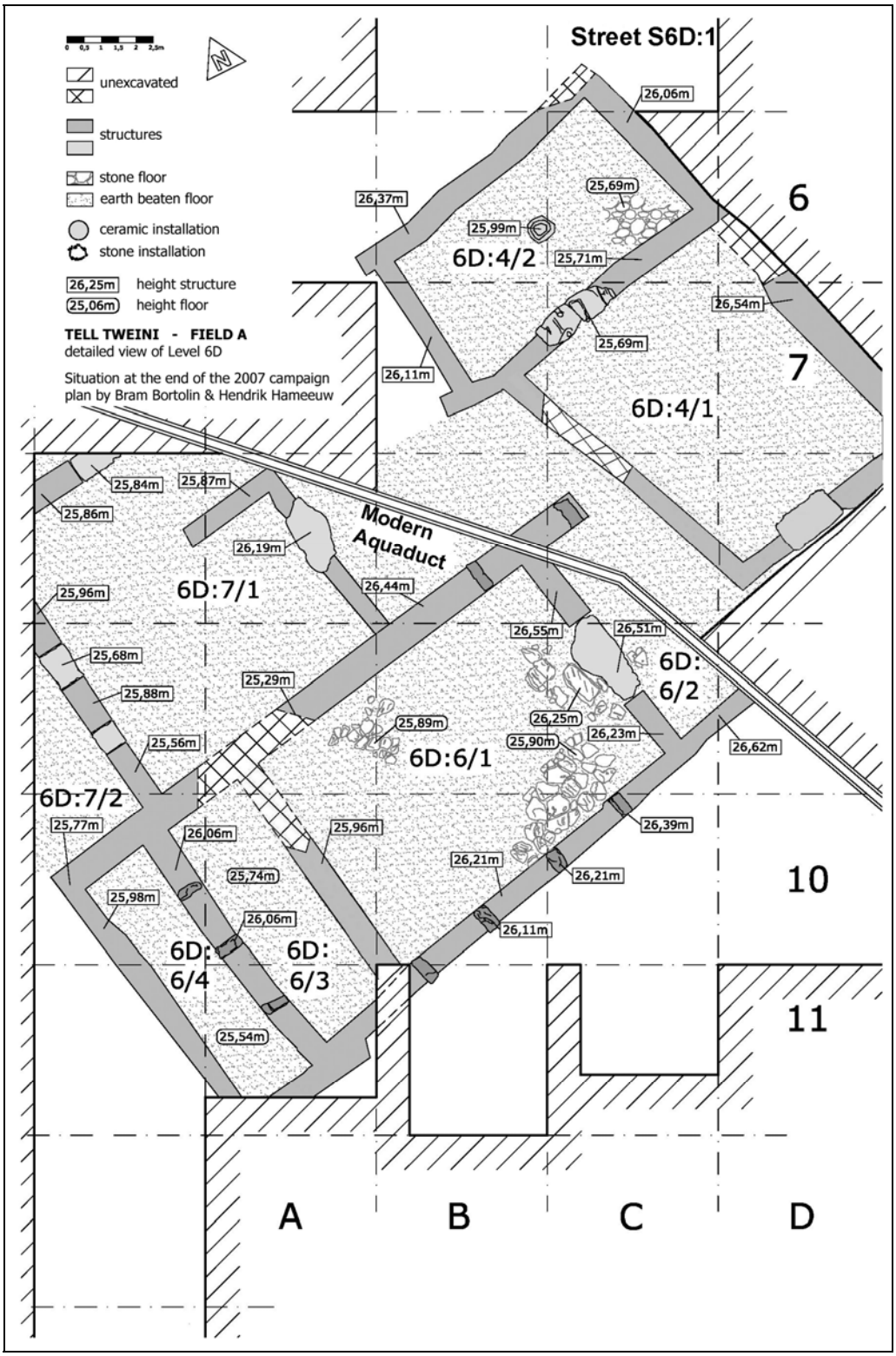
Ill. 52. Iron Age II and Late Bronze II house (view towards the west)



Ill. 53. Iron Age II house (view towards the west)



Ill. 54. Level 6D, general view (Iron Age II)



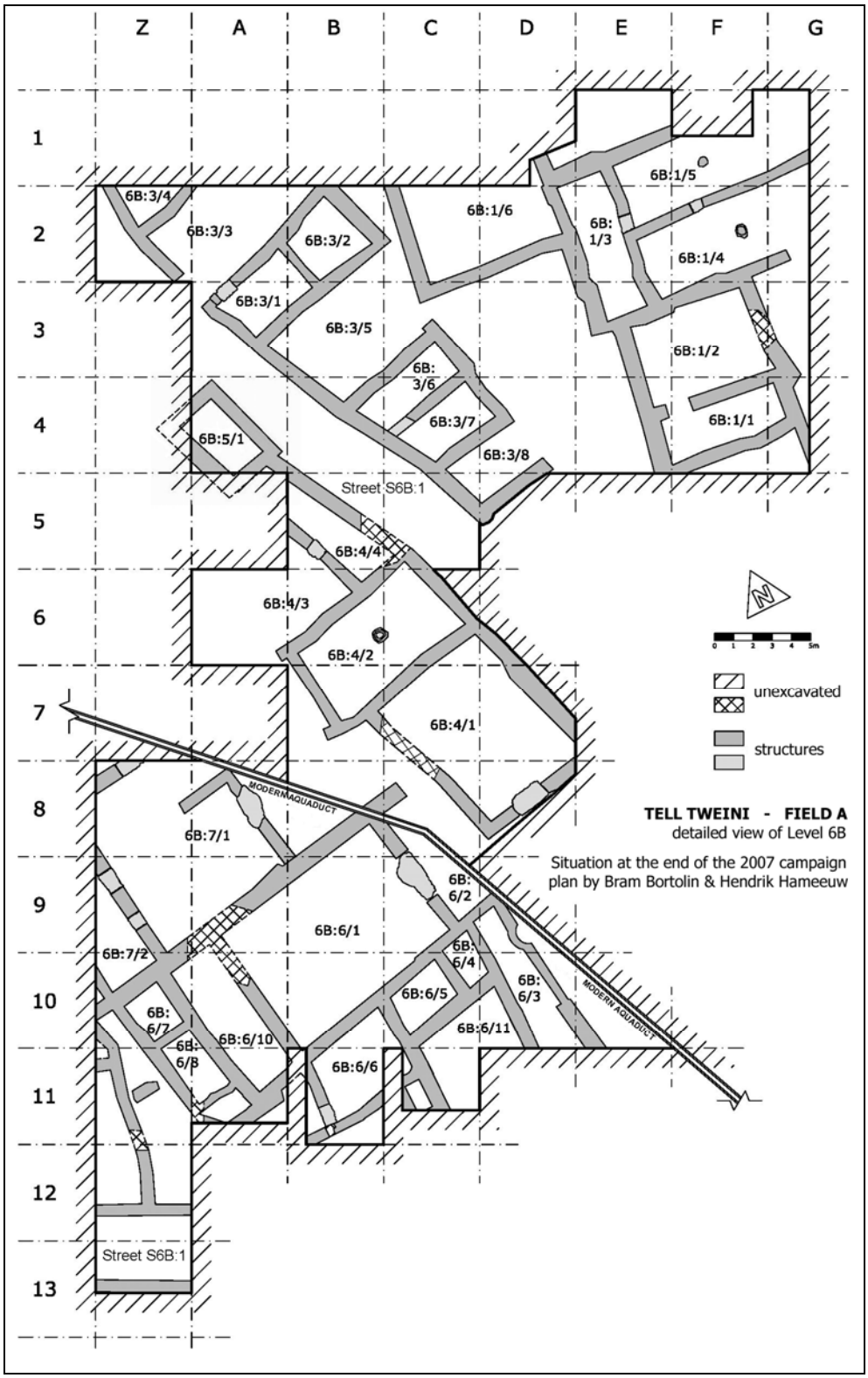
Ill. 55. Detail of level 6D (the 'A Building', Iron Age II)



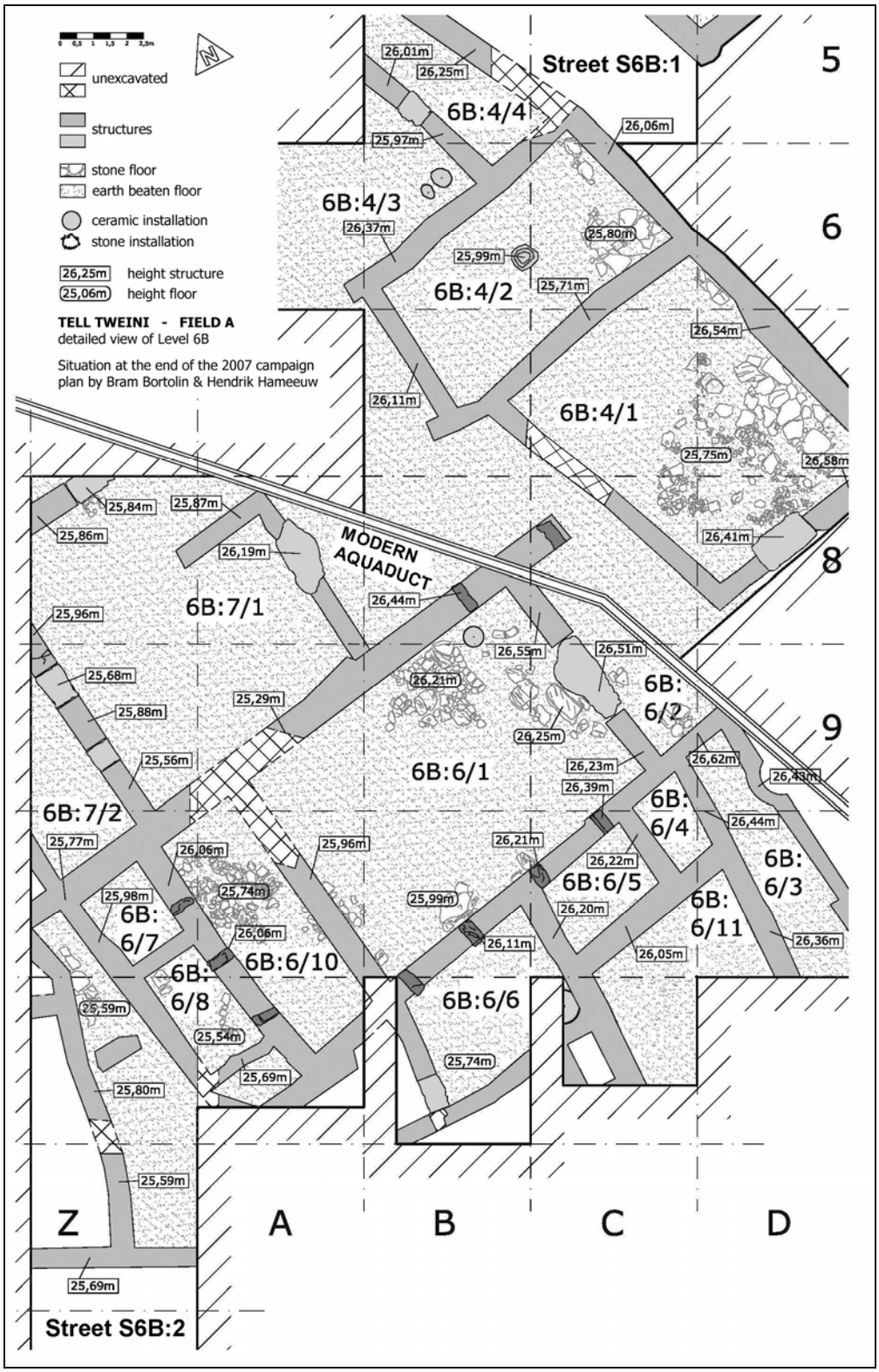
Ill. 56. Iron Age II house (view towards the north)



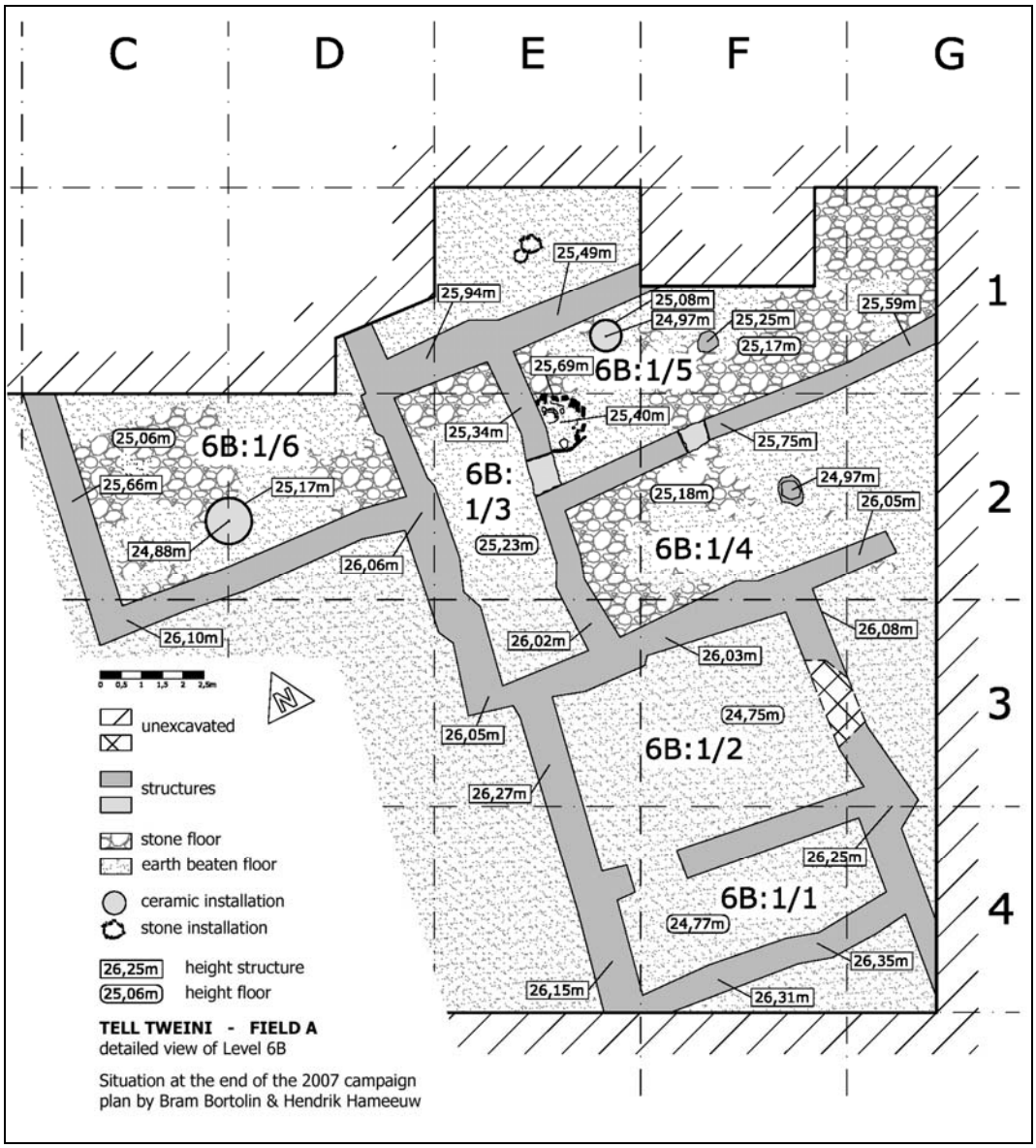
Ill. 57. Iron Age II house (view towards the east)



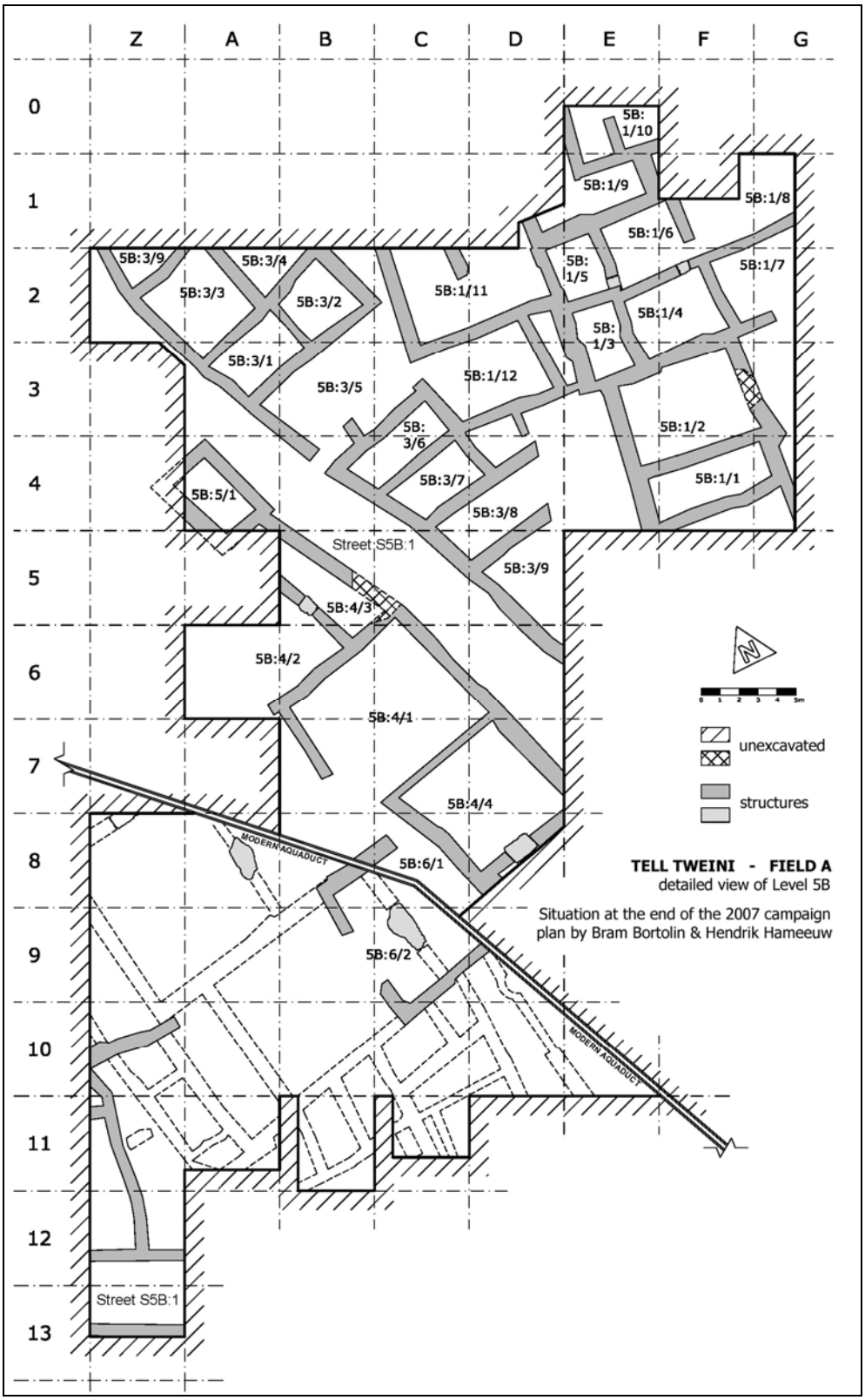
Ill. 58. Level 6B, general view (Iron Age II)



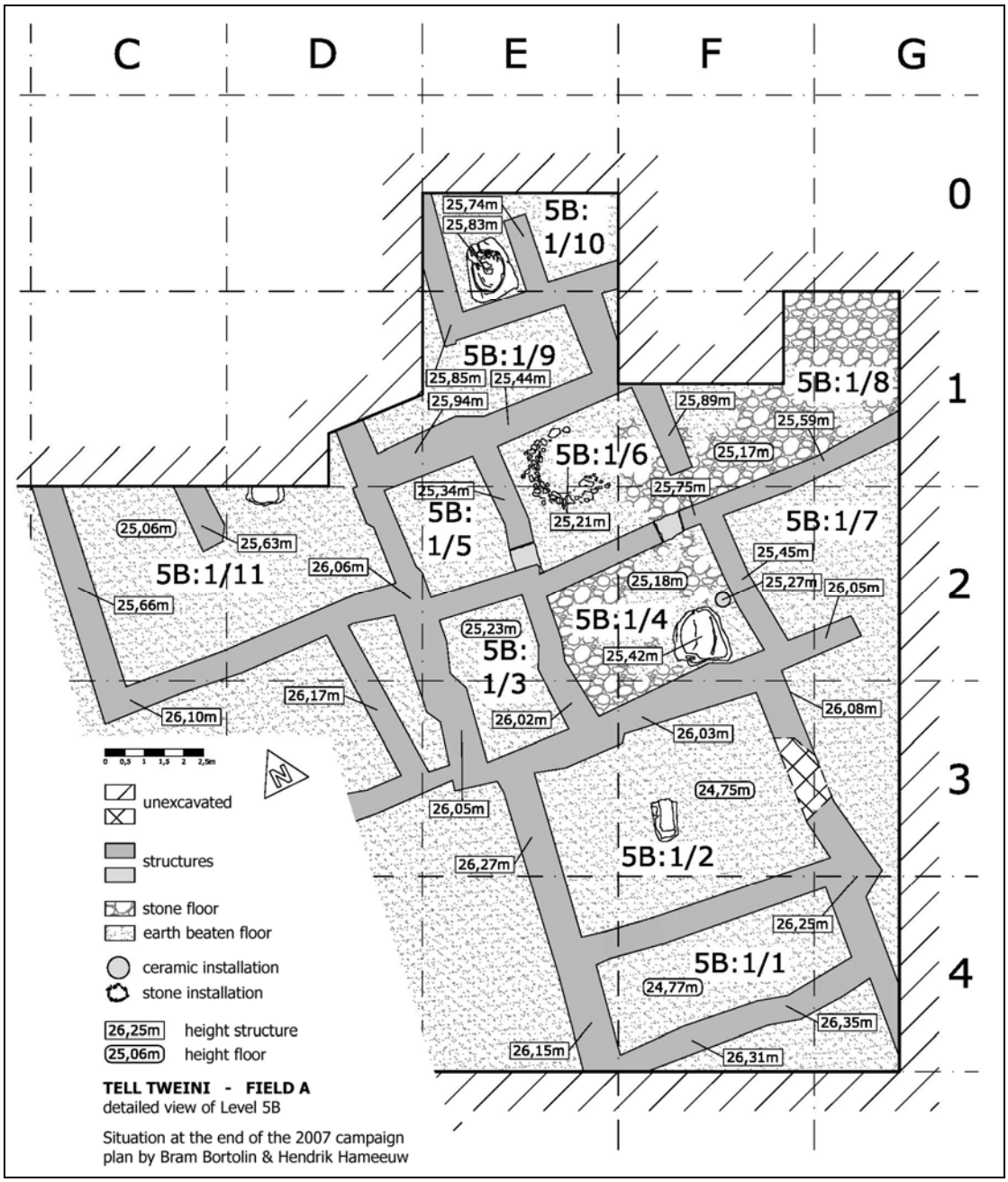
Ill. 59. Detail of level 6B (the 'A Building', Iron Age II)



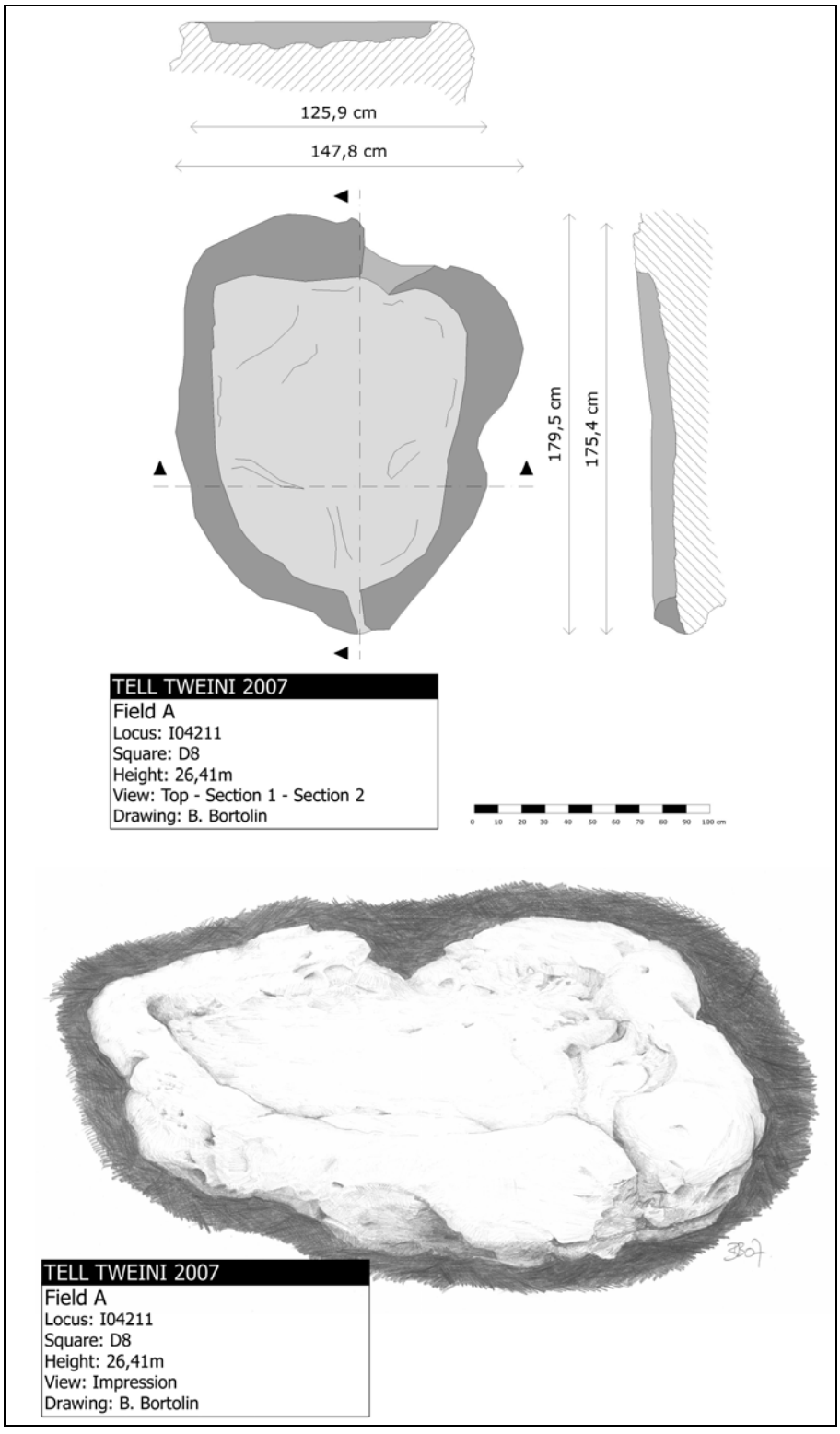
Ill. 60. Detail of level 6B (Iron Age II)



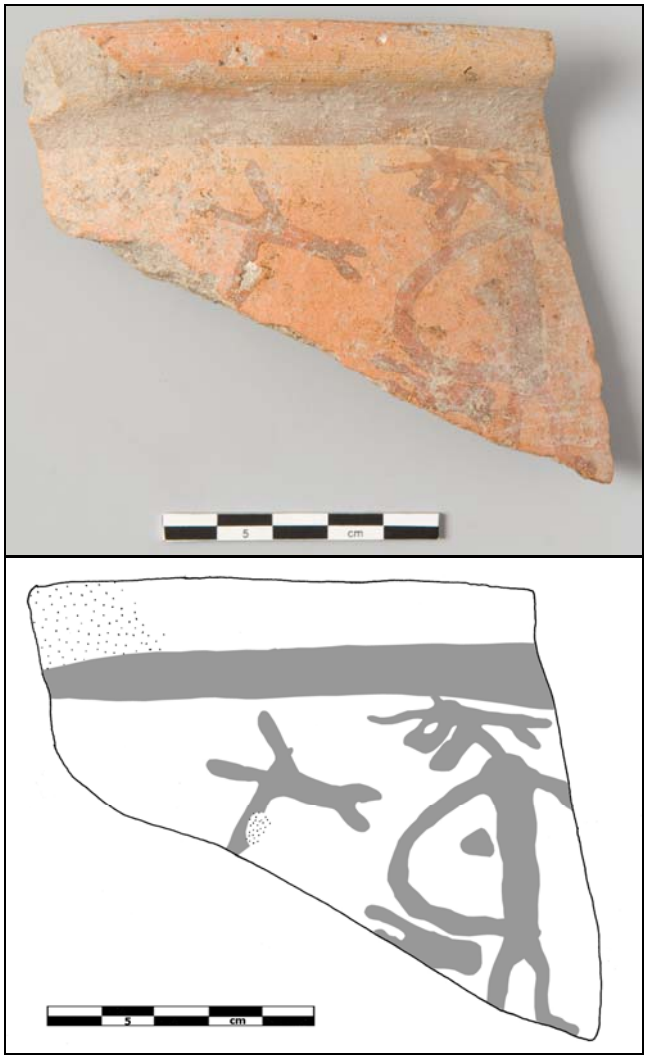
Ill. 61. Level 5B, general view (Iron Age III)



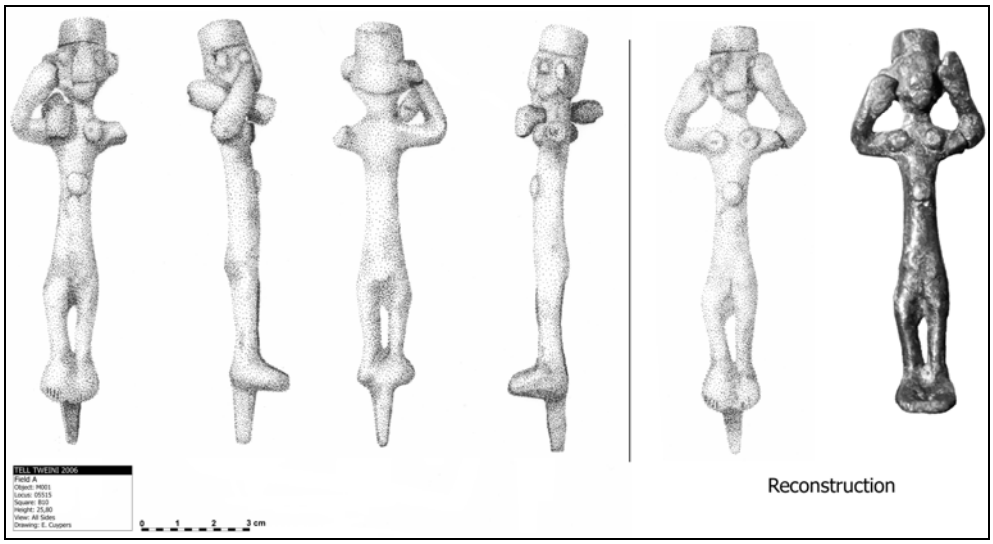
Ill. 62. Detail of level 5B (Iron Age III)



Ill. 63. Industrial installation, TWE-A-04211 (Iron Age III)



Ill. 64. Sherd showing a donkey (?) and a masked person.



Ill. 65. Bronze figurine representing a naked goddess dating to the beginning of the Iron Age (the 'A Building')



Ill. 66. Terra cotta figurine (Iron Age I-II)

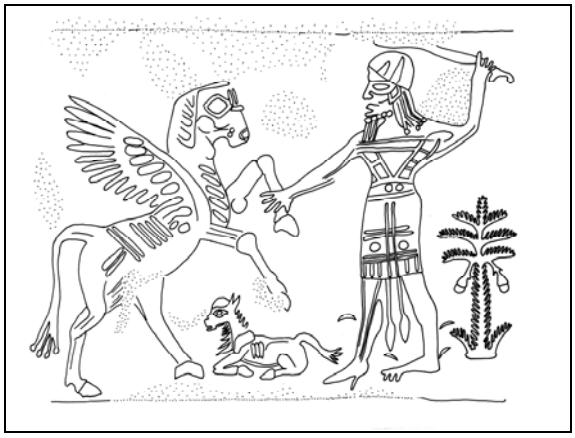


Ill. 67. Bronze fibula (Iron Age I-II)



Ill. 68. Terra cotta plaque with a cultic scene (Iron Age I-II)







Ill. 69. Neo-Assyrian seal representing a hero attacking a Pegasus (ca. 8th century B.C.E.)



Ill. 70. Terra cotta figurine (Iron Age III)

Table 1: *Phases of Tell Tweini*

		PHASES OF TWEINI	FIELD A
1918 –	**Modern**	Tweini I B	Level 1
	Ottoman	Tweini I A (19e c. AD)	Level 2
1516 –			
	Islamic		
636 –			
	Byzantine	Tweini II	
AD 395 –			
	Roman	Tweini III	Level 3
BC 64 –			
	Hellenistic	Tweini IV	
333 –			
400 –	**Iron Age III (Persian Achaemenid Period)**	Tweini V A-B	Level 4 A-B
500 –			
600 –	**Iron Age III**		Level 5 A-B
700 –			
800 –	**Iron Age II**	Tweini VI A-B	Level 6 A-B
900 –			Level 6 C-D
1000 –	**Iron Age I**	Tweini VII B	Level 6 E-F
1100 –		Tweini VII A	Level 6 G-H
1200 –	**Late Bronze Age II B**	Tweini VIII B	Level 7 A-B-C
1300 –			
	Late Bronze Age II A		
1400 –			
1500 –	**Late Bronze Age I**	Tweini VIII A	Level 7 D-E
1600 –			
1700 –	**Middle Bronze Age II**	Tweini IX B	Level 8 A-B
1800 –			
1900 –	**Middle Bronze Age I**	Tweini IX A	Level 8 C-D
2000 –			
2100 –	**Early Bronze Age IVB**	Tweini X B	Level 9 A-B
2200 –			
2300 –	**Early Bronze Age IVA**	Tweini X A	Level 10
2400 –			
2500 –	**Early Bronze Age III**	Tweini XI	Level 11 ?
2600 –			

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Urban development at Tell Tweini

Joachim Bretschneider and Hendrik Hameeuw

The countryside

The Jebleh plain[1] occupies a strategic position between the Northern and Southern Levantine urban centres. Settlement on this fertile coastal plain began to follow a dendritic, or more precisely synaptic pattern from at least the late Early Bronze Age. The region was densely settled during the Middle and Late Bronze Ages according to this model, with the major sites on strategic (i.e. raised, as tells) locations next to the rivers that communicated to the sea at one end and the agricultural heartland to the other, with the urban centre more or less in the middle. Only after the early Iron Age, around the 7th-6th Centuries B.C. did the major centres begin to relocate to the coast – perhaps in response to silting in river deltas and estuaries resulting from climate change induced erosion.

In looking for the coastal port facilities of the Middle and Late Bronze Ages one should consider that through time sedimentation has obscured most of the ancient natural bays. These natural anchorages, protected by promontories, underwater ridges and small islands, would have sheltered these harbours.[2] We may thus expect there to have been ports along the coast at fairly regular intervals, offering traders various places to stop and conduct commercial activities. The effects of this maritime trade can be traced by the circulation of the traded goods. This distribution of artefacts is well documented in the material remains at Tell Tweini, such as the Cypriot ceramics of the 2nd and 1st millennium B.C. that are found in several funerary contexts and both public and private houses. It confirms the site of Tell Tweini played a key role in this economic system thanks to its link with the sea and its geographical position inland. It should be noted that, although the general debate continues on the viability of the old rivers[3], the Rumeileh, to the West of Tell Tweini, was still navigable at the beginning of the 20th century AD.

The city

Based on the most recent archaeological data, Tell Tweini developed as an urban centre starting in the latter part of the Early Bronze Age. The vast majority of the excavated structures however date to the Iron Age. They give a reliable insight into the town planning of the city of the 9th-6th centuries BC (Levels VI-V).

1. Riis P. J., Thuesen I., Lund J. and Riis T. (eds.) *Topographical Studies in the Gabla Plain* (Publications of the Carlsberg Expedition to Phoenicia 13), Viborg 2004.

2. Marriner N., Paléo-environments des Ports Antiques de Tyr, Sidon et Beyrouth, in: Archaeology and History in Lebanon 28, 2008, 66-138.

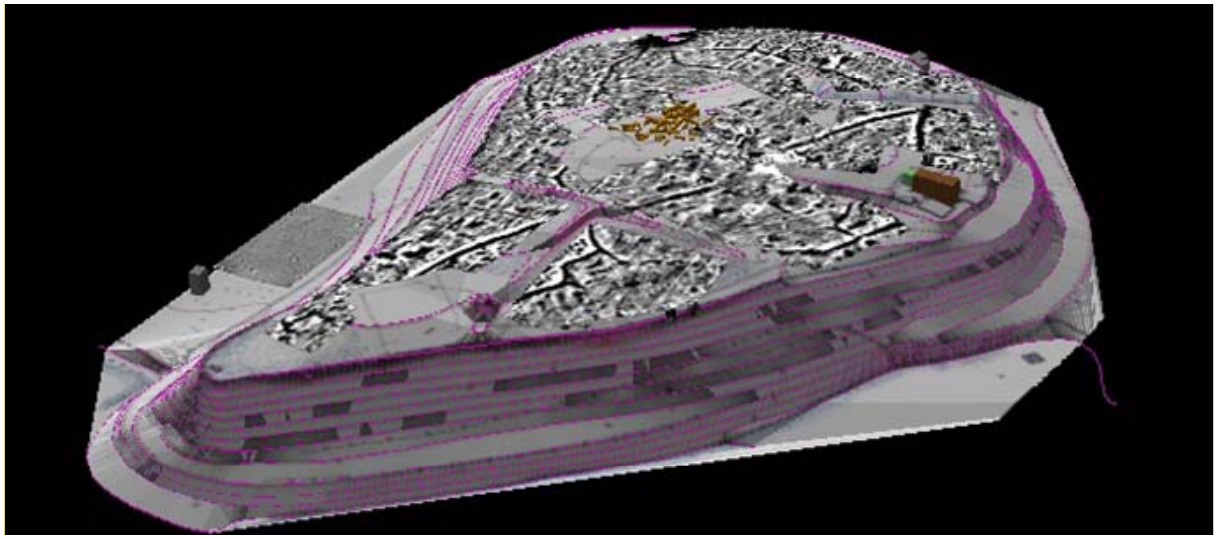
3. Al-Maqdissi M., Bretschneider J., Degryse P, Hameeuw H., Kaniewski D, Paulissen E., Van Simaeys S. and Van Lerberghe K., Environmental changes in the Jebleh plain (Syria), Geophysical, Geomorphological, Palynological, Archaeological and Historical Research, *Res Antiquae* 4, 2007, p. 3-10.

During the 2004 campaign, a geophysical survey was carried out in order to locate architectural remains and to place the already excavated areas in a broader urban context (Ill. 1-2). While both radar penetration and geomagnetic research were attempted, the latter proved to be the superior method for this type of top soil. The geomagnetic results show the ground plan of the city as it was during the 9th and 6th centuries BC and could be joined with the previously excavated structures of the Iron Age. Several large structures (perhaps public) are prevalent on the plan. Based on these results two rectangular buildings located at the centre of the tell were excavated during the 2006-2007 campaigns on Field A and another was studied on the western limit of Field B. Beside these large structures densely urbanized city quarters are observable.

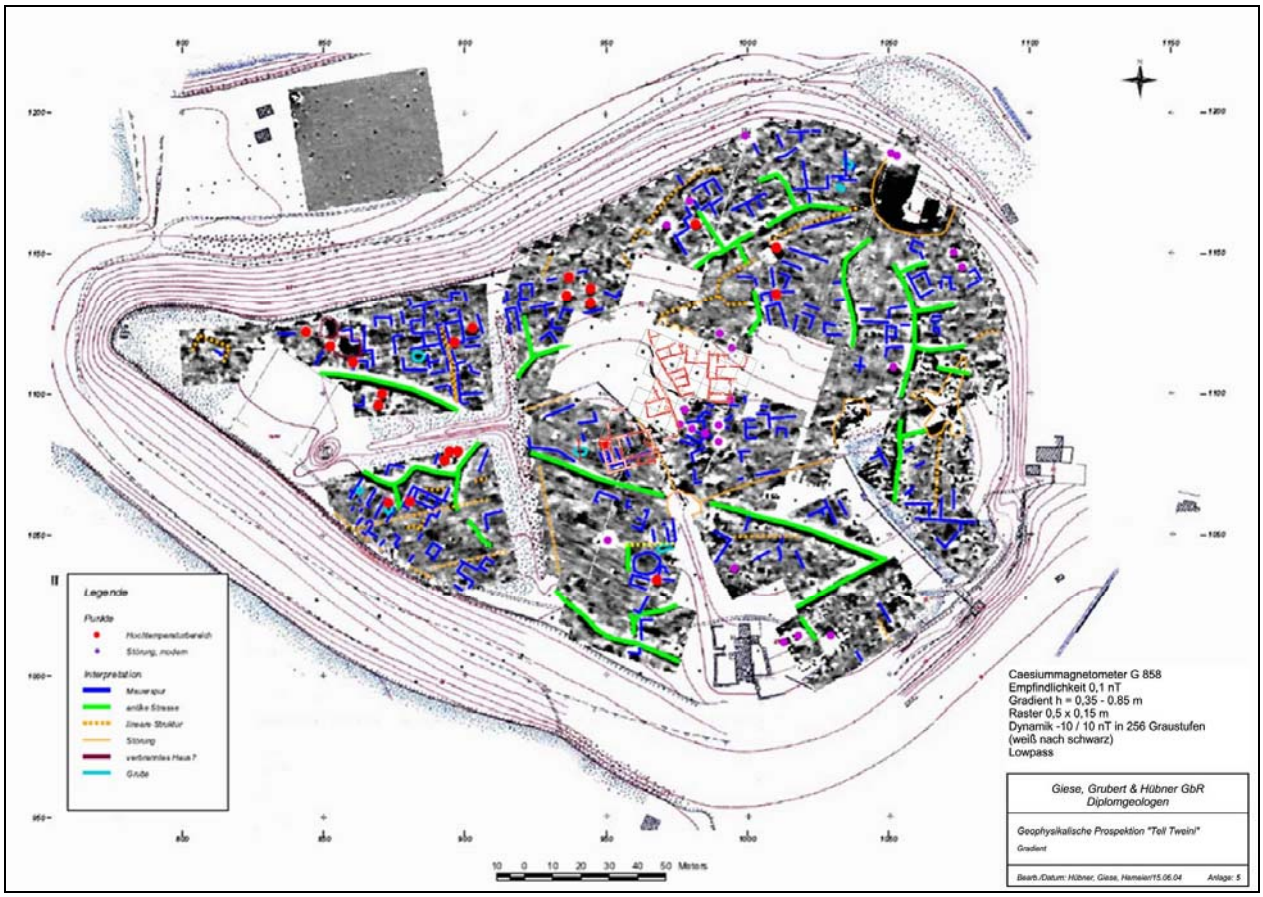
The street system of the Iron Age city had two primary orientations (Ill. 2-5). From the main entrance of to the city, in the East, a central, axial street runs west, where in Field B it leads to an ancient zone of temples, uncovered during recent excavations. The residential zone in Iron Age II was located in the heart of the city and connected with the central street. One of these residential quarters is currently being excavated in Field A. A subsidiary street running through this quarter was connected to the central artery (Ill. 5-6). The second orientation of the city's road system is orbital, following the contours of the tell and passing along the limits of the highest parts. This 'ring' road crosses the central street twice and encloses the residential city quarters.

Archaeological surveys on the grounds surrounding Tell Tweini have proven difficult. Modern buildings and intensive agriculture prevent a thorough investigation. An exception are the fields just North and South of the Tell. On the ground to the North the geomagnetic results showed no structures in the top soil. Either ancient structures have been obscured by more recent sediment, or the territory surrounding the tell was not urbanized in antiquity.

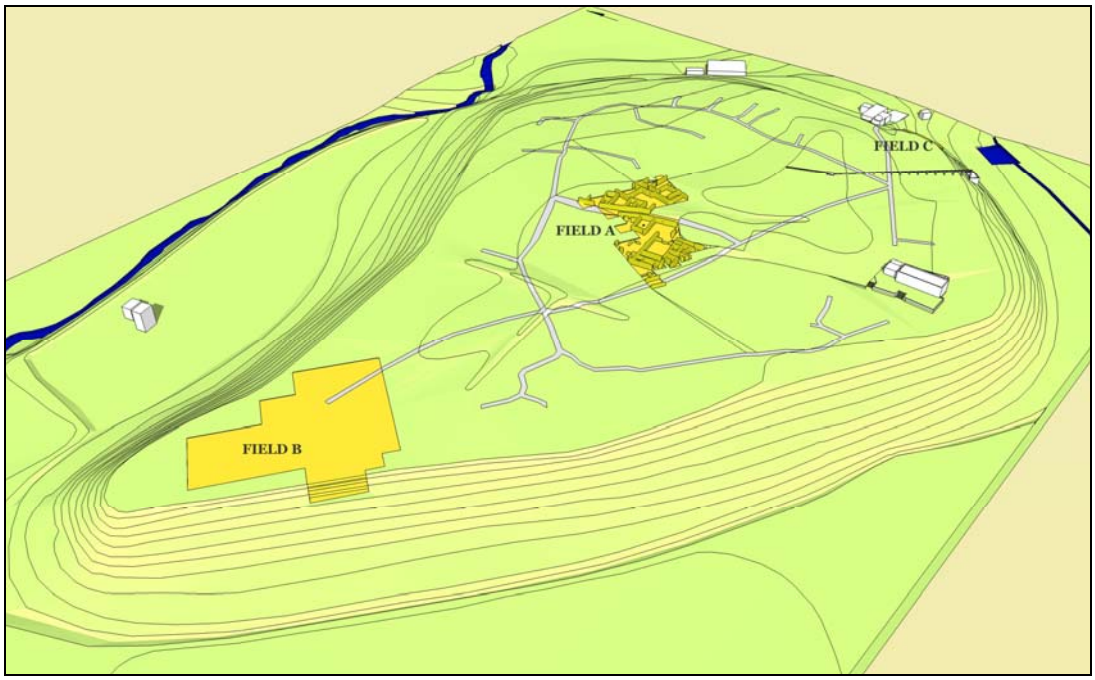
For the future a large survey program is planned by the Syrian Department of Antiquities. The project will investigate the entire Gibala plain and greatly help us to understand the patterns of urbanisation in the region.



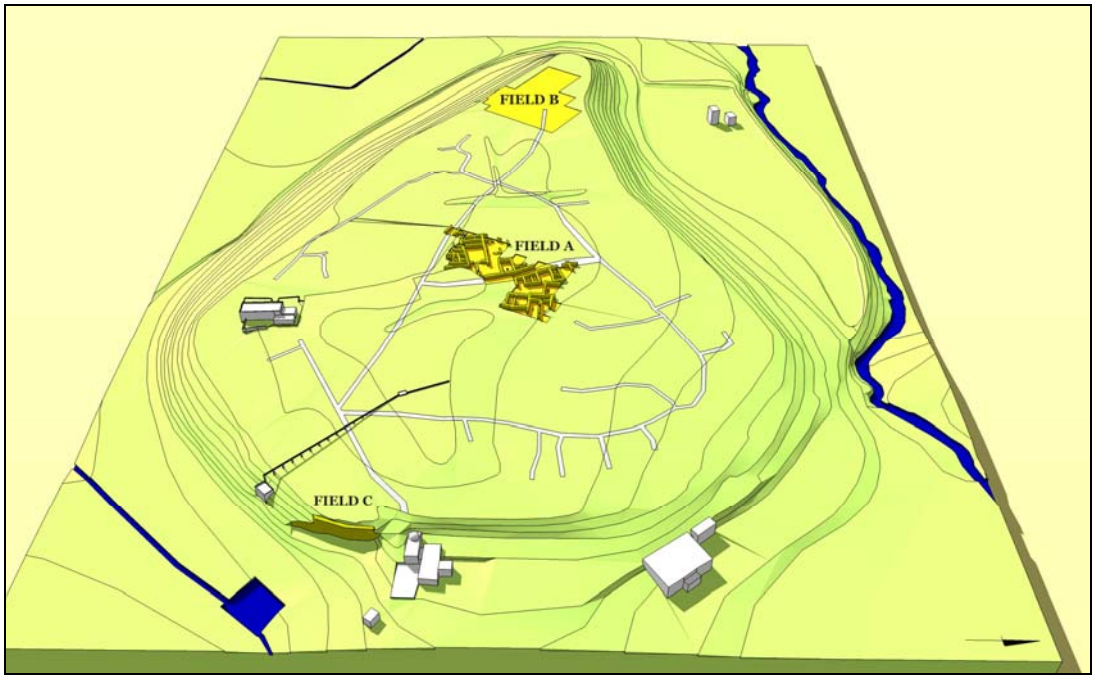
Ill. 1. Results of the geophysical survey of 2004



Ill. 2. Results and interpretation of the geophysical survey of 2004



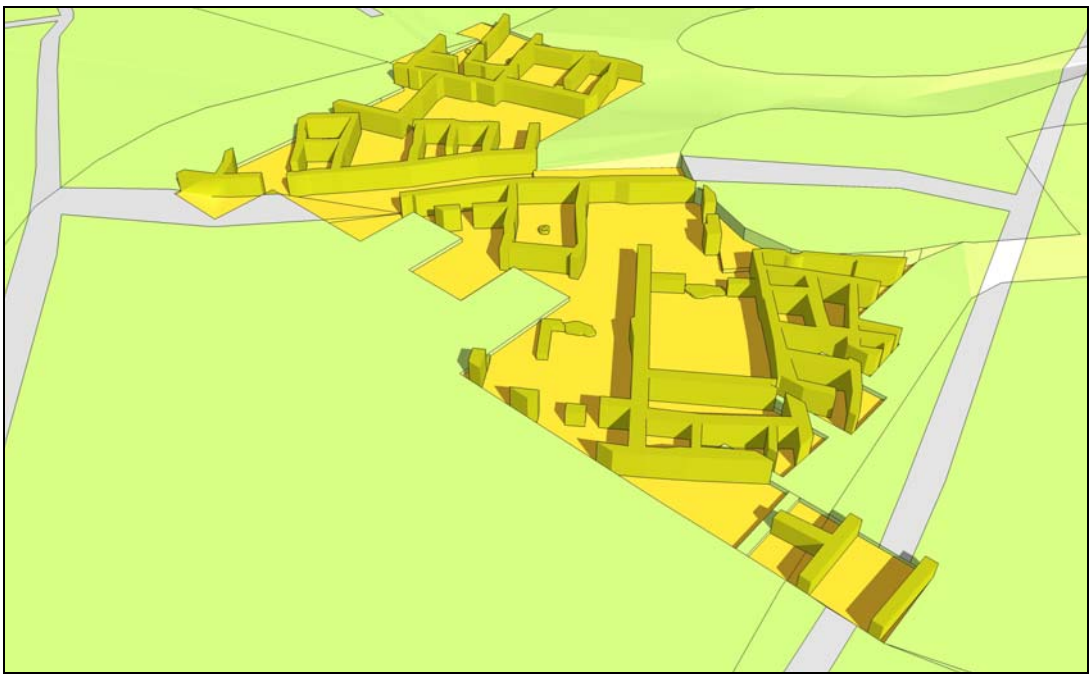
Ill. 3. Virtual animation, general impression, situation of the Iron Age II, view towards the North-East (realisation B. Bortolin & H. Hameeuw)



Ill. 4. Virtual animation, general impression, situation of the Iron Age II, view towards the West (realisation B. Bortolin & H. Hameeuw)



Ill. 5. Virtual animation, detail, situation of the Iron Age II, view towards the North-West (realisation B. Bortolin & H. Hameeuw)



Ill. 6. Virtual animation, detail, Field A, situation of the Iron Age II, view towards the East (realisation B. Bortolin & H. Hameeuw)

Burial Customs at Tell Tweini – Field A

Hendrik Hameeuw and Greta Jans

Introduction

Since excavations started at Tell Tweini in 1999 eleven burials from both the Bronze and Iron Age have been unearthed in Field A.[1] All of these graves and tombs were found in an urban context; in most cases in a well-defined relation with domestic structures, such as floors and foundations of walls. The burials occur on various locations beneath the surface of the tell. They are a reflection of the Ancient Near Eastern tradition to bury the dead close to or beneath their proper estate. The majority, namely nine, can be dated to the Middle Bronze Age. These give a good insight on the burial customs of the period. For both the Late Bronze Age and the Iron Age II only one burial has been recognised so far. As burial types simple earth inhumations (4), jar burials (5) and constructed tombs (2) have been distinguished.

Middle Bronze I

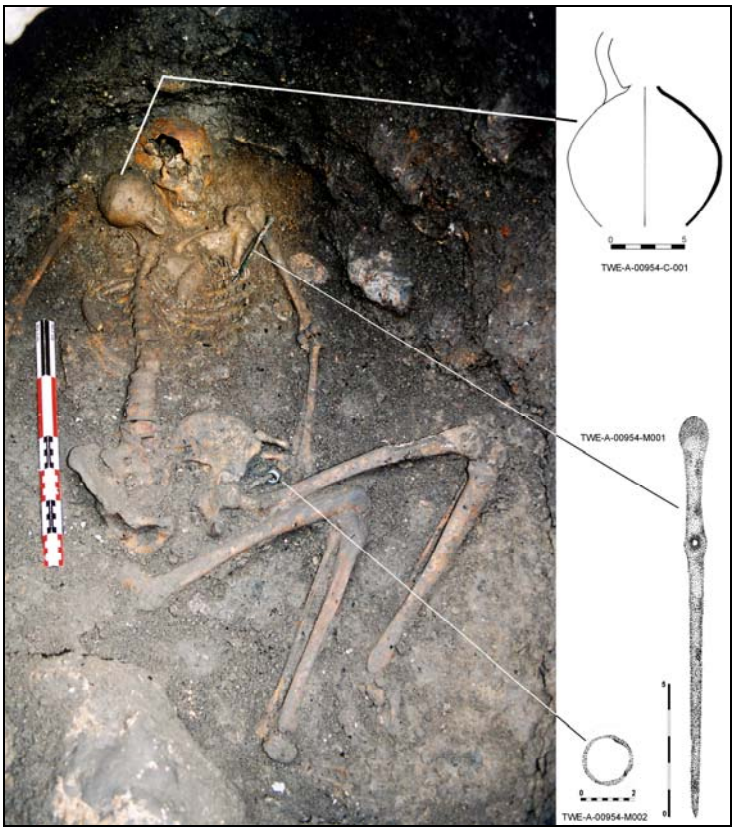
TWE-A-00954 (Ill. 1)

In the sounding of squares E3-4, F3-4 a structural tomb of a young man was found. The corbelled-vault tomb, constructed in unworked stones, had no structural entrance and was opened by the excavators from the top. The body of the 20 to 35 year old male[2] lay on its back with the legs pulled up to the left. The inventory only consisted of a bag-shaped juglet[3], a bronze pin and a bronze ring, which was still around a finger of the left hand.

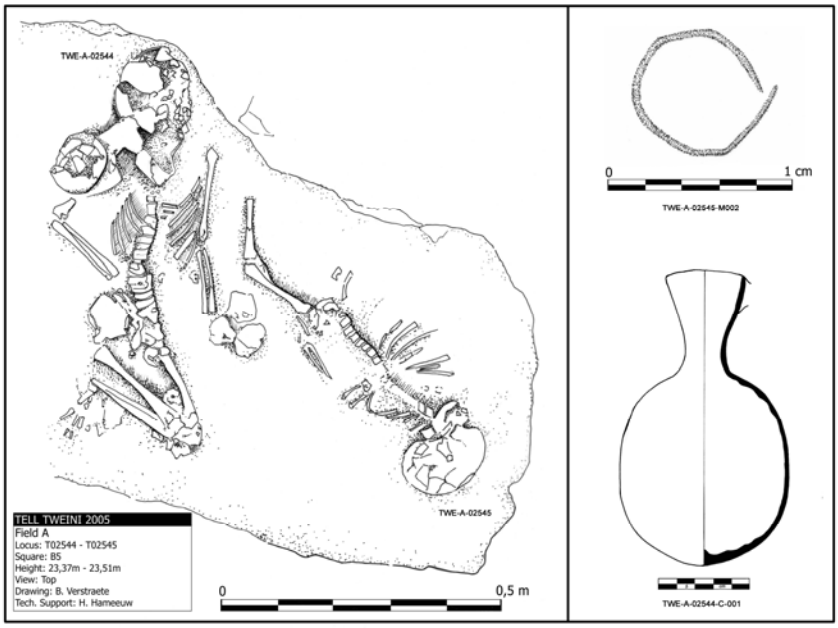
TWE-A-02544 and TWE-A-02545 (Ill. 2)

In the small sounding of square B5, 20 to 40cm lower than where the jar burials TWE-A-02542 and TWE-A-02543 were found, two simple earth burials TWE-A-02544 and TWE-A-02545 were uncovered. The limited excavated area in this sounding made it impossible to determine whether the graves were related to urban structures. The skeletons of both graves were badly preserved. TWE-A-02544 was the grave of a male child of circa 6 years old. The burial also contained a rounded juglet similar to fragments found in square E4 (TWE-A-00942-C-003) within a Middle Bronze Age I context. No ceramics were found in locus TWE-A-02545 but a silver-tin bracelet (TWE-A-02545-M-002) and five beads lay close to the neck of the 2 to 3 year old child.

1. For the ceramic inventory of these graves: see also the article of Klaas Vansteenhuyse in this volume.
2. The anthro-biological examinations on the human remains found at Tell Tweini were conducted by F.-X. Ricaut during the 2006-2007 seasons. For the Middle Bronze Age burials see his contribution in this volume.
3. The juglet is the main chronological reference for the tomb, a parallel at Doumet-Serhal 2004, Table 7, fig. 14, S/1803.



Ill. 1. Tomb and inventory of TWE-A-00954, Middle Bronze Age I



Ill. 2. Graves and inventory of TWE-A-02544 and TWE-A-02545, Middle Bronze Age I

Middle Bronze II

TWE-A-02542 and TWE-A-02543 (Ill. 3)

In the profile of the small sounding of square B5, two jar burials were located some 60 to 70 cm below a plaster floor (TWE-A-02535). The smallest of the two jars, TWE-A-02543, was completely crushed by the earth above and could not be excavated as this would have destabilized the profile. Just above TWE-A-02542 two large slabs protected the jar, measuring 60 by 30 cm. The human remains in the jar – most likely of three different persons – were mixed and disturbed. Two intact red burnished dipper juglets, fragments of two small black slipped juglets and a bronze bracelet were found inside the jar.

TWE-A-00051 (Ill. 4)

The jar of the burial contained the remains of a child, whose body was placed in foetal position. The grave in square A2 had a rich tomb inventory, consisting of two red slipped juglets, a dipper juglet, a small carinated bowl and a red slipped plate[4]. At Ras Shamra[5] and Tell Arqa[6] jar burials with similar contexts dating to the Middle Bronze Age II were found.

TWE-A-01070 (Ill. 5) and TWE-A-01085

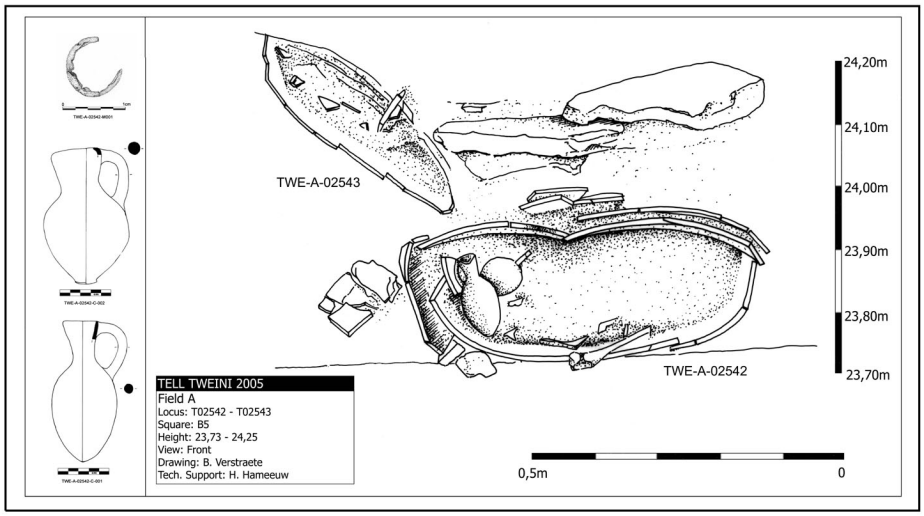
Beneath a beaten earth floor in squares D4 and E4 two jar burials of infants were excavated. The 50 cm large jar of TWE-A-01070 was seriously damaged; due to this, most of the skeletal remains were found outside of the jar. Among the ceramics found between the human remains were a Middle Bronze Age II carinated bowl and a juglet with horizontal red bands in Levantine Painted Ware. TWE-A-01085 was too disarticulated to allow thorough study; no objects could be related to this burial.

TWE-A-00934 (Ill. 6)

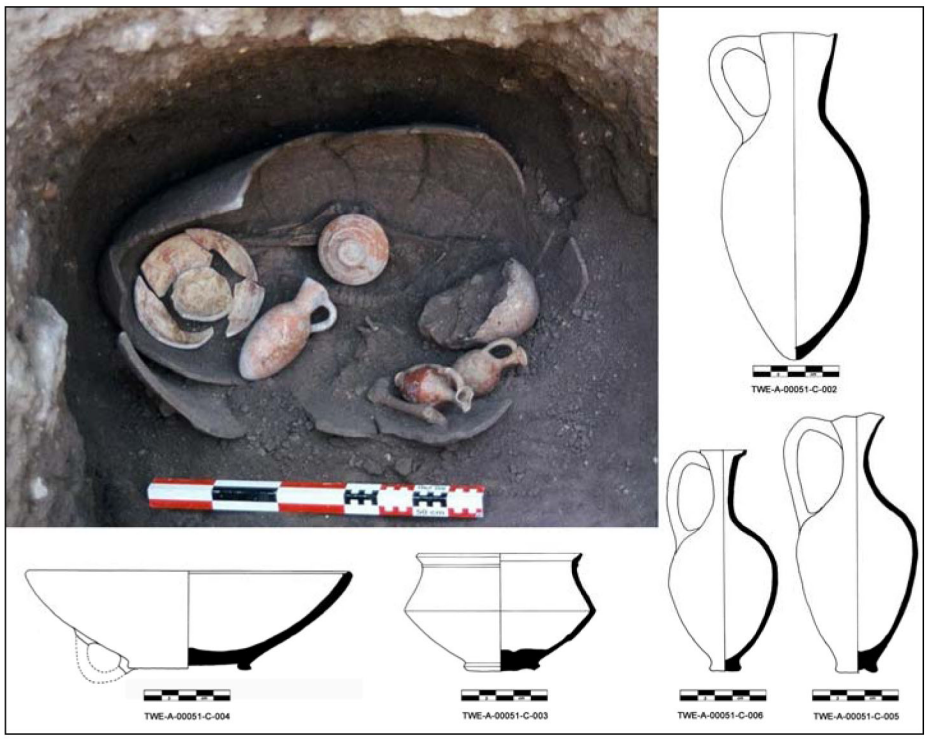
A most interesting simple earth burial in square F4 was positioned in direct relation with the Middle Bronze Age II foundations of wall TWE-A-00931 and just below a beaten earth floor. In the burial the body of a young female about 20 years old, was placed at the bottom of the shallow pit. Her legs were pulled up to the left and the head oriented to the north but facing east. Between her arms an infant, age 1 to 1,5 years, was laid down.[7] Among the gifts were a juglet in the Cypriot White Painted Cross Line Style, two carinated bowls and two dipper juglets. For both TWE-A-00934-C-001 and TWE-A-00934-C-004 strong parallels were found with the jar burial of TWE-A-01070. Aside from the ceramics a small figurine and a silex tool were part of the inventory. On top of the feet of the adult skeleton the skull of a cow or ox

4. Bretschneider et al. 2004, 224-225.
5. Schaeffer 1962, pl. XV, fig. 5.
6. Thalmann 2006, T 13.38.
7. At Ras el-Bassit, north of Tell Tweini, in a Late Bronze Age burial context the remains of two adults (man and wife?) and those of a child were discovered. Similar to TWE-A-00932, the child was positioned close to the head of the female body, see Courbin 1978, 52-53 and Darcque 1996, 129-152. For a southern Levantine parallel, at Megiddo: a burial of a single adult with a single infant or child dating to the Middle Bronze Age II, see Loud 1948, fig. 293, tomb 3093.

was placed.[8] Several other animal bones were found all around the grave. The woman appeared to suffer from madura foot, a bacterial or fungal infection. When this disease is not treated, it can be fatal.[9]



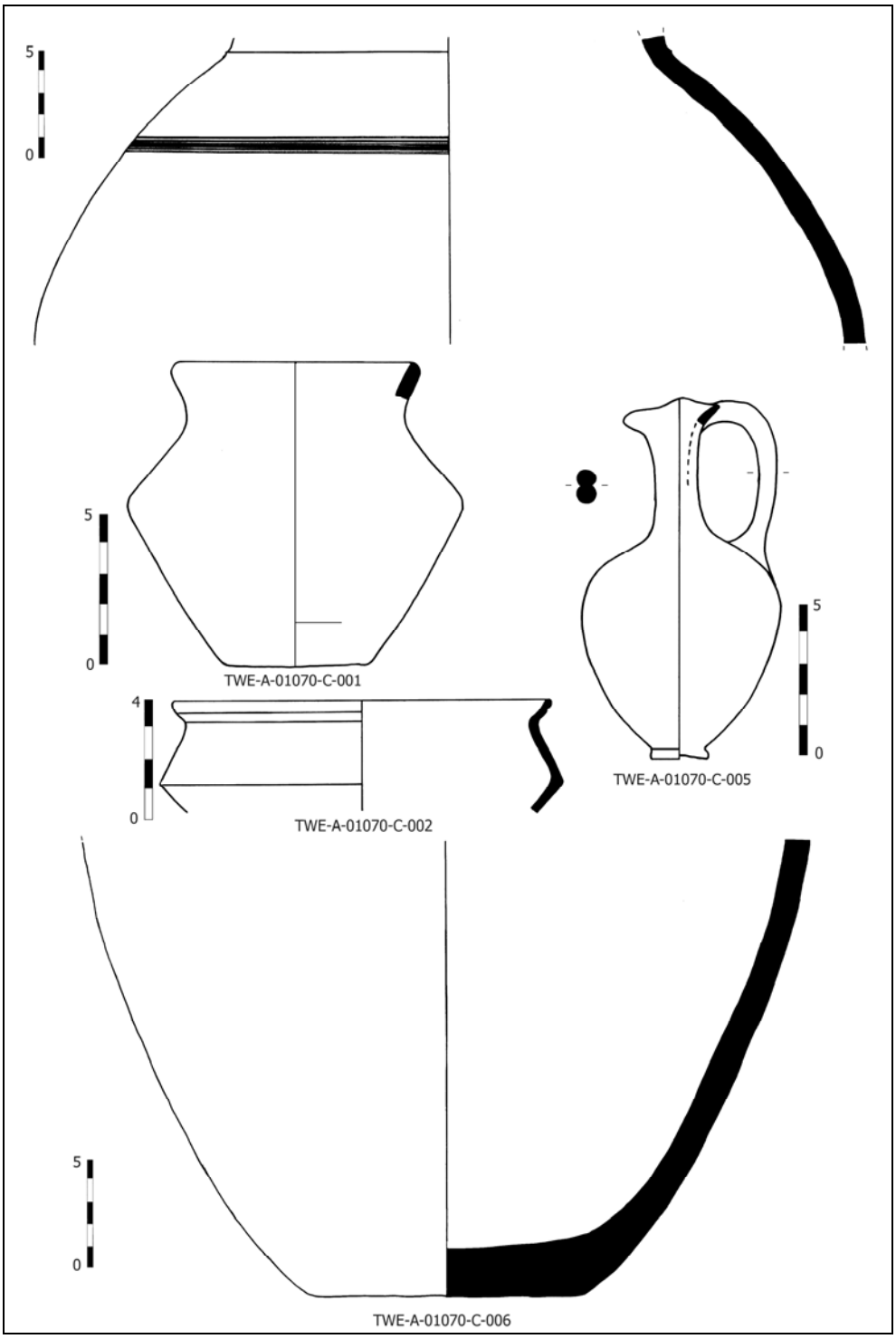
Ill. 3. Jar burial and inventory of TWE-A-02542 and TWE-A-02543, Middle Bronze Age II



Ill. 4. Jar burial and inventory of TWE-A-00051, Middle Bronze Age II

8. Thalmann 2006, 65-67, the skulls of sheep and goats were found in several adult inhumations, see Tell Aqra tombs T13.10, T13.27 and T13.31. Note the remarks on p. 67 where food offers are linked uniquely to adult inhumations.

9. See the contribution of F.-X. Ricaut in this volume.



Ill. 5. Burial jar and inventory of TWE-A-01070, Middle Bronze Age II



Ill. 6. Grave and inventory of TWE-A-00934, Middle Bronze Age II

TWE-A-00170 (Ill. 7-9)

A large constructed tomb, which stands in relation to late Middle Bronze Age II domestic structures, was revealed in squares A2-B2. The tomb received number TWE-A-00170, its inventory, both the skeletal remains and the objects, TWE-A-00177. The complex has the well known pattern of the Levantine Middle Bronze Age: shaft – dromos – burial chamber. The funerary architecture at Ugarit is also familiar with this concept. Other good parallels from an urban context are the corbelled-vault tombs at Megiddo from the Middle Bronze Age II.[10] At Megiddo the burial chambers are rectangular, TWE-A-00170 has an elliptical ground plan. The entire tomb is constructed with unworked stones and the burial chamber is vaulted as a dome. At Ugarit the Middle Bronze Age burial chambers are usually only partially vaulted and covered at the top with large stone slabs. The dromos is a small narrow passage, roofed with a single slab. The measurements of the construction are: burial chamber: length 2,65m, width 2,30m, height 1,5m; dromos: length 0,75m, width 0,40m, height 0,65m; shaft: diameter 0,90m, height 1,60m.

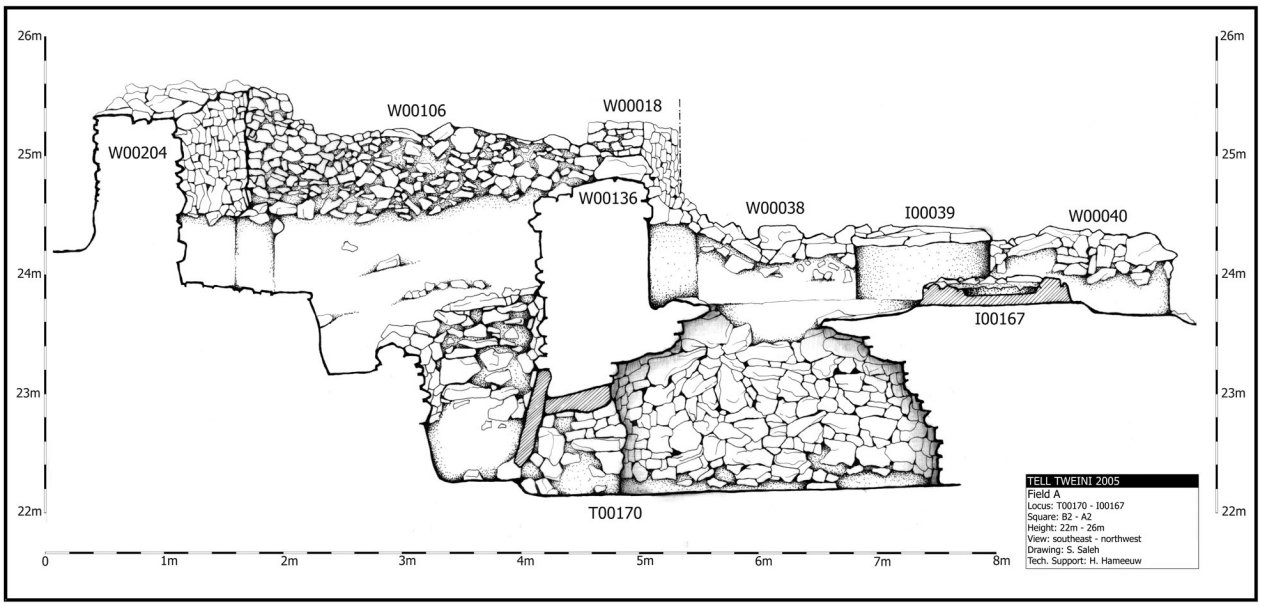
The intact collective grave contained the remains of at least 58 individuals, including 42 adults and 16 juveniles.[11] Some of the skeletal remains were stacked against the walls as in an ossuary (secondary inhumations?). Most of the inventory was deposited near the dromos entrance. The same practice was attested in the Middle Bronze Age Megiddo tombs. The grave goods consisted of a wide variety of ceramics (158), bronze objects (pins, needles, a knife and a ring), a cylinder seal, a figurine and beads. The

10. Kempinski 1989, 191 (fig. 48/1), 193 and Schumacher 1908, tables IV, VI. See also T.8096 from Tel Dan, David 1995, 122-124.

11. As a parallel we refer to the cursorily excavated Middle Bronze Age collective tomb (T.IV) from Tell Sukas. The shape of the tomb's construction is not known as it was excavated layer by layer in a small sounding, but its excavator speaks of "primitive walls of stones", of a pit being oval and measuring 2,70 by 1,90m. In between three successive periods of usage, fill layers were found, the tomb counted 41 skeletons, see Thrane 1978. The Levantine tradition of multiple successive interments in the same tomb is well known from Jericho, yet those tombs were not found in a domestic context but at cemeteries outside the town and they were cut into rocks, see Kenyon 1960 & 1965.

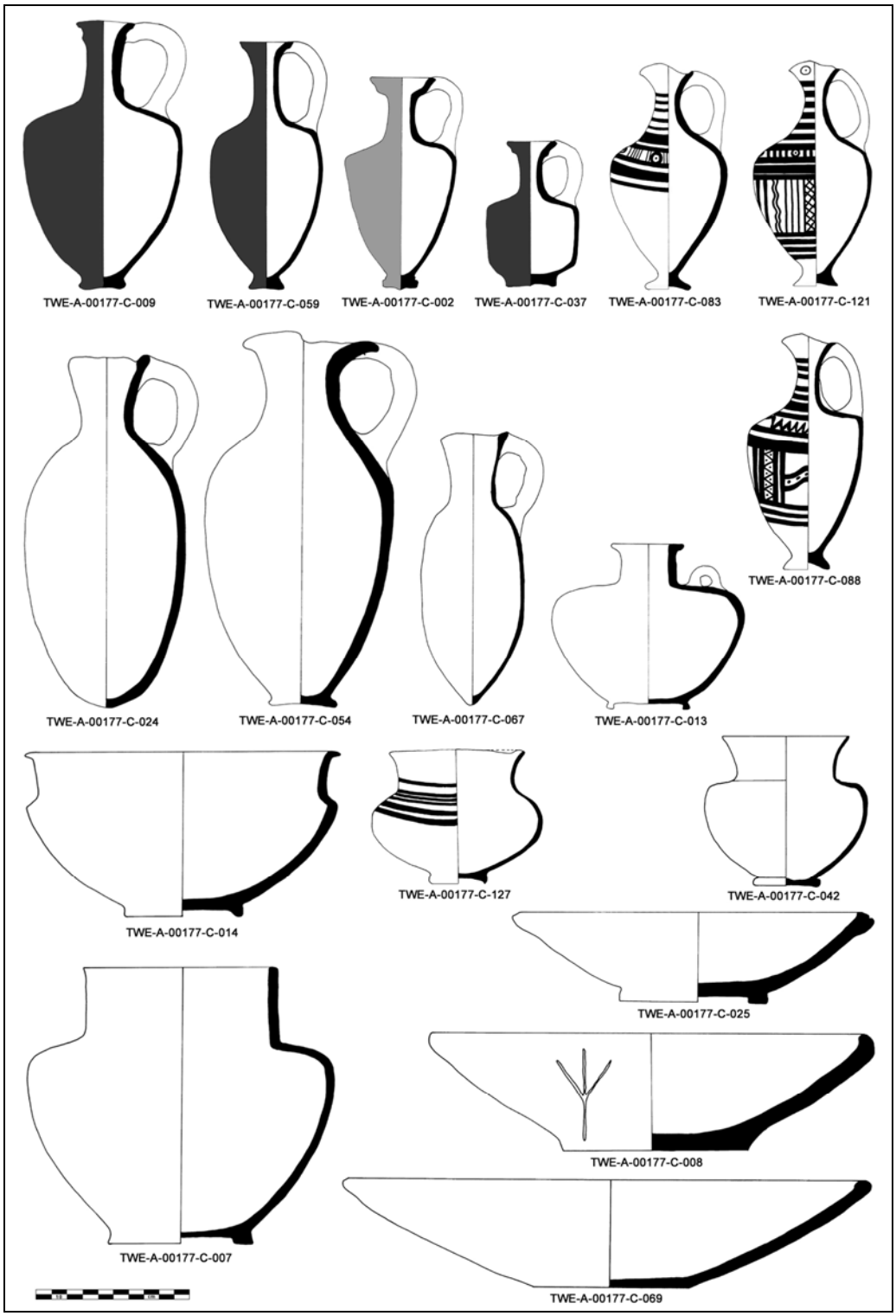
ceramics include red and black slipped juglets with a stepped rim profile, plates, dipper jugs, three jugs in White Painted Cross or Pendent Line Style and piriform jugs with pronounced shoulders and a small arched double-strand handle. All this material dates to the Middle Bronze Age II. The tomb entrance was situated directly beneath a stone floor (TWE-A-00197) and the tomb's orientation (shaft-south; chamber-north) runs parallel with the remaining foundations of a late Middle Bronze Age room.

Directly above the burial chamber, slightly to the north, the bottom of a white-plastered basin was preserved (TWE-A-00167). The soil around this basin was red. The relation between the tomb and the basin remains unclear (the practice of libations can be suggested).[12] No parallels for this feature, from e.g. Ugarit, are known to us. Noteworthy are the several drilled holes in the ends of the large cover slabs on top of the corbelled-vault burial chamber. These could relate to the 'libation' installation or these holes were structural elements for putting the largest slabs in place. A handle of a White Painted V jar was found in the fill of the shaft, indicating that the final use of the shaft took place towards the end of Middle Bronze Age II.

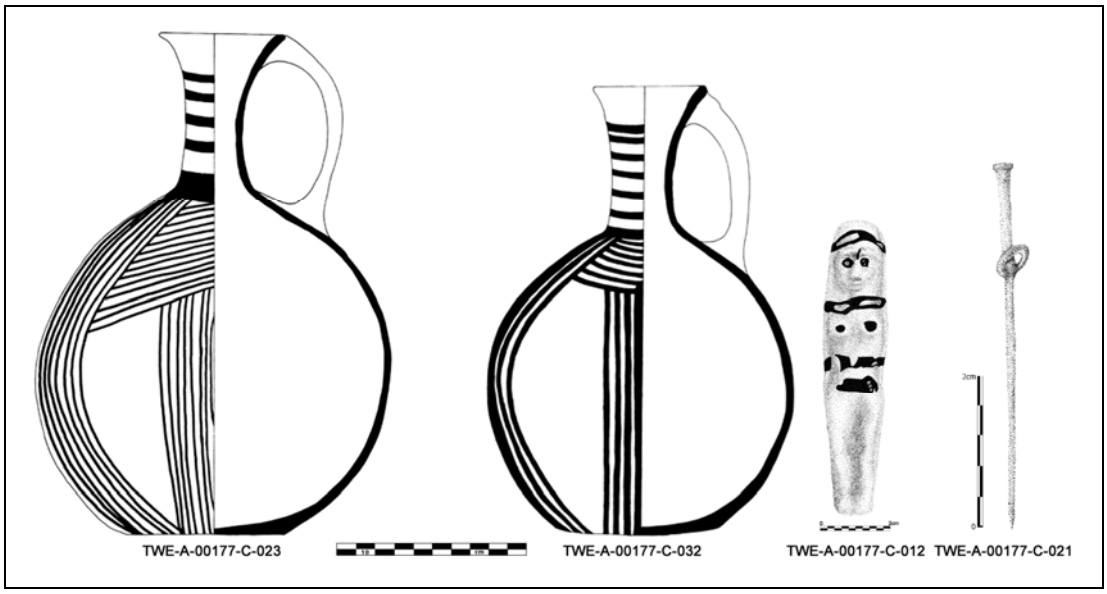


Ill. 7. Section drawing of TWE-A-00170, Middle Bronze Age II

12. Remarks on the practice of libations at Ugarit, see Salles 1995, 179-182 and Pitard 1994, 20-37. It should be stressed that no canalisation installations were found in the vicinity of TWE-A-00170.



Ill. 8. Selection of ceramics of tomb TWE-A-00170, Middle Bronze Age II



Ill. 9. Selection of inventory of tomb TWE-A-00170, Middle Bronze Age II

Late Bronze Age

TWE-A-00850

Up until now, funeral contexts of the Late Bronze Age have been rare at Tell Tweini. The small jar burial of a foetus is so far unique. A hole in floor TWE-A-00847 – constructed with flat stones – was used to put in the jar. The hole was repaired with a mixture of yellow plaster and small pebbles. The jar measured 50 by 21 by 17 cm. The body was laid on its side, with the legs pulled up slightly.

Iron Age

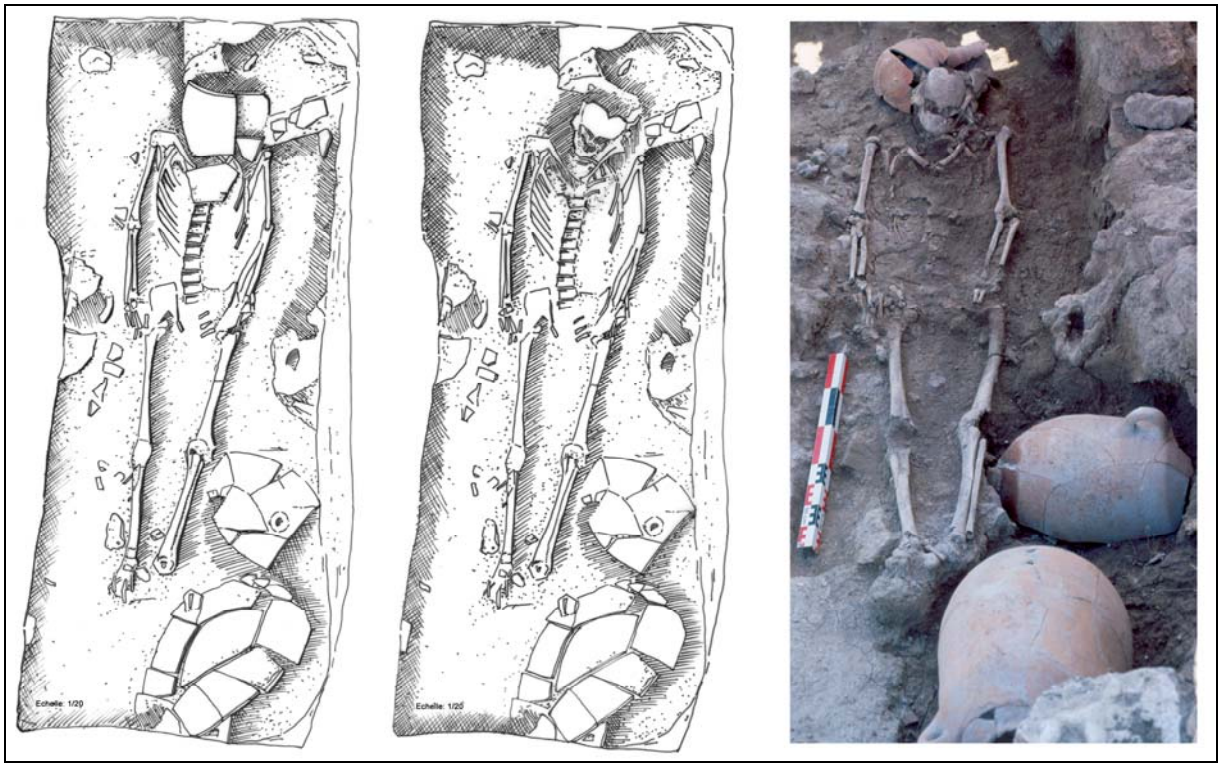
TWE-A-00126 (Ill. 10)

For the Iron Age, burials in an urban context are exceptional in Levantine archaeology. The simple earth burial, TWE-A-00126, was discovered in square B2 just beside wall TWE-A-00204 beneath a beaten earth floor. The well preserved skeleton had the same orientation as the wall. The body was that of a 35 to 45 year old woman measuring approximately 152 cm. The woman lay on her back, orientation east-west, with her hands crossed on the pelvis. On the face of the skull a large body sherd was positioned (TWE-A-00126-C-1-4, 7-10). It reflects a Levantine funeral practice, where ceramics were used to mask the face of the dead to shield it off from the earth during the interment.[13] At the feet of the body two large peer-shaped storage jars (TWE-A-00126-C-012 and C-013)[14] were placed as funerary gifts. On top of the protective sherd a bichrome barrel jug was positioned. The burial can be dated to the Iron Age II.

13. An example of this ancient practice was found in a Late Bronze Age tomb at Ras el-Bassit, see Courbin 1977-78, 30-31 and 39, fig. 18 and Darcque 1996, 131-33.

14. Similar peer-shaped storage jars have been found in an early Iron Age III tomb at Tell Arqa, Thalmann 1979, 73-77, 85-89.

The graves and tombs from Tell Tweini – Field A are all found in an urban context. It appears none of them were robbed, neither in antiquity nor in recent times. Their presence beneath domestic architecture must be seen as intentional. They demonstrate that the dead still played a role in the lives of their descendants. They testify to a close relation between the living and the dead. Burials within the boundaries of urban centres are more easily associated with ancestral worship while those at a distance from settlements are seen as territorial markers.[15] The Iron Age grave of TWE-A-00126 forms an exception in this light. According to Levantine tradition, necropoles were created outside the city limits from the Iron Age on. TWE-0-00126 was found inside the city and in clear relation with a domestic structure. These burial grounds at the foot of Tweini are yet to be located. Little is known or can be presumed in the matter of mortuary practices. The white-plastered basin on the floor above TWE-A-00170 might suggest such practices, but is so far unique at Tweini. If mortuary practices were conducted in houses with burials, related objects could be expected. Unfortunately, until now, no such items could be distinguished among the excavated material.



Ill. 10. Tomb and inventory of TWE-A-00126, Iron Age II (Drawing by B. Verstraete)

15. Hallote 1995, 103-104.

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Human remains from a Middle Bronze Age population from Tell Tweini: preliminary results of the anthropological study

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Introduction

Since 1999 the archaeological site of Tell Tweini in the coastal area of Syria, has been the subject of a Syro-Belgian interdisciplinary research project co-ordinated by the Katholieke Universiteit Leuven and the Directorate of Antiquities and Museums of Syria. This site is of special interest because (i) it portrays a continuum of human occupation and burial practices from at least the early Bronze Age until the Byzantine era (ii) it is located about 30 km south of Ugarit and was known as a major harbour town of the Ugaritic, Assyrian and Achaemenid kingdoms and (iii) it gives a rare opportunity to obtain information on settlement patterns and cultural changes in the Northern Levant, related to the changes that occur at the end of the 2nd millennium BC (eg. invasion of the "sea people", collapse of the Ugarit kingdom) and the transition from Late Bronze Age to Iron Age (Bretschneider et al. 2004; Akkermans and Schwartz 2005).

Archaeological skeletal remains represent bio-historical documents, which are able to give precise information on the living conditions of past populations, such as nutrition, housing and working situations, geographic and climatic factors, and working and sanitary conditions (Larsen 1999). At present, relatively little is known about the living conditions during the Middle Bronze Age on the Syrian coast, including the diseases affecting the populations and their mortality characteristics. Therefore, this paper attempts to give information on the morbidity and mortality of these people, through the preliminary analysis of the Middle Bronze Age human remains recovered from the archaeological site of Tell Tweini.

Burials, Skeletons and Methodology

The excavations at Tell Tweini allowed the discovery of a variety of burial types (single, double and collective burials) in jar, structural tombs and earth tombs, dated from the Middle Bronze Age. In total, 70 individuals have been recovered, mostly of incomplete skeletons (Table 1). The skeletal material is derived from eleven burials found in field A and B at the top of the Tell and at the western edge, respectively. The majority of the burials were found in an architectural context. A short and detailed description of the burial can be found in Al-Maqdissi et al (in press). The different burial types not only provide a basis for the analysis of burial rites and mortuary practices but also allow the taphonomic assessment of preservation and/or dissociation of skeletons. Consequently, the burial and its context provides important information for

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the reconstruction of demographic variables. In the inventory of the skeletons the author did not include the isolated bones that were discovered outside the sepulchral contexts.

Period	Burials	Field A/B	Burial type	Number Individual	Adult - Child	Age	Sex	Burial treatment
MBA II	TWE -A- 02542	A	Jar	3	child	5 years ± 5 months	I	?
					child	2 months ± 2 months	I	?
					child	young adolecent	I	?
MBA II	TWE -A- 02543	A	Jar	1	child	child	I	Foetal position
MBA II	TWE -A- 00934	A	Double earth grave	2	adult	20	F	N-S orientation
					child	1 year ± 4 months	I	N-S orientation
MBA II	TWE -A- 00051	A	Jar		child	child	I	Foetal position
MBA II	TWE -A- 01070	A	Jar	1	child	child	I	Fragmentary skeleton
MBA II	TWE -A- 01085	A	Jar	1	child	child	I	Fragmentary skeleton
MBA II	TWE -A- 00177		Collective structural grave	58	42 adults 16 children		5F, 5M, 32I	Fragmentary skeleton
MBA I	TWE -A- 00954	A	Structural grave		adult	20 - 35 years	(M)	E - W orientation, lying on the back, hands on pelvis
MBA I	TWE -A- 02544	A	Earth grave	1	child	6 years ± 2 years	I	Fragmentary skeleton
MBA I	TWE -A- 02545	A	Earth grave	1	child	2 years ± 8 months	I	Fragmentary skeleton
MBA I	TWE -B- 05523	B	Structural grave	2	adult	45 – 55 years	M	?
					adult	30 – 40 years	(M)	?

Note: sex is given for adults (F - female; M - male; I - unknown). MBA: Middle Bronze Age.

Table 1. Tell Tweini. List of investigated individuals (1999-2007)

Age determination. The age determination of children was carried out according to the development of the teeth and the length of the long bones (Ubelaker 1989). Furthermore, the method based on the fusion of post-cranial epiphyses was used to complement the tooth eruption (Buikstra and Ubelaker 1994). Around the age of 30 years old, the maturation of the skeleton is finished and all the post-cranial epiphyses are fused. Consequently, an estimate for the age at death is not possible. Nevertheless, different approaches were used to obtain an estimate of the adult age based on cranial suture closure (Meindl and Lovejoy 1985) and tooth-wear (Lovejoy 1985). Adult age will be only used at a descriptive level.

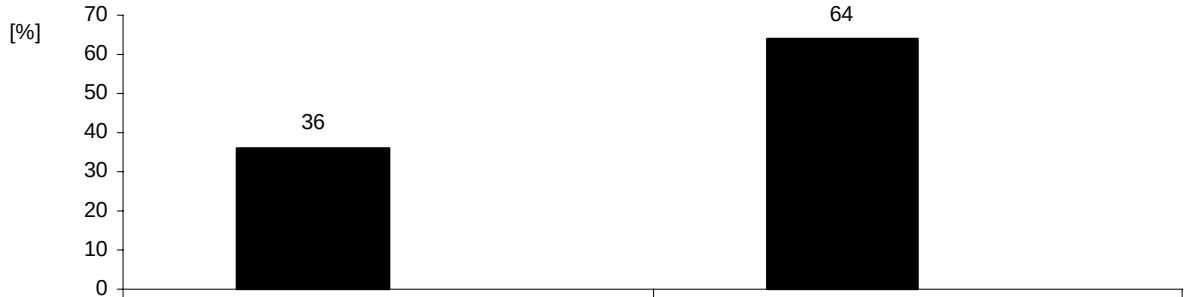
Sex determination. The estimation of sex is based on the morphological features of the coxal bone (Ferembach et al. 1979; Buikstra and Ubelaker 1994; Bruzek 1991, 2002) which characterises sexual dimorphism among all human populations. Nevertheless, as this dimorphism appears only after adolescence it is not possible to determine the sex of children. In the absence of coxal bone, the estimation of adult sex was determined using skull morphology (Buikstra and Ubelaker 1994).

Minimum number of individuals (MNI). All identifiable skeletal remains were recorded in order to estimate the number of individuals. The minimum number was calculated using the definition provided by White and Folkens (2005).

Demographic parameters. Demographic parameters, such as mortality distribution by age class, has been calculated using the methodology defined by Sellier (1995) and the mortality tables by Ledermann (1969).

Discussion of the demographic composition of the Middle Bronze Age sample

The present Middle Bronze Age sample from Tell Tweini is composed of 45 adults and 25 subadults (Figure 1). The proportion of adults (64%) and subadults (36%) is different to what is expected from a population with a life expectancy at birth of 30 years (46% adult and 54% subadult) (Ledermann 1969). This can be explained at Tell Tweini, as discussed below, by cultural or natural factors, and due to the only partial excavation of the site.



	Subadult (<20 yrs)	Adult (>20 yrs)
Percent	36	64
Individuals	n = 25/70	n = 45/7O

Figure 1. Mortality in the Middle Bronze Age population from Tell Tweini, Area A (N=70)

No demographic parameters have been calculated based on the age of the adults because of the methodological biases in such a determination. However, it can be noted that 79% were classified as adults (20-40 years), 21% as mature adults (40 – 60 years) and none as senile adults (Figure 2). This distribution pattern also appeared when only the adult individuals from the collective grave (TWE-A-00177) were taken

into consideration (80% between 20-40 years old and 20% between 40-60 years old). This mortality profile is different to what is expected from a population with a natural mortality, where from the age of 10-14 years old an exponential increase in the probability of death can be expected (Ledermann 1969; Wood et al. 2002). Nevertheless, the highest mortality of relatively young adult individuals has been found at different periods in this geographic region. In Jericho during the PPNB and PPNA, 85% and 82% of individuals died as adults respectively, and around 15% as mature adults (Röhrer-Ert 1978), and in Jerusalem from the Roman-Byzantine population from the Giv'at Shappira site (Arensburg and Belfer-Cohen 2007) and Wadi El-Halaf (Kahana 2004). Considering the small number of adult individuals with sex determined, it was not possible to investigate any age-sex class mortality patterns.

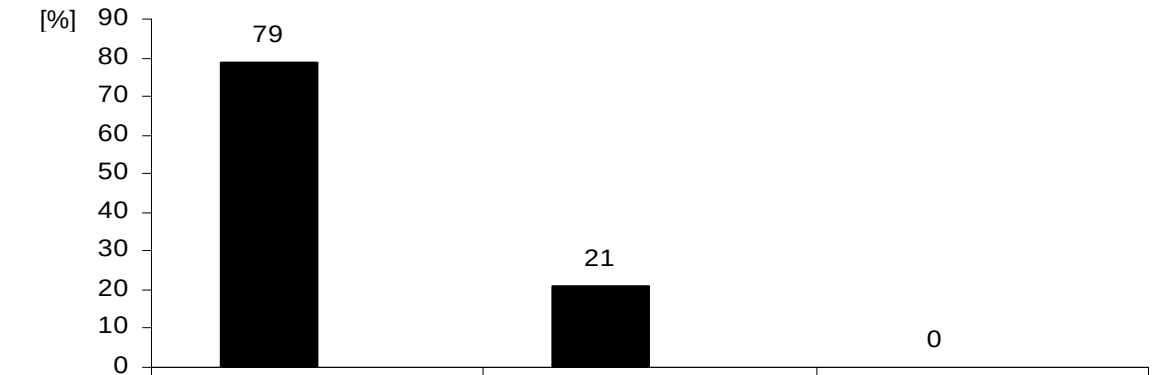


Figure 2. Mortality in the Middle Bronze Age adult (>20 years) population from Tell Tweini, Area A (N=14)

Nevertheless, among the adults there are six males, six females and 32 of unknown sex (Table 2). Despite the fact that with a sex ratio equal to 1 (sex ratio = M/F*100) similar to a natural population, the high proportion of individuals of unknown sex (74%) raised the question about the validity of the small proportion of sexed individuals.

Middle Bronze Age	**M**	**F**	**I**	**Total**
n Collective Grave	5	5	32	42
%	*12*	*12*	*76*	*100*
n other graves	1	1	2	4
%	*25*	*25*	*50*	*100*
n total MBA	6	6	34	46
% total	*13*	*13*	*74*	*100*

Note: F - female; M - male; I - unknown

Table 2. Distribution of the adults related to sex from Tell Tweini Middle Bronze Age population

Concerning the demographic parameters of the subadult sample we followed the methodology based on the *conformity principle* defined by Sellier (1995). All the individuals overlapping by two age classes are included to the superior class **(**Table 3 and Figure 3). This is the most efficient approach to determine the mortality pattern in a pre-industrial population. Then, from the mortality table with five age classes we calculated the mortality quotient (Table 4) for each age class and compared them to the mortality tables defined by Ledermann (1969), using a life expectancy at birth of 30 years old (Figure 4).

Age class (N=21)	Observed distribution	Final distribution
0	2	**4**
0 / 1 - 4	2	
1 - 4	4	**4**
1 - 4 / 5 - 9	0	
5 - 9	7	**12**
5 - 9 / 10 - 14	5	
10 - 14	0	**1**
10 - 14 / 15 - 19	1	
e 15 - 19	0	**0**

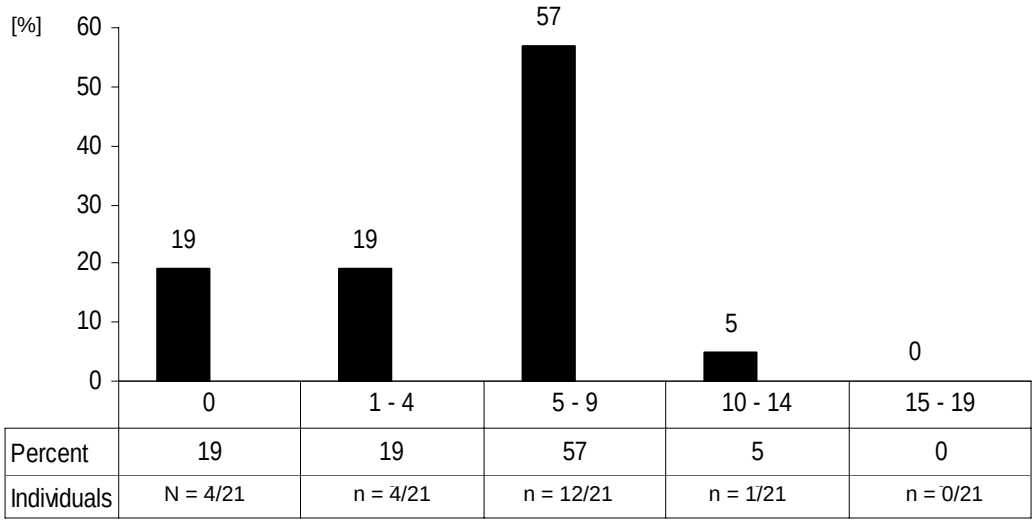
Table 3. Distribution of the Middle Bronze Age subadult population from Tell Tweini in the different age class to minimise the demographic anomaly (Sellier 1995)

Age (yrs)	Death	Surviving	Quotient	q ‰	$e°_0$=25, q+	$°_0$=30,q-
0	4	67	0.0597	59.7	459,78	188,02
1 - 4	4	63	0.0634	63.4	607,61	160,9
5 - 9	12	59	0.2033	203.3	123,64	37,95
10 - 14	1	47	0.0212	21.2	67,64	22,08
15 - 19	0	46	0	0	97,02	29,61
>20	46	46	1.000	1000	1000	1000
Total	67					

Table 4. Mortality (quotient) of the Middle Bronze Age population from Tell Tweini and the mortality quotient expected (Ledermann 1969)

The graphical representation of the mortality quotients and their comparison to the theoretical expected quotients (Figure 4) indicates some anomalies. It appears that the 5-9, 10-14 and 15-19 age classes follow roughly a natural distribution. However, the 0 and 1-4 age classes present small mortality quotients compared to the expected mortality. In other words, there is a deficit of mortality for individuals younger than 5 years old for a population of 70 individuals with a natural mortality. From a minimal estimation, 70% of the children (9 individuals) died before they reached one year old, and 64% of the children (7 individuals) died before 5 years old, in our Middle Bronze Age population sample. The deficit in young age classes are frequent in archaeological population and are mainly explained by two non-mutually exclusive hypotheses

(differential conservation and funeral practice). A differential conservation of young children skeletons could explain this deficit. As suggested by Guy et al (1997), the low mineralization of bone and the qualities of the bone mineral in young children can explain the poor preservation of their skeletons in burials. Nevertheless, several studies showed that the differential conservation of the skeletons does not bias significantly the mortality pattern (Bello et al. 2002; Saunders 2000). It appears more likely that in Tell Tweini the deficit observed is the consequence of specific funeral practices which could lead to the inhumation of young children in specific areas different of those used by the rest of the population.



	0	1 - 4	5 - 9	10 - 14	15 - 19
Percent	19	19	57	5	0
Individuals	N = 4/21	n = 4/21	n = 12/21	n = 1/21	n = 0/21

Figure 3. Mortality in the Middle Bronze Age subadult (<20 years) population from Tell Tweini, Area A (N=21)

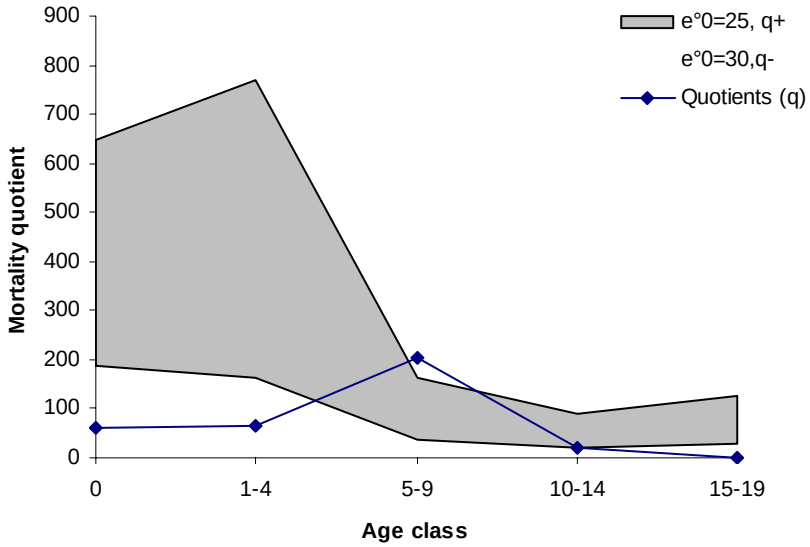


Figure 4. Comparison of the mortality quotients for the first five age class of the Middle Bronze Age population from Tell Tweini with the mortality tables of Ledermann (1969) for a life expectancy at birth of 30 years old

Finally, different factors could explain the result that the current distribution of adult and subadult individuals does not correspond to the theoretical distribution. The cause of such a discrepancy could be due to (i) cultural factors (organization of the sepulchral space, burial selection, secondary removing and reburying of the bones), and/or (ii) natural factors (preservation of the skeletons, erosion of the tomb). Nevertheless, the fact that differential preservation probably does not bias the mortality pattern in a significant way and that Tell Tweini was only partially excavated gives more support to the first option. Indeed, we can postulate from the excavated areas, that the mortality distribution pattern observed (high proportion of adults compared to sub-adults, of young adults (20-40 years) compared to mature adults (40-60), and deficit of the younger age classes (0 and 1-4)) is caused by the fact that the funerary space has been organised following a criteria linked to age. These observations are confirmed on a smaller scale by funerary units that are clearly reserved to a specific age class (eg. Jar inhumation TWE-A-01070 and TWE-A-01085, and TWE-A-02542 and TWE-A-02543).

Interestingly, besides this general pattern concerning the sepulchral organisation, a double burial (TWE-B-05523) excavated in field B, at the western edge of the upper Tell where all the other Middle Bronze Age burials are located, provide further interesting findings. This Middle Bronze Age bee-hive tomb contained a Bathrobe jug similar in form and decoration to one found in Ugarit (Tomb 36) and typical to those found in northern Levant (Ugarit, Tell Sukas, Amrit, Tell Shalihiya; Einwag 1998) and a fenestrated bronze axe of the duckbill variety similar to some findings in Egypt (Tell el-Daba) and Syria (Baghuz close to Mari) and attributed to the military elite burials (Rehm et al. 2003). Two adult skeletons were recovered, one male and one of undetermined sex, between 30-40 and 45-55 years old. These two skeletons show an absence of any bone pathology and in contrast to the other Middle Bronze Age skeletons (cf. below) an absence of pathology affecting the teeth (carry, periodontal disease, calculus, abscess) suggesting good dental hygiene. The relatively isolated location of this grave, the funeral practices (eg. axe) and absence of any pathology suggests that these two individuals belonged probably to an upper class (military elite) of the population compared to the rest of the Middle Bronze Age individuals recovered at Tell Tweini.

Pathology and way of life

There is no evidence of ante-mortem artificial skull deformation or possible post-mortem treatment in the Tell Tweini skulls.

There is evidence of skull trauma. One skull vault fragment probably from an adolescent or adult individual from the collective grave (TWE-A-00177) showed healed fractures situated on the frontal area (Figure 5). This fracture is relatively well healed and no pathological changes of this lesion can be observed in the internal lamina. This injury happened probably many years before the individual died, and suggests that violence was not uncommon in the Middle Bronze Age population from Tell Tweini.



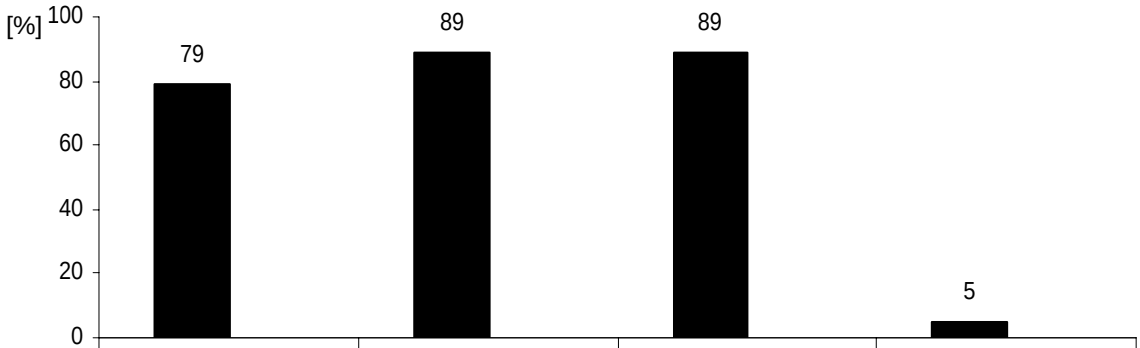
Figure 5. Tell Tweini, burial TWE-A-00177. Well-healed incomplete impression fracture in the frontal bone

Cribra orbitalia and cribra cranii (Figure 6), which are porotic changes in the orbital roof and cranial vault respectively, have been observed in 3 of the 9 subadult individuals (30%) available, but were not identified in adult skull (n = 11). The causes of this bony reaction are complex and still debated (interaction among customs, diet, hygiene, parasites and infectious diseases; Stuart-Macadam 1991), but could probably be the result of an infectious disease combined with inadequate diet leading to an iron deficiency which causes these bone lesions (White and Folkens 2005; Aufderheide and Rodriguez-Martin 2005). The relatively high proportion of subadults (30%) presenting porotic hyperostosis characterises increased stress during childhood.



Figure 6. Tell Tweini, burial TWE-A-00177. Porotic hyperostosis of a fragment of the cranial vault (cribra orbitalia)

The frequency of diseases of the teeth and jaws demonstrates poor hygiene in the adults of Tell Tweini population (Figure 7). Dental calculus and periodontal disease were found in 17 of 19 individuals (89%) showing the high correlation between these two diseases. Dental abscesses were rare: only one of the 19 individuals suffered from this disease (5%). Dental carries were very frequent with 15-19 individuals (79%) presenting this disease and 20% of the teeth harbouring carious lesions. All these diseases are linked in their etiology. The high frequency of dental carries can have several causes (age, properties of saliva, resistance of tooth enamel, dental hygiene) but a diet rich in sugars appears as the determining factor (Reich et al. 1999; Hillson 2002). Numerous studies show that the proportion of caries is relatively low among hunter-gatherers whose diets contain substantial quantities of animal protein, but increases markedly when populations adopt carbohydrate-rich diets based on cultivated plants (Turner 1979; Hillson 2002). According to Turner (1979), hunter-gatherers show a proportion of caries ranking from 0.0 to 5.3%, mixed-diet consumers show between 0.4 and 10.3%, and individuals whose economy is based on agriculture present from 2.3% to 29%. Then, it appears clearly from our results that the Middle Bronze Age population from Tell Tweini had a carbohydrate-rich diet probably as a consequence of an agricultural economy.



	Dental carries	Dental calculus	Periodontal disease	Dental abscess
Percent	79	89	89	5
Individuals	n = 15/19	n = 17/19	n = 17/19	n = 1/19

Figure 7. Diseases of teeth and jaws in the Middle Bronze Age population from Tell Tweini

One skeleton (TWE-A-00934), a woman of around 20 years old, presents unilateral pathological changes on the midshaft of a long bone (tibia). This bone harbours a bone inflammation by the formation of woven bone that sleeves the underlying cortical bone (periostitis) (Figure 8). Diagnostics of such an inflammation is relatively difficult to make considering that periostitis is not a disease but is a response to a trauma or infection. Diagnoses of Osteomyelitis or madura foot are both possible. Nevertheless, the epidemiology of osteomyelitis does not really correspond to the description of TWE-A-00934 bone inflammation. Indeed, there is an absence of typical medullary changes associated with osteomyelitis, of openings for pus drainage, of necrotic bone. In addition osteomyelitis is most often observed in children between 3 and 12 years and in males (Aufderheide and Rodriguez-Martin 2005). Madura foot is usually a predominantly unilateral condition, with a peak incidence between 20-40 years old, and on tibia and fibula cortical destruction is associated with little reactive bone formation. We then postulate that this bone inflammation can more probably be identified as madura foot. This disease can be caused by bacterial or fungi agents that occur in soil and if untreated it can be fatal. Grains of bacterial or fungal spores enter through wounds and are usually acquired during agricultural work (Aufderheide and Rodriguez-Martin 2005).



Figure 8. Tell Tweini, burial TWE-A-00934. Tibia midshaft with widespread periosteal reactioniagnosed as madura foot

A less common pathological condition encountered in Tell Tweini is a case of Klippel-Feil syndrome (KFS; Figure 9), probably of type II (Pany and Teschler-Nicola 2007), which is rarely documented in anthropological literature. Type II occurs more frequently and with a prevalence of 7.3/1000 (Papagrigorakis et al. 2003) and is a congenital disease with an evidence of autosomal dominant transmission (Barnes 1994). Type II is characterized by the involvement of only two or three vertebral segments, with the second and third cervical segments most commonly affected. This congenital fusion of cervical vertebrae occurs during embryogenesis and produces a short neck, low posterior hairline, and limited movement of the neck (Barnes 1994). Individual TWE-A-00934 presents a complete fusion of the arches and bodies of the second and third cervical vertebrae. Unfortunately, this fused cervical was excavated in the collective grave and we cannot determine age and sex of the individual suffering from this disease.



Figure 9. Tell Tweini, burial TWE-A-00177. Congenitally fused cervical vertebrae (C2–C3) diagnosed as Klippel-Feil syndrome (KFS)

Specific skeletal markers such as the lateral squatting facet on the talus were found in 16 of the 39 adult taluses observed (41%). This specific marker on the talar neck is induced by the regular use of squatting position and the hyperdorsiflexion of the ankle (Barnett 1954, Boulle 2001). The frequency of squatting facet varies between 28-64% in populations which frequently use the squatting posture (ancient Egyptians, Byzantine populations, European from Antiquity to Middle Age, Australian aborigines, Indian), and was in this range in Europe from Antiquity to the end of the Middle Age where its frequency decreased, probably as a consequence in the changes of the interior space organization (use of stove) and the mechanization of some activities such as agriculture (Boulle 2001). The causes of the relatively high frequency of the squatting facet and squatting posture in the Middle Bronze Age population from Tell Tweini are not clearly identified, but we can postulate that (i) open fire located on the ground floor (for heating and cooking) and (ii) agricultural work, were probably determining factors.

Conclusion and perspective

In conclusion, the preliminary results from the analysis of Middle Bronze Age population from Tell Tweini provides a source of data for reconstructing some aspects of the biology and living conditions of this population. Our results suggest that the organization of the sepulchral space followed criteria linked to age and social status of the individuals. The health status of this population, with a poor oral hygiene, some

specific bone pathology (eg. Madura foot) and behaviour skeletal features (squatting facet), indicated that economy and way of life were based on agriculture.

Nevertheless, these preliminary results are inevitably constrained by the sample size and other factors, and only an increased number of burial excavations and further biological studies will enable a better understanding of Tell Tweini population history and validate/invalidate the hypotheses put forward. Elsewhere, isotopic analysis of human remains belonging to the Tell Tweini population is currently underway, and should illuminate some of these issues.

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The ceramic material from Tell Tweini – Field A

Klaas Vansteenhuyse[1]

The discussion of the ceramic material from Field A at Tell Tweini concentrates mainly on questions of chronology. Lacking clearly identifiable and datable non-ceramic objects and a large quantity of textual material in many levels, it is obvious that the ceramic material remains the most important material to establish a chronology of the site. Stratigraphy and the study of the ceramic material are intertwined. This explains why the upper levels in Field A, which are architecturally hard to define and distinguish, are not elaborated upon until further and a more detailed study has been finished. The chronological point of view does explain, however, the focus on the Late Bronze Age and the Early Iron Age. The abrupt disappearance of the city of Ugarit in this period provides historians with a well documented event and a relatively precise date. It is obvious that towns in the former kingdom of Ugarit attempt to relate their history to that of the capital.

1. *Early Bronze Age*

1.1. *Level 11 (Phase Tweini XI, Early Bronze Age III)*

A small number of sherds belong to Early Bronze Age III and indicate that the tell was already occupied at the beginning of the 3rd millennium B.C. even if clear architecture is not yet visible in the excavated trenches. The obvious diagnostic marker for the Early Bronze Age III, the Red-Black Burnished Ware or the Khirbet Kerak Ware, is not present in our sounding. We do, however, find shallow bowls with carinated walls, described in the literature as having a 'cyma recta' profile (Mazzoni 2002: 73, Thalmann 2006: Pl. 46: 5-11, p. 111). Bowls with less carinated and more rounded walls have small handles which are horizontally placed on the fine walls. The few examples from Tell Tweini have an orange colour. At the end of the Early Bronze Age III, the jars are made of an orange and red fabric and their walls are combed (Pattern Combed Ware) (Mazzoni 2002: 75; cf. Courtois 1973: fig. 11). Mazzoni (idem) has suggested that there is a link between this type of decorated jars and regions with a production of olive oil.

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1.2. *Level 10 (Phase Tweini XA, Early Bronze Age IVA)*

The important diagnostic markers for this level are the goblets and the hole mouth cooking pot with a little ledge on the rim[2] (Matthiae 1975: 350; Mazzoni 2002: Pl. XXXVII). The goblets are made of a crème to greenish fabric with fine walls. The goblets are decorated with horizontal grooves[3]. In general, the rim of these goblets is only slightly pronounced and the bases are flat or have a shallow ring base. Near the end of the Early Bronze Age IVA, the red or black bowls are polished. Cylindrical jars are made of a blue-grey fabric which is described as metallic. These large jars with a cylindrical body, flat base and a curving rim often carry combed decoration. In comparison with earlier periods, the surface of these jars is not polished.

1.3. *Level 9 (Phase Tweini XB, Early Bronze Age IVB)*

The final phase of the Early Bronze Age IV is characterised by goblets as in the former phase. Yet, those goblets do not only have a crème colour but may also be red or black (cf. Dever 1973, 1980; Gophna 1992). Their walls are finely grooved[4] (cf. Thalman 2006: Pl. 47: 1, p. 112). A number of goblets are decorated in the Simple Painted Ware (Mazzoni 2002: 79). This decoration consists of black bands and lines into which straight and wavy lines have been incised. The larger vases are also decorated with a variety of geometric motives such as the net or vertical wavy lines[5]. The presence of painted decoration makes it possible to distinguish EB IVB from EB IVA in which this surface treatment is lacking[6].

This last phase of the Early Bronze Age corresponds with Ebla IIB2 (Mazzoni 1982), Amuq J (Braidwoord et Braidwood 1960), the Intermediate Early Bronze Age – Middle Bronze Age as defined by Kenyon (1960: 136) and the Middle Bronze Age I as described by Albright (1966) for the Southern Levant[7]. Tweini XB corresponds with Hama J4-1 (Fugmann 1958) and Sukas L (Riis *et al*. 1996: 5). All of those phases have been dated shortly after 2300 B.C.

The first excavators at Ras Shamra have suggested that there is no difference to be made between the Early Bronze Age IV and the next phase, Middle Bronze Age I (Mallet 1996: 445). In the levels at Ras Shamra no goblets typical for the Ebla IIB2 – Amuq J and Tweini XB phase have been found (Schwartz and Akkermans 2004: 243, footnote 11). The whole phase at Ras Shamra has been called 'le niveau des creuseurs de silos'. If such comparison can be made, a silo from the same period was found at Tell Tweini in Field B (TWE-B-05523)[8]. In silo TWE-B-05523 a jug in the 'Syro-Cilician style' and the 'Levantine Painted Ware' was found. This style is dated to Middle Bronze Age I "at the very end of the 12th [Egyptian] dynasty and beginning of the 13th" (Bagh 2003: 231-2), suggesting that the silo could be built in Early Bronze Age IV. Other silos which were excavated in Field A (such as TWE-A-00942) did also contain sherds in the Levantine Painted Ware (see Level 8C-D) suggesting that the period of construction may be older. There is thus a level in Tell Tweini which preceeds Middle Bronze Age I.

2. We would like to thank dr. M. Al-Maqdissi and his team at Tell Sianu for their substantial and generous help in the identification of the material from the Early Bronze Age.

3. Cf. Castel *et al*. 2004: 72; de Contenson 1969: fig.5: 1-5; Ingholt 1940; Kenyon 1960: fig. 31.9; Mazzoni 1982: fig. XXV.

4. Thalmann (2006: 112) suggest that this type of surface treatment dates further back that Early Bronze Age IV. There are examples in phase R (Niveau 17) at Tell Arqa.

5. Cf. Tell Arqa, Niveau 15: 98/338.2 (Thalmann 2006: Pl. 47: 4), but the paint on the examples from Tell Tweini is brown to black and not crème to white.

6. Bounni et Al-Maqdissi 1994; *cf*. de Contenson 1969: Pl. I: 3.

7. See also Akkermans and Schwartz 2004: 243, footnote 11.

8. For the latter see Bretschneider *et al*. 1999: 116.

The Early Bronze Age IV in Ras Shamra is dated between 2400 – 2150 B.C. (Mallet 1996: note 9). A longer date for this period is suggested at Tell Arqa (Phase P): 2400 – 2000 B.C. (Thalmann 2002). If one is to follow the dates of Schaeffer which he proposed in 1948 for 'Ugarit Moyen 1' (c. 2100 – 1900 B.C.) the latter period would largely correspond with the Early Bronze Age IV phases at most other sites. Yet, the ceramic material from this 'Ugarit Moyen 1' suggests that it is a phase which is much younger.

2. *Middle Bronze Age*

2.1. *Level 8C-D (Tweini IXA, Middle Bronze Age I)*

Level 8C-D corresponds with Middle Bronze Age I and remains an enigmatic period at Tell Tweini and its neighbouring sites. At Ras Shamra, the remains of this period are limited to so-called warrior tombs. Those have been discussed above. No domestic context has been excavated at Ras Shamra which seriously hampers our knowledge of the ceramic material. At a certain point Schaeffer (1949: 41, 42) has even suggested that the "porteurs de torques" did not produce any ceramics simply because he failed to uncover any during his excavations. The quality of the vessels found in the tombs suggests otherwise. Those vessels form part of the tradition of the Middle Bronze Age I (Albright 1932), the Palestinian Intermediary Early Bronze Age (Kenyon 1960: 136) or the Syrian Middle Bronze Age IIA.

It is interesting to note that the absence of domestic structures at Ras Shamra is reflected in the situation at Tell Tweini. There are some tombs, however, of which one in Field B has been discussed elsewhere (Bagh 2002; Bretschneider *et al*. 1999: 116). Another tomb has been excavated in Field A (TWE-A-00954). The contents of this tomb were limited to a little oval vase with a single handle from rim to shoulder (fig. 1:4). The decoration, if any, has disappeared. The additives used in the fabric remain unique at the site. Parallels for this form have been found in the cemetery at Sidon[9] (Doumet-Serhal 2004: fig. 14: S/1803). TWE-A-00942-C-003 (fig. 1:4) was found in another possible tomb and also has a typical form of the beginning of the Middle Bronze Age. Other parallels with Sidon are the hole mouth jars without handles (e.g. fig. 1:9) (Doumet-Serhal 2004: fig. 37: S/1874). The latter vases resemble a type of spherical jars found at Mishrifé in Tomb 1 (du Mesnil du Buisson 1930, Pl. XXXII: 1, 2, 7 from Middle Bronze Age I). As at Sidon, these jars probably have circular bases and vary in height between 50 and 60 cm. Jars with a ledged rim appear in Middle Bronze Age I and continue into Middle Bronze Age II. TWE-A-02541-C-002 (fig. 1:5) is a jar with a similar neck as Sidon 3056 (Doumet-Serhal 2004: fig. 50: S/3056).

The beginning of the Middle Bronze Age is also characterised by the appearance of the Levantine Painted Ware. At Tell Tweini, the examples of the Levantine Painted Ware are nearly all juglets. The decoration in the so-called "band-zone B" is particularly popular (Bagh 2002: 91, fig. 1) (fig. 1:3, 1:6)[10]. The decoration of these juglets consists of a number of evenly spaced red horizontal lines. Often, the rim is turned inwards with a little incision below the rim. Just below the rim and below the neck there is often a series of red vertical or diagonal lines (fig. 1:2). Jars with a wavy line applied to the intersection of the neck and the shoulder form also part of the Levantine Painted Ware and date to Middle Bronze Age I or IIA (fig. 1:8) (cf. Doumet-Serhal 2004: fig. 28: S/1769).

9. The juglet from Sidon has a ridge below the rim which forms a gutter, typical for the beginning of the Middle Bronze Age I (Doumet-Serhal 2004: 143). Unfortunately, the neck and rim of the vessel at Tell Tweini have not been preserved.

10. For a comparison, see *Ugaritica* II: fig. 99:23, 100:17, dating to Ugarit Moyen I.

2.2 *Level 8A-B (Phase Tweini IXB, Middle Bronze Age II)*

Some of general traits can be found in the ceramic assemblage of the entire Levant at the beginning of the Middle Bronze Age into the second phase. Characteristic is the carination of the walls of bowls and goblets. Flat, projecting or grooved rims are also typical for both periods. Larger vessels are often decorated with combed horizontal or wavy lines on the shoulder or the upper part of the body.

2.2.1. *Import*

Level 8A-B is characterised by a number of very typical forms and distinctive decoration styles. The increase of imported Cypriot pottery is here of importance. Those imports consist mainly of White Painted (Hand-Made) III-V[11]. In general, the vessels of this ware have a pale yellow fabric covered in a whitish wash. The decoration has often a dark red to black colour (*SCE* IV: IB: 27-30). There are two types of White Painted (Hand-Made) III-V: the Pendent Line Style[12] (PLS) and the Cross-Line Style (CLS).

A complete vessel in PLS style was found in tomb TWE-A-00177 (C-023)[13] and is decorated with a red paint. Two other vessels (C-032, C-051) have a more white fabric and black paint. Other fragments were found in loci TWE-A-00159 (C-003, C-005), 01025 (C- 017) and 01027 (C-022). A complete vessel in CLS was discovered in Tomb TWE-A-00934 (fig. 2:5). Other fragments were found in loci TWE-A-00919 (C-010), 00928 (C-007), 01027 (C-027) and 01055 (fig. 2:3). Little juglets with a footed disc base in White Painted V[14] have a different decoration scheme. Good examples are the three "eye-juglets" found in Tomb 00177 (C-083, 088, 121) [15] and a fragment of such a jar in locus TWE-A-01027 (C-002)[16]. Other fragments of larger jugs in White Painted V were found in loci TWE-A-00230 (fig. 2:4) and TWE-A-00235 (C-008)[17].

The White Painted wares are particularly popular in Middle Cypriot III to Late Cypriot I (Frankel 1974). The wares appear for the first time in the Levant during Middle Bronze Age IIB but are most common in Middle Bronze Age IIC and Late Bronze Age IA (Bergoffen 2005: 36). PLS appears first at Tell el Dab'a around 1720 B.C., but is widespread between 1630 and 1600 B.C. It disappears around 1580 B.C. (Merillees 2002: 3). The discoveries at Tell Tweini confirm the relative dating of Level 8A-B in the Middle Bronze Age IIC/ Late Bronze Age I within the chronology of the Levant or an absolute dating in the second half of the 17th c. and the first half of the 16th c. B.C.

One little fragment resembles Tell el-Yahudieh Ware and has been found in the entrance shaft of Tomb TWE-A-00177 (fig. 2:1). The body fragment has little holes which were filled with a grey-white pasta. Tell el-Yahudieh Ware can be attested in the Levant in layers dating to the transition from Middle

11. For an overview of the decorative motives in the White Painted Ware, see Frankel 1974.

12. For parallels with Ras Shamra, see for example *Ugaritica* II: fig. 100: 19, 25 (for PLS) and fig. 100: 27 (for CLS), dating to Middle Bronze Age II. Parallels from Tell Sukas can be found in Buhl 1983: nos. 262-6.

13. This juglet is in PLS, WP III-IV, Parallel Inv. No. LS 525 (Karageorghis 1999: 116, cat. No. 84; cf. Aström 1972a, fig. XVI: 4).

14. Scheftelowitz *et al*. (2002: 115) suggest that the juglets do not have their origin in Cyprus but in northern Palestine or the Syrian coast.

15. The White Painted V eye-juglets have a parallel in Karageorghis 1999, 117, inv. No. LS 521, cat. no. 85. This juglet has an oval body with a carinated shoulder, a concave neck, a trilob opening, a flat handle from rim to shoulder and a foot with a slight concave base (*cf*. Frankel 1983: nos 85, 189, 190; Aström 1972a: XVI: 15-16, Morris 1985: 63, pl. 84 a-b, *SCE* IV.1b, fig. XVI, no. 15).

16. For general comparisons from Ras Shamra, see *Ugaritica* II: fig. 108: 15-17 (dated from Middle Bronze Age II – start of Middle Bronze Age III). A close parallel from the same period for TWE-A-01027-C-002 can be perhaps be seen in the juglet displayed in *Ugaritica* II: fig. 108: 1.

17. For a comparison, see Gershuny 2002: fig. 3, dating to Middle Bronze Age IIB.

Bronze Age IIA to IIB (Kaplan 1980: 122). The Tell el-Yahudieh Ware appears at Tell Arqa in Niveaux 14 and 13 (Charaf 2004: 235) and at Ras Shamra in Middle Bronze Age 2/3 as well as during the transition to Late Bronze Age I (Courtois 1978: 196 and fig. 1:1-2). These dates correspond to the final use of the tomb.

2.2.2. *Local production*

In the levels discussed above one regularly finds jars decorated with wavy combed lines[18]. The wavy line is most often found on the shoulder of the jar and is generally framed by two bands of incised lines (fig. 3:6-9). The combination of this type of decoration with a rim with a double ridge becomes very popular in Middle Bronze II (B) (Doumet-Serhal 2004: 148).

The carinated bowls are reminiscent of the forms of Middle Bronze Age I. The majority of those bowls is not decorated. One example from Tell Tweini is decorated with red slip and is diagonally burnished. This example is probably the oldest form of this type on the site. Other examples are wheel turned and have a polished but not burnished surface (fig. 3:3)[19].

TWE-A-00049-C-001 (fig. 3:1) is a single example of a vessel made in a rose-white fabric with fine walls and without decoration. The carinated goblets are also very popular in Middle Bronze Age I-II but few examples have been found in Field A (fig. 3:2) (*cf*. Doumet-Serhal 2004: fig. 88, on top).

A popular decoration technique is the application of a red slip onto the surface of the vessel and the polishing afterwards. TWE-A-00923-C-004 (fig. 3:5) is a good example of this technique[20]. This type of decoration can be found on little juglets such as those from tomb TWE-A-00177. Figurative decoration on ceramic material has been attested in the interior of Syria but this tradition starts only at the beginning of the Late Bronze Age in the coastal region (Gates 1981: 16).

4. *Level 7E-D (Phase Tweini VIIIA, Late Bronze Age I)*

4.1. *Imports*

White Slip I and II (WS) have been found in Tell Tweini. This ware with a Cypriot origin has only been found on the site as fragments of milk-bowls[21] with a wish-bone handle. The bowls are covered in a white slip which is only decorated on the outside. WS I is characterised by a wavy line just below the rim (Wavy Line Style). This decoration is most frequently found on fragments outside Cyprus (Bergoffen 2005: 50). It is supplemented by a decoration called 'nose-eye' and a checker motive framed by two parallel lines below and above the motive. The bichrome phase of the WS I develops into WS II. One example of this bichrome WS I is TWE-A-00860-C-003 (fig. 4:1). The fragment carries bichrome decoration onto a red fabric which is typical for the oldest phase of the WS compared with the blue fabric of WS I and later WS II. WS I fragments have also been found in loci TWE-A-00858 (C-034), 01027 (C-031), 01043 (008) and 01051 (C-004). These loci were stratigraphically found just below loci 00919 and 01055 in which White Painted III-V has been found. The latter ware is typical for Middle Cypriot III. This observation confirms the slightly younger date of the loci mentioned above. Locus TWE-A-01027 contains both WS I and a fragment of a White Painted V juglet.

18 .Very common in Middle Bronze Age IIBC at Tell el Ghassil (Niveaux X-VIII) (Doumet-Serhal 1995-1996: 41).

19. See also Vansteenhuyse *et al*. 2002: for bowl TWE-A-00051-C-003. See Doumet-Serhal 2004: fig. 73: S/1722 for a parallel.

20. See Doumet-Serhal 2004: fig. 28: S/1800 for the form.

21. The name milk-bowl does not make reference to the usage of the vessel. The bowls were probably used to serve hot soups or stews and wine (Beck *et al*. 2004).

WS I appears in Late Cypriot IA:2. In Tell el-Dab'a, WS I can be found together with Base-ring Ware and Red Lustrous Ware at the beginning of Late Cypriot IA:2. Thirty-nine examples are known to us from Alalakh. Most have been found in Levels VI-V (Bergoffen 2002, 2005: 49-50). In the Levant, WS I appears generally in the levels dating to Late Bronze Age I (c. 1500 – 1400 B.C.) (Bietak and Hein 2001). At Tell Tweini WS I is characteristic for Level 7D.

The provenance of the Palestinian Bichrome Ware remains a matter of debate. This ware is considered to be a Cypriot import by some (e.g. Bergoffen 2005) or as local production in the Levant by others (e.g. Epstein 1966). This ceramic is made of a crème fabric with few inclusions. The vessels are well fired, wheel-turned and decorated with geometric motives or figures. Examples from Tell Tweini have been found in loci TWE-A-01045 (probably of Level 7D) (fig. 4:2), TWE-A-04008 (Level 7B) and pit TWE-A-00968.

Palestinian Bichrome Ware was used in Cyprus in Late Cypriot 1A:1 (from 1650 B.C.) until Late Cypriot II (at about 1425 B.C.) (Aström 2001: 135-6) but it has not been found outside the island before 1600 B.C. At Ras Shamra (Courtois 1978: 222, fig. 9; Monchambert 2004: 311-2; Yon 2004) and Tell Sukas (Buhl 1983: 56-7) the Palestinian Bichrome Ware is dated to Late Bronze Age I and the beginning of Late Bronze Age II.

4.2. *Local production*

Local production in Level 7D-E is a continuation of the forms and decoration types of the Middle Bronze Age II. The combed decoration remains typical throughout the Late Bronze Age. TWE-A-01027-C-054 (fig. 4:3) is a unique fragment. This fragment with rounded and smooth walls is partially broken. It has clearly been reused. Parallels for this type of object have been found at Ugarit[22] where such objects are often pierced at the centre. It may have been a 'lissoir' to polish the walls of other vessels. As such, it represents the first physical evidence for local ceramic production at Tell Tweini.

5. *Level 7B-C (Phase Tweini VIII B, Late Bronze Age II)*

5.1. *Imports*

5.1.1. *Late Helladic*

Level 7B-C contains some Late Helladic (or so-called Mycenaean) sherds. At present, more than 36 individual and incomplete vessels have been identified. Chemical analysis confirmed that those sherds were not local production but that nearly all fragments come from the Greek mainland[23]. All fragments were dated to LH IIIA:2 or IIIB. Of particular importance is a kylix with spiral shell motives (TWE-A-00185-C-024) (fig. 5:4) dating to the beginning or middle of LH IIIB. At Ras Shamra, the Mycenaean ceramic is mainly limited to LH IIIB, but there are some sherds of the "transition IIIB/IIIC" (Monchambert 2004: 279), a period which has not yet been attested at Tell Tweini.

5.1.2. *Base-ring Ware*

BS I is different from BS II because it does not have white paint applied to the surface. The two types of the ware are often found as bowls, mainly with a wishbone handle, little jugs or vessels in the

22. These objects from Ras Shamra were first regarded as abstract figurines (*Ugaritica* II: fig. 98, 232).
23. Personal communication by H. Mommsen, 12/01/2007.

form of a bull. There is no real chronological difference between both but BS II is most often found in relation with WS II. Base-ring Ware is hard, metallic and has fine walls, little white inclusions, blue-grey fabric and a surface colour ranging from crème to red-brown which often shines. This fabric is attested in all fragments found at Tell Tweini and described as Fabric 20.

BS I is often decorated with a curving and slightly raised line. The handles of the BS I jugs are flat, square in section and rather long. Typical is also the ring around the neck at the place where the handle reaches the neck. Some examples of BS I have been found in Tell Tweini but no complete vessels. TWE-A-01023-C-072 is a body fragment with a line in appliqué. TWE-A-00848-C-166 (fig. 5:5) is the neck of a jug. The same locus TWE-A-00848 contained also WS II and LH IIIA:2. It is therefore dated to Late Bronze Age II.

The first appearance of BS I on Cyprus is attested during Late Cypriot IA:2. The ware disappears during Late Cypriot IIA:2 (c. 1550 – 1360 B.C.) (Aström 1972c: 700). BS I was found in the palace belonging to Level IV at Alalakh. That level is compared by the excavators to levels from Late Bronze Age IB and IIA in the coastal area. Those periods run parallel to Late Cypriot IIA:1 which has thus been dated to around 1424/15 B.C. After this date, Base-ring Ware was more intensively consumed on the Levantine coast and the fragments from Tell Tweini may date to this period (Åström 1989; Bergoffen 2005: 13).

BS II vessels are decorated with slightly raised lines in white paint but carry no lines in appliqué. Fragments were found in Tell Tweini in locus TWE-A-01023 (C-055, C-066) which is dated to Late Bronze Age II. TWE-A-03303-C-029 (fig. 5:6) is a fragment of a neck of a jug (*cf*. Monchambert 2004: fig. 106: 1487). BS II is most common in Egypt starting with the reigns of Hatsepsout and Toetmoses III until the Amarna period (Merrillees 1968: 78-91). In the Levant, BS II is not present until Late Bronze Age I/IB but is widespread in the 14th c. B.C., Late Bronze Age II. After this period, the ware disappears (Bergoffen 2005: 45).

5.1.3. *Red Lustrous Wheelmade Ware*

Red Lustrous Wheel-made Ware (RLW) is easily recognised due to its distinctive red or bright orange fabric. The surface is slipped or polished and shiny. The most typical forms are the so-called Syrian bottles or a cylindrical vessel ending in a hand holding a little cup. As in most parts of the Levant, the assemblage at Tell Tweini is limited to bottles (Eriksson 1993: 99-106). RLW is not found in the interior of Syria but only near the coast[24]. In 1993, RLW had been found at only nine sites in Syria and Lebanon. Tell Tweini can now be added to this list. Eriksson (1993) holds the theory that RLW was made in Cyprus but that remains a matter of debate (e.g. Knappett 2000).

The appearance of RLW precedes Late Cypriot II and the appearance of WS II in Egypt but is not found in Late Cypriot IA:2 (Eriksson 1993: 9, 23-5). RLW is found relatively early in the Levant in the Late Bronze Age (Late Cypriot I1:2), followed by a hiatus and a new appearance at the end of the Late Bronze Age (idem: 107). The hiatus is dated between the end of the Amarna period and the reign of Ramses II (or Late Bronze Age IB to Late Bronze Age IIA) (idem: 118). The reoccurrence of RLW is thus associated with the introduction of vessels in Late Helladic IIIB style. In Alalakh RLW bottles are primarily present in Level (VB) IV (c. 1415-1340 B.C.) (Bergoffen 2005: 46). At Ras Shamra the bottles are present until the beginning of Ougarit récent 3 (Monchambert 2004: 306).

One fragment in Tell Tweini (TWE-A-00847-C-012) has been found in association with a crater of LH IIIA:2 (Pictorial Style) and fragments of WS II bowls[25]. This association shows that the RLW

24. Eriksson (1993: 117-8) suggests that this distribution is linked to the fact that the Egyptian forces controlled principally the coast.

25. For comparisons at Ras Shamra, see Courtois 1978: 256, fig. 20.

fragment is to be dated to the second phase of its fabrication in the Levant. Another fragment was found together with a kylix from LH IIIB (TWE-A-00181). A fragment in TWE-A-01924 is associated with White Shaved ware. Three other fragments are difficult to date. Locus TWE-A-01055 contains White Painted III-IV and RLW but the locus may have been cut by a pit and thus the RLW fragment could belong to Level 7B. Loci TWE-A-01059 and TWE-A-01077 date probably to Late Bronze Age I and therefore to the first phase of RLW[26].

5.1.4. *White Slip II*

White Slip II (WS II) is different from WS I because it is decorated with little vertical lines dropping from the rim. The wavy line is missing (e.g. TWE-A-00915-C-019; 01020-C-012). The most common type of decoration is the vertical ladder motive (e.g. TWE-A-00838-C-036, 043, 046, 047, 049; 00840-C-066, 067). In WS II three types can be distinguished: the oldest phase, normal and the late (or WS III) (see Popham 1972: 700). The oldest phase is decorated with a checker motive framed by two black bands. No example with such checker motive has been found at Tell Tweini. Three possible examples of the transition from WS I to II can be found in loci TWE-A-01046 (C-002), 01080 (C-001) and 02607 (C-016). Other fragments of WS II come from loci TWE-A-00847 (C-056, 062, fig. 5:2), 00848 (C-020, 040), 00908 (fig. 5:1) and 01014 (C-008). In its most recent phase, the decoration is made by some simple parallel lines without hatching (e.g. fig. 5:3, TWE-A-00164-C-002, 00422-C-035, 00838-C-032-4, 00843-C-015). WS II replaces WS I in Late Cypriot IA:2 and remains in use during the entire Late Bronze Age II period[27] until the 12th c. B.C. (Gittlen 1975; Monchambert 2005: 257).

5.1.5 *White Shaved Ware*

White Shaved Ware is probably another import from Cyprus[28] (Aström 1972b: 221-5; 1972c: 745-6). This ware is exclusively used for little dipper jugs with a single handle, a pointed foot and a pinched mouth. The walls are 'shaved' by some tool which has left clear visible traces. The vases were made by hand (Lagarce 1972: 135-6). The fabric is fine with few inclusions and has a white-rose colour. Fragments of White Shaved Ware were found in relatively large numbers in the loci of Level 7A-C (e.g. TWE-A-00840-C-116).

5.2. *Local production*

5.2.1. *Closed forms*

At Tell Tweini some large storage jars (pithoi) with wavy bands were also excavated. TWE-A-00156-C-007 and 00840-C-023 (fig. 6:9) are fragments in a pink fabric and decorated with a wavy line resembling Cypriot pithoi from the same period. The fragments probably form part of a Plain White jug with a wavy decoration in between two parallel applied ridges[29], typical for Late Cypriot II (Pilides 2000: 7). The fabric does not necessarily indicate that the vessel is an import but the decoration technique and the finish of the surface is certainly Cypriot. Perhaps this was the product of an itinerant Cypriot potter.

26. A bottle from Tombe 46 at Ras el-Bassit is also dated to Late Bronze Age IB (Darcque 2004: 62).

27. The oldest fragments of WS II and BS II at Kamid el-Loz come mainly from Level P4 at the palace and the beginning of the Late Bronze Age (Adler and Penner 2001, Bergoffen 2005: note 117).

28. For references to other Levantine sites and examples from Ras Shamra, see Monchambert 2004: 259.

29. E.g. no. 339 from Sanida in Pilides 2000 fig. 26: 226; see also Schaeffer 1949: fig. 86: 21, 28.

This type of pithoi is also frequently attested in Ras Shamra and their presence at Tell Tweini further confirm the theory that the site formed part of the influence sphere of Ugarit.

Transport jars or amphoras or Canaanite jars[30] are numerous in the contexts of Level 7A-C. The most typical rims of these jars have a slight curve and a rim which is folded out[31] (e.g. fig. 6:7). These rims evolve during the Iron Age into a straight rim, rounded at the top and hardly thicker than the walls of the neck. The diameter of those Bronze Age jars constantly varies between 10 and 15 cm[32] which becomes even more standard in the Iron Age.

No complete jars have been found but a semi-complete example was excavated in a silo (water pit?) which was probably constructed in the Middle Bronze Age. The opening of the silo was covered by non-stratified layers which contained ceramics from the end of the Bronze Age. The ceramics inside the fill of the silo may therefore belong to that period. The upper layer inside the pit contained three interesting fragments. The jar has two handles just below a rather flat shoulder. A similar jar was found in Ugarit[33]. Monchambert (2004: 140) mentions that such form is much more common in Iron Age II from the beginning of the 1st millennium B.C. The presence of this jar in a Late Bronze Age context at Tell Tweini, as well as in the Late Bronze Age city of Ugarit suggests that the form is not limited to Iron Age II. The form thus remains in use over a long period of time and has ample value for the chronology. Yet, the form is well-known in most sites along the Syrian coast[34]. This conclusion may warrant a new study of locus TWE-A-00027 where similar semi-complete jars have been found in association with cups and chalices[35]. The locus was dated in the Iron Age on the basis of the forms of the jars but may this also be dated to the end of the Late Bronze Age. Yet, the presence of White Painted Cypriot vases of the 11-10th c. B.C. suggests a dating in Iron Age II.

Typical for the so-called Canaanite storage jars are the rounded bases and for which several parallels can be found at Ras Shamra (figs 6:1-5) (*Ugaritica* VII: fig. 23:19). Monchambert (2004: 142) distinguishes five types of bases and he adds a chronological component to these categories. His types 2 and 3 are well represented at Tell Tweini. Type 2 is a base "bombé" (e.g. fig. 6:4, see Monchambert 2004: no. 944, fig. 59). Type 3 is a base "en bouton". The bottom end of this base type is flat and has a massive interior (e.g. figs 6:1, 3 and 5).

A little amphoriskos TWE-A-00190-C-014 (fig. 6:8) is typical for the Late Bronze Age. At Tell Sukas, this type with a pointed base is dated in the transition of the Late Bronze Age to the Iron Age (Buhl 1983: no. 15, Pl. I.15). Other parallels can be found at Ras Shamra and are dated to "Bronze Moyen 2" – start of "Bronze Moyen 3" (*Ugaritica* II: fig. 106:5). The little vessels were found in a favissa and interpreted as offerings.

At the end of the Late Bronze Age, the crater with two handles placed between the rim and the shoulder becomes very popular. One example is TWE-A-02550-C-012 (fig. 7:1). Most characteristic is the handle which becomes narrower towards the bottom. The comparison with Aegean and Cypriot examples is evident. Other closed vessels often present horizontal handles and decoration (fig. 7:2). For example, a typical motive of the Late Bronze Age in the Levant is the 'palm and ibex' motive[36]. The fragment which was found at Tell Tweini comes not from a Canaanite jar, as is often the case, but from a more open vessel (fig. 7:3). The fragment is decorated with a stylised palm tree and a spiral line, probably the horn of an

30. For a definition, see Monchambert 2004: 140.

31. There are parallels at Tell Afis (Iron Age I) (Venturi 1992: fig. 7.5) and at Gezer (Gezer XIII or the first half of the 12th c. B.C.) (Dever 1974: fig. 27.11), and Tarsus (Goldman 1956).

32. See Monchambert 2004: 140.

33. Monchambert 2004: no. 835 (fig. 56), no. 932 (fig. 58).

34. Tell Kazel (Badre *et al*. 1994: fig. 19c), Ras Ibn Hani (Bounni and Lagarce 1998: fig. 166: 4), Tell Sukas (Buhl 1983: no. 34-39), Tell Arqa: in Stratum 14 of the beginning of the Iron Age (Thalmann 1974: fig. 23, T1.120-1).

35. See the discussion of this locus in Bretschneider *et al*. 1999-2000; Vansteenhuyse *et al*. 2002.

36. See Amiran 1969: 161-5, Pl. 50; Carre Gates 1981: 26, fig. 7c; Doumet-Serhal 2004.

animal (goat?). The motive is dated at Ras Shamra between 1450 and 1350 B.C. (Courtois 1978: fig. 14:8; Monchambert 2004: 224; Schaeffer 1949: 193, fig. 78). Another example of a crater was decorated with a tree motive inside a red and white lined metope without any animal (fig. 7:4).

5.2.2. *Open forms*

In Ras Shamra, many cups and chalices were excavated and dated to "Ougarit Récent 3" (*Ugaritica* VII: fig. 9B: 5, inv. 24.599). Such types of cups remain in use and production in the following level of the beginning of the Iron Age (fig. 8:7-8). Chalices are bowls with a foot of which the height is at least double the height of the bowl itself. The foot and the bowl have been wheel turned separately and were then joined together. Often, the foot of the larger chalices has been shaved. The cups, of which the foot is not twice as high as the upper part of bowl, are less frequently found than chalices in the Late Bronze Age layers but the reverse is true in the layers of the Iron Age.

The most popular plates are those with slightly curving walls and an outward curving rim[37]. The plates are the most common form in Ras Shamra (Monchambert 2004: 33, fig. 12-16), but were also found at Tell Kazel (Badre *et al*. 1994: fig. 47e) and Ras Ibn Hani (Bounni and Lagarce 1998: fig. 159: 2). Complete examples of such plates were found in a destruction layer in combination with LH IIIB ceramics. Fragment TWE-A-00190-C-010 (fig. 8:3) was found in a context dated to the transition from Late Bronze Age I to II. TWE-A-03301-C-015 has a vertical and pierced handle and can be compared with examples from Tell Sukas (Buhl 1983: nos 202-3) and Ras Shamra (*Ugaritica* II: fig. 69.9) where those are dated to "Ougarit Récent 2".

Bowls from this level often have convex and carinated walls (fig. 8:4-5) (*cf*. Buhl 1983: no. 164). TWE-A-03210-C-006 is a hemispherical bowl imitating the monochrome Cypriot style.

Fragments of walls brackets were mainly found in Level 7 (fig. 8:9-10). Their correct function is still a matter of debate but they were probably lamps or incense burners (Caubet and Yon 1974, Rutkowski 1979). In the Levant the walls brackets are most popular in the Late Bronze Age but remain in production in Cyprus until the 7th c. B.C. (Buhl 1983: 66). TWE-A-00848-C-088 (fig. 8:10) could be compared with no. 356 or 360 from Tell Sukas which are decorated with wavy lines and dated to Late Bronze Age II (Buhl 1983: nos. 356 and 360; *Ugaritica* II: fig. 88.8). Most other wall brackets from Tell Tweini are decorated with three or four vertical lines made by the potter's fingers. The flat part of those wall brackets ends in a semi cylindrical recipient cut in half (e.g. TWE-A-03214-C-011).

6. *Levels 6G-H and 6E-F (Phase Tweini VII A-B, Iron Age I)*

6.1. *Remains of the Late Helladic style?*

Level 7 (Late Bronze Age) and 6 (Iron Age I-II) are very close in terms of stratigraphy. A number of walls and perhaps even floors of Level 7 have been reused in Level 6A-B. Fragments from Iron Age I have not been connected to floors or structures and this remains a problem for the reconstruction of the site's history even though their presence suggests some form of occupation of the site. This ghost level, which remains largely undefined, has been termed Level 7A. The ceramic tradition of the Late Bronze Age somewhat continues into the Iron Age and the close typological resemblance creates problems of interpretation. This difficult situation is most obvious in the storage jars, particularly those with an ovoid or pear-shaped body with two handles starting at the shoulder, as have been discussed above (Buhl 1983:

37. Type 7 of Monchambert 2004: 28.

fig. 1.1,4,11) [38]. Jars with a rim of about 2 to 3 cm high and a rounded rim are typical for Iron Age I but also, and perhaps more for the Late Bronze Age II[39] (see figs 6:6, 9:2-3) (*Ugaritica* VII: fig. 23:14). Therefore, those ceramics can not serve as diagnostic markers for the beginning of the Iron Age.

The best studied ceramics from this period are the wares which are derived from LH IIIC vessels. While no LH IIIC material has been found at Tell Tweini until present, it is useful to discuss the successors of this style. Such vessels can be divided into two groups.

a) The most recognisable forms for the start of the Iron Age in the Levantine coastal area are the bell-shaped craters with horizontal handles, and bowls with antithetic spirals. Both make in their decoration pattern a reference to the LH IIIC:1b style (Bonatz 1994: 138; Bounni *et al*. 1980: fig. 25). None of those forms or examples of this decorative style have been found in Tell Tweini.

b) A second diagnostic category are the craters which are decorated with wavy lines (e.g. Bonatz 1994). The wavy lines are placed between horizontal lines and bands, often in black and red. Moreover, those vessels have a ring base and two vertical handles between the rim and the shoulder. Those two characteristics are linked to crater in LH IIIC:1 style (Riis 1948: 59, nos 214, 219, 223, fig. 59). However, both the form and similar decoration schemes are known from Iron Age II (see below) (e.g. Aubet 2004: fig. 8:45; Bordreuil 2004: jar no. 1). The form of the craters is therefore no absolute criterium for their date in Iron Age I since craters with wavy lines and bichrome decoration can also be dated to the beginning of Iron Age II.

One further typical element of the ceramics of Iron Age I, in particular of the 12th c. B.C., is attested in vessels from Tell Kazel and Ras Ibn Hani. Craters are covered in a white slip or thick paint and decorated in red paint, both elements of which make reference to Mycenaean styles, even though the decorative syntax is entirely Syro-Palestinian in its composition (Badre *et al*. 1994: fig. 39a; Badre and Gubel 1999-2000: 441, fig. 13-14; Bounni *et al*. 1979: fig. 19:10,13). Examples of this type have been found in Tell Tweini in loci TWE-A-01009 and TWE-A-00048. The example from locus TWE-A-01009 is particularly interesting because the context in which it was found had been cut by the construction of Structure 2 which dates to Level 6A-B.

6.2. *Fabric 3A or the "céramique à la stéatite"*

At Tell Kazel, the transition of the Late Bronze Age to Iron Age I is further defined by the appearance of Handmade Burnished Ware (HBW)[40] (Badre 2003; 2006; Pilides 1991, 1994). Forms of this ware are little jugs and bowls with little handles and a decoration in appliqué (Pilides 1994: 1). Many archaeologists have linked this ware with the so-called "céramique à la stéatite" as has been found at Ras el Bassit (Badre 2003: 95), Ras Shamra (Lagarce and Lagarce 1974: 21), Ras Ibn Hani (Bounni *et al*. 1979: 245-55, fig. 27), Tell Sukas (Buhl 1983: Pl. VII:97-101), Daruk (Oldenburg and Rohweder 1981:

38. It remains difficult to evaluate the ceramics from Tell Sukas because a large majority of it has been found outside a stratified context.

39. We refer here to jars no. 835 and 932 from Ras Shamra as two good examples. These fragments were found in the layers dating to Late Bronze Age II (Monchambert 2005: 140-1).

40. This ware is described as: "L'argile est brune avec un noyau noir. La surface est brun rougeâtre avec des taches gris-noir." (Badre 2003: 89-90). The inclusions are, according to Pilides (1994: cat. no. 26), of a grey, white or black colour, and mica is visible in large quantities in the fabric. The surface of the vessels is burnished.

fig. 33:169,175) and Beirut (Badre 1998: 76-7, fig. 4a-b) where all examples are dated to Iron Age I[41] (with the exception of the examples from Ras Shamra).

The excavations at Tell Tweini do not allow to identify HBW at the site (as it has been found and described by Badre (2003) and Pilides (1994)). The evidence from Tell Tweini suggests further that the HBW and the "céramique à la stéatite" are clearly two different wares.

The "céramique à la stéatite" from Tell Sukas, for example, is described as a light grey fabric which is exclusively used for hole mouth jars, probably made by hand and without a polished surface. This fabric and the form can be found at Tell Tweini in Level 6A (fig. 9:5-6). The fabric from Tell Tweini which resembles the examples from Tell Sukas and which is termed Fabric no. 3A is defined as a fabric with large quantities of bio-clastic material and quartzite inclusions up to 1 mm. The fabric has a light grey colour and corresponds probably to fabrics used for cooking pots with mineral inclusions[42]. The fabrics of the "céramique à la stéatite" from the other sites, mentioned above, and which we did not consult, seem to fall into the category of the real HBW, perhaps with the exclusion of Ras Shamra. All forms made in this HBW often display a little ledge below the rim (Badre 2003: fig. 7, 9) which is not present in the cooking pots "à la stéatite" from Tell Sukas and Tell Tweini. Further parallels for this Fabric 3A from Tell Tweini can be found in a cooking pot with similar colour from Tell Afis (Degli Esposti 1998: fig. 9.2). At the same site, hole mouth cooking pots have been found in Level 2 and dated to the middle of the 8th c. B.C. (Mazzoni 1998: fig. 25:10). A recent study of the ceramic collections from the Amuq plain in Turkey has found close parallels for this "céramique à la stéatite" (Birney 2005)[43]. It is suggested in this last study that the cooking pots in "céramique à la stéatite", or the Broad Handled Ware of the Iron Age, has its origins at the Syrian coast and even further in the Aegean ceramic material of the Late Bronze Age. We suggest that the Aegean inspiration for the "céramique à la stéatite" does not fit the evidence from Tell Tweini.

The cooking pots from Ras Ibn Hani in the "céramique à la stéatite" have nearly vertical walls and are comparable to Porsuk V (Dupré 1983: Pl. 33-34; Mazzoni 1998: 168). In the catalogue of Monchambert for Ugarit one can find five cooking pots with a slightly in-turning rim, made of a grey to black fabric, often polished and burnished. The upper part of the body curves a little inwards. Nos 1262-1266 have forms comparable to those from Tweini (see also Schaeffer 1949: fig. 85: 2-3, Goldman 1956: fig. 382, 1068, 383, 1069, 390 A). It may therefore be concluded that this type of cooking pot is local and was present throughout the Ugaritic region in the last phase of the Late Bronze Age. It has not been imported after the destruction of Ugarit by the so-called Sea Peoples. These forms, and this composition of the fabric, will result in the later, Iron Age, 'Broad Handled Ware'. There is therefore no need to add the HBW of the more southern coastal region, such as the HBW at Tell Kazel, as a necessary step towards the evolution of the 'Broad Handled Ware'. While the HBW has a foreign origin, in the Aegean of Cypriot region, Fabric 3A is a local product.

6.3. *Fabric 3B: Handmade Burnished Ware?*

The HBW as defined in Cyprus or Tell Kazel remains absent from Tell Tweini. No such fabric has been found on the site. Yet, the description of the forms may be applied to the forms made of Fabric 3B from Tell Tweini. The material added to the clay is largely metamorphic (25%) such as schist and gneiss.

41. The examples from Ras Shamra date to the end of the Late Bronze Age. Those from Ras Ibn Hani come from a stratigraphical higher level as Iron Age I (Bounni *et al*. 1979) and it is possible that this fabric remains in production in Iron Age II as it did at Tell Tweini. The fragments from Tell Sukas were found out of context and have been dated simply by reference to Ras Ibn Hani (Buhl 1983: 115).

42. Afis: Venturi 1998: 127.

43. The examples from the Amuq plain are called Broad Handled Ware because of the form of the handle (Birney 2005). This handle shape is indeed typical for the vessels made in Fabric 3A at Tell Tweini (*cf*. an example of HBW from Kition, see Pilides 1991: fig. 14.3), but not for the vessel shapes made in Fabric 3B which precedes Fabric 3A in chronological terms.

It does not contain any fossilised items such as Fabric 3A suggesting a completely different production technique or perhaps a non-local origin. Moreover, the vessels in Fabric 3B are all polished and have a smooth soapy surface. This element, the polishing of the surface, is new in the ceramological tradition of the Late Bronze Age. To benefit from the effects of the polishing, vessels should be fired at reduced temperatures. Sherratt (1981: 593) suggested that the appearance of polished vessels does indeed suggest new techniques and less centralised production methods resulting in less performant techniques. The HBW also has a polished surface and the colour is mainly dark brown compared to the black or dark grey surface of Fabric 3B. The link between both fabrics therefore remains unclear.

This Fabric 3B can be found in Level 7A-B. Examples in Level 6 are probably intrusions. Important for the history of this fabric is the discovery of a large vessel in the form of a beer glass, with vertical walls, flat base and rounded rim (fig. 9:4). This vessel has been found *in situ* with a kylix of LH IIIB:1-2[44] (fig. 5:4). In Greece, the HBW appears in LH IIIB:2 until LH IIIC (Pilides 1994: 1). At Tell Kazel, the HBW is found in Level 5 and is associated with LH IIIC early imports (Badre 2006: 82). This is different from the situation in Tell Tweini where the Fabric 3A is found in combination with older LH ceramic types. One may therefore conclude that the context from Tell Tweini dates at the end of the 13th c. B.C. and thus well before the invasion of the Sea Peoples at the end of the 13th c. B.C. This would suggest an older and perhaps other origin than the HBW of Tell Kazel.

Yet, the absence of LH IIIC at Tell Tweini[45] does not exclude the passage or settlement of Sea People (see Gilboa 2005). However, it is quite probable that after the partial destruction of the city in the Late Bronze Age, there is a short hiatus in the occupation of the town (Level 7A) before it is reoccupied at the beginning of Iron Age I (Level 6G-H/12th century B.C.).[46]

7. *Level 6C (Phase Tweini VI A, Iron Age II)*

7.1. *Floors of Structure 3*

Level 6C-D is harder to define in architectural and ceramological terms than Level 7 or 6A-B. With the exception of Floors TWE-A-00027, 02124 and 02127, no occupation surface could be linked to this period. The ceramics, found on these floors, date to the end of Iron Age I. The remarks made above concerning the storage jars remain valid for Level 6C.

A type which is problematic in terms of dating is that of the vessels with bichrome decoration. This type of ceramics has mainly been found in Structures 1 and 4. Their absence from the floors mentioned above suggests an older date for those floors. The bichrome craters from Tell Tweini can be divided into two large groups on the basis of their decoration: the craters with geometric decoration and those with figural decoration.

7.2. *Craters with bichrome figural decoration*

Vessels with bichrome decoration and figural decoration are not frequently found but they do form a distinct group in the ceramic corpus of the Levant (figs 10:1-2). The vessels resemble a group with bichrome paint from Ras Shamra which date to Late Bronze Age II (Monchambert 2004: 223-5, fig. 101).

44. For comparisons, see Bounni *et al*. 1998: fig. 156:4 (Ras Ibn Hani), Courtois 1978: fig. 36:1, Inv. 27.744 (Ras Shamra), Jung in press: fig. 2,1 (Tell Kazel), Mountjoy 1986: fig. 141: 12.

45. LH IIIC ceramics have been found in Ras Shamra in the layers dating to the final destruction of the city (Monchambert 1996).

46. In the southern part of Field A and in Field B, two architectural phases of the Iron Age I were explored in the 2008 campaign.

There are, however, quite some differences between the figural bichrome group from Tell Tweini and the one from Ras Shamra/Ras Ibn Hani. The figures from Tell Tweini are made by black lines and filled with red paint. The feet or wings of the animals are linked to a frame with black lines (fig. 15.1)[47]. The filling of this figure is not attested at Ras Shamra which could indicate that the fragments from Tell Tweini represent a different potter's tradition. The possibility of another potter's workshop leaves the question of the dating open. The vessels could then also date to the end of the Late Bronze Age but all of them have been found in layers which post-date the Late Bronze Age. It remains possible, but unlikely, that these vessels form part of the tradition of the Bronze Age. Moreover, other contexts dating to the end of the 13th c. B.C. which contain WS II and LH fragments do not contain fragments with bichrome figural decoration.

Another group consists of open vessel decorated with motives in black and red (figs 10:3-4). The motives consist of a series of dotted lines and forms filled with red and black. One fragment even has several curving lines. None of those motives present a clear figure but the different elements could make reference to animal or human figures. The dotted lines represent perhaps animal skin as in the Late Helladic tradition. The only comparison for these fragments are sherds from Ras Shamra (Monchambert 2004: nos 1302-6, fig. 98). Monchambert (2004: 219) mentions that this type of dots or dotted lines is rare in the Levantine world during the Late Bronze Age. He dates the fragments from Ras Shamra in "Ougarit Récent 3". Do the fragments of Tell Tweini show another unique link between both Ugarit and this site[48]?

7.3. *Craters with bichrome geometric decoration*

Within this category there are two groups which warrant a more detailed discussion.

a) The first group is that which contains craters decorated with hatched figures, mainly triangles. The fragment TWE-A-01717-C-001 (fig. 15:2) with a net motive in brown and black resembles in style and vessel form a neck of a jar with figural decoration dating to the beginning of the 12th c. B.C. (Mallet and Matoïan 2004: fig. 251; Yon 1994: fig. 4a). A similar decoration motive can be found painted on a vessel from Hama[49]. One should remark that the motive forms as much part of the end of the Late Bronze Age as of the beginning of the Iron Age (Riis 1948: 89-90). The fragment from Hama has been dated to the "Hama Cemetery Period I" which corresponds to Iron Age I or 1200-1075 B.C. (Riis 1948: 48). Vessel TWE-A-01949-C-003 (fig. 15:4) probably dates to the same period given the two horizontal bands and the hatched triangles.

Another crater with a similar decoration scheme is TWE-A-01928-C-001 (fig. 15:3). It has a continuous trellis motive, painted in red. The decoration scheme here also shows the alternation of red and black bands which is so frequently found on the craters of the Iron Age. The latter vessel does also resemble a crater from Tell Kazel "recouvert d'un engobe jaune, à peinture rouge en croisillons et bandes sur la panes, et métopes alternés de croisillons et motifs de doubles triangles sur le col" which is further described as a imitation of a Late Helladic example (Capet 2003: fig. 21n, see also fig. 20a, Badre *et al*. 1999-2000: fig. 31j). The crater at Kazel dates to the transition of the Late Bronze Age to the Iron Age.

47. Fragment TWE-A-03302-C-005 is decorated with at least two goats in the style mentioned here. It resembles the decoration of a little jar from Ras Shamra where a goat with a similar body is shown (Monchambert 2004: 63). In that particular example, the animals are also linked to the sides of the vessel.

48. The motive is also known in Hama but there is no information on the colour of the motive (Riis 1948: 96, fig. 130A, motive 19).

49. Riis 1948: fig. 125, Jar of G VIII 441 (5B 400).

Figure 10:6 shows an example of a decorated vessel in black and orange-brown with a rather complex and non-comprehensible figure. Parallels for this form of decoration exist in the Amuq plain and date to the beginning of the Iron Age[50].

One open jar, probably without handles, is decorated with two triangles and a hatched half-circle in black. The decoration is again similar to that from vessels of Hama[51]. Riis (1948: 89-90) remarks that this type of decoration is characteristic for the end of the Bronze Age and the beginning of the Iron Age. He dates the vase in "Cemetery Period I" (1200 – 1075 B.C.).

In short, all fragments were found in Structure 3 where a continuation from the Bronze Age into the Iron Age was observed. The parallels for those fragments do indeed confirm the dating of those vessels in that period of transition.

b) The second group is the one which includes craters with a wavy line on the neck or the shoulder (see **6.**). The craters with a wavy line just below the rim also carry a frieze of three diagonal lines on the shoulder (fig. 10:5). This motive has parallels in Hama and is dated there to "Cemetery Period I-III" (1200-800 B.C.). The type of decoration is also frequently attested in the Amuq plain[52]. Another example of this decoration type was found at Tarsus in a pit with sherds dating to Late Minoan III (Goldman 1938: fig. 36) at Mersin (Garstang 1943: fig. 12) and Kilise Tepe (Hansen and Postgate 1999: figs 6-9).

Other examples from Tell Tweini have this wavy line on the shoulder (figs 15:5-6). Those craters do not have decoration on the neck and the wavy line is bordered here by a series of black and red bands. One red band always marks the transition from the shoulder to the neck. This type of decoration can be found in Tell Sukas (Buhl 1983: fig. 16.281), where it is catalogued as a typical marker for the beginning of the Iron Age (Bonatz 1994: fig. 7.1).

It should further be remarked that a crater with a wavy line from Ras Ibn Hani does not form part of the same tradition and represents another type (Bonatz 1994: fig. 7:3; Bounni *et al*. 1979: fig. 27). The vessel from Ras Ibn Hani has a handle with a deep vertical groove in the middle painted red. This type of handles is known at Tell Tweini (and Tell Sukas, see Buhl 1983: no. 285) but never in combination with a wavy line. This specific detail of the handle can also be seen on a LH IIIB vessel found at Ras Shamra (*Ugaritica* VII: fig. 56:18). Therefore, this type of handle seems to have been derived from Late Helladic examples. The fragments found at Tell Tweini (e.g. TWE-A-04212-C-012) come from contexts of the end of Level 7, thus the end of the Late Bronze Age. Locus TWE-A-04212 contains fragments of Fabric 3B (e.g. TWE-A-04212-C-025) which may confirm the date in the transitory phase from Bronze Age to Iron Age.

Craters with wavy lines have also been found at Tell Kazel (Badre *et al*. 1999-2000: fig. 44b, 198; *cf*. Iron Age I crater from Ras Ibn Hani: Bounni *et al*. 1979: 253, fig. 27:3). The vessel carries this line on the shoulder, has red and black bands, and one line separates the neck from the shoulder. A floral motive has been added here which refers to the Aegean decoration schemes. The archaeological context was dated to the first phase of the Iron Age.

One may conclude that the crater from Ras Ibn Hani probably forms part of a continuation of Aegean traditions, such as the crater of Tell Kazel. The wavy line is therefore often found in combination with Mycenaean elements. The wavy line craters from Tell Tweini and Tell Sukas, however, form part of another tradition and are younger in date. The vessels with a wavy line at Tell Tweini form part of a tradition at the beginning of Iron Age II. They do often imitate the decoration schemes of the White Painted styles from Cyprus which do include alternating bichrome bands, hatched figures and other (e.g. TWE-A-03302-C-014, 03303-C-007).

50. See Abb. 3c in Pruss 2002 of a crater from Chatal Hüyük, no. e-434, Amuq Phase N (1180 – 1000/950 B.C.) and Swift 1958: fig. 23.

51. Riis 1948: fig. 125, Jarre de G VIII 441 (5B 400).

52. Personal communication of A. Sumakai Fink.

We have presented the discussion above on the start date of this bichrome tradition. Some remarks must be made on its final date. In general, bichrome craters were found at Ras Ibn Hani in the upper levels of a building in carré X 67. The excavators remark that the geometric motives[53] such as the "Union Jack", the triangles, the hatched figures,… and the figural motives are linked to Aegean and Cypriot traditions but in particular to the Late Bronze Age tradition of Ras Shamra (Bounni *et al*. 1981: 264). The bichrome style ends at Ras Ibn Hani at the middle of the 10th c. B.C. (Badre 1983: 209), but is dated at Tell Kazel between 1100 et 825 B.C. (Badre *et al*. 2000: 133). Bichrome decoration appears at Tell Arqa in Level 10 (Thalmann 1978: 82, figs. 22, 45.9,10). Thalmann suggests that this decoration is a direct descendant of the Bronze Age traditions such as those at Ras Shamra/Ras Ibn Hani and he refers to the discussion on the *kalathoi* of Salamis (Yon 1973: 10-17) where this bichrome tradition is continued into the Iron Age, apparently in contrast to the Syrian coast. Following the study made by Lehmann (1996: 13; Bikai 1992: 97), bichrome decoration on craters, jars and plates had disappeared in the coastal region around 850 B.C.[54]. Then, and not before the conventional Iron Age IIC (c. 8th to 7th c. B.C. according to Lehmann), the bichrome tradition is replaced by red painted or slipped bowls and plates. Unfortunately, Lehmann refers primarily to the Phoenician Bichrome tradition which had a different evolution from the tradition at Tell Tweini. However, his final date for the presence of bichrome vessels can be supported by evidence from Tell Tweini. Fragment TWE-A-00815-C-001 is a barrel jug in the White Painted II (III) style which was associated in Tell Tweini with bichrome plates[55]. A similar barrel jug was found in the destruction layer at Hama dated to 720 B.C.

In conclusion, the majority of the bichrome decorated craters and plates date to the end of Iron Age I (accepting that Iron Age I continues into the 9th c. B.C.). By comparison with examples from Ras Ibn Hani and Tell Kazel, the vessels from Tell Tweini may well date back to the 12th or 11th c. B.C.

7.4. *Other*

A large amphoroid crater (fig. 11) imitates a metallic prototype with its orange polished surface, annular base and two handles. The form is a reference to older Mycenaean examples but can also be compared to a vessel in Tomb 142 at Paleopaphos-Skales in Cyprus. The excavator describes the latter crater as a unique form in Cyprus[56] without any parallels in the ceramic categories known from that period (Raptou 2002: 121). Tomb 142 contained burials from Cypro-Geometric I-III and a more precise dating is unfortunately not possible. This parallel suggests that the crater from Tell Tweini is part of Level 6D-C and confirms the date of the latter between the 11th and 9th c. B.C.

53. See also two examples of this type found at Tell Kazel: "Un cratère d'imitation mycénienne à pâte chamois à cœur noir, recouvert d'un engobe jaune à peinture rouge en croisillons et bandes sur la panse." (Capet 2003: fig. 20a, left above). They are dated at the end of Late Bronze Age II.

54. Lehmann bases his conclusions on a contribution of Bikai (1992) to the "Dictionnaire de la civilisation phénicienne et punique". In this work, she distinguishes two phases: a bichrome phase (c. 1200-850), and a Red Slip phase (c. 850-550). Those two phases correspond more or less to the "Complexe de Poterie Phénicienne Ancienne" and the "Complexe de Poterie Phénicienne Récente" (Bikai 1978: 47). Bikai does note, however, that the potters always used the bichrome decoration in the Red Slip phase but no longer for circles, only for bands and certainly for other motives as well. This is not the same theory as the one by Lehmann who sees a complete disappearance of this particular decoration technique once Red Slip is used.

55. Bichrome plates with a band of decoration on the rim were found at Tell Kazel in Niveau 5 of Chantier 2 (12th to 8th c. B.C.) (Badre *et al*. 1994: fig. 32C).

56. The best parallels for the crater from Paleopaphos-Skales come from Kourion-Kaloriziki (Benson 1973, 111, T. 19, no 23 (K841), T. 26 no 87 (K840) and T. 40 no 9 (K842) but those differ form the example at Plakes by their fabrication technique, their size and decoration, see also McFadden 1954, 135, pl. 23, fig. 22, T. 40 no 9 (Raptou 2002: note 21).

7.5. *Date of Level 6C-D*

The absolute date of the beginning of Level 6C-D remains problematic. The period is defined as "Fer I" at Ras Ibn Hani[57] and placed between 1100 and 825 B.C. at Tell Kazel. The destruction of the city of Ugarit must certainly have had its repercussions on the entire territory of the city and thus also at Tell Tweini. Iron Age I starts in the region therefore at 1176/79 B.C. (Jung in press) or in 1192 B.C. (Dietrich and Loretz 2002). The end of Iron Age I is dated in the entire region to the second half of the 9th c. B.C. in relation with the first military campaigns of the Assyrian kings in the region.

If one accepts the dating of the bichrome geometric craters (see above) in the 9th c. B.C. and thus at the beginning of Level 6A-B, this provides an end date for Level 6C-D.

8. *Level 6A*

8.1. *Imports*

The Cypriot imports increase again in Level 6A and include White Painted III/IV, Bichrome III and Black Slip. In this level a new and distinct fabric appears: Fabric 7A[58] which is always linked to vases in Cypriot style.

No example of Proto-White Painted and White Painted I has been found at Tell Tweini. White Painted II and III are clearly present from the beginning of the reoccupation of the site in the 9th c. B.C. In the White Painted II style, the bowls are decorated in the same manner as in the White Painted I but the walls are much finer. Concentric circles appear in White Painted II. For example, a barrel jug (fig. 12:2) could be compared to vessels from Tyrus Stratum X, dated around 850 B.C. (Bikai 1978: Pl. XXVIII:1-2). Figure 12:5, a little barrel jug, has a parallel in Tyrus, Stratum XII, dated to circa 1000-950 B.C. (Bikai 1978: Pl. XXXII:5). Figure 12:6 resembles White Painted I and II bowls from Amathous (Iacovou 2002, fig. 2:9). Other parallels were found at Skales and Kaloriziki. The dates of those parallels confirm that locus TWE-A-00027 should be dated at the beginning of Iron Age II, or in the 9th c. B.C. Figure 12:3 can be compared to a White Painted II bowl from Tomb 72.2 in Paleopaphos-Skales[59]. Another good parallel is a White Painted II bowl from Tomb 74.62 (Karageorghis 1983: Pl. CXXIII) even though the diamond motives are not framed. The latter bowl from Tweini was found on a floor constructed in the Bronze Age but reused in Iron Age II (Structure 6).

Bucchero Black Slip has its origins in Late Cypriot IIIB and in metallic prototypes. The ware was very popular in the entire Cypro-Geometric period (1050/970 – 750 B.C.) (Karageorghis and Iakovou 1982: 132). Bucchero Black Slip fragments were found in loci TWE-A-01930 (fig. 14:3) and 01920 (C-029).

To be added is the surface find of the leg of a bull statue in clay (TWE-A-S-C-001). The leg was pierced at the bottom which suggests that the bull figurine was attached to some other material. A snake is applied to the leg and painted in brown. Comparisons can be made with statues from Ayia Irini in Cyprus

57. There are at least two levels in the Iron Age I at Ras Ibn Hani: one in the 12th to 11th c. B.C. (in Bâtiment W65) and a second one which is not dated but is younger (in Bâtiment X67) (Bounni *et al*. 1998).

58. Bonatz (1998: 212) has identified at Tell Afis "a greenish grey clay, which is of fine texture and hard fired, with a matt black paint" which is apparently exclusively used for bowls in bell-shape and for imports. The description which is given here relates to those from the 'Cypriot' vessels and Fabric 7A at (see annex).

59. Karageorghis 1983: Plate CXXI, T. 72.2, is another possible parallel if it were not for the long foot of the vessel. It is also interesting to note that some White Painted vessels do not have a circular opening but an oval one as for example TWE-A-01701-C-009 and TWE-A-03214-C-002. This is probably a result of the firing process.

(Karageorghis 2003: no. 185, Inv. No. A.I. 2027). The fragment is dated to Cypro-Geometric III – Cypro-Archaic I.

8.2. *Local forms*

In Level 6, a large number of red painted plates with annular base can be found (fig. 14:2). They have a rounded or square rim. These plates are typical for Assemblage 1 as defined by Lehmann (1996: 359) in the northern part of Syria[60], but the type developed already before that date. Fragments from such plates have for example been found beneath the column base TWE-A-03214 in association with a Cypriot bowl (TWE-A-03214-C-002) and is thus characteristic of the oldest occupation phase of Room A4/1.

The most common jar in Iron Age II is the pear-shaped or cylindrical jar. The jar is enormously popular in the 9th c. B.C. and is used until the 7th c. B.C.[61]. The jar is used in the Phoenician economy for the transport of goods[62].

9. *Level 5*

The examples of Black-on-Red (BoR) at Tell Tweini seem to be limited to the BoR I and II style (see SCE IV: 2, figs XXIV-XXVI and XXXVII-XL). Schreiber (2003) doubts that any chronological differences exist between BoR I, II and III. Because BoR ceramics have been found in Stratum VII at Tell Mevorakh Schreiber suggests that the 10th c. B.C. is the earliest appearance of BoR in the Levant. Others suggest that it should be dated even later. Gilboa and Sharon (2003) put the appearance of the BoR at Tel Dor in "Ir 2a" which does not start before 850 B.C. in their chronological frame. The BoR vessels are preceded by the appearance of Cypriot barrel jugs which at Tel Dor are situated in "Ir 1/2" (Birmingham 1963: 40; Gilboa and Sharon 2003: 66). Schreiber suggests further that the vessels were most widespread in the second or third phase of the BoR ceramics. In that case, the fragments from Tell Tweini (which are nearly all surface finds: TWE-A-00001-C-030, TWE-A-00200-C-099/101 (fig. 13:1), TWE-A-01200-C-046, TWE-A-00206-C-043, TWE-A-00604-C-007 (fig. 13:2), TWE-A-01300-C-013, TWE-A-01500-C-035 and 036) are younger than 850 B.C. and may date even to the end of the 8th c. B.C. and thus well into Level 5.

Few examples of Phoenician bowls or Samarian plates were found at Tell Tweini. All of those have in generally outcurving rims. One example from Tell Tweini is a bowl with fine walls and a dark red slip as more were found in Stratum I at Tyrus (c. 700 B.C.) (Bikai 1978a: 52).

Levels 5 and 4 are characterised by a number of large basins (fig. 14:1). The majority of those is made out of a fabric with a lot of organic inclusions (Fabric 2) and decorated with rope impressions or an applied band of clay with finger impressions. Some basins were also decorated with red paint. Basin TWE-A-00223-C-001 has a little table with three supports near the bottom of the basin. Parallels were found in Tell Sukas were the basins have been dated to the 8th or 7th c. B.C. (Buhl 1983: no 231 et 232). Similar basins from Tell En Nasbeh have been dated between 600 and 450 B.C. (Wambler 1947: 51, Pl. 78.1790). The function of this little table is explained by Buhl as the support for the feet of bathers. It appears to us more logical that the basins were used in an industrial context, perhaps for the washing of linen or other textiles, but the correct function could not yet be determined.

Also well represented in these levels are vase supports. Their form has no chronological value and similar supports were excavated at Tell Sukas in a slightly later layer (Period F) (Buhl 1983: no. 217-8). In

60. Lehmann (1996: 359) dates this assemblage between 800 – 740/720 B.C.
61. E.g. Badre *et al*. 1994: 279, fig. 19a; Braidwood 1940: fig. 5; Buhl 1983: fig. 4.38; Thalmann 1978: 86, fig. 23 T1.21.
62. E.g. Bikai 1978b: Pl. 21:1,5,11-13; Briend and Humbert 1980: Pl. 54:1,3, Pl. 48:1-9 (Niveaux 6-8 at Tell Keisan).

Zinçirli vase supports were exclusively found "in den jüngeren Schichten von Sendschirli" and have dated there after 1000 B.C. (Sendschirli V: Abb. 56-57).

The Cypriot imports in these levels are all in the Cypro-Archaic I and II style. The little barrel jug TWE-A-01056-C-001 which is decorated with two 'bull's eye' is an example of this style.

10. *Level 4*

Level 4 represents the Persian period between the 5th and the 3rd c. B.C. Architectural traces remain largely absent which suggests that there was a squatter occupation of the site. Yet, the ceramic material of this period can be found all over the site. Here, mortars in Fabric 12 can be found (*cf*. Briend and Humbert 1980: 143). One fragment of a vessel with a handle (TWE-A-00100-C-036) resembles Byzantine cooking pots but the form, the red and hard fired fabric is also attested in Tell Sukas in the 6th – 4th c. B.C. (Buhl 1983: fig. IX, nos 93-5). A similar problem of dating concerns TWE-A-00104-C-048 which resembles cooking pots of the so-called 'Brittle Ware' from the 1st to 3rd c. B.C. (Stucky 1983: Tabl. 86.351), but it is also a form which is found in the Persian period (idem: 147). In this level one also finds the so-called "bols à bôbeche" (idem: no. 215).

The level is especially characterised by fragments of black glazed ceramics. The little bowl TWE-A-00200-C-103 has parallels at Ras Shamra, dated between 480-450 B.C. (Stucky 1983: Tabl. 61.38, p. 110). The little plate with a foot, TWE-A-00100-C-026, also dates to the Persian period. TWE-A-01800-C-023 is the handle of a *kantharos* (*skyphos*?). The handle resembles a fragment found at Ras Shamra (idem: Tabl. 45, p. 127).

11. *Level 3*

Hellenistic, late Roman and Byzantine ceramics (Level 3) are well attested from other parts on the tell but largely lack in Field A. Some fragments of Hellenistic ceramics come probably from disturbed tombs in the region of the large defensive wall around the city (Field C).

12. *Level 2*

Byzantine and Medieval ceramics have not been found in Field A. Fragments of so-called Turkish pipes from the last centuries are, however, well represented (cf. Van der lingen 2003). As in most excavations, the stratigraphical information on the context of the pipes is extremely limited. As in Greece, the pipe with rounded bowl and offset rim is the most common form (actually the only one encountered form at present). Hama has been one of the first excavations were pipes were recorded when found (Poulsen 1957: figs 1069-82).

According to Robinson (1983, 1985) then the Tell Tweini pipes would be the older versions. The semi-complete examples have an opening at the end of the stem socket (shank) of less than 10mm, confirming to the 18th-early 19th c. AD group of Robinson (1985: nos 4-10, taf. 52). The use of makers' monogram is non-existent before the 18th century whereas it is usually present in the 19th c. (Robinson 1985: 161). TWE-A-05503-C-011 carries a little round impression with a seven-pointed star on the base of the pipe bowl, probably a makers' seal.

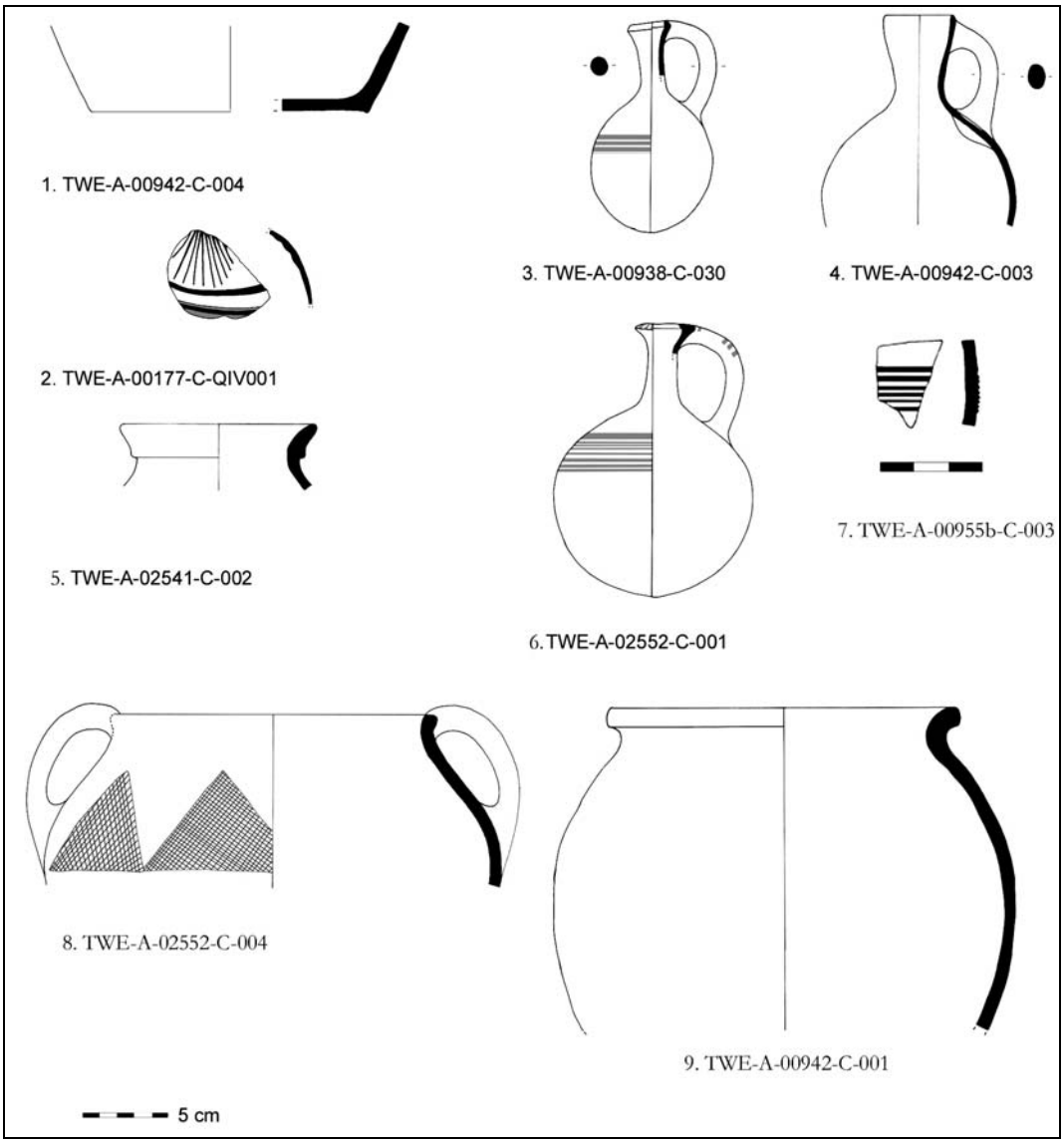

Figure 1. Ceramics of Level 9 (nr. 1,7), Level 8C (nr.2-6, 8-9)

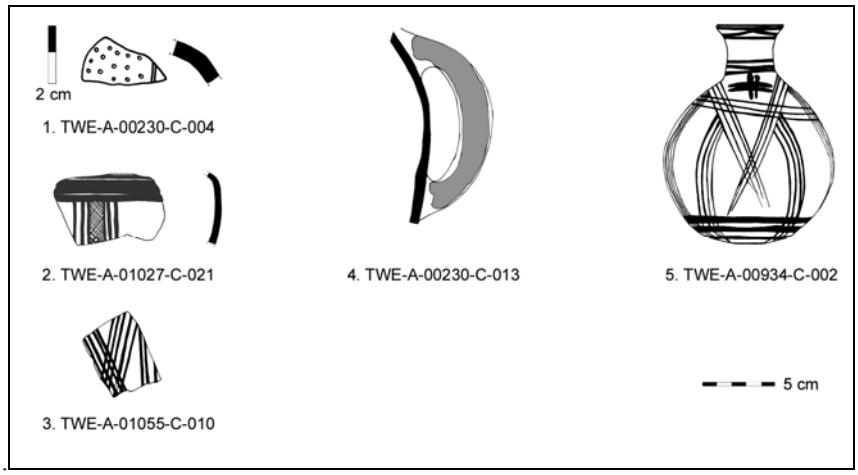

Figure 2. Ceramics of Level 8A-B

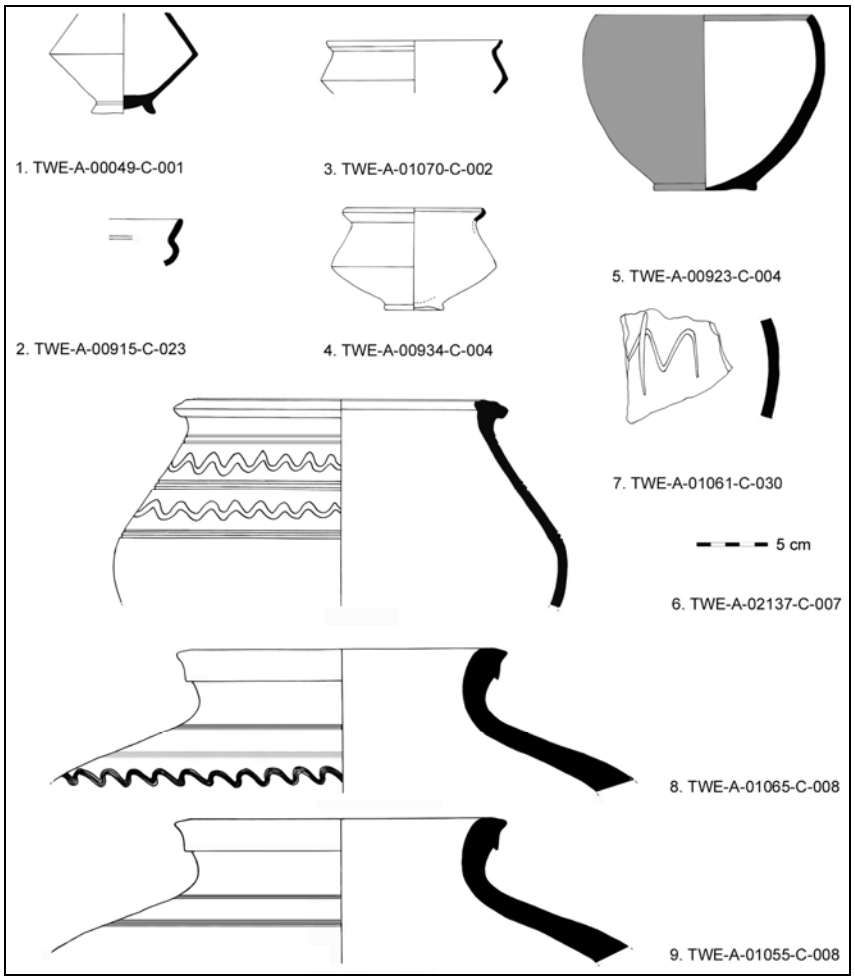

Figure 3. Ceramics of Level 8A-B

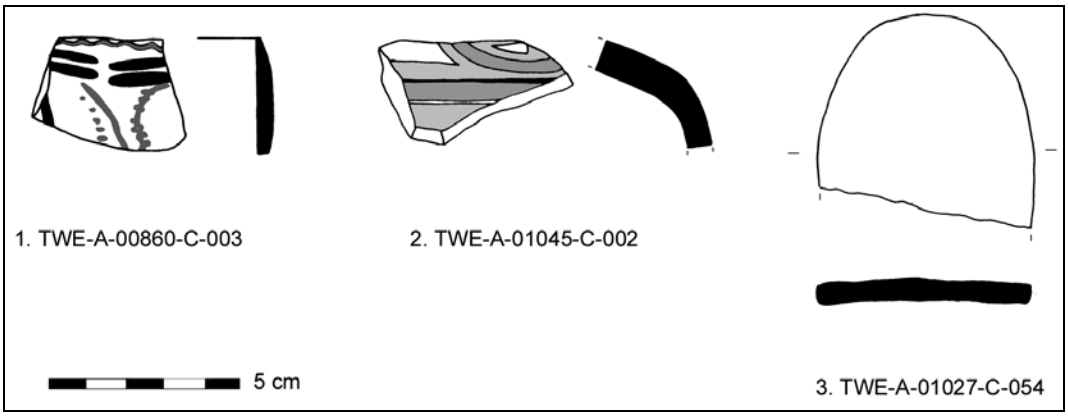

Figure 4. Ceramics of Level 7D-E.

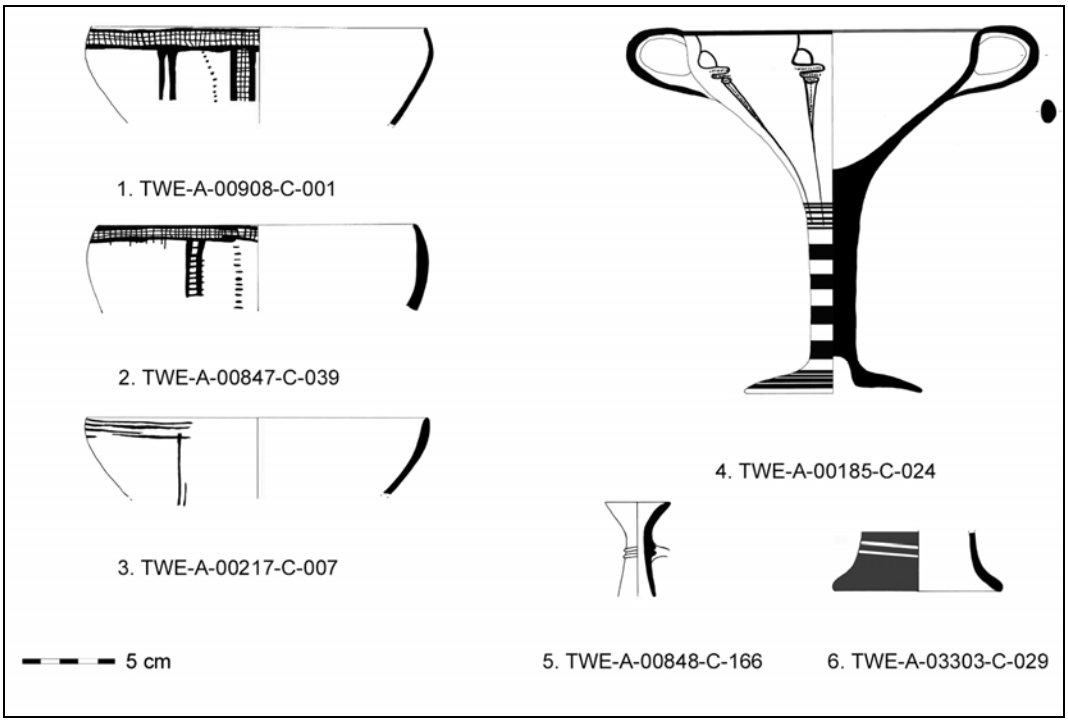

Figure 5. Ceramics of Level 7A-C

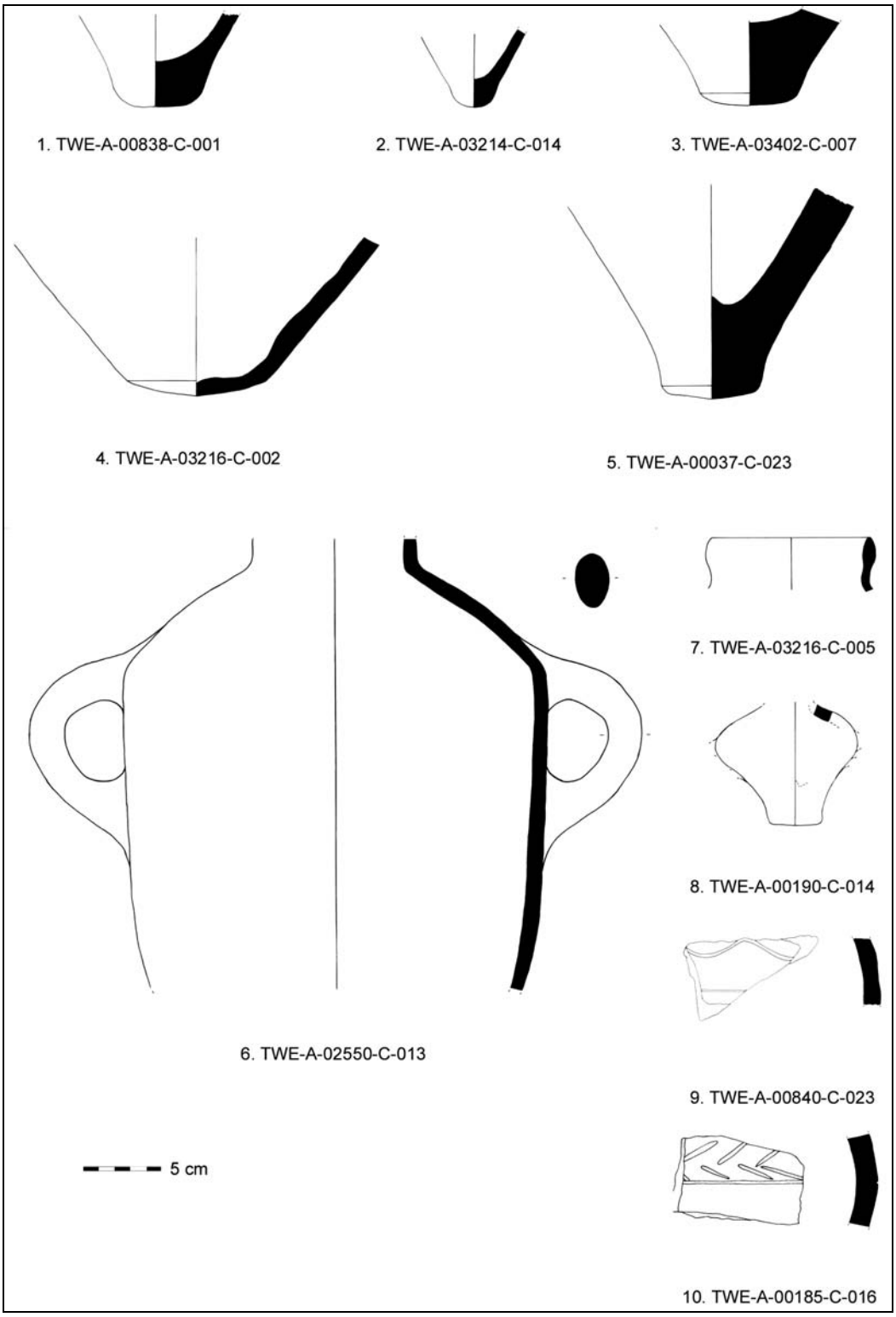

Figure 6. Ceramics of Level 7A-C

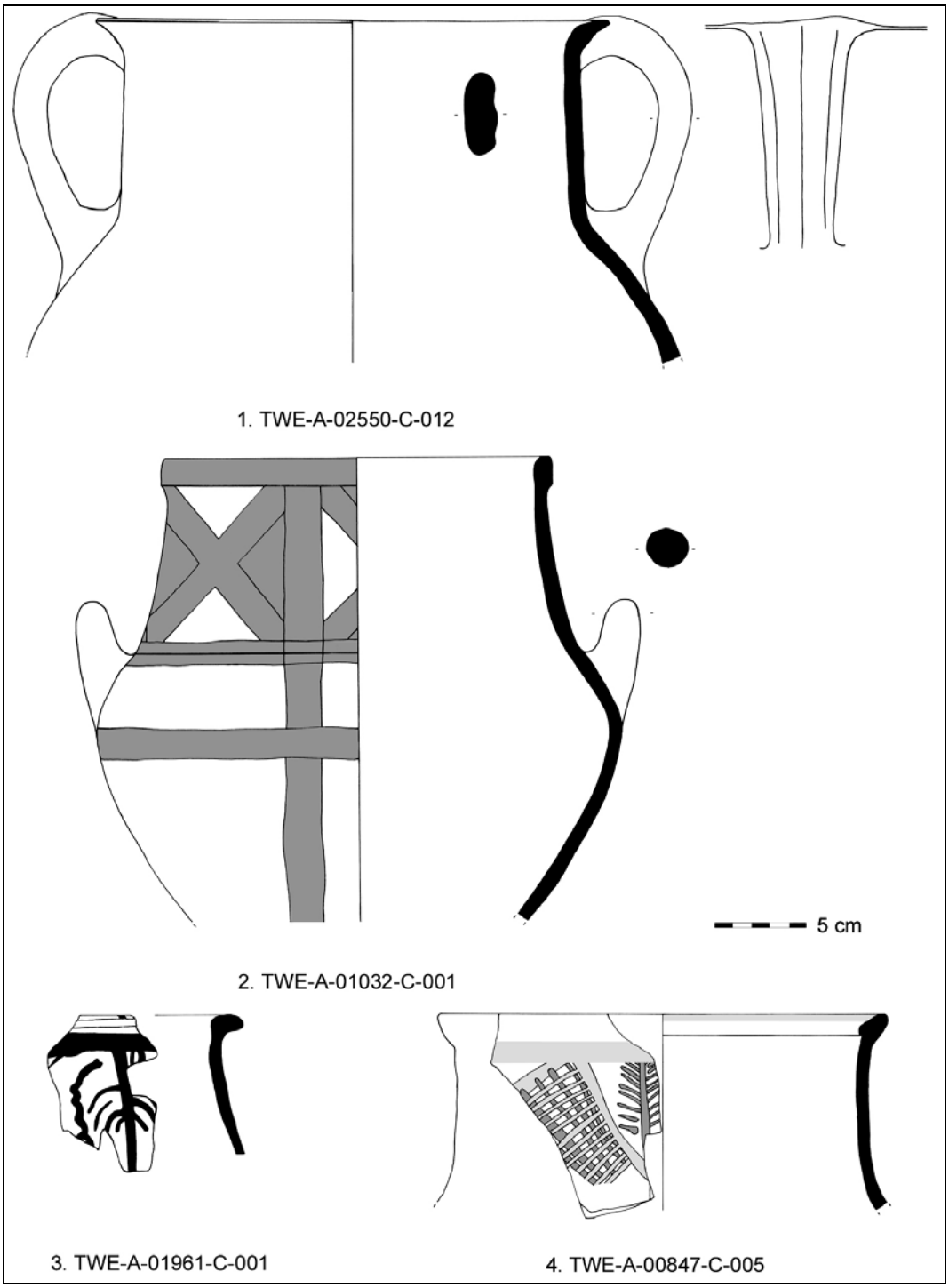

Figure 7. Ceramics of Level 7A-C

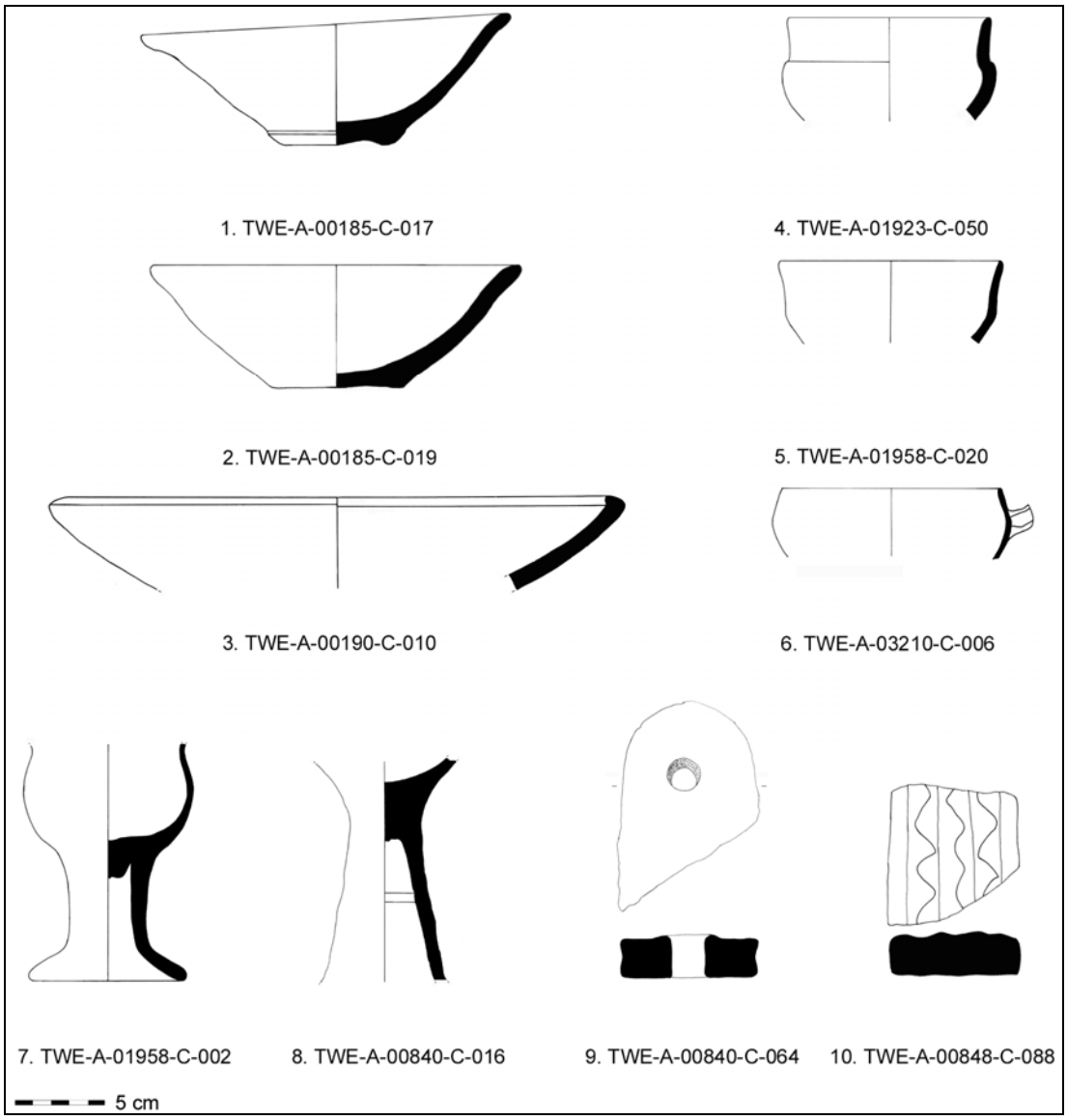

Figure 8. Ceramics of Level 7A-C

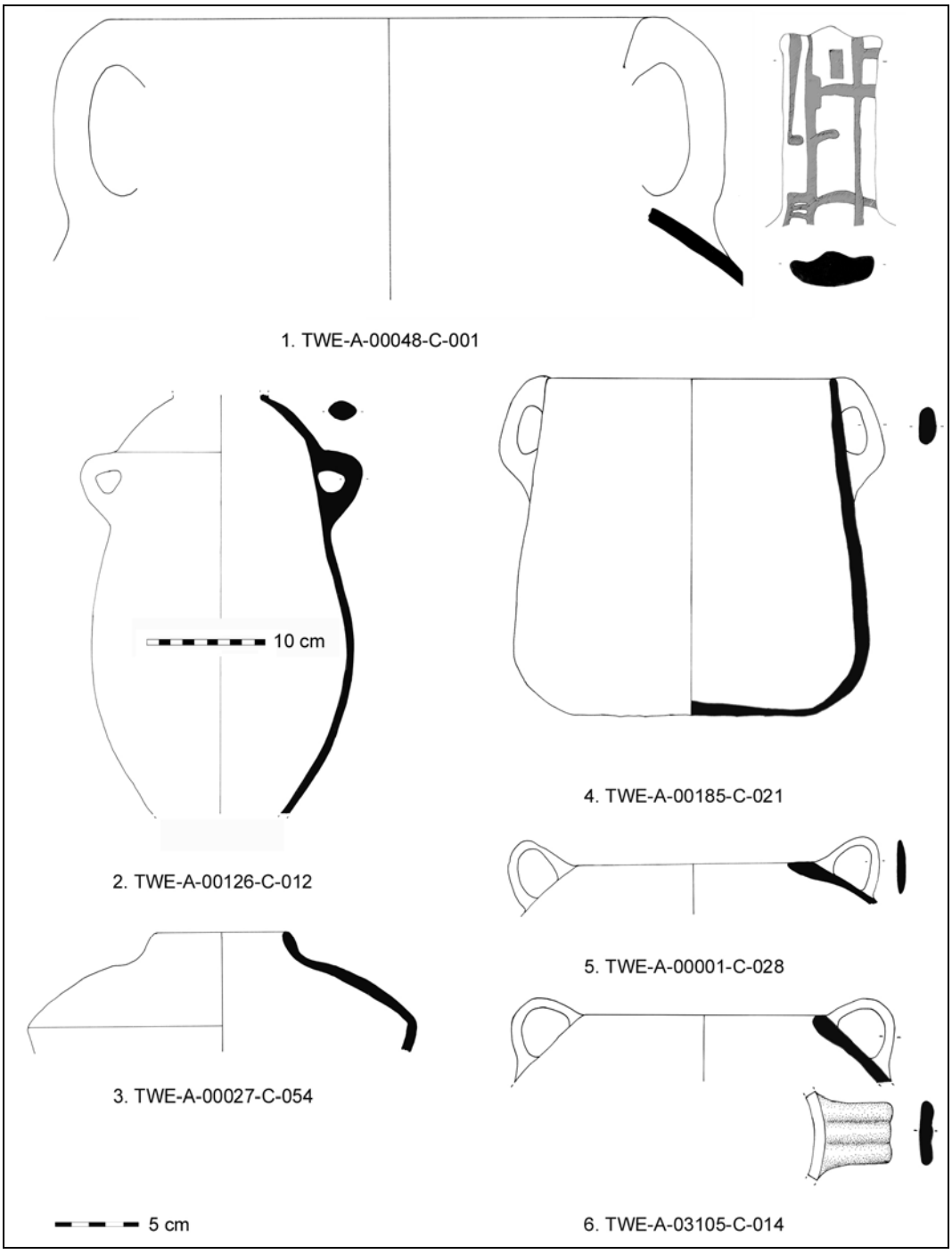

Figure 9. Ceramics of Level 7A (nr. 1,4) and Level 6 (nr. 2-3, 5-6)

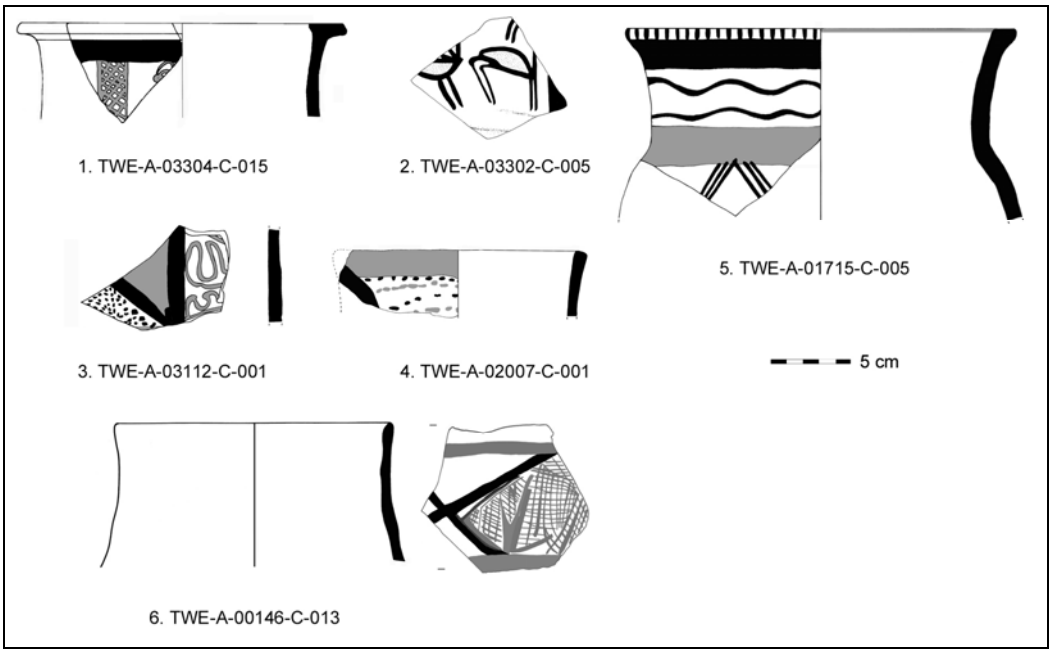

Figure 10. Ceramics of Level 7B (nr. 3-4), Level 7A (nr. 6), Level 6 (nr. 1-2, 5)

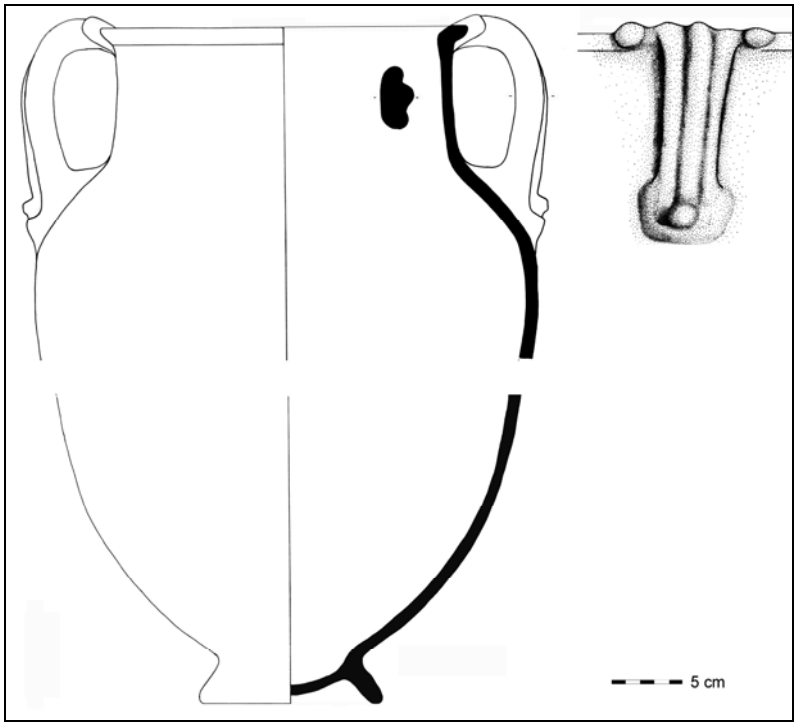

Figure 11. Ceramics of Level 6 (TWE-A-01506-C-004)

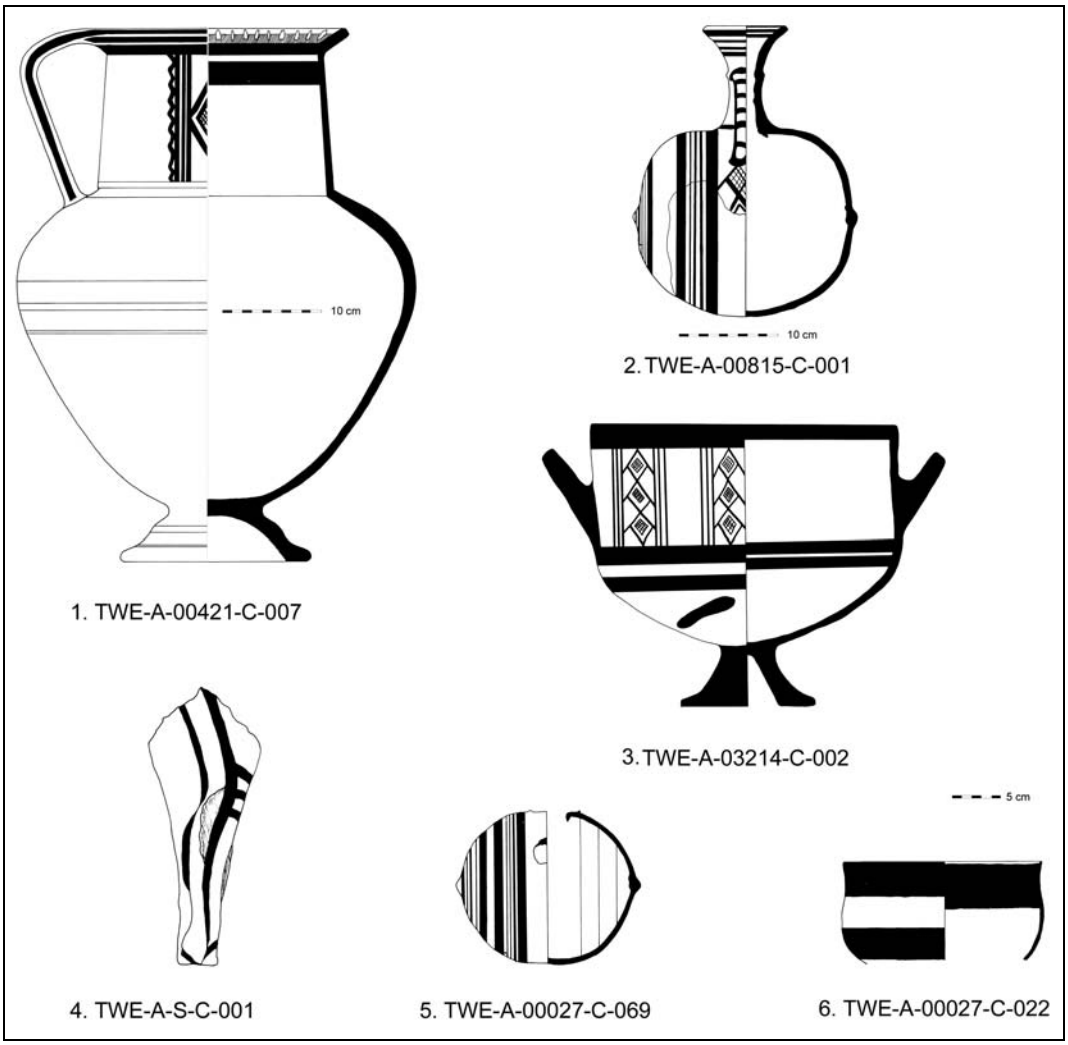

Figure 12. Ceramics of Level 6A

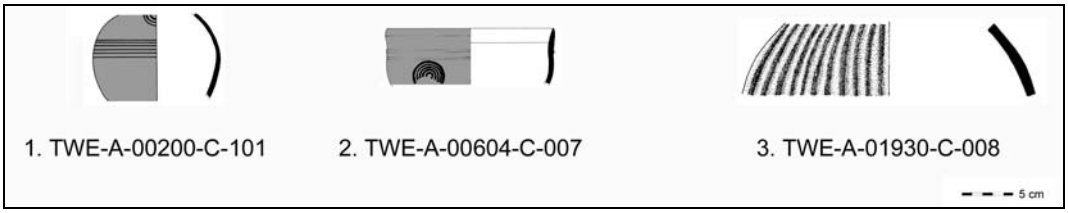

Figure 13. Ceramics of Level 6 (nr.3), Level 5 (nr. 1-2)

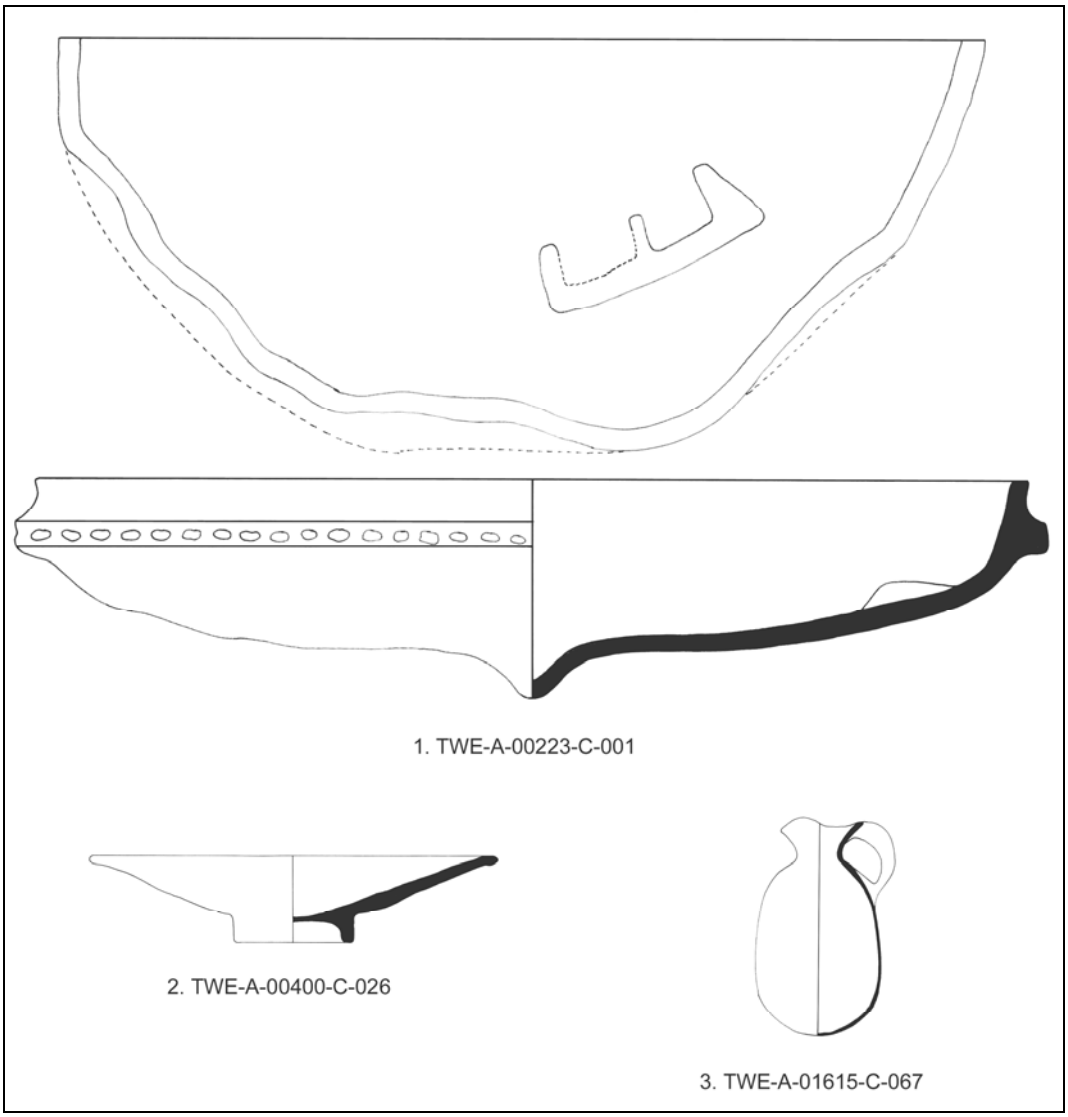

Figure 14. Ceramics of Level 6A

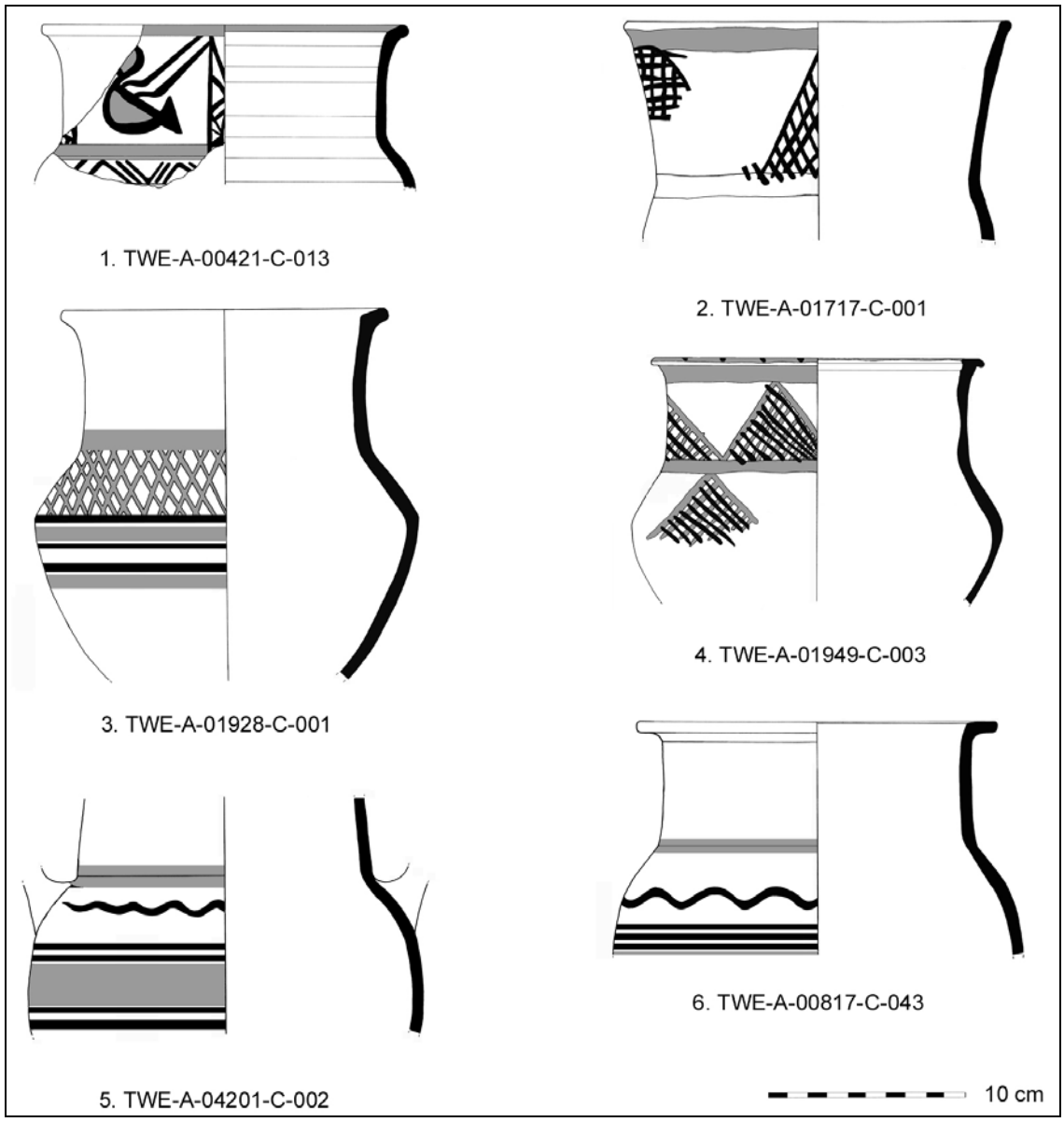

Figure 15. Ceramics from Level 6

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A Silver Coin, named ‘Leeuwendaalder’

Gabriella Voet

At the start of the 2006 campaign at Tweini, Field A has been extended in the direction of the central part of the Tell, serving the aim to expose the major buildings, outlined at the end of the 2005 season.

During the cleaning of the surface, a silver coin, with a diameter of 40 mm, was discovered in the debris of the upper layer, obviously out of stratigraphical context.

After cleaning, the details of the engraving appeared clearly: one side shows the image of a standing knight, in front of him rests a shield bearing a lion; on the rim of the image we read the words MO.ARG.PRO.CONFOE.BELG.TRAxxx; the other side depicts a rampant lion, surrounded by the legend CONFIDENS.DNO.NON.MOVETVR.16XX (year partially worn off).

At a site which until present yielded remains from the 1st and 2nd millennium BC, surprisingly a coin from the 17th century AD turned up. This type of coin is named Leeuwendaalder (Lion Thaler / Ecu au Lion); according to numismatic research it was minted from the last quarter of the 16th century in the territories of the former Northern and Southern Netherlands during the independence war against Spain. Several Dutch provinces and some imperial cities were authorized to mint this autonomous coin; the legend mentioning PRO.CONFOE.BELG.TRA indicates that our specimen originated in the Utrecht province.

In the course of the 17th century the Leeuwendaalder was replaced by the Rijksdaalder as official coin in the territories of the Low Countries, but his minting went on in large quantities to be used as the main mean of payment in the intensive trade between Europe and the regions of the Middle East.

We might assume that our example at Tell Tweini, which shows the date 16(xx), is a testimony of the use of the legal currency serving the export trade of the multiple resources of the Syrian coastal region, so highly appreciated in Europe, such as cotton and spices. Reports show that other Leeuwendaalders were found along the Eastern Mediterranean coast, in particular in Syria, Lebanon and Palestine.



Ill. 1. The *Leeuwendaalder* of the 17yh century (TWE-A-05500-M001)

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Faunal remains from Tell Tweini. A first report

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Excavations are being carried out in Field A at Tell Tweini since 2000. During all field seasons faunal remains have been systematically collected by hand and, in addition, wet sieving has been carried out on selected soil samples in order to retrieve botanical as well as small animal remains. Although the analysis of the faunal remains from Tell Tweini only started in 2006, some preliminary conclusions can already be drawn. These will allow completing the archaeozoological dataset on the Levantine coast, which at present still shows important lacunae. In fact, faunal data are mostly available for the southern parts of the region, and more specifically from Palestine (e.g., Hesse and Wapnish, 2002; Vila and Dalix, 2004).

The archaeofaunal sample from Field A at Tell Tweini that is discussed below was studied during a four weeks stay at the site in 2006. The analysed material - almost 22,000 remains - represents about a third of the total number of animal remains collected over the years. The first, general trends that appear from the data will be presented here. The animal remains were collected in contexts dating between the Early Bronze Age and the Iron Age. For the purpose of this paper they have been subdivided in 4 chronological groups: Early Bronze Age (level 9, 2200-2000 BC), Middle Bronze Age (levels 8B and 8D, 2000-1600 BC), Late Bronze Age (levels 7B and 7D, 1600-1200 BC) and Iron Age (levels 6-4, 900-333 BC, but sometimes mixed with more recent material). A fifth group includes all remains that have not been dated, or of which the date spans several periods. The majority of the animal remains is from Late Bronze Age or Iron Age levels. The available sample from the Early Bronze Age is very small and, moreover, mostly comes from a context that is disturbed by a Late Bronze Age pit. Some bones were found in graves (Middle Bronze Age) or inside constructions that probably have been used as public buildings (Iron Age). However, the majority of the remains come from domestic contexts. In some cases they were collected from floor levels, but generally they have been found in the fill. The identification rates for the faunal remains from Tell Tweini are generally high, thanks to the good state of preservation. In the species list (Table 1), the approximate abundance of each animal taxon is indicated by period and by type of context. Final figures will be provided once the analysis of all the material is completed.

The faunal assemblages from Tell Tweini contain, beside animal bones, numerous shells of molluscs. Some of them may have been brought to the site as food or as an object (see below), but the majority should probably be considered intrusive. Although certain species are edible, it is assumed that the terrestrial snails generally represent individuals that died naturally at the site. *Melanopsis praemorsa,* a freshwater snail, may come from disintegrated mud bricks used for house construction (cf. Ezzughayyar et al., 1996). Transport of sediment may also explain the presence of other small freshwater or marine shells. Alternatively, aquatic shells may have ended up at the site as a by-product of fishing, if they were trapped accidentally inside nets. Such a scenario could also explain the presence of coral and crabs at Tell Tweini.

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Other animals that should be considered as intrusives are the frogs, toads, snakes, small lizards, perching birds, small insectivores and small rodents. Among the rodents, the common house mouse is represented, a commensal species that is probably contemporaneous with the human occupation. Several of the other intrusive animals mentioned above, may have arrived at the site only (late) after its abandonment, especially in case of the burrowing species. Greek tortoise, least weasel and mole rat also burrow, and particularly the latter is notorious for the bioturbation of archaeological deposits (Reed, 1958). Some disturbance of deposits is suggested at Tell Tweini by finds of dispersed and isolated human remains in the contexts from which the animal bone samples are derived.

The former inhabitants of Tell Tweini apparently obtained most of their animal proteins through livestock keeping, hunting and fishing. The economic importance of mollusc gathering is difficult to establish, but it is likely that the specimens found are mainly intrusives rather than human food waste. Fowling also seems to have been a minor activity. Bone remains of birds are rare, but yielded nevertheless about 10 different species, among which goose, crow and chukar partridge. Moreover, three fragments of ostrich egg shell have been found in a locus dated to the Early Bronze Age. Only 2% of the identified bone remains from Field A at Tell Tweini is of hunted wild mammals. The importance of hunting must thus have been rather limited, as has also been observed for other, contemporary Levantine sites (Hesse and Wapnish, 2002). The hunted species found at Tell Tweini include hare, red fox, brown bear, wild boar, fallow deer, goitred gazelle, and perhaps also wild sheep, wild goat, aurochs and onager. Judging from their ecological requirements, hunting was carried out in steppe environments (goitred gazelle, onager) as well as forest or mountain areas (boar, deer, brown bear, wild sheep and goat). Looking at the skeletal parts represented, the animals killed must have been brought to the site in their entirety.

Of the identified faunal remains in the 2006 sample, about 6000 are of domestic sheep, goat, cattle and pig. Bones of the first two predominate (68%), followed by those of cattle (31%). It is thus clear that goat, sheep and cattle were the major food animals. The same species also prevail in the funerary offerings. Although they are represented by less bone remains, cattle must have represented more food than ovicaprines, taking into account their higher meat yields. In an Iron Age domestic structure, a concentration of more than 600 goat bones, representing at least 9 individuals, has been found. This concentration is probably waste of a special activity of which the nature could not be established yet (specialised butchery, ritual deposit, etc.?) When these remains are omitted from the calculations to establish the proportions between the domestic species by phase, it seems that the importance of cattle gradually increased through time (see Table 1). Cattle also seem to be more important in the public buildings of the Iron Age than in the domestic structures of the same period. This difference could for example be related to a higher social status of the consumers in the public buildings. More sheep than goat bones have been counted in the total sample studied in 2006, although the ratio between the two species is very variable according to the period and type of context considered. Pigs are rare in the faunal assemblages of Tell Tweini. Their bones do not represent more than 1% of the total number of identified domestic mammal remains. Besides bones, a ceramic figurine in the shape of a pig was collected at the site in Iron Age II context. A poor representation of pig was also attested at other Levantine sites, for example at Ougarit, close to Tell Tweini, and dating to the Late Bronze Age, where the animal is even completely missing (Vila and Dalix, 2004). The area around Tell Tweini and Ougarit receives enough rainfall to sustain dry farming and pig keeping must also have been possible (cf. Grigson, 2007). The underrepresentation of pigs at Near Eastern sites where ecological reasons can be excluded, has been explained by Zeder (1991, pp. 30-31) as a possible consequence of an economy controlled by a central administration, a hypothesis that was adopted by Siracusano (2003), among others. Pig keeping in the Near East was probably mostly done on a small scale and by individual families, while sheep, goat and cattle were kept in large herds, which were more easily controlled by the ruling elites (see Lion and Michel (2006) for more detailed data on the pig in the ancient Near East). Besides the aforementioned domestic species mostly raised for their meat, the fauna also yielded other domestics such as dog and equids. The latter animal group is represented by both horse and donkey that may have been used for riding, as draught animals or for traction.

Since the settlement mound of Tell Tweini is surrounded by two rivers and located at only 1,5 km from the sea, it is not surprising that fishing was carried out by its inhabitants. The number of identified fish remains is rather high. Nevertheless, it is difficult to estimate the dietary importance of fish due to differential destruction of their (fragile) bones, in combination with incomplete recovery of fish remains because of a lack of systematic sieving. The samples of fish bones studied have revealed the presence of at least seventeen different taxa. Marine fish predominate, but taxa indicating open water fishing are missing. Most are coastal or estuarine species, like Clupeidae (herrings etc.), Serranidae (groupers etc.), Sparidae (breams etc.) and Mugilidae (mullets). Clupeidae are usually very small and it is therefore not surprising that their bones have been identified in the sieved samples only. Beside marine fish, fresh water fish are also numerous and they comprise at least one species, Nile perch, that was imported from the Nile in Egypt. Nile perch was found in assemblages from all periods at Tell Tweini, although not in undisturbed Early Bronze Age contexts. The fish is in fact the most common species identified at the site. Nile perch has been attested at archaeological sites in the Eastern Mediterranean Basin from the Chalcolithic and Early Bronze Age onwards, although only in the coastal and southern parts of the region. Starting from the Middle Bronze Age, import becomes more frequent. The species from then onwards also occurs in more northern parts of the coast (Van Neer et al., 2004). The samples of Tell Tweini also yielded some remains of *Clarias*, an African catfish of which the distribution zone stretches into the Near East. One *Clarias* bone dates to the Middle Bronze Age, the others are from the Late Bronze Age. The water basins closest to Tell Tweini where *Clarias*, more specifically *Clarias gariepinus*, can be found are the Orontes basin and, further south, the coastal rivers of Palestine (Krupp, 1987). It therefore needs to be assumed that the catfish were at least transported over some distance within the Syro-Palestinian area. It can, however, not be excluded that they are Egyptian imports, like the Nile perch.

In an Iron Age domestic structure at Tell Tweini waste of worked hippopotamus tusks has been found. From the Chalcolithic onwards, hippo ivory was apparently used in the Levant as raw material for the manufacture of artefacts and ornaments (Horwitz and Tchernov, 1990). Hippos are now extinct in the region. The former distribution of the animals is not well known, but archaeological finds have indicated that they probably lived in the Levant until at least the Iron Age (Ibid.). In a locus dating to the early Bronze Age or Iron Age, a fragment of an elephant molar has been found. An identification to species level (African or Indian elephant?) was not possible and the provenance of the tooth can thus not be established. However, the Indian elephant used to be part of the Syrian wild fauna and the species occurred there until rather late in the Holocene (Becker, 1994). Since the tooth fragment found at Tell Tweini is not from a tusk, but from a molar, it was probably not brought to the site as raw material. Maybe it was brought in as some kind of curiosity?

As said, Field A at Tell Tweini has yielded evidence for the working of hippo ivory. In addition, waste of bone and antler working has also been found, as well as some objects made from animal bone. Large marine molluscs were probably brought to the site intentionally. Some of them, especially the tritons (*Charonia*), may have served as containers. This was suggested by Åström and Reese (1990) for tritons excavated in domestic contexts all over the Eastern Mediterranean. In the region, the shell is also frequent in religious or funerary contexts, where specimens worked into trumpets have sometimes been found (*Ibid.*). Although direct evidence is missing, other large and smaller shells from Tell Tweini may also have served as raw material. Shell beads, or refuse of their production, have not been recorded thus far and none of the studied shells seems to have served as a pendant. Numerous holed shells have been found, but all perforations seem to be natural, e.g. made by rock borers, rather than man made. Finally, it is worth mentioning the presence of at least five ovicaprine astragali with used medial and lateral sides in Middle and Late Bronze Age levels. The bones may have been used in games, although finds in tombs and religious buildings all over the Levant and the Eastern Mediterranean Basin indicate that they may also have had a symbolic meaning (cf. Gilmour, 1997; Minniti and Peyronel, 2005).

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Table 1: List of animals identified in Field A at Tell Tweini.

		Early Bronze - disturbed by pit	Early Bronze	Middle Bronze	Middle Bronze - graves	Late Bronze	Iron - public buildings	Iron	No date	**Total**
A/I	**Crab**	-	-	**P**	**P**	**P**	-	-	**P**	**P** (n=13)
A/I	**Coral**	-	-	-	-	-	-	**P**	**P**	**P** (n=2)
A/	***Dentalium* mainly *Dentalium vulgare***	-	-	**F**	**P**	**F**	**P**	**P**	**F**	**FF** (n=±125)
	Marine gastropods									
A/I	*Patella* sp.	-	-	P	P	P	P	P	F	**F**
A/I	Trochidae	-	-	-	-	P	-	P	-	**P**
A/I	Turitellidae	-	-	-	-	P	-	-	P	**P**
A/I	Cerithiidae	-	-	-	-	P	-	-	-	**P**
A/I	*Aporrhais pes-pelicani*	-	-	P	-	-	-	-	P	**P**
A/I	Naticidae	-	-	P	P	P	-	-	P	**P**
A/I	*Cypraea spurca*	-	-	P	-	P	P	-	P	**F**
A/I	*Cypraea luridae*	-	-	-	-	P	-	-	P	**P**
A	Triton (*Charonia sequenze*)	-	-	P	-	P	P	P	-	**P**
A/I	Muricidae	-	-	P	-	P	-	-	-	**P**
A/I	Buccinidae	-	-	P	-	P	-	-	P	**P**
A/I	*Columbella rustica*	-	-	P	-	P	-	P	P	**P**
A/I	*Nassarius gibbosulus*	-	-	P	-	P	P	P	P	**F**
A/I	*Fusinus* sp.	-	-	-	-	P	-	-	P	**P**
A/I	Turridae	-	-	-	-	P	-	-	-	**P**
A/I	*Conus mediterraneus*	-	-	P	-	P	P	P	P	**P**
A/	**Total**	-	-	**F**	**P**	**F**	**P**	**P**	**F**	**FF** (n=±200)
	Marine bivalves									
I	*Nucula* sp.	-	-	-	-	P	-	-	P	**P**
I	*Nuculana commutata*	-	-	-	-	P	-	-	P	**P**
A/I	*Glycymeris* sp.	-	-	P	-	F	P	P	P	**F**
A/I	Pectinidae	-	-	P	-	P	P	-	P	**P**
A/I	*Anomia ephippium*	-	-	-	-	-	-	-	P	**P**
A/I	*Lima lima*	-	-	-	-	-	P	-	P	**P**
A/I	*Myrtia spinifera*	-	-	-	-	-	-	-	P	**P**
A/I	*Cerastoderma* sp.	-	-	-	-	P	-	-	P	**P**
A/I	Cardiidae	-	-	P	-	P	-	-	P	**P**
A/I	*Donax* sp.	-	-	P	-	P	-	P	P	**F**
A/	**Total**	-	-	**F**	-	**F**	**F**	**F**	**F**	**FF** (n=±155)
	Terrestrial gastropods									
I	Zonitidae/Helicidae	-	P	F	F	FF	P	P	FF	**FF**
I	*Helix* sp.	-	-	P	P	F	P	P	P	**F**
I	*Buliminus* sp.	-	-	-	-	P	P	P	P	**P**
I	*Calaxis* sp.	-	-	P	P	P	-	-	F	**F**
	Total	-	**P**	**F**	**F**	**FF**	**P**	F	**FF**	**FF** (n=±580)
	Freshwater gastropods									
I	*Lymnaea* sp. and *Succinaea* sp.	-	-	-	-	P	-	-	P	**P**
I	*Melanopsis praemorsa*	-	P	F	F	FF	-	P	F	**FF**
I	*Theodoxus fluviatilis*	-	-	-	P	P	P	-	P	**F**
	Total	-	**P**	**F**	**F**	**FF**	P	P	**F**	**FF** (n=±340)
	Freshwater bivalves									
I	*Pisidium* sp.	-	-	-	-	-	-	-	P	**P**
I	*Corbicula* sp.	-	-	P	P	F	-	-	P	**F**
A/I	*Unio* sp.	-	-	P	P	P	-	-	P	**P**
	Total	-	-	**P**	**P**	**F**	-	-	**P**	**F** (n=±85)
	Marine fish									
A	Sharks (Carcharhinidae)	-	-	-	-	P	-	-	-	**P**
A	Ray or skate (*Raja* sp.)	-	-	-	-	-	-	-	P	**P**
A	Rays or skates (Rajidae)	-	-	-	-	P	-	-	P	**P**
A	Herrings etc. (Clupeidae)	-	-	P	-	P	-	P	P	**F**
A	Groupers etc. (Serranidae)	P		P		P	P	P	P	**F**
A	Sea bass (cf. *Dicentrarchus*)	P	-	-	-	-	-	P	-	**P**
A	Jacks and pompanos (Carangidae)	-	-	P		P	P	P	P	**P**
A	Meager (*Argyrosomus regius*)	P	-	-	-	P	-	P	P	**P**
A	Gilthead see bream (*Sparus aurata*)	P	-	-	-	-	-	P	-	**P**
A	Sea bream 1 (*Sparus* sp.)	-	-	-	-	-	-	P	P	**P**
A	Sea bream 2 (*Diplodus* sp.)	-	-	-	-	P	-	-	P	**P**

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P: present

P: present (0<n<21); F: frequent (20<n<101); FF: very frequent (100<n)

		Early Bronze - disturbed by pit	Early Bronze	Middle Bronze	Middle Bronze - graves	Late Bronze	Iron - public buildings	Iron	No date	**Total**
	Marine fish									
A	Breams etc. (Sparidae)	P	-	P	-	P	P	P	P	**F**
AS	European parrotfish (*Sparisoma cretense*)	-	-	-	-	P	-	-	-	**P**
A	Parrotfish (Scaridae)	-	-	-	-	-	-	P	P	**P**
A	Barracuda (*Sphyraena* sp.)	-	-	-	-	P	-	-	P	**P**
A	Mullet (Mugilidae)	P	-	P	P	P	P	P	P	**F**
A	Mackerel (*Scomber* sp.)	-	-	-	-	-	-	P	-	**P**
A	Needlefish etc. (Belonidae)	-	-	-	-	P	-	P	P	**P**
	Total	P	-	P	P	F	P	F	F	**FF (n=190)**
	Freshwater fish									
A	Cyprinidae	-	-	P	-	P	-	P	P	**P**
A	Cat fish (*Clarias* sp.)	-	-	P	-	P	-	-	P	**P**
A	Eel (*Anguilla anguilla*)	-	-	P	-	P	-	P	F	**F**
A	Nile perch (*Lates niloticus*)	P	-	P	-	P	P	F	F	**F**
	Total	P	-	P	-	F	P	F	F	**FF (n=151)**
A	Unidentified fish	F	P	F	P	F	P	FF	FF	**FF**
I	**Frog and toad**	**-**	**-**	**-**	**P**	**P**	**P**	**-**	**P**	**P** (n=12)
	Reptiles									
I	Snake	-	-	P	-	P	-	P	P	**P**
I	Small lizard	-	-	P	P	P	-	P	P	**F**
A/I	Caspian turtle (*Mauremys caspica*)?	-	P	P	-	-	P	P	P	**P**
A/I	Greek tortoise (*Testudo graeca*)	P	P	P	-	P	P	P	-	**P**
A	Softshell turtle (Trionychidae)	P	-	-	-	-	-	-	-	**P**
A/I	Unidentified turtle	P	-	P	-	P	P	P	P	**P**
	Total	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**F**	**F** (n=±70)
	Birds									
A	Goose (*Anser* sp.)	-	P	-	-	P	P	P	P	**P**
A	Mallard (*Anas platyrhynchos*)	-	-	-	-	P	-	-	-	**P**
A	Duck (*Anas* sp.)	-	-	-	-	P	-	-	-	**P**
A	Diving duck (*Aythya* sp.)	-	-	-	-	P	-	-	-	**P**
I	Common buzzard (*Buteo buteo*)	-	-	-	-	P	-	-	-	**P**
I	Honey buzzard (*Pernis apivorus*)	-	P	-	-	-	-	-	-	**P**
A	Chukar partridge (*Alectoris chukar*)	-	P	-	-	P	-	-	-	**P**
A	Common moorhen (*Gallinula chloropus*)	-	-	P	-	-	-	-	-	**P**
A	Lapwing (*Vanellus vanellus*)	-	-	P	-	-	-	-	-	**P**
A	Pigeon (*Columba* sp.)	-	P	P	-	-	-	-	P	**P**
I	Crow *(Corvus* sp.*)*	-	P	P	-	P	-	P	P	**P**
I	Small perching birds	-	-	-	-	P	-	P	P	**P**
	Unidentified birds	-	P	P	-	F	P	P	P	**F**
	Total	**-**	**P**	**P**	**-**	**F**	**P**	**P**	**P**	**F** (n=±95)
A	Ostrich egg shell	-	P	-	-	-	-	-	-	P
	Wild mammals									
A	Hare (*Lepus capensis*)	P	-	P	-	P	P	P	P	**P**
I	Mole rat (*Spalax* sp.)	-	-	P	-	P	-	-	-	**P**
I	Small insectivores/rodents	-	-	F	P	F	P	P	F	**FF**
I	Common house mouse (*Mus musculus*)	-	-	P	P	P	-	P	P	**F**
A/I	Least weasel (*Mustela nivalis*)	-	-	P	-	P	P	P	P	**F**
A	Red fox (*Vulpes vulpes*)	-	-	-	-	P	-	-	-	**P** (n=2)
A	Brown bear (*Ursus arctos*)	-	-	-	-	-	-	P	-	**P** (n=1)
A	Indian (*Elephas maximus*) or African elephant (*Loxodonta*	-	-	-	-	-	-	-	P	**P** (n=1)
A	Hippopotamus (*Hippopotamus amphibius*)	-	-	-	-	P	-	P	-	**P** (n=2)
A	Goitred gazelle (*Gazella subgutterosa*)	-	-	-	-	P	P	-	P	**P** (n=10)
A	Deer, mainly fallow deer (*Dama dama*)	P	-	P	P	F	P	P	F	**F** (n=±75)
	Domestic (or wild) mammals									
A	Dog (*Canis lupus* f. familiaris)	P	-	P	P	P	P	P	F	**F** (n=±60)
A	Pig (*Sus scrofa* f. domestica) and wild boar (*Sus scrofa*)	P	P	P	P	P	P	P	P	**FF** (n=±60)
A	Domestic (and wild?) ovicaprines	FF	FF	FF	F	FF	FF	FF	FF	**FF** (n=±3870)
	number identified as sheep	*17*	*11*	*6*	*39*	*86*	*28*	*32*	*111*	***330***
	number identified as goat	*10*	*14*	*1*	*29*	*70*	*42*	*145**	*66*	***377****
A	Cattle (*Bos primigenius* f. taurus) and aurochs (*Bos*	F	F	FF	P	FF	FF	FF	F	**FF** (n=±1700)
	Proportion cattle/ovicaprines	*0,38*	*0,41*	*0,43*	*0,33*	*0,54*	*0,62*	*0,54*	*0,59*	***0,53***
A	Equids	-	P	P	P	P	P	-	P	**F** (n=40)
	Unidentified mammals	FF	FF	FF	FF	FF	FF	FF	FF	**FF** (n=±13100)
	Total mammals	**FF**	**FF**	**FF**	**FF**	**FF**	**FF**	**FF**	**FF**	**FF** (n=±19500)

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*with 122 bones of one concentration