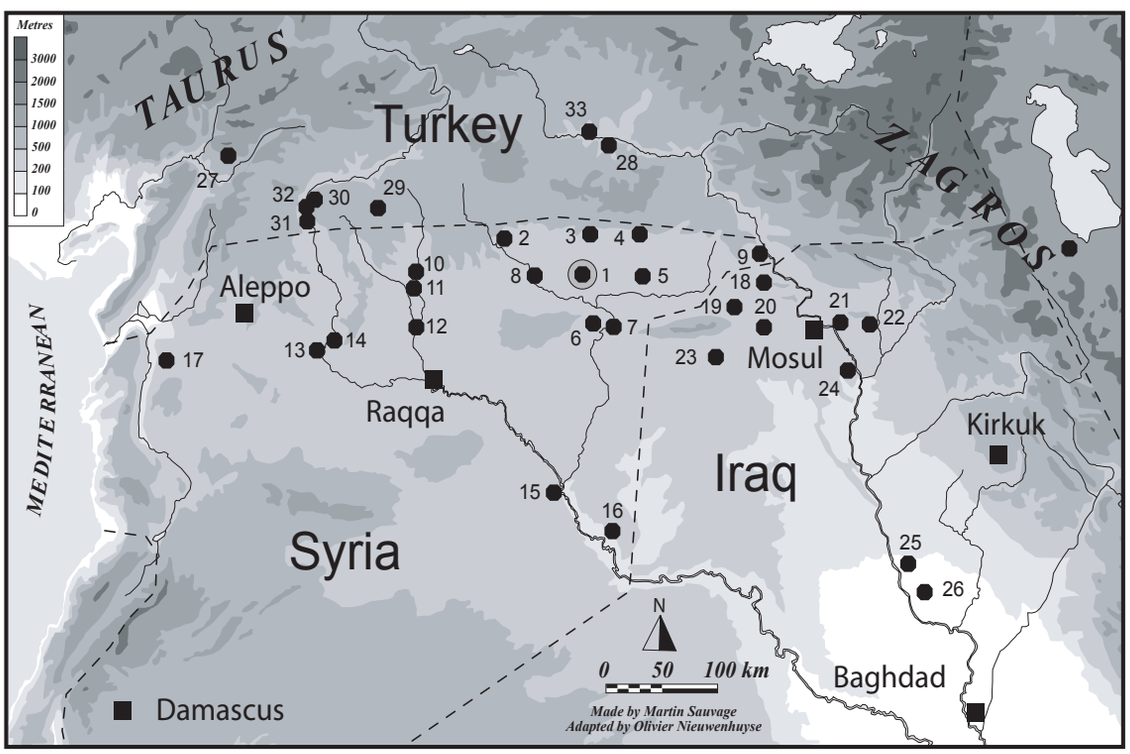

- Fig. 1: Map of northern Mesopotamia, showing the location of major Late Neolithic sites and the location of the Tell Beydar survey area (shaded). 1: Tell Beydar. 2: Tell Halaf. 3: Tell Aqab. 4: Chagar Bazar. 5: Tell Brak. 6: Tell Boueid II.7: Umm Qseir. 8: Seker al-Aheimar. 9: Hammoukar. 10: Tell Sabi Abyad. 11: Khirbet es-Shenef. 12: Tell Mounbatah. 13: Tell Halula. 14: Shams ed-Din. 15: Tell Masaikh. 16: Tell Baghouz. 17: Tell el-Kerkh. 18: Khirbet Garsour. 19: NJP-72. 20: Yarim Tepe. 21: Nineveh. 22: Tell Arpachiyah. 23: Umm Dabaghiyah. 24: Tell Hassuna. 25: Tell Samarra. 26: Tell es-Sawwan. 27: Domuz Tepe. 28: Hakemi Use. 29: Kazane Höyük. 30: Fıstıklı Höyuk. 31: Mezraa Teleilat. 32: Akarcay. 33: Salat Cami Yanı.

Late Neolithic Settlement in the Area of Tell Beydar (NE Syria)

Olivier P. Nieuwenhuyse and Tony J. Wilkinson

1. Introduction

The past two decades or so have seen significant progress in our understanding of the early to mid Holocene cultural landscape of Upper Mesopotamia. The rolling steppe between the two major river valleys of the Tigris and the Euphrates, known in Arabic as the *Jazira* (or "island"), have been subjected to an increasing number of regional surveys (Wilkinson 2000a). Indeed, it might appear that virtually the entire *Jazira* has been intensely surveyed by now (Wilkinson 2000a: fig. 1). This new wave of work shows that during the Late Neolithic, ca. 6900-5300 cal. BC, the region was far from empty. Nor does human use of the landscape appear to have been static: the present evidence makes it clear that significant changes occurred during the Late Neolithic in terms of site location, density, and organization. Ultimately this laid the foundation for the development of complex societies in the fourth millennium BC; the nature of Late Neolithic settlement, however, remains much debated. This paper aims to offer a contribution to this developing field by investigating Late Neolithic patterns of settlement in the area of Tell Beydar, a major Early Bronze Age site situated in the southern parts of the Upper Khabur headwaters, northeastern Syria.[1]

The new wave of work has also highlighted a range of problematic methodological and interpretative issues. These include the still rather common practice of *lumping*: in many surveys the long Late Neolithic period is still being considered as a single, undifferentiated block, thereby neglecting potential evidence of real change within this period. In contrast, archaeological excavations now make it possible to subdivide this long period more clearly than before. To some extent these chronological distinctions can also be applied to material collected from unstratified contexts such as surveys. Indeed, a number of survey projects have recently begun to do so (Akkermans 1993, Campbell 1992, Erdalkıran in press, Kozbe 2006, in prep**,** LeMière 2000, Lupton 1996, based upon Wilkinson and Tucker 1995, Matsutani 1991, Nieuwenhuyse 2000, Oates 2005, Rova, pers. comm. March 2007, Ur, pers. comm. March 2007, Weiss 1997). The insights and questions arising from these studies form the background that led to this study. A related concern is the generally poor discussion in many survey reports of the material evidence that ultimately forms the foundation on which any settlement reconstruction rests. The empirical base is often not shown at all, or summarized to the extent that only the most typical key fossils are made public, usually the ones that confirm the researcher's interpretations. This hinders the possibility of evaluating the conclusions presented, or to come to an alternative view.

In this report we shall be concerned with, specifically, a reconstruction of Late Neolithic settlement as documented within a rather limited area: a twelve km radius around Tell Beydar (Fig. 1). After discussing current insights and some interpretative problems regarding Late Neolithic patterns of settlement, and following a brief presentation of the Tell Beydar survey and of the Khabur landscape, the Late Neolithic ceramic evidence from the Tell Beydar survey is presented. On the basis of this material, the Late Neolithic sites detected in the Tell Beydar survey are provisionally dated to specific stages in the Late Neolithic. We then describe some of the patterns of human settlement that the data suggest. We conclude with placing these observations within the wider framework of prehistoric settlement of Upper Mesopotamia.

2. Surveying the Late Neolithic in the Khabur headwaters

Before presenting the results from the Beydar area, it may be useful to briefly discuss how this study falls within a larger framework of recent work on Late Neolithic settlement. Mallowan perhaps deserves credit for being the first scholar to systematically look for evidence of Late Neolithic occupation in the Khabur headwaters (Mallowan 1936).[2] More concerted efforts to reconstruct Late Neolithic settlement began in the 1970's and subsequently (Davidson 1977, Davidson and McKerrel 1976, Eidem and Warburton 1996, Eichler and Wäfler 1985, Hole 2000, Meijer 1986, D. Oates 1977). These led to the discovery of numerous

[1] We wish to thank the two directors of the ECUMS/DGAM excavations at Tell Beydar, Marc Lebeau and Antoine Suleiman, for their support in making this study possible. Phillip Karsgaard constructively commented upon our discussion of the Halaf-Ubaid Transitional stage. The material discussed here was collected by Tony Wilkinson and Jason Ur; Jason Ur discussed the latest insights regarding his Working Ceramic Typology, and kindly made available the site distribution maps presented here.

[2] The excavators of Tell Halaf, in contrast, were largely interested in the Iron Age monumental structures found at the site. The discovery of magnificently painted ceramics in the lower strata was an entirely unexpected by-product of their excavations (Von Oppenheim and Schmidt 1943).

Halaf sites (and the excavation of some of them), and led Davidson to suggest that during the Halaf period population numbers in the Khabur headwaters reached similar levels as today (Davidson 1977: 87). However, these teams generally did not sub divide the Halaf period, with the result that they tended to overestimate population levels. In addition, they did not find strong evidence of occupation prior to the Halaf.[3] A Japanese team set out to discover earlier sites, and in fact found them (Matsutani 1991: 4-5), but did not report the survey evidence in any detail.

The long Khabur valley meandering southwards from Hassake has been surveyed intensively, too, as part of archaeological salvage projects (Kühne 1977, 1978, Monchambert 1984). This yielded virtually no Late Neolithic sites. The only ones known so far have both been excavated: the Halaf site at Tell Umm Qseir (Hole and Johnson 1987, Tsuneki and Miyake, eds., 1998), and the Proto-Halaf site at Tell Boueid II (Suleiman 1995, 2002, Suleiman and Nieuwenhuyse, eds., 2002). To the east of the Khabur basin, surveying in the Agig area yielded a single Late Neolithic site at Burqoliya (Bernbeck 1993). Although these studies clearly show that the southern parts were not entirely deserted in the Late Neolithic, they also suggest that they were marginal in comparison with the Upper Khabur headwaters. This is further suggested by studies that show that in Halaf times south of the Khabur both flora and fauna were still more diverse and richer than farther to the north in the Upper Khabur headwaters, indicating less degraded conditions caused by human presence (McCorriston 1992, 1998). Tell Beydar is located some thirty-five km north of Hassake, close to the present-day limits for rain-fed agriculture. As we shall discuss below, this climatically "marginal" location had repercussions for patterns of settlement during the Late Neolithic.

The prospection project led by Bertille Lyonnet in 1989-1991 aimed at building up a picture of broad trends in settlement across much of the Khabur basin (Lyonnet 1990, 1992, 2000). The area covered, roughly triangular in shape, was huge: from Ras el-Ain in the northwest to Qamishly in the northeast, and to Hassake in the south (Fig. 2). The survey focused on the larger, relatively prominent mounds. It was estimated that the area incorporated a total of about 300 archaeological mounds, of which sixty-three were selected for sampling. This represented an estimated one-fifth of all mounds present in the Khabur headwaters (Lyonnet 2000: 12). Importantly, selected sites were evenly distributed over the area, covering territory both north and south of the approximate limit for dry farming agriculture. Selected sites were systematically and intensively surface-sampled for ceramics (Lyonnet 2000: 13). In addition to the main body of work, a more extensive exploration by Yoshihiro Nishiaki in 1990 and 1991 in the western part of the Upper Khabur triangle led to the discovery of several additional sites (Nishiaki 1992, 2000). Subsequently, various specialists looked after the material collected.[4]

The Late Neolithic period was well represented in this survey (Fig. 2). Over half of all selected sites (forty out of sixty-three) yielded Halaf pottery (Nieuwenhuyse 2000). The majority of these could be dated to the later part of the Halaf period (for a discussion of Late Neolithic chronology, see below). The earlier, Pre-Halaf occupation – termed Proto-Hassuna – was much less represented, with only six sites (LeMière 2000). These observations might suggest that there was a progressive increase in site densities and, perhaps, population numbers from the earlier stages of the Pottery Neolithic into the Late Halaf period (Nieuwenhuyse 2000: 180). Climatic and ecological factors were shown to have played a major role in settlement location preferences. Most sites were found north of the present-day 220 mm rainfall isohyet, well within the area where reliable agriculture is possible without irrigation. Further, two significant diachronic trends were observed. First, a southward "expansion" of sedentary (or semi-sedentary) settlement occurred during the later part of the Halaf period. Second, whereas during the Proto-Hassuna and Early Halaf periods there was minimal formal differentiation between sites in terms of their size, a clear ranking became apparent during the later stages of the Halaf period. Late Neolithic sites generally were small, to very small, rarely surpassing one or two hectares in area. During the later Halaf, however, some grew conspicuously. One site in particular, KS 70 or Tell Nisibis, rose to major importance, reaching perhaps a surface of over fifteen ha during the later Halaf (Nieuwenhuyse 2000: 183-191). Similar or closely comparable trends were observed elsewhere, in the Balikh valley (Akkermans 1993) and in the northeastern Iraqi Jazira (Campbell 1992, Wilkinson and Tucker 1995). This led Nieuwenhuyse (2000: 194) to suggest that the Late Halaf in the Khabur was a period of increased socio-economic differentiation and, perhaps, increased social hierarchies.

Whereas Lyonnet's project showed broad patterns of cultural change over a broad area, it was not designed to tackle trends in smaller, rural settlements. Consequently, the study left a number of issues unresolved. First, it was difficult to come to reliable estimates of Late Neolithic site densities (Nieuwenhuyse

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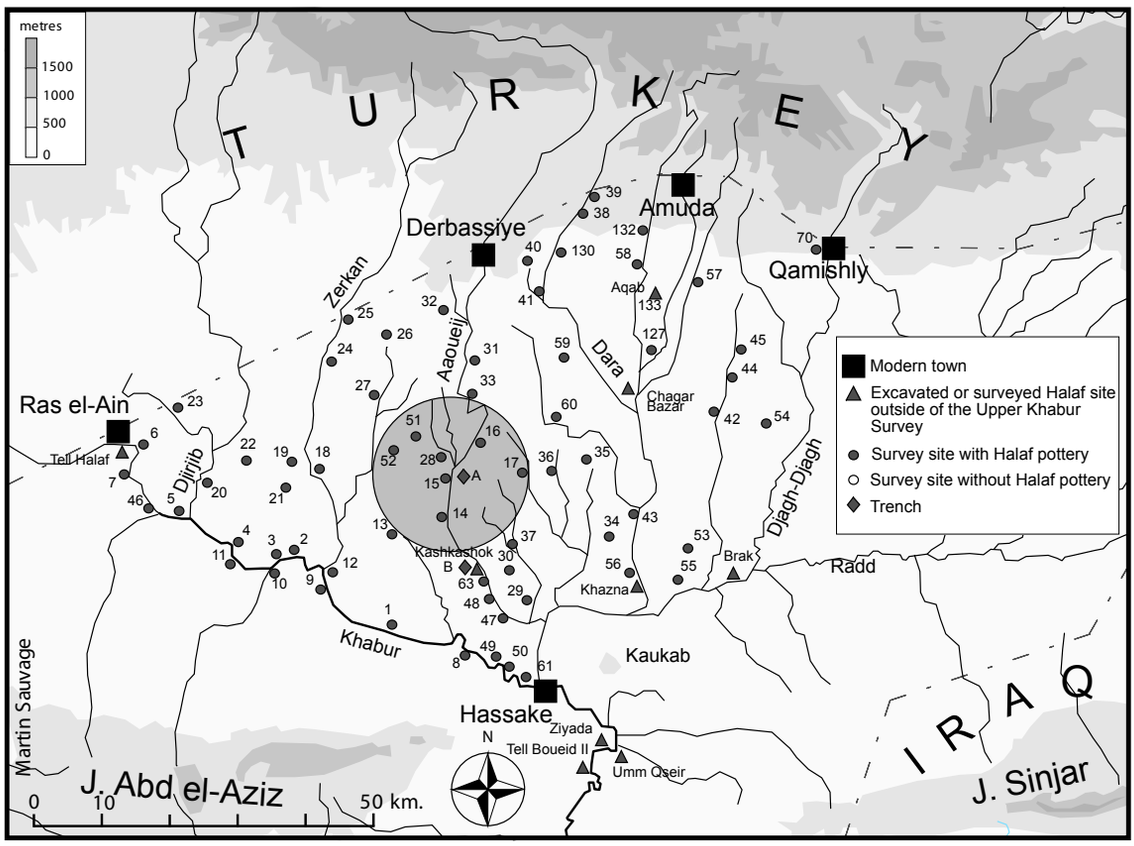
[3] Nor did they systematically discuss the ceramic evidence they collected. The major exception is the University of Amsterdam survey by Diederik Meijer, the rapid publication of which *did* include a discussion of Halaf settlement as well as of the finds on which the reconstruction was based (Meijer 1986).

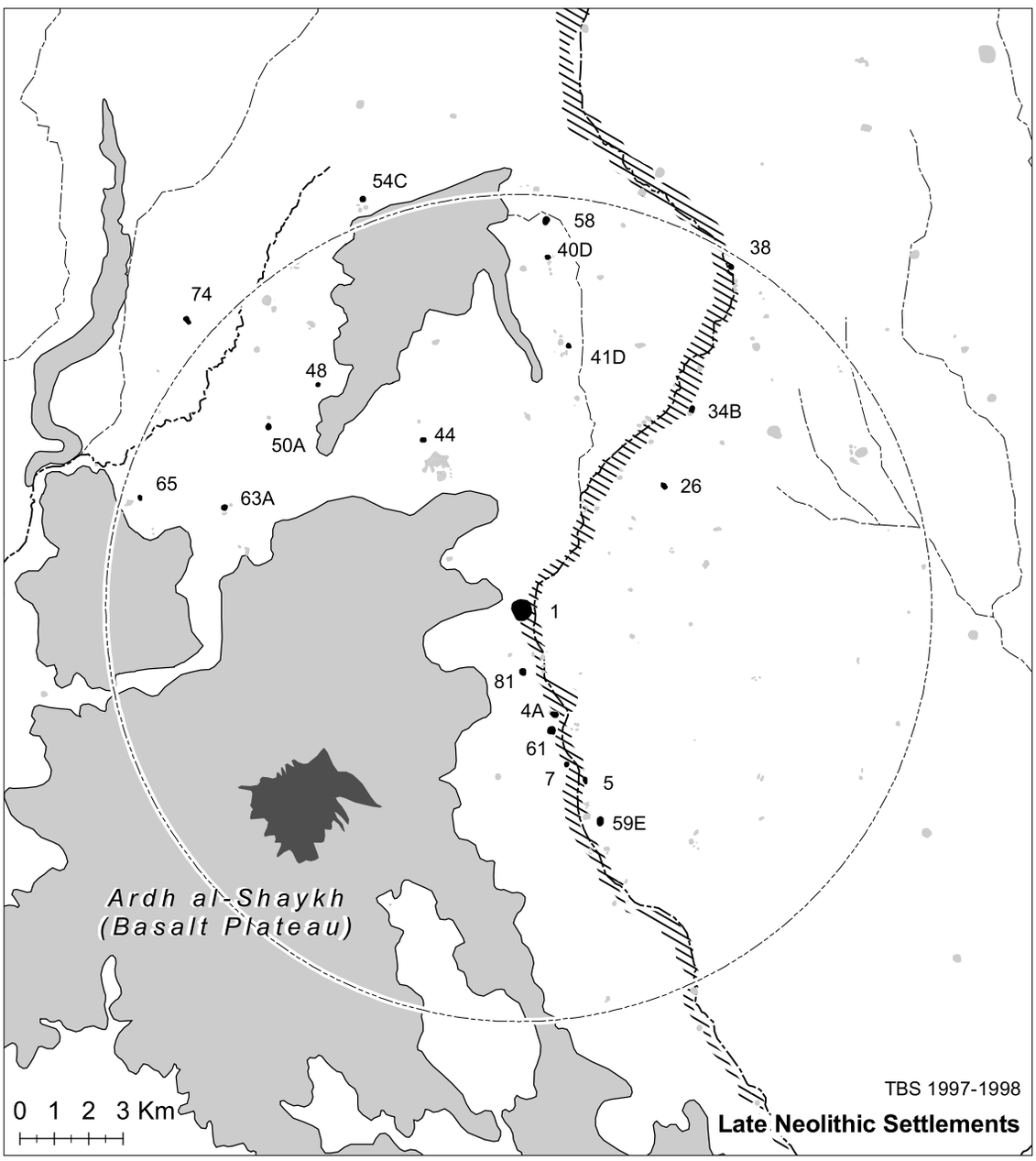
[4] Among the aims of the Lyonnet Khabur survey is to store the collected finds in such a manner that it remains accessible for other specialists (Lyonnet 2000).



- Fig. 2: Map of the Upper Khabur headwaters showing the locations of Late Neolithic sites detected in the Lyonnet survey and the area of the Tell Beydar survey (shaded).

2000: 181). Estimates of Halaf settlement densities in Upper Mesopotamia vary enormously, from as high as about seven square km per site to twenty square km per site or more (Akkermans 1993: 188, Campbell 1992: 110-111, Davidson 1977: 302, Hijara 1980: 244, J. Oates 1980). Evidently, prehistoric site densities can be expected to vary significantly through time and space, as the result of a wide variety of factors. Perhaps we should not place too much weight upon such coarse statistics. Nevertheless, it is clear that in order to gain better insights in Late Neolithic social organization and long-term trends in settlement development we should at least have a robust, if rough, understanding of site densities. Here the more intensive survey techniques employed in the Tell Beydar survey provides a useful complement to the large area coverage of the Lyonnet survey. Further, the emphasis of the Lyonnet survey on relatively large, nucleated tells potentially led to the neglect of small mounds (Lyonnet 2000: 16). As Neolithic mounds tend to be small, and are often barely visible unless from a close distance, they are easily missed in mound-oriented surveys. In the Lyonnet survey itself, this was borne out by the quick discovery of several additional prehistoric sites by Nishiaki, discovered by focussing on small mounds (Nishiaki 2000). It was considered worthwhile to study the Late Neolithic evidence from a geographically limited, well-surveyed area *within* the territory covered by the Lyonnet survey, to serve as a comparison and supplement.

A team from the Oriental Institute, University of Chicago, conducted the Tell Beydar survey during two field seasons of approximately one month duration during the late summers of 1997 and 1998. The objective of the survey was to provide a broad overview of settlement, landscape and environmental change within twelve km radius of Tell Beydar. The emphasis was initially upon the smaller sites in the region, as well as landscape features between those sites and any visible geoarchaeological sections, especially those exposed in wadi sections and machine cuts. Although a minibus was employed for site visits and reconnaissance, the team also spent a significant amount of time on foot, walking across fields, between sites and along wadis. However no formal off-site samples or transects were conducted, except right at the end of the 1998 field season. During the 1998 field season, the objectives were broadened to include the survey of tells. This entailed the field team splitting up into two groups: the first, led by Tony Wilkinson, continuing the landscape, geoarchaeology and small site survey, and a second, led by Jason Ur, sampling the main framework of tells (Fig. 3).



- Fig. 3: Map of the Tell Beydar area showing the locations of Late Neolithic sites detected in the Tell Beydar survey, including Tell Khazna).

As a result of this dual strategy, the team was able to provide a good sample of both smaller and larger sites. This is particularly important for providing a record of earlier prehistoric sites, because as was demonstrated during the first preliminary report (Wilkinson 2000b) a significant number of prehistoric occupations occurred in the form of small sites. However, our sample provides what is little more than a sample of sites, and later checking of Corona satellite images has indicated that some smaller sites were probably missed by the field team, thus these images provide some degree of control on the overall efficiency of the survey. The Tell Beydar survey therefore provides an interesting contrast with, and supplement to, the Lyonnet survey, which put a stronger focus upon tells and sampled tells across a much larger area. A number of sites within the Tell Beydar survey area were also part of the Lyonnet survey. This includes Tell Beydar itself (TBS 1, KS 15) (see appendix).[5] The excavated site of Tell Khazna fell just within the survey limit (Munchaev and Merpert 1994); Tell Kashkashok II (Matsutani 1991) lies south of it.

3. The physical context

The physical geography of the Tell Beydar survey has already been described (Wilkinson 2000b and Ur and Wilkinson this volume), and here it is only necessary to summarize that the western part of the area was dominated by a low basalt plateau, covered by thin soils. Tells are virtually absent from this area, but occasional smaller sites were found around the edges and occasionally on the plateau surface. In addition one incidence of Halaf pottery has been reported by Louis Van Berghe, together with a wealth of rock art and a scatter of Iron Age and later sites (Van Berg: Kisham web site,[6] Van Berg and Picalause 2003). The majority of the Neolithic sites were recorded along the valley of the Wadi Aweidj and its tributaries, and it appears that these lowlands, as well as some of the low western interfluves, formed the predominant locus of prehistoric settlement. In contrast, the basalt plateau may well have supplied a valuable pastural reserve for mobile groups for all periods. However, because a number of Neolithic and Halaf sites were found along the wadi courses and within the flood plain, both of which were prone to movement over time, it is reasonable to assume that some early occupations have been buried by later sediments. The figures given here must therefore be taken to represent a minimum.

4. Late Neolithic chronology

A brief discussion of Late Neolithic chronology may be useful, to serve as the backbone for the presentation in this report. Late Neolithic chronologies in Upper Mesopotamia are notorious for their terminological complexity and lack of secure dating. Although in recent years significant progress has been made (Akkermans and Schwartz 2003: 12-13, 102, Cruells 2006b, Cruells *et al*. 2006), an extended discussion is beyond the scope of this report. Recent fieldwork has led to a proliferation of chronological subdivisions and new terminology for the later Neolithic. One major trend has been the emergence of regional chronologies, that seek to compensate for the inadequacies of over-generalizing, pan-Mesopotamian schemes (Table 1). In theory, the Late Neolithic of Upper Mesopotamia may now be subdivided into no less than eight successive stages, each phase defined on the basis of stratified, carefully dated excavated contexts (Table 1).

In practice, of course, prehistoric material collected in surveys is much less chronologically sensitive. In the absence of significant standardization in prehistoric pottery production, there are often few clear ceramic types to begin with. Most Late Neolithic ceramic indices, moreover, appear to have had terribly long life spans. Even with well-stratified excavated sequences, Late Neolithic chronological distinctions remain notoriously difficult. Often they are based on gradual trends in ceramic statistics, leading to "fuzzy" temporal boundaries that cannot be applied at all to unstratified material. Examples of problematic chronological boundaries include the Middle Halaf to Late Halaf transition (Campbell 1992, Watkins and Campbell 1987), the Halaf to Ubaid transition (Breniquet 1996), the transition from the earliest Halaf as documented at Tell Sabi Abyad and other sites to the traditional Early Halaf of Tell Arpachiyah (Akkermans 1993, Cruells and Nieuwenhuyse 2005) and, most recently, from the earliest stages of the Late Neolithic to the Proto-Hassuna (Nishiaki and LeMière 2005). It might be surmised that for the Halaf period at least chronological sub divisions ought to be based on decorative style. Most of the surface sherds recovered in a survey, however, are too fragmented to show the original design structure, and often so eroded that even basic design elements such as design motifs cannot be read.

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[5] Sites within 12 km of Beydar surveyed by Lyonnet and team were as follows (TKS numbers refer to the Lyonnet Khabur survey; BS numbers refer to the Tell Beydar survey):, Tell Jamilo (KS 14, TBS 59), Tell Beydar (KS 15, TBS 1), Tell Khatoun (KS 16, visited, surveyed by J. Ur 1998), Tell Effendi (KS 17, TBS 55), Tell Hassek (KS 28, TBS 43), KS 51 (TBS 63) and KS 52 (Tell Khazna II, TBS 66, the small site west of TBS 65). Of these, four are Late Neolithic: Tell Beydar itself (TBS 1, surveyed by Lyonnet as KS 15), TBS 63 (KS 51), Tell Khazna II (KS 52, TBS 66) and Tell Jamilo (TBS 59E, surveyed by Lyonnet as KS 14). Tell Ain al-Abd (KS 13, dated "Halaf general" in the Lyonnet survey) was just outside the 12 km limit.

[6] http://dev.ulb.ac.be/crea/AccueilFrancais.php?page=Kisham.

West Syria	**Rouj 2a-b**	**Rouj 2c**		**Rouj 2d**		**Rouj 3**		
Euphrates basin	**Halula II**	**Halula III**	**Halula IV**	**Halula V**	**Halula VI**		**Halula VII**	**Halula VIII**
Balikh valley	**Balikh IIA**	**Balikh IIC**	**Balikh IIIA**	**Balikh IIIB**	**Balikh IIIC**		**Balikh IIID**	**Balikh IV**
Tell Sabi Abyad	Operation III	Operation I l. 11-8	Operation I l. 7-4	Operation I L. 3-1	Operation II			
Upper Khabur		**Proto-Hassuna**	**Proto-Halaf**	**Halaf Primitif**	**Halaf Intermédiaire**		**Halaf Évolué**	**HUT**
Tell Seker al-Aheimar	Pre-Proto-Hassuna	Proto-Hassuna						
Tell Chagar Bazar			CB-I	CB-II	CB-III	CB-IV	CB-V	-
Tell Aqab					Early Halaf	Middle Halaf	Late Halaf	HUT
Tell Kashkashok II		Proto-Hassuna						
Tell Halaf		"Altmonochrome"			"Buntkeramik"			
Tell Boueid II								
North Iraqi Jazira		**Hassuna I**	**Hassuna II- III**	**Halaf Ia**	**Halaf Ib**	**Halaf IIa**	**Halaf IIb**	**HUT**
NJP 72								
Khirbet Garsour								
Tell Sotto		Proto-Hassuna						
Yarim Tepe I			Hassuna/Samarra					
Yarim Tepe II					Early Halaf	Middle Halaf	Late Halaf	
Yarim Tepe III							Late Halaf	
Tell Hassuna Ia		Proto-Hassuna	Hassuna/Samarra					
Tell Arpachiyah					Early Halaf	Middle Halaf	Late Halaf	
Tell Beydar survey:	**Pre-Proto Hassuna**	**Proto-Hassuna**	**Proto-Halaf (Transitional)**	**Halaf I**		**Halaf II**		**HUT**
Cal. BC	*6900*	*6300*	*6100*	*5950*	*5850*	*5700*	*5550*	*5300*

- Table 1: Chronological framework for the Late Neolithic of Upper Mesopotamia (Euphrates basin and Upper Khabur: after Tunca *et al*., eds., 2006; Balikh valley: after Akkermans 1993; North Iraqi Jazira: after Campbell 1992). Shaded areas represent occupation of sites. Bottom line: chronological terminology used in this report with approximate absolute dates.

Here we shall follow Stuart Campbell's (1992) pragmatic solution for some of these problems, to divide the Halaf period into two broad periods only, termed *Halaf I* and *Halaf II*. Following the Halaf proper we must postulate the enigmatic *Halaf-Ubaid-Transitional* (HUT) (Breniquet 1987, 1996, Nieuwenhuyse 2000: 189-191). A relatively short-lived "*Transitional*" period between the Proto-Hassuna and Early Halaf, alternatively known as the "*Proto-Halaf*" stage (Cruells and Nieuwenhuyse 2005), is currently excavated in the Khabur basin at Tell Chagar Bazar (Cruells 2006 b, Tunca and Baghdo, eds., 2006), and shall therefore be distinguished here as well. Following the recent excavations at Tell Seker al-Aheimar (Nishiaki and LeMière 2005), the earliest stage of the Late Neolithic shall be termed *Pre-Proto-Hassuna*.

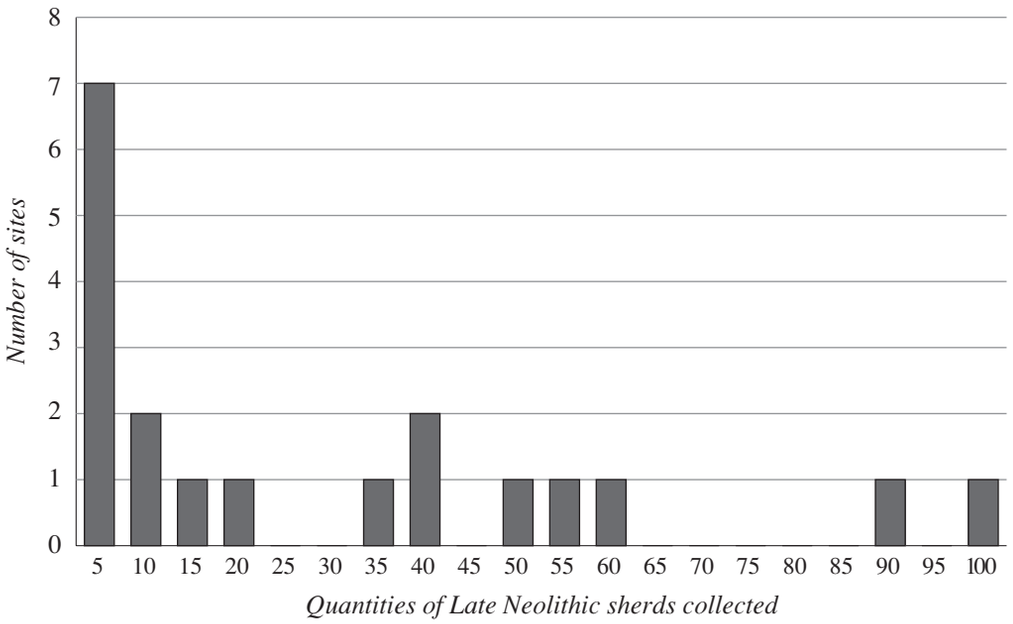
It is important to appreciate that these chronological stages, distinguished virtually entirely on the basis of changes in the ceramics, are of very uneven lengths. This leads to what is termed the contemporaneity problem (Pollock 1999: 63, Schacht 1984). Because of the developing chronological framework, no attempt will be made here to compensate for these differences in the length of chronological periods (e.g. Dewar 1991), but the reader should be aware that the number of sites per period should not be assumed to be precisely equivalent to the number of sites per unit time period.

5. The material evidence

The two seasons of fieldwork yielded a total of 523 sherds attributed to the Late Neolithic period.[7] These are fairly unevenly distributed across sites in terms of sheer sherd frequencies (Table 2). Most Late Neolithic sites are identified as such by less than a handful of sherds. Only eight sites – less than half of all sites – yielded more than thirty sherds. This pattern – most Late Neolithic sites represented with a few sherds only – is mirrored in the Lyonnet survey (Nieuwenhuyse 2000: 183) and in the University of Amsterdam survey in the Balikh valley (Akkermans 1993).[8] As these surveys differ widely in survey methodology, this pattern

[7] This does not include material from TBS 63 and TBS 65. For dating these sites we use the data presented by the Lyonnet survey (Nieuwenhuyse 2000) and by the excavations at TBS 65, Tell Khazna II (Merpert and Munchaev 1994).

[8] The Late Neolithic ceramics collected in the Balikh survey have been investigated by Nieuwenhuyse in preparation of publication.



- Table 2: Late Neolithic sherd count frequencies in the Tell Beydar survey.

	SW	**SW**	**SW**	**SW**	**EMW**	**EMW**	**EGBW**	**DFBW**	**MCW**	**OFW**	**SFW**	**SFW**	**HFW**	**HFW**	**HFW**	
Site	plain	slipped	applique	incised		slipped	GBW			paint	paint-inc.	paint	plain	paint	poly-chr.	**Total**
1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
4a	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
5	29	0	2	0	13	3	3	0	0	0	0	0	0	0	0	**50**
7	1	0	0	0	0	0	0	0	0	0	0	0	5	9	0	**15**
26	32	5	2	0	2	4	6	0	0	0	0	0	0	0	0	**51**
34b	32	0	0	0	2	0	6	0	0	0	0	0	0	0	0	**40**
37	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	**3**
38	8	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**10**
40d	12	3	0	1	2	1	0	0	0	0	0	0	0	0	0	**19**
41d	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
44	6	0	0	0	0	0	0	0	0	0	1	0	3	47	0	**57**
48	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	**4**
50a	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
54c	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
58	7	0	0	0	0	0	0	1	0	1	0	3	19	67	1	**96**
59e	4	1	0	0	0	0	0	0	2	0	0	1	25	56	0	**89**
61	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	**8**
74	1	0	0	0	0	0	0	0	0	0	0	0	0	37	0	**38**
81	27	0	0	0	4	2	2	0	0	0	0	0	0	0	0	**35**
Total	162	9	4	1	25	10	17	1	2	1	1	4	59	226	1	
	176				35		17	1	2	1	5		286			**523**

- Table 3.: Ceramic frequencies from Late Neolithic sites in the Tell Beydar survey (including TBS 1, collected in the Lyonnet survey).

may represent a characteristic of the Late Neolithic period rather than depending on sampling strategies. Late Neolithic sites are identified on the basis of artefact densities often below those characteristic of "field scatters" in later periods (Wilkinson 1990: 96-94, Wilkinson and Tucker 1995: 20). Possibly these low densities of Late Neolithic surface material arise from the frequent burial of prehistoric sites below extensive later occupation, obscuring the earlier periods from view. Alternatively, when not covered, more extensive soil formation processes may reduce the amounts of material visible at the surface, while low mounds such as those typical for the Late Neolithic are less prone to develop deep erosion gullies where sherds come to the surface. Two sites distinguish themselves with relatively large numbers of finds: TBS 58 (99 sherds) and TBS 59E (Tell Jamillo, 89 sherds). The former was a bulldozed site whereas Late Neolithic occupation at Tell Jamillo occurred on a low mound to the SE of the main tell (see appendix).

All sherds were classified into ceramic categories and counted (Table 3). Where appropriate, the following ceramic categories are cross referred to a Working Ceramic Typology developed initially for the North Jazira Project (Wilkinson and Tucker 1995) and adapted for use in the Hamoukar and Tell Brak areas by Jason Ur (WCT). Eight Late Neolithic ceramic wares were identified in the Tell Beydar survey. In roughly chronological order: 1) *Standard Ware,* 2) *Early Mineral Ware,* 3) *Early Grey-Black Ware,* 4) *Dark-Faced Burnished Ware,* 5) *Orange Fine Ware,* 6) *Mineral Coarse Ware,* 7) *Standard Fine Ware*, and 8) *Halaf Fine Ware*.[9] For present purposes, a *ware* constitutes a class of pottery whose members share a broadly similar technology (Rice 1987: 287). The definition emphasises the chain of operations needed to produce vessels of a particular type (Lemonnier 1992, Rye 1981, Van As 1984). Form and, in particular, decoration may subdivide ceramic categories, but are in themselves insufficient to define distinct wares.

1. Standard ware (SW; n = 176, Fig. 5: nos 1-15, Fig. 6: nos 1-14, Fig. 7: nos. 1-12) WCT 124, *Coarse chaff-or-grit-tempered Ware*, but including WCT type 2 (*husking tray*) and WCT type 1 (*Hassuna painted ware*)

Standard Ware is a broad, heterogeneous category comprising coarsely chaff-tempered or, less often, chaff-and-mineral tempered pottery. This category also includes a rather finely textured fabric containing small particles of vegetal origin, possibly dung; this fabric is associated with thin-walled, decorated vessels (LeMière and Nieuwenhuyse 1996: 130-133, LeMière 2001: 183-184, Nieuwenhuyse 2007). Dark cores are frequent, resulting from firing at low temperatures and during short intervals. Smoothing and burnishing are frequent surface finishing techniques, but many SW sherds have rough, poorly finished surfaces. Surface colours are mostly very pale brown (10YR 7/3, 8/3), but vary from pink (7.5YR 7/4) to light grey (10YR 7/2) or light brown (7.5YR 6/4).

The term "Standard Ware" derives from the work at Tell Sabi Abyad (LeMière and Nieuwenhuyse 1996: 129, 147, 184-5), and refers to the circumstance that at many Late Neolithic sites it represents the majority ("standard") of the ceramic assemblage. It is also known as "Coarse Ware" or simply "the bulk" (LeMière 2001). SW occurs abundantly across Upper Mesopotamia. Production began quite early in the EPN/PPH, and continued into the Early Halaf (Davidson 1977, LeMière 2001, LeMière and Nieuwenhuyse 1996, Nishiaki and LeMière 2005). During its early stages the shapes were simple, and did not yet include carinated contours or jars with clearly articulated necks (Akkermans *et al*. 2006). Simple convex-sided bowls and S-shaped profiles, characteristic for the early stages, were frequent in the Tell Beydar survey (Figs 5: 2-15, Figs. 6: 2-14). We came across a few husking trays (Figs 7: 1-3). In its early stages, furthermore, decoration was rare or absent, but in the Proto-Hassuna stage various types of decoration were introduced (Matsutani 1991, Munchaev and Merpert 1994, Nishiaki and LeMière 2005). Attested in the Tell Beydar survey are a few red-slipped (Munsell 10R 4/4 to 4/6), appliqué and incised Standard Ware sherds (Figs 7: 4-12).

2. Early Mineral Ware (EMW; n = 35, Fig. 4: nos. 1-13) Not distinguished as such in WCT, but possibly equivalent to WCT type 119, *Red Burnished Ware*

What is provisionally termed *Early Mineral Ware* refers to a category of sherds characterised by a finely textured mineral temper. Sherds placed in this group were generally fired in oxidizing circumstances, resulting in surface colours in the range of light brown (Munsell 7.5YR 6/3-6/4) to pink (7.5YR 7/2-7/2). In stark contrast to the coarse Standard Ware, EMW surfaces were carefully finished by smoothing and/or burnishing. The majority were plain, but red-slipped EMW also occurs (Munsell 5YR 4/5 to 10R 3/6). Shapes attested in the survey are on the whole small, and include thin-walled[10] convex-sided bowls (Figs. 4: 1, 11-13), convex-sided bowls with perforated lugs (Fig. 4: 9), S-shaped bowls (Figs. 4: 2, 7-8), and the occasional carinated bowl (Figs. 4: 4-6).

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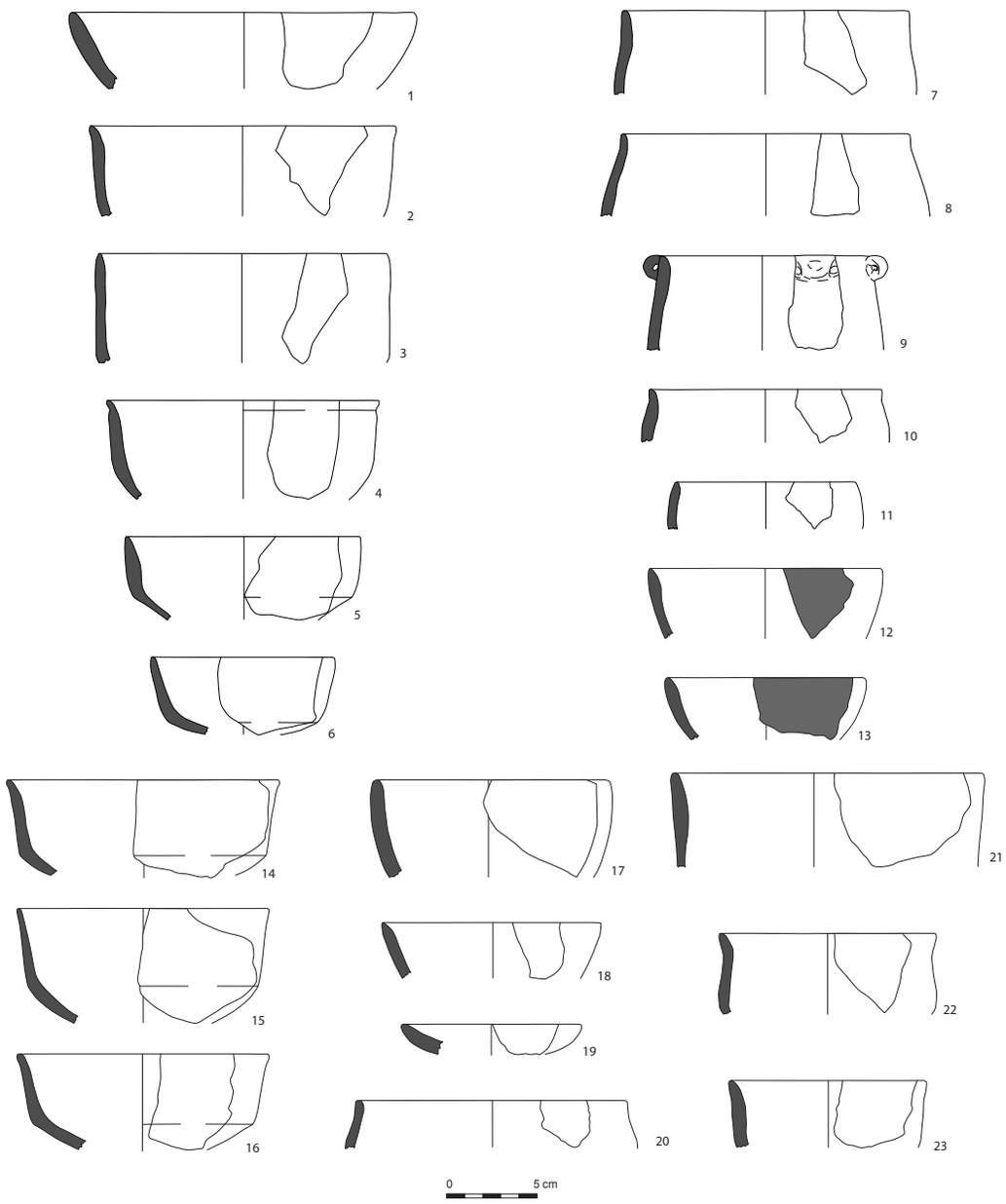
[9] All the ceramic material from the Tell Beydar survey is kept at the Tell Beydar excavation house, where it is easily accessible to those wishing to study it.

[10] The wall thickness of EMW from the Tell Beydar survey falls between 5-10mm, most often in the range 5-6mm.



- Fig. 4: Late Neolithic ceramics from the Tell Beydar survey. Early Mineral Ware (nos. 1-13), Early Grey-Black Ware (nos. 14-23). Site 5: nos. 1, 3, 7-11, 20. Site 26: nos. 6, 12-13, 16, 19, 22. Site 34b: nos. 2, 5, 14-15, 17, 21. Site 81: nos. 4, 18, 23. Scale 1:3.

Sherds attributed to this category tend to cluster at sites with no Halaf material but with a strong presence of plain Standard Ware (Table 3). This supports an "early" date, that is to say: prior to the Halaf period. The pottery may be tentatively compared with mineral-tempered ceramics excavated at Early Pottery Neolithic sites, such as Tell Halula (Faura 1996, Faura and leMière 1999), Mezraa Teleilat (Özdoğan 1999, 2003), Salat Cami Yanı (Miyake 2005, in press), Tell Sabi Abyad (Akkermans *et al*. 2006), and Tell Seker al-Aheimar (Nishiaki and LeMière 2005). The term adopted here for this category is provisional, as different terms are presently in use to designate the early mineral-tempered wares at these sites. Awaiting further study, no claims are made whatsoever regarding a specific correlation with any of the ceramic categories distinguished in excavated contexts. The best parallels should perhaps be expected with the ceramics excavated at Tell Seker al-Aheimar, located closest to Tell Beydar (Nishiaki and LeMière 2005).[11] EMW is tentatively dated to the Pre-Proto-Hassuna period.

3. Early Grey-Black Ware (EGBW; n = 17, Fig. 4: nos. 14-23) Not distinguished as such in WCT, but may correspond to example 7 within WCT type 1, *Hassuna Painted Ware*.

Sherds placed in this category resemble the EMW in terms of having a finely textured mineral temper. The difference lies in the colour of the surface, which in this case is dark, ranging from grey (Munsell 7.5YR 6/1) to dark-grey (7.5YR 4/1) or, occasionally, black. It remains to be further investigated what caused the dark colour; it may have resulted from the use of particular raw materials, or from firing circumstances that were purposely reducing. Since this category to some degree resembles the purposely-reduced category known as *Grey-Black Ware* (LeMière 2000, 2001, LeMière and Nieuwenhuyse 1996), we have adopted this name here. The sherds are thin-walled, and most often have burnished surfaces. Shapes attested in the Tell Beydar survey include small convex-sided bowls (Figs. 4: 17-19), S-shaped bowls (Figs. 4: 22-23), carinated bowls (Figs. 4: 14-16) and closed vessels with a carinated contour, of which only the body parts were attested. Grey-Black Ware still occurs within Early Halaf ceramic assemblages (LeMière and Nieuwenhuyse 1996, Nieuwenhuyse 1997), but dark-coloured mineral-tempered ceramics start much earlier, during the Pre-Proto-Hassuna (Nishiaki and LeMière 2005; 59). In the survey, EGBW occurs in strong association with Standard Ware and EMW (Table 3). With EMW, it is tentatively dated to the Pre-Proto-Hassuna period.

4. Dark-Faced Burnished Ware (DFBW; n = 1) Not distinguished in WCT.

A single sherd was tentatively attributed to the non-local mineral-tempered category known as *Dark-Faced Burnished Ware*. Although the term was first coined in the Amuq (Braidwood and Braidwood 1960), LeMière and colleagues have shown that comparable ceramics show a wide distribution across southeastern Anatolia, northern Syria and northern Iraq, and that in these parts this pottery does not constitute local production (Bader *et al*. 1994, LeMière 1989, 2000, 2001, LeMière and Picon 1987, 1999). To be sure, there were several distinct types of DFBW (Balossi 2004, 2006, Nieuwenhuyse 2007); the specimen from the Tell Beydar survey is attributed to the category known from Tell Sabi Abyad (LeMière and Nieuwenhuyse 1996, Nieuwenhuyse 2007) and Tell Boueid II (Nieuwenhuyse *et al*. 2002), among others. The pottery is dated to the Proto-Hassuna and Proto-Halaf periods.

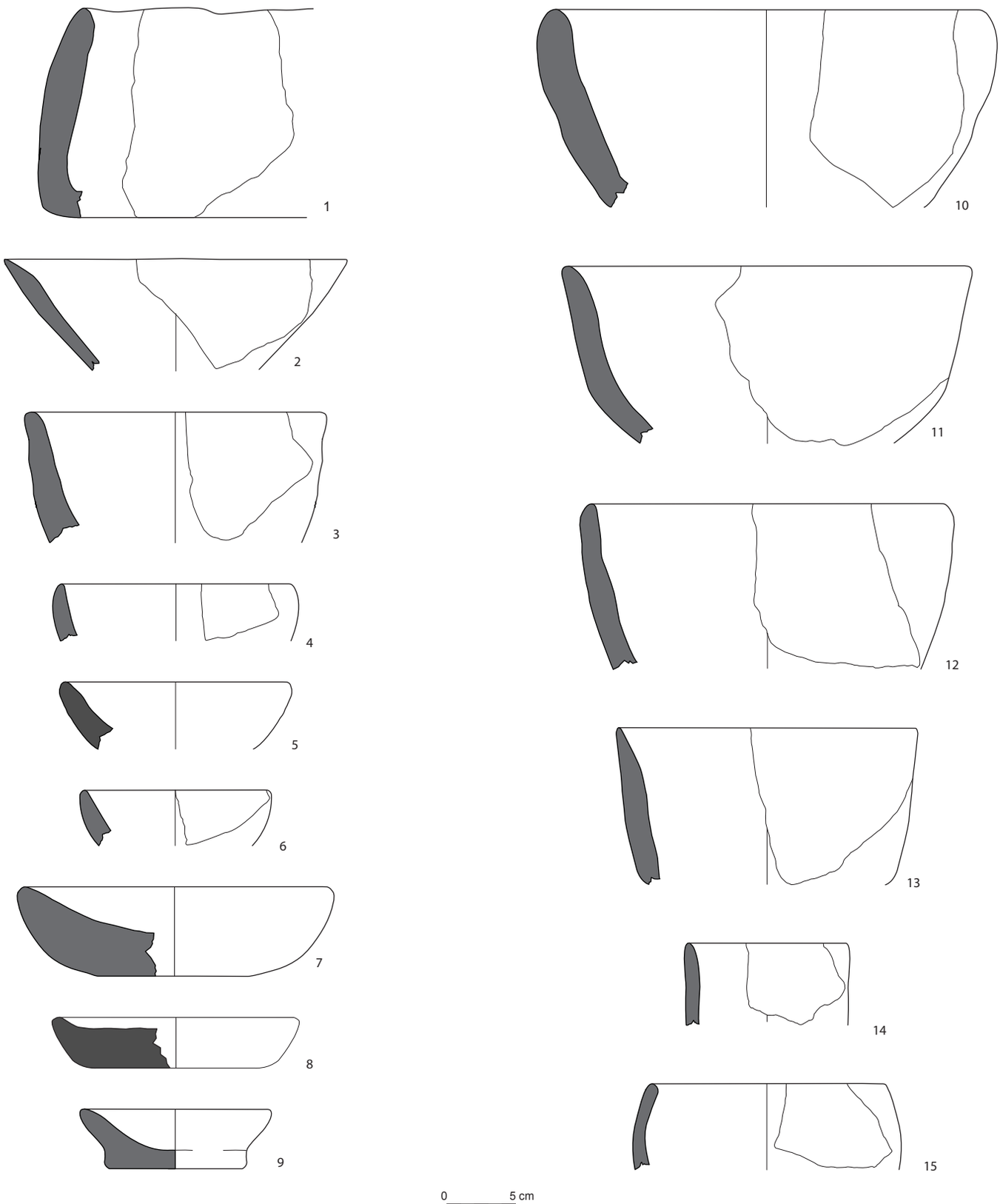
5. Mineral Coarse Ware (MCW; n = 2, Fig. 7: 13-14) Not distinguished in WCT, but perhaps part of WCT type 124, *Coarse Chaff- or Grit-tempered Ware*.

Two sherds from TBS 59E were distinguished on the basis of a dense tempering with dark-grey mineral inclusions. The nature of these non-plastics could not be established, but it differs from that of the DFBW. The vessels had dark cores and smoothed and burnished surfaces. Both examples are closed hole mouth shapes, one of which carries a lug (Fig. 7: 13). These sherds do not seem to resemble the early mineral-tempered wares recently reported from Tell Seker al-Aheimar (Nishiaki and LeMière 2005: 61). Instead, better parallels may be found in the so-called *Mineral Coarse Ware* from Tell Sabi Abyad and other Pre-Halaf to Early Halaf sites (LeMière 2001: 181, LeMière and Nieuwenhuyse 1996: 128, 147, 187). In the Khabur itself comparisons can perhaps be found at Tell Aqab (Davidson 1977: 156-157). The two sherds are dated, broadly, to the Proto-Hassuna, Transitional, Halaf I or Halaf II stages.

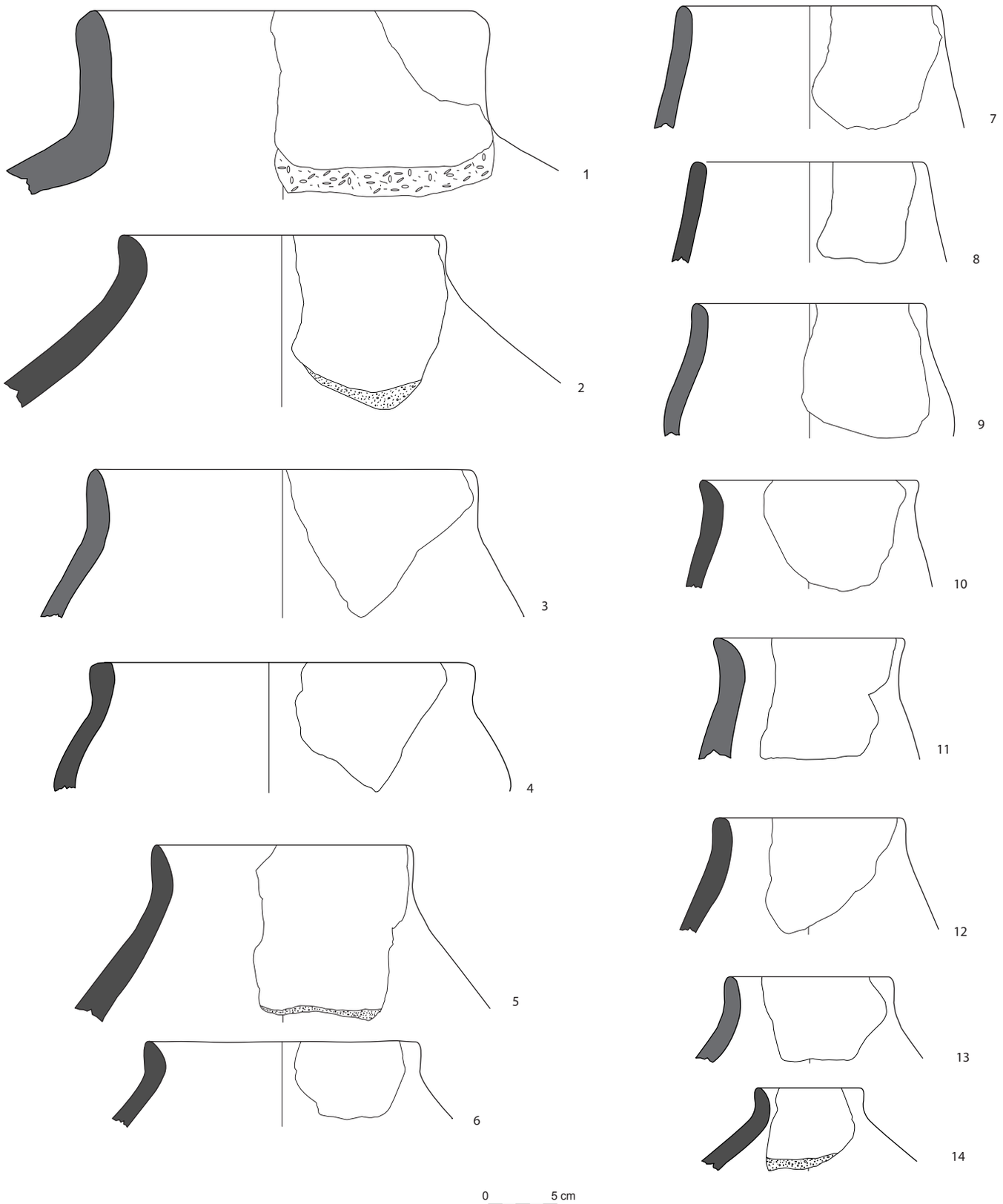
6. Orange Fine Ware (OFW; n = 1, Fig. 8: 5) Not distinguished as such in WCT, but quite possibly included within WCT type 1, *Hassuna Painted Ware*.

A single example was found of *Orange Fine Ware*, a ceramic category known by now from a range of both excavated and surveyed sites in northern Syria and southeastern Turkey. OFW is characterized by a relatively coarse, predominantly mineral temper showing lumps of white calcium carbonate and brown to

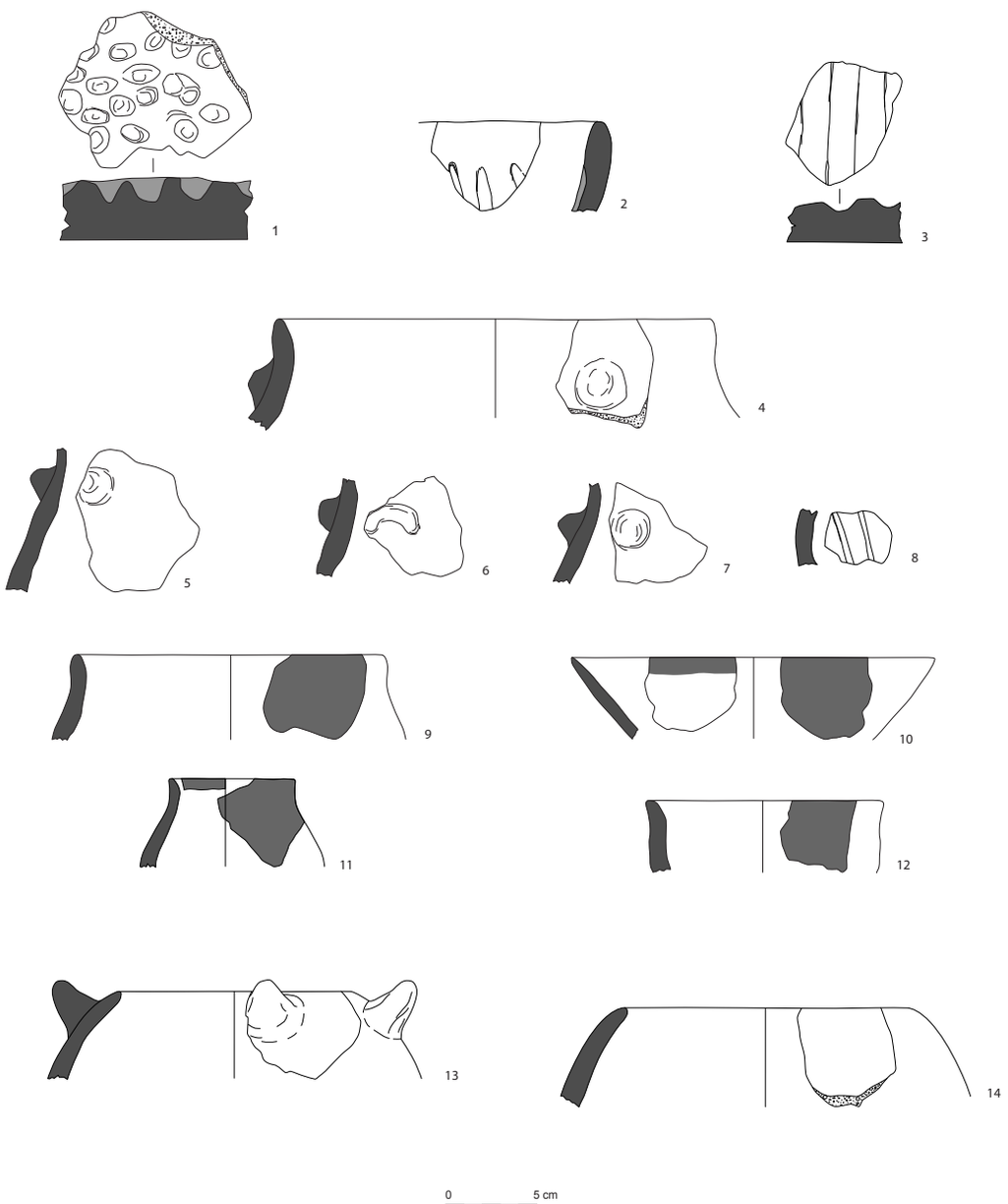
[11] At Tell Seker al-Aheimar, Nishiaki and LeMière (2005: 59-62) distinguish two main categories of early mineral-tempered pottery: Early Dark Ware and Basalt Tempered Ware. Presently the relationships between these two groups and the Tell Beydar survey EMW remain unclear.



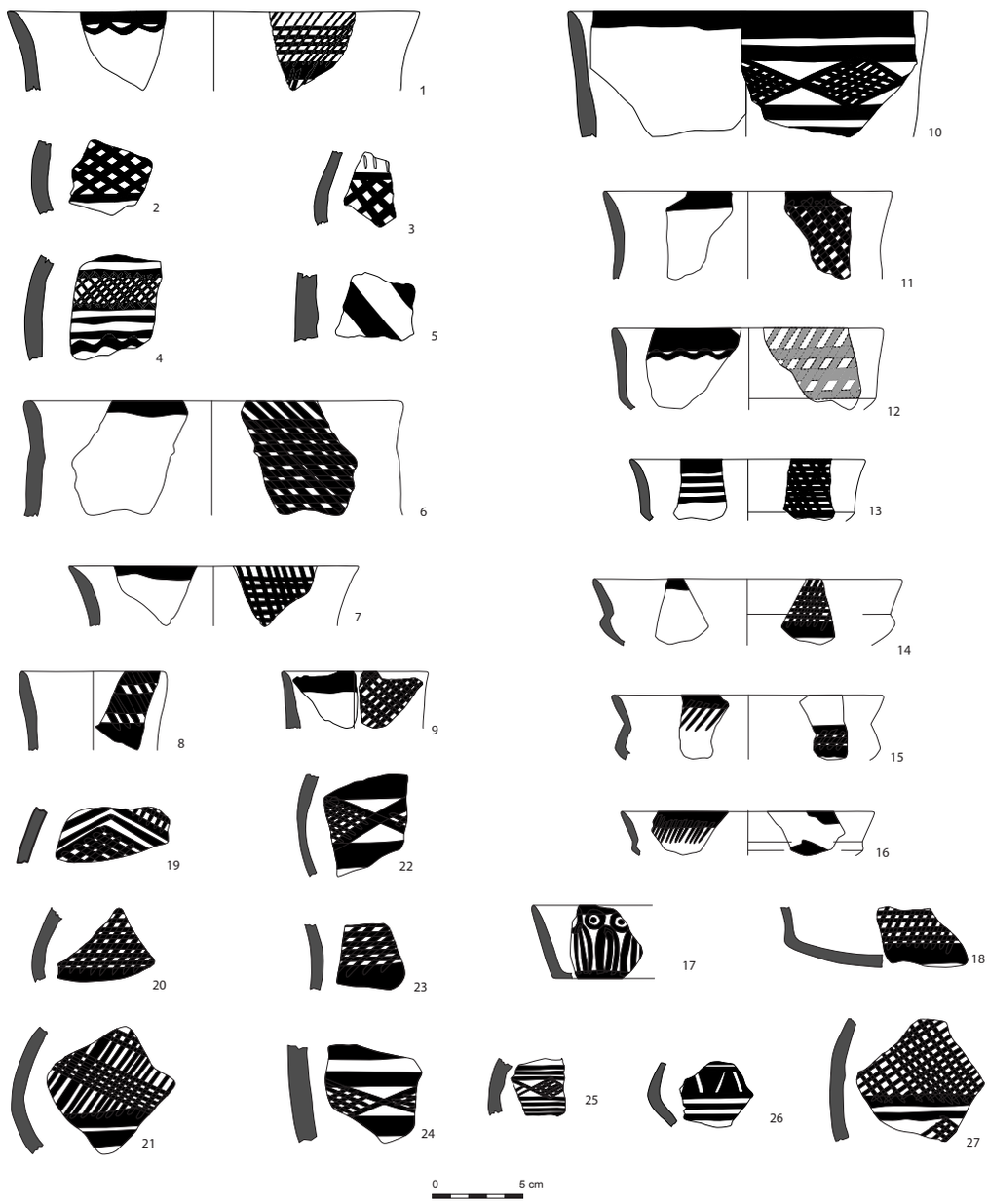
- Fig. 5: Late Neolithic ceramics from the Tell Beydar survey. Standard Ware.
Site 5: nos. 3, 6-7, 14. Site 26: nos. 9, 11. Site 34b: no. 1. Site 40d: nos. 2, 4, 8.
Site 44: nos. 13, 15. Site 58: nos. 5, 12. Site 59e: no. 10. Scale 1:4.



- Fig. 6: Late Neolithic ceramics from the Tell Beydar survey. Standard Ware. Site 5: no. 9. Site 26: nos. 4, 6, 11-12. Site 34b: nos. 2-3, 5, 8. Site 40d: no. 13. Site 58: no. 1. Site 81: nos. 7, 10, 14. Scale 1:4.



- Fig. 7: Late Neolithic ceramics from the Tell Beydar survey. Standard Ware (nos. 1-12), Mineral Coarse Ware (nos. 13-14). Site 5: nos. 6-7. Site 26: nos. 1, 4-5, 10-11. Site 40d: nos. 8-9, 12. Site 44: no. 3. Site 59e: nos. 13-14. Site 81: no. 2. Scale 1:3.



- Fig. 8: Late Neolithic ceramics from the Tell Beydar survey. Standard Fine Ware (nos. 1-4), Orange Fine Ware (no. 4), Halaf Fine Ware: Halaf I (nos. 6-27).
Site 44: nos. 3, 9, 13, 15-16, 20, 23, 25. Site 58: nos. 1-2, 4-7, 10, 12, 21, 24, 26-27.
Site 59e: nos. 8, 19, 22. Sit 61: no. 17. Site 74: nos. 11, 14, 18. Scale 1:3.

dark-brown or grey mud rock, a pinkish surface colour (Munsell 5YR 7/4), and a reddish paint (10R 5/6). The example from the survey, heavily fragmented, shows a simple decoration consisting of parallel lines (Fig. 8: 5). This pottery dates to the Proto-Hassuna and, in particular, the Proto-Halaf (Transitional) stages (Cruells 2006a, LeMière 2000: 132-134, LeMière and Nieuwenhuyse 1996: 168, Nieuwenhuyse 2000, 2007, Nieuwenhyse *et al*. 2001, 2002, Tekin 2003, 2004, in prep., Van As *et al*. 1998).

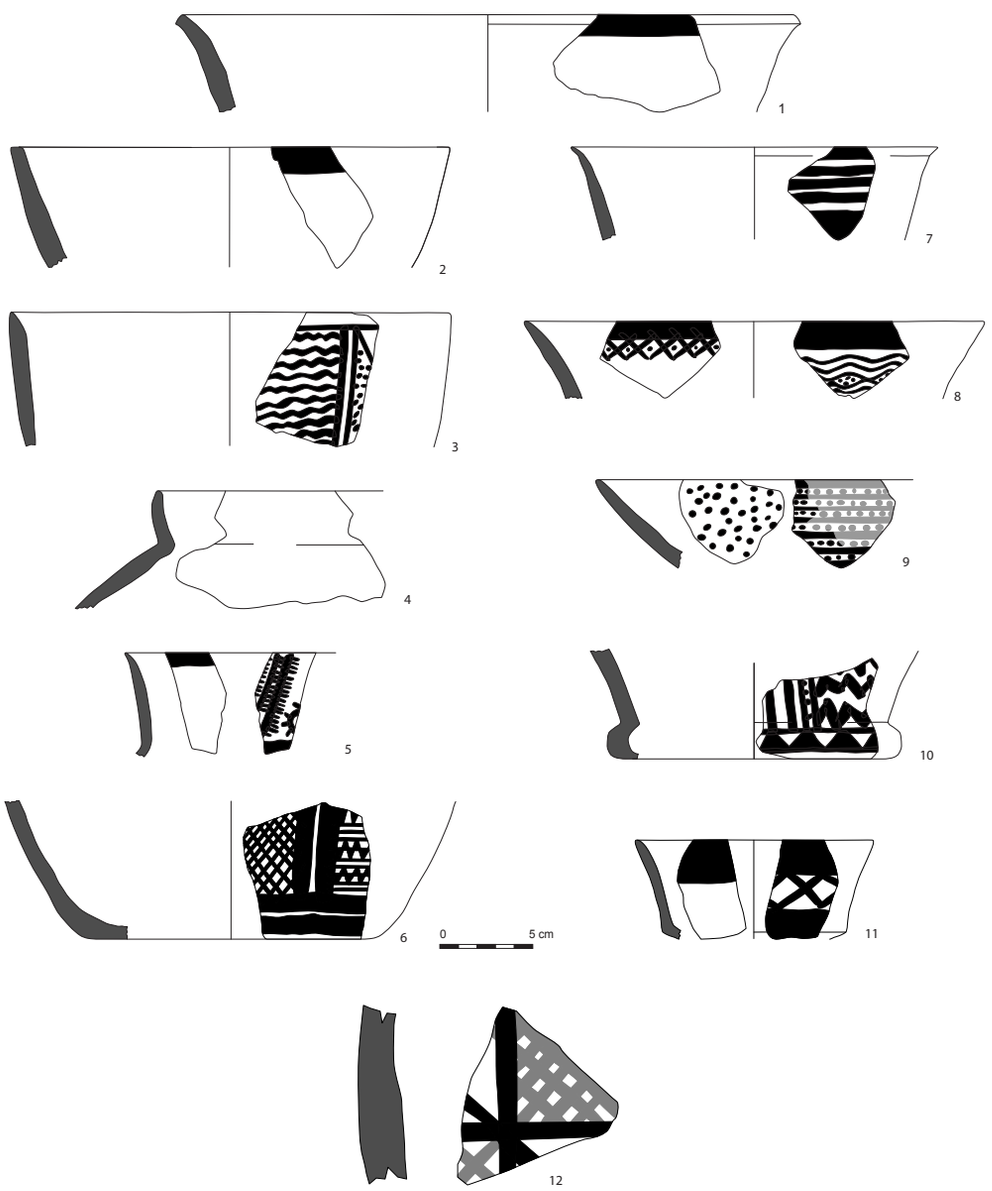
7. Standard Fine Ware (SFW; n = 5, Fig. 8: 1-4) including both WCT types 125 (*Hassuna Incised or Stabbed Ware*) and 126 (*Samarra Ware*).

The term *Standard Fine Ware* is borrowed from the excavations at Tell Sabi Abyad, but possible alternatives would include Samarra Fine Ware, Proto-Halaf Fine Ware, or Northern Samarra Fine Ware, as well as Standard Hassuna Painted and Standard Hassuna Painted-and-impressed. This category, rather heterogeneous as it may be stylistically, refers to ceramics characterised technologically by a finely-textured mineral temper, a neutral to oxidising firing, a carefully smoothed surface and, if painted, a dark colour of the paints (Cruells 2006a, LeMière and Nieuwenhuyse 1996, Nieuwenhuyse 2000, 2007, Nieuwenhuyse *et al*. 2001, 2002, Van As and Jacobs 1989, Van As *et al*. 1998). The sharp contrast between the dark paint, ranging from brown (7.5YR 5/4) or dark brown (7.5YR 3/4) to very dark grey (7.5YR 3/1) against a light surface (often 10YR 8/2, very pale brown), is characteristic; this may have resulted from careful, purposeful control over reduction-reoxidation cycles during the firing (Nieuwenhuyse *et al*. 2001, Noll 1991). One example from the survey was stabbed-and-painted (Fig 8: 3); the others were painted. These sherds are dated to the Transitional stage between the Proto-Hassuna and the Halaf I, also known as Proto-Halaf (Cruells and Nieuwenhuyse 2005). With so few sherds collected we shall refrain from extended discussions regarding the nature of Samarra-like ceramics in northern Syria (see Bernbeck 1994, in prep., Nieuwenhuyse 2007).

8. Halaf Fine Ware (HFW; n = 283, Fig. 8: 6-27, Fig. 9: 1-12) WCT type 3, *Halaf Painted Ware*.

Halaf Fine Ware probably hardly needs an introduction. After all, the Khabur is home to the site that gave its name to both the pottery and the Late Neolithic culture in which it flourished (Von Oppenheim and Schmidt 1943), and some major Halaf sites are located in the area. Nevertheless, within this category there appears to be more variation in terms of ceramic technology than is presently recognised within the archaeological literature. Generally, HFW is very finely textured, compact pottery, often with no non-plastic inclusions macroscopically visible in the fabric. Occasionally white calcium carbonate particles may be seen in the fabric as well as, occasionally, at the surface ("lime spalling"). The surfaces were usually very well smoothed, rarely burnished. It has often been stated that HFW was fired in oxidizing circumstances. Indeed, many HFW sherds collected from the survey were oxidized throughout, showing a reddish-pinkish to yellow-red surface (Munsell 5YR 5/6) and a reddish to reddish-brown colour of the paint (2.5YR 7/4. Much of the HFW, however, appears to be closer to the SFW from the preceding Transitional stage in aspects of its firing technology. These have a dark-coloured paint against a light-coloured background (see above, SFW). In the survey, TBS 44 yielded examples of the latter; TBS 58 and 59E produced examples of the former. Future studies should investigate if these differences represent technological change through time or if Halaf potters knew alternative ways of firing their products (obviously, the possibilities are not mutually exclusive). Further, it is possible that a distinct group of HFW can be identified technologically by a relatively compact, orange-pinkish fabric. Stylistically the few examples attested in the Khabur would seem to date to the later stages of the Halaf period (Nieuwenhuyse 2000: 163), perhaps representing another case of technological change during the Halaf period.

HFW is very tentatively sub divided into an earlier stage (Halaf I) and a later stage (Halaf II), on the basis of vessel shape and painted decoration. Evidently, in addition to lack of stratigraphical control, small sample sizes and high degrees of fragmentation make it impossible to apply typologies derived from well-preserved excavated assemblages (e.g. Amirov and Deopak 1997, Davidson 1977). Attributed to the Halaf I are small cream bowls (Figs. 8: 14-16) and some low, carinated bowls (Figs. 8: 11-13); large bowls with bevelled rims (Fig. 9: 1) are instead attributed to the Halaf II (for comparative references, see Nieuwenhuyse 2000). Many vessel shapes are typical for the Halaf period as a whole, but occasionally they can be assigned to a more specific stage on the basis of their decoration. This includes, for instance, straight-sided bowls painted with crosshatched lozenges, which find exact parallels at Early Halaf Tell Sabi Abyad (Fig. 8: 10). Typical Halaf I designs include various types of crosshatching, virtually always bounded to the horizontal, structural lines (Figs. 8: 6-27). Characteristic for Halaf II are motifs such cables with dots or the "sun flower" motif, which were often painted "free-floating" (Figs. 9: 3, 5, 8-11). Finally, a single example occurred of a polychrome-painted HFW sherd showing a combination of mat brown (Munsell 5YR 4/4) and dark grey (7.5YR 3/1) paints (Fig. 9: 12); the example is dated to the Halaf II period.



- Fig. 9: Late Neolithic ceramics from the Tell Beydar survey. Halaf Fine Ware: Halaf II (nos. 1-11), polychrome-painted Halaf Fine Ware (no. 12). Site 1: no. 1. Site 58: nos. 2, 4, 6-8, 12. Site 59e: nos. 3, 9-11. Site 74: no. 5. Scale 1:3 except no. 12 scale 1:1.

6. Patterns of Late Neolithic settlement

Of the eighty-three sites recorded by the two seasons of survey some twenty (24 %) were securely dated to the Late Neolithic periods and are the subject of this report. To this we may add excavated Tell Khazna. Within the Tell Beydar survey area this would amount to an overall Late Neolithic site density of about twenty-two square km per site. Evidently, however, this figure is far too high for any of the sub periods distinguished (see below). If the Late Neolithic is broken down into sub phases, site density estimates drops to between about fifty-seven square km per site (Pre-Proto-Hassuna) and 113 square km per site (Proto-Hassuna and proto-Halaf) (Table 5). As these sub periods differ significantly in length, however, such statistics should be treated with caution. All we can probably say with certainty is that settlements were few and dispersed.

Of these Late Neolithic sites, six were tell sites (TBS 1, 4, 40 d, 41d, 50 a, and 59 e). The remaining sites were small, low mounds usually measuring around one or two hectares in area and no more than one or two metres in height. As has been recorded elsewhere in upper Mesopotamia, the average size of sites was small, mean size being ca. 1.2 ha, and there was no evidence of any large Neolithic sites such as Tell Mounbatah in the Balikh Valley (Akkermans 1993), Kazane in southeast Turkey (Bernbeck *et al*. 1999) or Tell Nisibis in the Khabur (Nieuwenhuyse 2000). Although there is a rather extensive concentration of sites in the region of Tell Rajab (TBS 4), there was nothing to suggest in the field that these formed one large site. Rather, they seem to consist of a series of small, discrete sites. As such, they may be equivalent to clusters of sites found in the Balikh Valley, such as the group of mounds at Tell Sabi Abyad I to IV (Akkermans 1993). The general dispersal of settlement supports the statement made in the interim report of the 1997 field season (Wilkinson 2000b), namely that prehistoric settlement was mainly present on the smaller sites, rather than on the tall, multi-period tells. Of the total of six tell sites that supplied evidence of Late Neolithic occupation, at four of them Neolithic settlement was not on the tell itself, but rather on outlying smaller sites, lower towns, or other exposures. Only at one site, TBS 50 a or Tell Ghazal Foqani, was prehistoric pottery found on the tell.

This is not to say that Late Neolithic or Halaf settlement was not present on tells, rather when present it is probably buried beneath a significant overburden of later occupation (especially that of the Early Bronze Age) which has rendered the prehistoric material virtually invisible. Tell Beydar itself may be an illustrative example of this. It is evident from this distribution that although the settlement pattern was a mixture between nucleated tell-type settlements and smaller dispersed hamlets or villages, the latter predominated. Moreover, simply the presence of Late Neolithic settlement at a tell does not necessary mean that the settlement was part of a tell because it is possible that the Neolithic component represented a phase of settlement that preceded the tell, or that it was part of an outlying settlement that eventually became subsumed within the tell.

Of the Late Neolithic sites recorded, eight were located directly on the Wadi Aweidj, while three were along a tributary of the Aweidj that presumably once flowed past the Sekar mounds (TBS 39, 40 and 41). Six were not associated with wadis, either present day or relict. Unfortunately the overall number of prehistoric sites was insufficient to provide a clear pattern of settlement, nevertheless, two trends are evident. In the northern part of the survey area, settlement formed an extensive spread both along wadis and channels, but also away from them. This implies that access to water was not a problem, and it is likely that those sites more remote from ancient wadis obtained their water supplies from small springs or seepages now dried up and infilled by eroded soil and plough wash sediments. In contrast, to the south of Tell Beydar, prehistoric sites were closer to Wadi Aweidj although unfortunately a gap between the northern and southern settlement zones makes the transition between these zones difficult to interpret. In addition to the above tendencies, the survey by Paul-Louis van Berg of the neighbouring basalt zone for rock art and associated sites has recorded at least one occurrence of Halaf date (Van Berg: Kisham web site).[12]

When the sites are sub-divided according to chronological phase, it appears that all periods distinguished can be attested in the Tell Beydar survey, with the conspicuous exception of the Halaf Ubaid Transition (HUT: Table 5). This apparent disruption between the Halaf and the Ubaid almost certainly is artificial, and must be attributed to the archaeological "invisibility" of the intermediate, transitional stage. Simply, we still don't know how to recognise it in a material sense, more to the point in the ceramics. None of the pottery types suggested by Catherine Breniquet (1996) and Thomas Davidson (1977) as typical for this stage were identified in the Tell Beydar survey, but limited sample sizes and poor control over regional ceramic variation are likely to have contributed to its invisibility. A practical suggestion would be to argue that sites occupied both in the Halaf II and in the Ubaid period are likely to have been inhabited in the intermediate stage as well; in the Tell Beydar survey no site fitted these qualifications.[13] This problem is not peculiar to the Tell Beydar area (Karsgaard in press, Nieuwenhuyse 2000: 189); the HUT shall henceforward simply be ignored.

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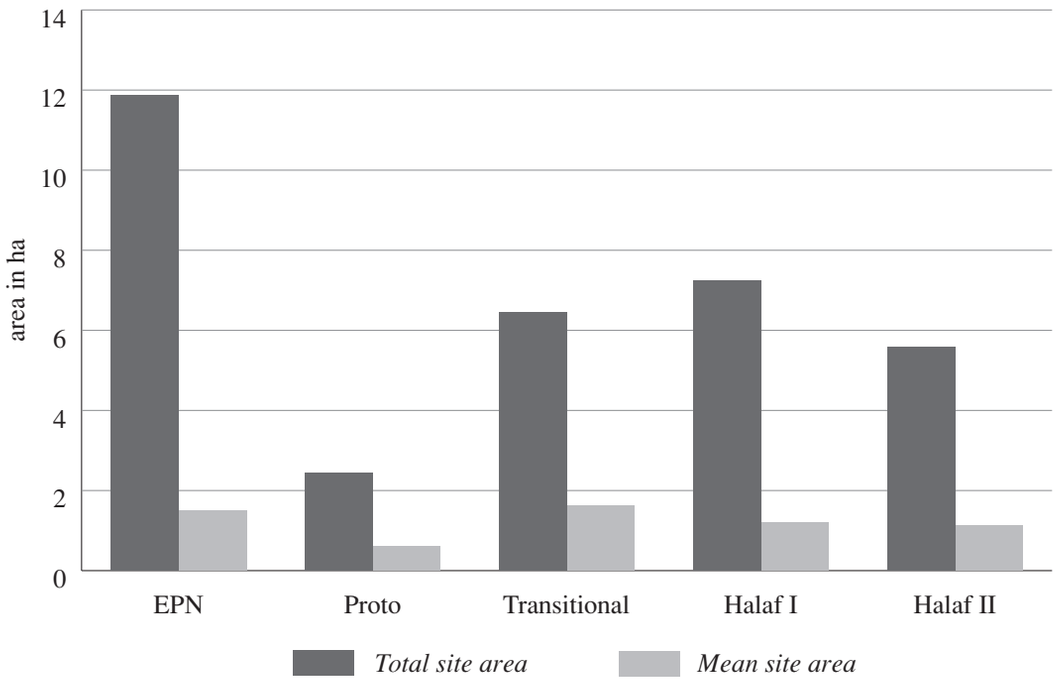
[12] http://dev.ulb.ac.be/crea/AccueilFrancais.php?page=Kisham.

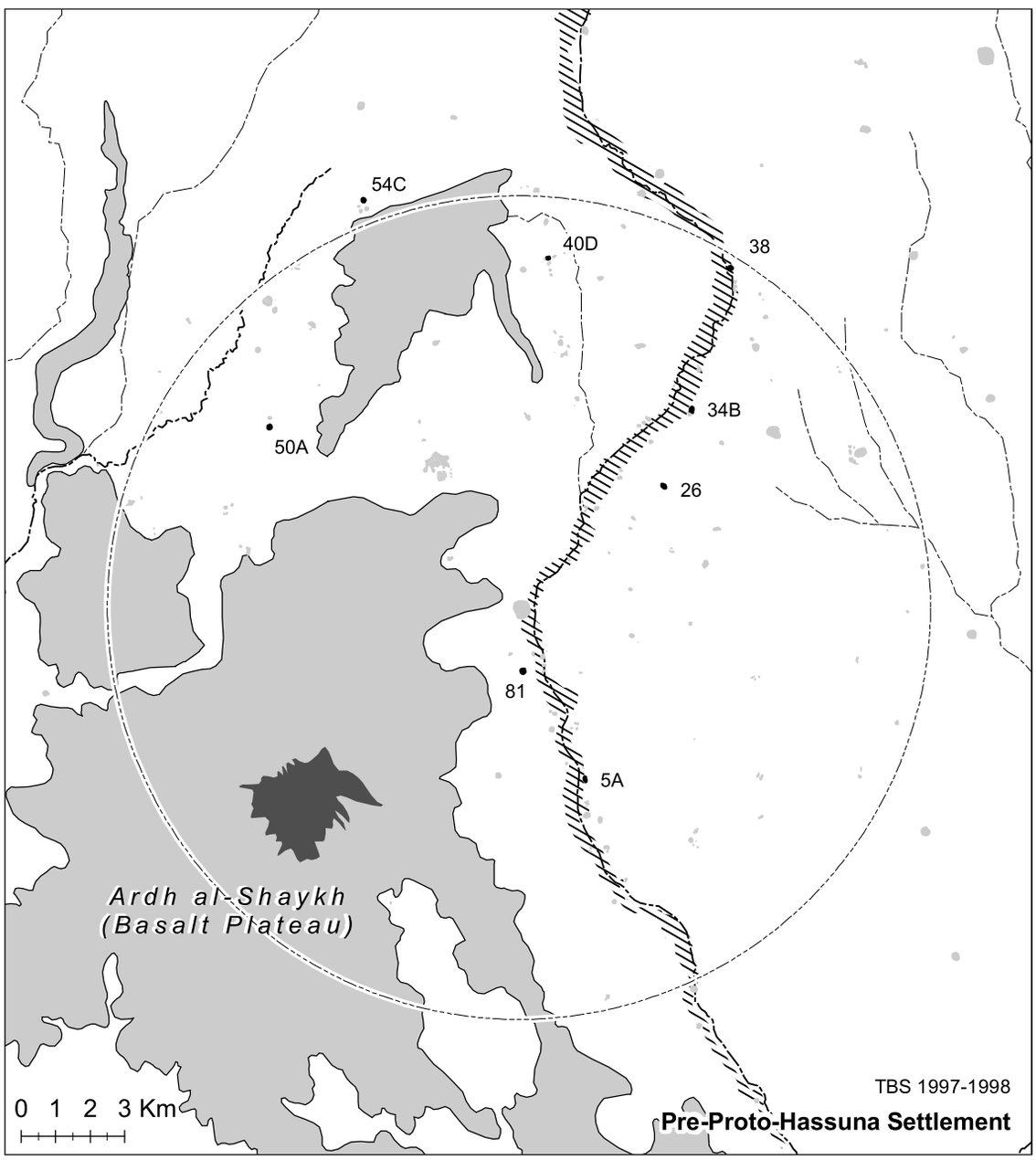
[13] Two sites were occupied in the Ubaid period and also in an earlier stage of the Late Neolithic: TBS 50 and TBS 74.



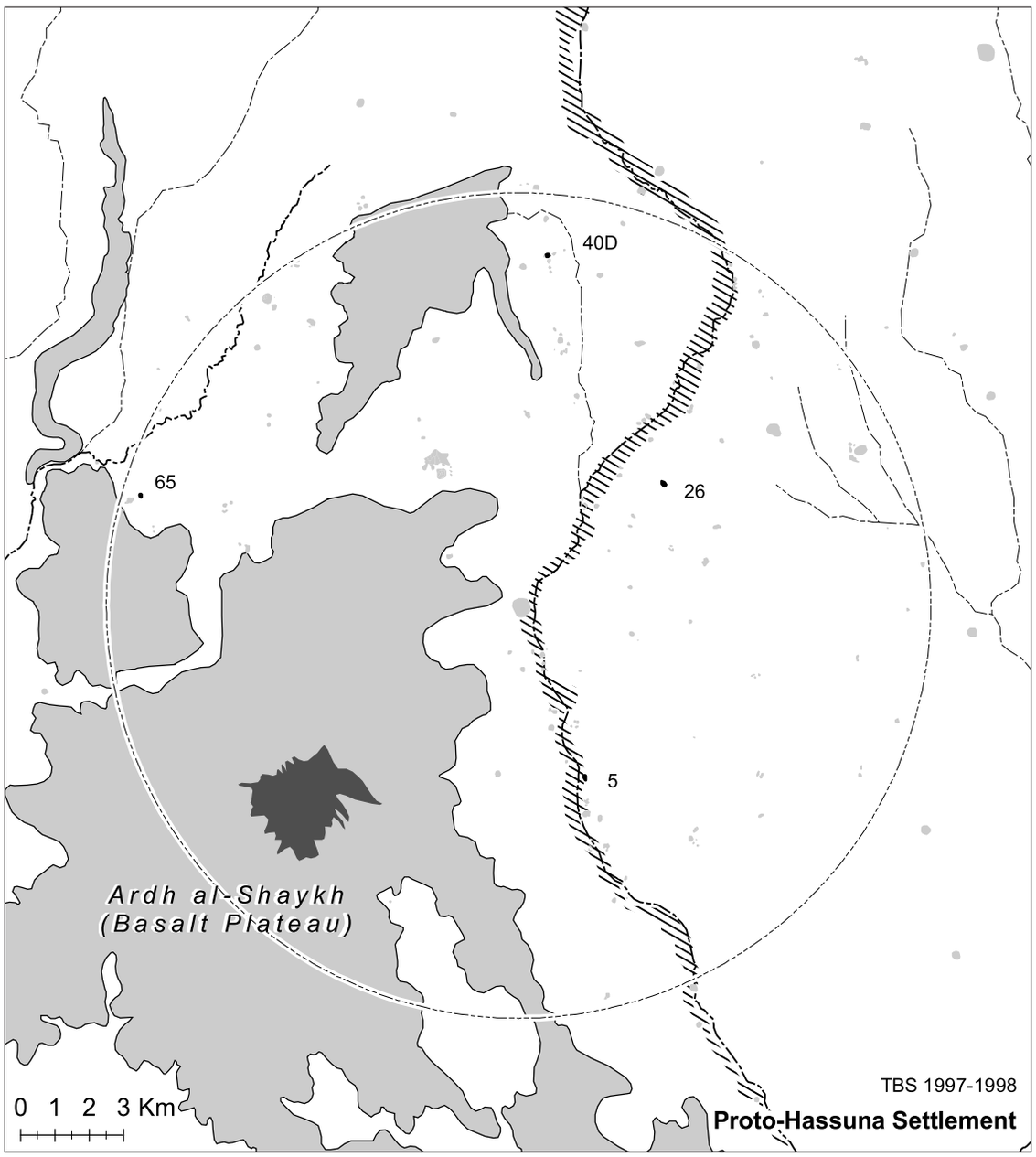
- Table 4: Total site area and mean site area for the Late Neolithic in the Tell Beydar area.

	Pre-Proto-Hassuna	**Proto-Hassuna**	**Proto-Halaf**	**Halaf I**	**Halaf II**	**HUT**	**Halaf general**
Site							
1 (Beydar)							
4 a							
5							
7							
26							
34 b							
37							
38							
40d							
41d							
44							
48							
50 a							
54c							
58							
59 e							
61							
63							
66 (Khazna II)							
74							
81							
Site numbers	8	4	4	7	6	0	3
Site density	1/57 km^2	1/113 km^2	1/113 km^2	1/65 km^2	1/75 km^2	-	-

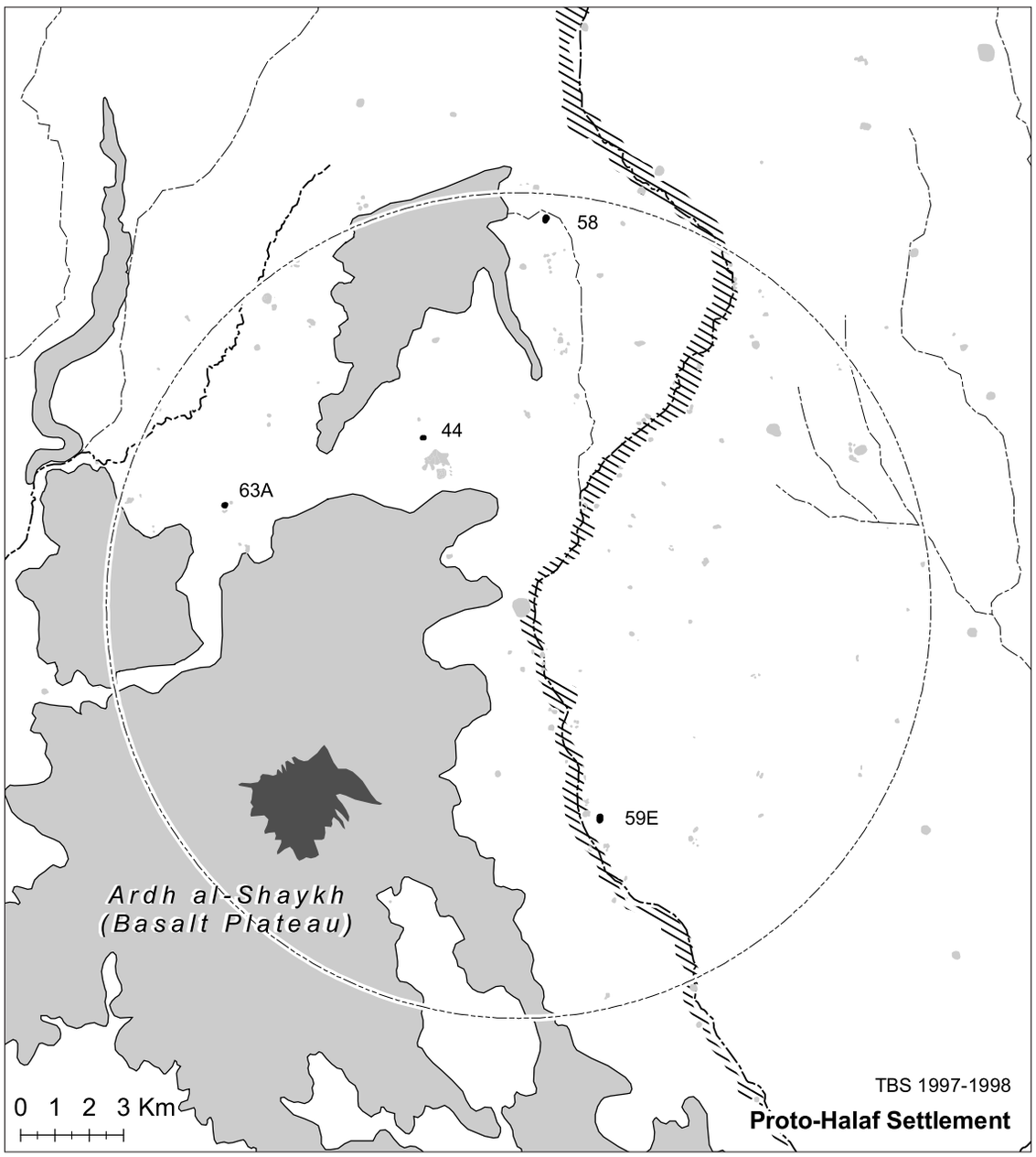
- Table 5: Tentative date for Late Neolithic sites in the Tell Beydar area, giving site numbers and approximate site densities for each period.



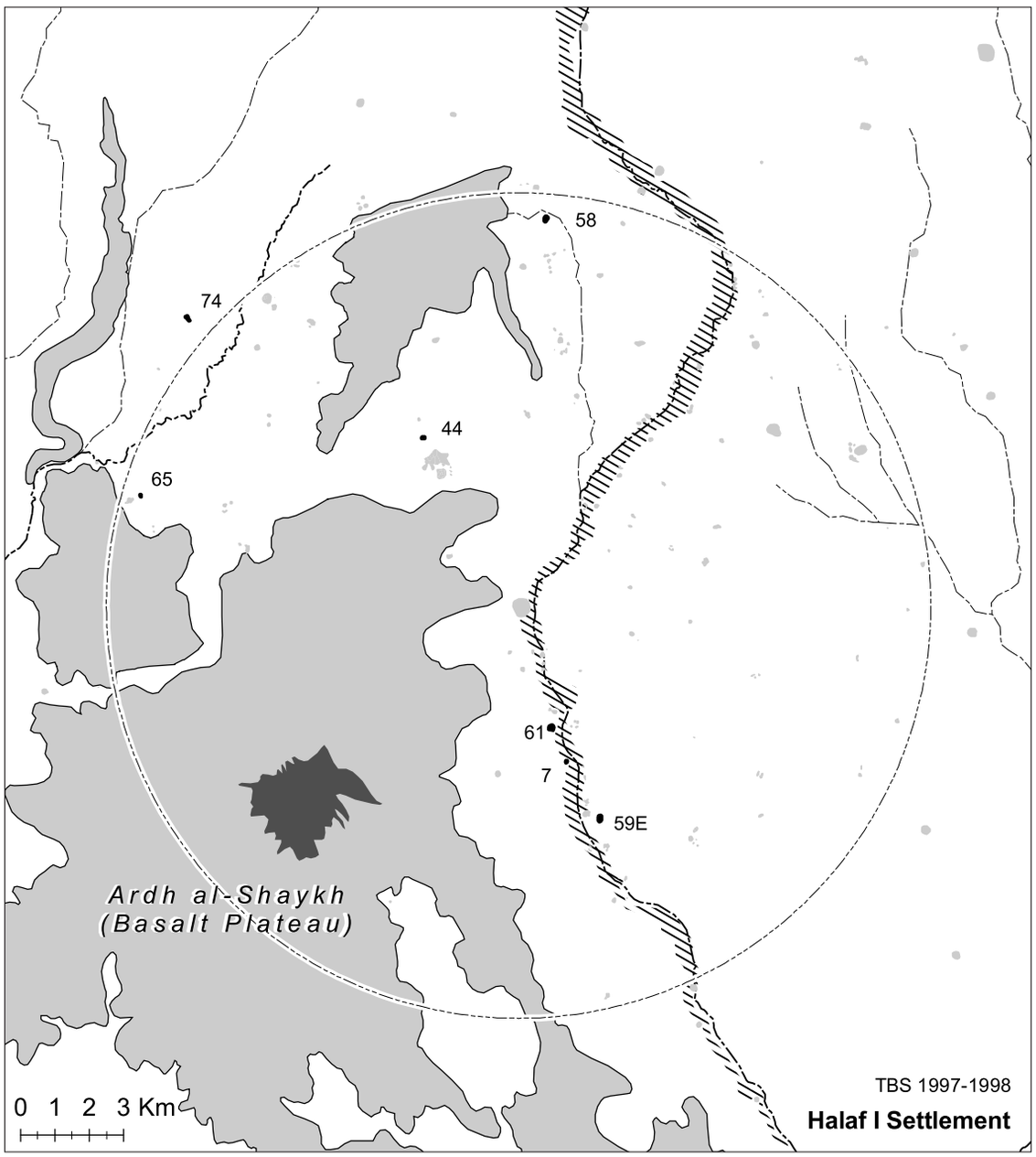
- Fig. 10: Map showing the locations of Pre-Proto-Hassuna sites in the Tell Beydar survey.



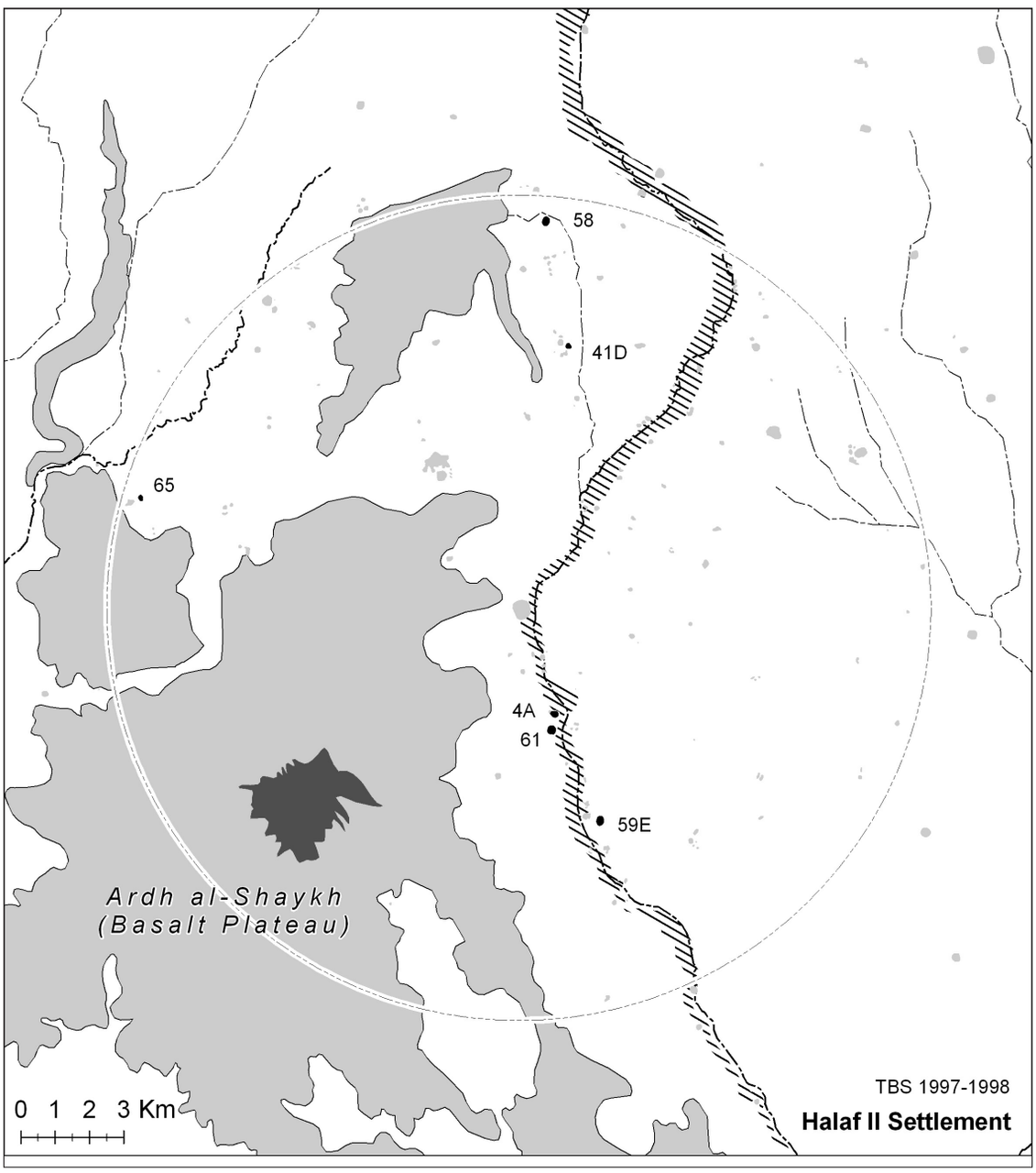
- Fig. 11: Map showing the locations of Proto-Hassuna sites in the Tell Beydar survey.



- Fig. 12: Map showing the locations of Proto-Halaf sites in the Tell Beydar survey.



- Fig. 13: Map showing the locations of Halaf I sites in the Tell Beydar survey.



- Fig. 14: Map showing the locations of Halaf II sites in the Tell Beydar survey.

Perhaps surprising at first sight, a relatively large number of sites were dated to the Pre-Proto Hassuna (n = 8, almost 10 % of all Late Neolithic sites) (Fig. 10). This is probably because recent work at Tell Seker al-Aheimar, Tell Sabi Abyad and other early Late Neolithic sites has made this archaeological period visible so that it can be identified in surface collections. Further, the ongoing excavations at these sites provide a much stronger chronological framework than was available before. This suggests that the transition from Pre-Proto-Hassuna to Proto-Hassuna, or from Early Pottery Neolithic to Pre-Halaf according to the Balikh terminology, occurred later than was hitherto assumed. Current estimates would tentatively date this transition at Tell Seker al-Aheimar at around 6400-6300 cal. BC (Nishiaki and LeMière 2005: 64-66); in the Balikh valley it may date around 6300-6200 cal. BC (Akkermans *et al*. 2006). In other words: the earlier stages of the Late Neolithic lasted much longer than previously thought, correspondingly, it should come less as a surprise that more sites are found. A final factor that may have contributed to the detection of these early sites is the deliberate focus of the Tell Beydar survey on small mounds.

The Proto-Hassuna and Proto-Halaf stages are each represented with four sites (Figs. 11, 12). The few survey sites are identified by the presence of decorated SW, DFBW, OFW and SFW. The Proto-Hassuna site of Tell Khazna II (TBS 66, near TBS 65) has been excavated by a Russian team (Munchaev and Merpert 1994, Munchaev *et al*. 1993, also surveyed by Lyonnet as KS 52, Nieuwenhuyse 2000). At first sight this might suggest a reduction in settlement densities. Of the eight Pre-Proto-Halaf sites detected in the Tell Beydar survey, five no longer appear to have been inhabited during the Proto-Hassuna (Table 5). Further, none of the three Proto-Hassuna sites continued into the Proto-Halaf period, whereas all Proto-Halaf sites had not been previously occupied during the Proto-Hassuna stage. This suggests that for some unknown reason, there was a complete discontinuity of settlement between the Proto-Hassuna and the Proto-Halaf. Taken together, this might suggest a more dynamic practice of settlement abandonment and resettling at new locations compared with before. This would fit well with what has been suggested for the Khabur valley during the later Pre-Halaf and Transitional stages (*Balikh IIC-IIIA*, Akkermans 1993, Nieuwenhuyse 2007). However, it should be kept in mind that both these stages were much shorter than the Pre-Proto-Hassuna.

There is much better evidence for the Halaf I period (Fig. 13). Seven sites were dated to the Early Halaf (Table 5). Good evidence for the earliest stages of the Halaf were some HFW small cream bowls and carinated bowls painted with crosshatching in mat, dark paint, and straight-sided bowls painted with crosshatched lozenges. If taken at first sight, this would indicate a gradual increase in settlement numbers with the start of the Halaf period. This would fit with the evidence gained from other surveys in Syria (Akkermans 1993, Nieuwenhuyse 2000), especially because the ceramic periods in question are shorter than those of the earlier periods.

Significantly, on the other hand, the evidence for Halaf II is much less than was expected. In the Tell Beydar area only six sites have been dated to the Halaf II period (Fig. 14). This includes the excavated site of Khazna II (Munchaev and Merpert 1994, Munchaev *et al*. 1993). In contrast, across Upper Mesopotamia Late Neolithic settlement appears to be characterised by a strong increase in site numbers during the Middle-Late Halaf (Akkermans 1993, Campbell 1992). In the Upper Khabur, the evidence for Halaf II in the Lyonnet survey was overwhelming in comparison with earlier stages (Nieuwenhuyse 2000). In the Tell Beydar area, in contrast, there is a conspicuous lack of typical Halaf II indicators such as bowls with flat rims painted with "rim ticks" (Davidson 1977: 133-149, Campbell 1992: 63), so-called *Trichterrandbecher* (Von Oppenheim and Schmidt 1943: 44) or sherds painted with typical Middle-Late Halaf motifs. There was only a single polychrome HFW sherd, and no so-called Red Ware (Campbell 1995: 72-73, Davidson 1977: 155-156, Leenders 1989, Gut 1995). Considering the systematic approach adopted and the relative visibility of Halaf II ceramic indicators, it is most unlikely that these discrepancies resulted from neglect or insufficient recognition of this particular subphase. Two explanations can be suggested to explain the relative scarcity of Halaf II sites.

First, it might be suggested that in this particular area, simply, there *were* few Halaf II sites. This suggestion may imply increased regional differentiation in land use during the Halaf II. Whereas certain parts of the Jazira were characterised by increasing settlement densities, others were apparently less densely settled, or were perhaps used in a different manner. The Halaf II phase in northern Syria appears to have been characterised by a southward "expansion" of settlement, but from north to south Halaf II site densities appear to have diminished progressively. Although in the Middle-Late Halaf new villages were founded even south of Hassake within what was clearly a marginal region, the majority of all Halaf II sites detected in the Lyonnet survey were located to the north of Tell Beydar (Nieuwenhuyse 2000: 188-189). The apparent increase in site densities, then, may have been more of a "northern Jazira" phenomenon, whereas closer to the southern limit for reliable farming site numbers perhaps remained more stable through the later Neolithic. Surveys may now begin to explore such potentially different regional developments in the Late Neolithic.

On the other hand, the Tell Beydar area lies within the (present-day) limits for rainfed agriculture, and apart from the basaltic plateau the area is in principle very suitable to settlement. Differences in survey methodology are likely to explain at least part of the observed discrepancies, specifically the focus of the

Tell Beydar survey on *small* sites. It is quite clear that in general small sites were particularly common during the Late Neolithic. This pattern contrasts to that of the Ubaid period, when not only were sites relatively few in number (in the Tell Beydar survey: five significant occupations and four minor), but also more likely to be associated with tells. This association with tells might account for the relative dearth of Ubaid sites, because it is in such locations that early occupations are most likely to have been buried. It is possible to suggest that during the Halaf II a gradual nucleation occurred, resulting in more permanent settlement on *larger* sites. The presence of relatively little (Early) Halaf pottery at tell sites suggests that such occupations might lie buried beneath later overburden, or that the formation of tells had not started at this period. However, since it appears to be the case on a number of tells in the Khabur that Halaf II pottery is well represented on these mounds, it is possible to suggest that tells as nucleated central sites had already started to form in the later Halaf period. This is hardly surprising given that many prominent later tells such as Kurban Hoyuk, Gritille, Tell Sabi Abyad, and Nineveh have founder settlements in the aceramic Neolithic or Halaf periods. If so, the Halaf II may be over-represented in tell-oriented surveys, but under-represented in small-site oriented surveys. Possibly, then, later Halaf settlement resembled that of the following Ubaid period more than it resembled the earlier Halaf.

7. Discussion

Although over the past few years Late Neolithic settlement has gained increased prominence as a topic for archaeological research, differences in scope and methodology often make it difficult to compare the results from various surveys, even when these were done in adjacent areas. In particular, differences in chronological terminology make such comparisons at present very tentative. In spite of this, it is possible to arrive at a number of tentative generalizations concerning Late Neolithic patterns of settlement.

Overall, the majority of the earlier Neolithic sites clearly were short-lived and dispersed settlements. The occurrence of Neolithic and Halaf occupation on small sites in the Tell Beydar area is comparable to that noted at other surveys in Upper Mesopotamia. Thus in the North Jazira Survey, as well as the recent survey of the Brak area, settlement of these periods is both widespread and frequently associated with smaller village type sites. Whether these were actually small, sedentary villages is less clear, but if they were, their populations were probably small (usually around hundred plus or minus). In the Beydar area, we can perhaps see an example of "paired" or clustered settlements in the area of TBS 4, Tell Rajab, as has been noted by Peter Akkermans in the Balikh Valley. Although by the Halaf period settlement densities may have been relatively high, Davidson´s claim (1977: 87) that in Halaf times population densities in the Khabur may have reached levels similar to today now seems severely overstretched.

In terms of site locations, the limited area captured by the Tell Beydar survey reflects a broader pattern of Late Neolithic settlement location: most sites currently known are located to the north of the present-day 220 mm average annual rainfall boundary. Tell Beydar lies well within the area suitable for dry farming agriculture, but it lies within the southern part of the area previously covered by Bertille Lyonnet. Late Neolithic settlement can be shown to gradually diminish from north to south. Moreover, while most sites appear to be located close to major wadis, in the northern part they were also found away from them, a distribution that was particularly evident during the Pre-Proto-Hassuna (Fig. 10). These settlements may have obtained their water supplies from springs or seepages now extinct. Farther to the south, permanent Late Neolithic settlement becomes relatively scarce, and restricted to the main wadis and rivers. Tell Boueid II, situated directly on the Khabur some 18km south of Hassake is presently the southern-most Late Neolithic site known in the Khabur area.

The survey contributes to our insight into long-term trends in prehistoric settlement in Upper Mesopotamia. In the Tell Beydar survey there has, as yet, been no evidence for pre-Pottery Neolithic occupation, perhaps because this has been completely buried beneath later occupations or sealed below the alluvium. It is now evident, however, that the area was settled during the Pre-Proto-Hassuna. It has sometimes been argued that the introduction of pottery at around 6900-6800 was associated with a decline of sedentary populations. Compared with the brilliance of monumental art attested at some aceramic sites, the Late Neolithic (or Pottery Neolithic) has been portrayed as dull and static, even as a period of cultural decline (e.g. Huot 1994). Given that until recently Pre-Halaf sites could hardly be identified in surveys, this negative view is perhaps not surprising. Current excavations at Early Pottery Neolithic sites may now provide a much stronger picture of cultural continuity after the introduction of ceramics. The production of white ware and stone vessels, for instance, once thought to be typical for the PPNB, continued unabated into the earliest stages of the Late Neolithic. In the lithic industries, too, elements of continuity can be pointed out (Akkermans *et al*. 2006, Campbell and Baird 1990, Nishiaki and LeMière 2005).

Although we are still poorly informed on the archaeology of the earliest stages of the Late Neolithic, we suggest that the final PPNB and Pre-Proto-Hassuna stages were characterised by relatively stable settlement structures. For example, in the Balikh, many Early Pottery Neolithic mounds detected in the survey

(*Balikh IIA* period) seem to be remarkably long-lived. Many EPN sites were already occupied in the Pre-Pottery Neolithic B period (Akkermans 1993, pers. comm. March 2007). The Early Pottery Neolithic occupation excavated at Tell Sabi Abyad continued for over half a millennium at the same location, resulting in a significant mound build up (Akkermans *et al*. 2006). In the Khabur, Tell Seker al-Aheimar, too, was inhabited over a remakably long time, from the later PPNB into the Proto-Hassuna period (Nishiaki and LeMière 2005). Although we should be careful with site density estimates, considering the very unequal lengths of the periods concerned, site densities during the early stages of the Pottery Neolithic in the Tell Beydar area (Pre-Proto-Hassuna) may have been at least similar to those of subsequent stages in the Late Neolithic. The apparent scarcity of sites dated to this stage from the northern Iraqi Jazira – just a few hours to the east – remains to be explained (Campbell 1992: 114, Campbell and Baird 1990), but may perhaps be attributed to the lack of visibility of this period until quite recently.

In the Beydar area, settlement appears to have become reduced during the Proto-Hassuna and Proto-Halaf stages. A similar impression was gained from other surveys: settlement during the Pre-Halaf stages was more limited and dispersed than during the subsequent Halaf (Campbell 1992, Erdalkıran in press, LeMière 2000, Nieuwenhuyse 2000). In the Balikh valley, most Early Pottery Neolithic sites (Balikh IIA stage) seem to be abandoned during the later Pre-Halaf period (Balikh IIC). The Transitional and Early Halaf stages (Balikh IIIA/IIIB) seem to be a "turn of the tide" characterized by gradually increasing site numbers (Akkermans 1993, Nieuwenhuyse 2007).

Undoubtedly this impression should be attributed partly to the shorter time ranges of both the Proto-Hassuna and Proto-Halaf stages compared with the Pre-Proto-Hassuna. However, at excavated Pre-Halaf, Proto-Hassuna and Proto-Halaf sites the evidence suggests that villages gained new roles from about 6200 cal. BC. onwards. Typical architecture from these stages in the Jazira include circular buildings, so-called *tholoi*, and large multi-roomed, cellular buildings. The latter are often interpreted as collective storage facilities serving a mobile, semi-sedentary population larger than was permanently present at the village (Akkermans and Duistermaat 1997, Brentjes 1983, Verhoeven 1999). Villages may have become focal points in a social landscape that was less focused on sedentary settlement than before (Akkermans and Schwartz 2003).

This trend may have been part of a much larger series of social and economic changes. These may have included a stronger exploitation of ovicaprids for their secondary products, as evidenced in culling patterns (Cavallo 2000) the introduction of spindle whorls (Akkermans *et al*. 2006) and the development of coarse pottery shapes that may have been instrumental in dairy products processing (Nieuwenhuyse 2007). Ceramics seem to have gained new roles at this stage as well, as a major tool for stylistic expression. From the Proto-Hassuna period onwards they were progressively more often decorated, in increasingly complex designs (Campbell 1992, Nieuwenhuyse 2007).

During the Halaf period, a reorientation towards stable, long-lived settlements may have occurred. Certainly, within the Beydar survey itself this trend is not at all clear, and the evidence might suggest continuity from Halaf I through Halaf II. However, if the Beydar survey area is placed in a broader regional picture, the Halaf II seems to be characterised by increasing numbers of settlements, of which some were remarkably long-lived (Akkermans 1993, Campbell 1992, Erdalkıran in press, Nieuwenhuyse 2000). We argue that the relative scarcity of Halaf II sites in the Tell Beydar survey resulted not from a lack of Halaf II sites, but from a more frequent burying of such sites below later occupation from the Chalcolithic period onwards. Halaf II settlement may have been focussed more strongly on tell sites in comparison with the Halaf I. While most Halaf II sites continued to be small, dispersed and short-lived, a larger number now grew to the range of 4-6 ha, while a few gained an unprecedented size. Not far from Tell Beydar, Brak may have been an important site during the Halaf (D. Oates 1982). Tell Nisibin (Bertille Lyonnet's site KS 70) perhaps remains the largest Halaf site presently known in the Khabur, reaching a size of perhaps over 15ha by the end of the Halaf period (Nieuwenhuyse 2000). During the Halaf II for the first time a clear differentiation in settlement size becomes visible in the archaeological record.

What remains to be investigated, however, is the nature of the Halaf II "mega sites". Most Proto-Hassuna, Proto-Halaf and Halaf sites are likely to have appeared and disappeared within the duration of a ceramic period. The majority of excavated Halaf II sites belong to the category of such small, short-lived sites: Umm Qseir on the Khabur (Hole and Johnson 1987, Tsuneki and Miyake, eds, 1998), Khirbet es-Shenef in the Balikh (Akkermans 1993, Akkermans and Wittmann 1993), Shams ed-Din Tannira on the Euphrates (Gustavson-Gaube 1981). Fistikli Höyük and Tell Boueid II represent examples from earlier stages, Halaf I and Proto-Halaf, respectively (Bernbeck and Pollock 2003, Suleiman and Nieuwenhuyse, eds., 2002). It is possible to suggest that our reconstructions of later Halaf society have been skewed towards such smaller, less permanent settlements. This contrasts with the much less frequent occupations on larger Halaf II tell sites when the duration of occupation often occurs over several thousand years. Only recently have scholars began to excavate some of them, at Tell Kazane (Bernbeck *et al.* 1999) and Domuz Tepe (Campbell *et al*. 1999). Were the large Halaf II sites completely settled with dense populations, Chatalhoyuk-style, or were

they the amalgamated palimpsest of frequently shifting settlement? An inspection of Halaf surface material collected at the 20ha site of Tell Mounbatah in the Khabur suggests that the latter may have been the case. This Late Neolithic site does not appear to have been completely inhabited at any stage during its long history, but instead it consisted of two or more individual clusters of occupation that "moved" over the surface of the site through time.[14] Site size does not equal settlement size (Akkermans in press).

One possible explanation of this characteristic pattern of settlement is that Halaf settlements (and Late Neolithic settlements, in general) were demographically unstable. Catherine Breniquet and Jean-Daniel Forest have stressed that the lack of social structures was sufficiently strong to keep Halaf communities together in view of natural population growth. Tensions and conflicts would inevitably tear communities apart, resulting in the founding of new settlements elsewhere (Breniquet 1987, 1996: 119, Forest 1996: 55). This does not explain why some Halaf settlements managed to grow to a large size during the Halaf II. Social structures must have existed that kept people together over a longer time at certain locations. These may have included increased social hierarchy (Watson and LeBlanc 1990) or ritual control within a "decentralized stratified society" (Campbell 1992: 222), but the precise nature of later Halaf social organization remains elusive.

Alternatively, demographic instability may also have had quite the opposite effect. After a number of generations there may have occurred a gradual "drift" of members of the community towards the larger more successful settlements on the wadis. A related phenomenon was noted in West Africa by Glenn Davis Stone who observed that when Kofyar agriculturalists colonized part of the frontier zone, they paid little attention to soil quality. However after a generation or so the sites on the poorer soils were progressively abandoned in favour of areas of more favourable soils (Stone 1996: 185). In the case of the Beydar area, this would result in the inhabitants following an adaptive strategy in which initial settlements were occupied for a number of generations in a wide range of locations, and then gradually more successful settlements developed along the wadis, or perhaps at tells. Admittedly, this hypothesis remains difficult to test at present, owing to the lack of prehistoric pottery evident on the larger tells. Overall, there appears to have been first a general dispersal of settlement across the terrain and away from the wadis, and then during the later Halaf there was a concentration of settlement along the Wadi Aweidj and, to the north of Tell Beydar, on a north-south alignment through sites 41D and 58. In other words, this distribution towards more "successful" locations was not simply towards water sources, but also towards what later became a major north-south route through the sites of Sekar Tahtani and Sekar Foqani. This implies that economic forces of inter-regional movement were perhaps becoming more significant by the later Halaf period. These, together with processes of tell formation imply that social complexity, settlement nucleation, and economic forces were coming together during the later Halaf to contribute to a fundamental change in the location of settlements.

In terms of settlement organization, the final stages of the Halaf in the Tell Beydar area may have resembled the succeeding Ubaid period more than the earlier Halaf. There is some evidence to suggest increased social complexity during the Halaf II, which may have provided a basis for subsequent developments during the Chalcolithic. As Campbell argues, Halaf II obsidian and ceramic exchange networks may have been operating on a larger scale than before (Campbell 1992: 222). The use of polychrome painted Halaf Fine Ware certainly was a new element in the Halaf II. Trevor Watkins and Stuart Campbell have argued that the well-known polychrome painted HFW bowls for the first time represented a real symbol of power and social hierarchy (Campbell 1992: 217-218, 1995, Watkins and Campbell 1986: 55-56). Access to this pottery may have been only through a restricted number of central sites (Campbell 1992: 218). Often seen as being "typical" for the Halaf period, it seems to have had in fact a rather limited distribution. In the Tell Beydar survey, only one Halaf II site yielded a single polychrome HFW sherd. According to Campbell (1992: 217), polychrome painted HFW may be associated with larger, more deeply stratified sites. In the Tell Beydar survey, the polychrome sherd came from a *small* site (TBS 58). In the Lyonnet survey, Halaf II sites with polychrome pottery were not, on the average, larger than sites without them (Nieuwenhuyse 2000: 189), but most of them were nucleated tell-type sites. This pattern of settlement suggests that the tell, which forms such a distinct feature of the Middle Eastern landscape, had already started to form by the late Halaf period, and that the associated level of social complexity associated with larger nucleated communities might also have commenced at this time.

[14] This impression is based upon an inspection of the Late Neolithic ceramics collected at Mounbatah during the University of Amsterdam survey in the Balikh (Akkermans 1993).

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Appendix: Catalogue of Late Neolithic sites in the Tell Beydar survey

TBS 1: Tell Beydar (Lyonnet site KS 15)

Height: ? Length: ? Width: ? Area: ? Sherd density: ?
The Lyonnet survey yielded a single Halaf body sherd from the Bronze Age acropolis (area A), which certainly does not reflect the extent of Halaf settlement. At Tell Beydar, either Halaf occupation may be buried deep beneath the Early Bronze Age occupation, or the mudbricks employed to construct buildings at the site were dug from a nearby Halaf site.

TBS 4: Tell Rajab

Height: 25 m Length: ? E-W Width: ? N-S Area: ? Sherd density: ?
Tell and lower site, ca. 3.5 km S of Tell Beydar. On W side of Wadi ‘Aweidj. High tell with steep N-facing slopes; village on NW slopes. The size of the tell (4 ha) certainly not the extent of the Late Neolithic settlement. New wadi cut to E exposed Halaf pottery on wadi bed as well as in kiln with heavily vitrified interior in the E bank of wadi. EBA pottery dominates over entire mound surface. Lower site to N (not collected) appears to be mainly Iron Age. None of the Halaf pottery actually came from the tell, but rather from the alluvial sediments and kiln exposed in the present wadi bed. These deposits suggest that wadi flow was somewhat higher during the Halaf than in the post-Halaf period.

TBS 5

Height: 1 m Length: 150 m N-S Width: 60 m E-W Area: 0.7 ha Sherd density: 71,4 s/ha
Small, low mound of pale brown ashy soil, on low terrace on E bank of Wadi Aweidj between Tells Rajab and Jamilo. Collected twice in 1997. In addition to Late Neolithic material some later Sasanian/Islamic sherds to S and E.

TBS 7

Height: negligible Length: 100 m Width: 100 m Area: 0.8 ha Sherd density: 18,8 s/ha
Single small low natural mound apparently of natural pedogenically altered alluvium (cf. TBS 61) and covered by a veneer of prehistoric pottery. To W. of Wadi Aweidj. Cut by N-S drain. Pottery on site very sparse, but includes significant number of small painted Halaf sherds.

TBS 26

Height: 2 m Length: 125 m E-W Width: 110 m N-S Area: 1.0 ha Sherd density: 51 s/ha
Moderately small, low mound, 1.5 km S of Tell Khatoun (TBS 32). On gently rolling NW-facing slopes. Low rounded mounded with abundant pottery of early ceramic Neolithic date, but with a small number of Hellenistic sherds.

TBS 34B

Height: 2.5 m Length: 200 m N-S Width: 100 m E-W Area: 1.6 ha Sherd density: 25 s/ha
Moderately extensive site ca. 1.4 km NE of Tell Khatoun, on undulating terrace on E bank of Wadi Aweidj. Buried soil exposed in adjacent wadi cut shows 50-70 cm of post Parthian sedimentation of brown blocky clay. Parthian occupation mainly appears to occupy the upper part of mound; Uruk with BRBs and abundant early Neolithic coarse chaffy ware of indeterminate type outcrops to N and NW on area B.

TBS 37A: Tell Ghazal

Height: ? Length: ? Width: ? Area: ? Sherd density: ?
In addition to Ubaid sherds, 3 Halaf and 5 Halaf/ Ubaid were collected (not further described).

TBS 38

Height: 1.5 m Length: 110 m Width: 110 m Area: 0.95 ha Sherd density: 10,5 s/ha
On E bank of Wadi Aweidj ca. 400-500 m N of Tell Ghazal. Small low mound on floodplain. Cut in wadi shows coarse Chalcolithic pottery buried 1.5 m below brown blocky alluvium. Very low rounded mound with sparse pottery, but occasional dense scatters of coarse chaffy Chalcolithic? pottery in NE quadrant. Hellenistic-Sasanian, Mid-late Islamic, Uruk (3 BRBs) plus additional coarse chaffy wares of early ceramic Neolithic or Chalcolithic date.

TBS 40D: Tell Sekar Wastani

Height: < 1 m Length: 100 m N-S Width: 80 m E-W Area: 0.63 ha Sherd density: 30,2 s/ha
Moderate size tell, more subdued and less eroded than TBS 39. To S. of TBS 39 and between 39 and 41. Lower town (C, D and E) to N Includes modern cemetery. Adjacent to modern village. EBA wares, which are common, include both plain simple ware jars and fine ware cups and bowls. No MBA noted. Main tell collected as areas F, G, H, 1998 by J. Ur and PVD. Lower sites collected as A, B, to S and C, D, E to N. Late Neolithic sherds were collected from area D, which formed part of the lower town to the north. There is no record of prehistoric sherds from the tell itself.

TBS 41D: Tell Sekar Tahtani

Height: < 1m Length: 100 m N-S Width: 80 m E-W Area: 0.63 ha Sherd density: 1,6 s/ha
Large heavily-eroded tell, 23 m high, to S of TBS 40. Lower towns to N and S. At S end of site by village recently dug pits have exposed ancient mud brick wall; a single painted Halaf Fine Ware associated with this feature. In addition, one or two possible prehistoric sherds noted on the small low mound (D) to the SE of the site and E of a small wadi. Overall, the Neolithic site appears to be located in the southern part of the site and not on the tell itself. Main tell collected 1998 by J Ur and PVD as transects 1, 2, 3. Outer town mounds collected as A, B, C, E, to S., D to E and F, G, to N.

TBS 44

Height: 1 m Length: 120 m Width: 120 m Area: 1.1 ha Sherd density: 51,8 s/ha
Small, low and rounded mound ca. 700 m S of village of Samada, and ca. 500 m N of Tell Hassek. Late Neolithic Pottery (mainly Halaf) is common but occurs mainly in small fragments.

TBS 48

Height: 2 m Length: 80 m Width: 80 m Area: 0.5 ha Sherd density: 8 s/ha
Small site in NW sector of survey area, and below and west of basalt plateau, ca. 1 km SE of village of Mishirfe. Low rounded mound with pottery from the Halaf, Late Chalcolithic, and Hellenistic periods.

TBS 50A: Tell Ghazal Foqani

Height: 17.5 m Length: 170 m Width: 170 m Area: 2.3 ha Sherd density: 0,9 s/ha
Small but high tell (A) immediately S of village of same name, with lower elongate mound (B) to NE and partly obscured by village. Area A yielded some coarse Neolithic sherds, plain Late Ubaid, Late Chalcolithic, EBA plus indeterminate sherds. B: Late Chalcolithic chaff-tempered wares, miscellaneous 2nd or 1st millennium sherds; good Hellenistic. In this case, the small amount of Late Neolithic pottery clearly came from the tell.

TBS 54C

Height: 3 m Length: 170 m Width: 170 m Area: 2.3 ha Sherd density: 0,4 s/ha
Group of three small mounds in NW sector of area, ca. 4.5 km W of Sekar Fouqani. Within moderately narrow valley N of basalt plateau. Area A, a moderately rounded mound, is Iron Age and Hellenistic with stray Sasanian/Byzantine handles. Area B, partly bulldozed, is Hellenistic and Parthian. Area C, a prominent mound to the N, has 1-2 Hellenistic sherds plus some simple indeterminate hand-made forms and a single Late Neolithic sherd.

TBS 58

Height: 0.5 m Length: 220 m E-W Width: 200 m N-S Area: 1.75 ha Sherd density: 54,9 s/ha
Located ca. 1 km S of Tell Sekar Fouqani, to east of basalt plateau with weak trace of former wadi channel nearby. This virtually flat site appeared from the scatter of large sherds and occasional stones, to cover some 4 ha. However, following a second visit and discussion with the land owner it appears that the site was recently bulldozed and was therefore originally smaller but 1-2 m in height.

TBS 59E: Tell Jamilo (Lyonnet site KS 14)

Height: 3 m Length: 220 m N-S Width: 120 m E-W Area: 2.1 ha Sherd density: 42,4 s/ha
Moderately large tell to E of flood plain of Wadi Aweidj. Only briefly visited in 1997 because site had been collected by Lyonnet, but then collected in more detail in 1998. A deep gully cuts the S part of the tell, a shallower gully faces north towards Tell Beydar, and a lower mound extends to the south. Kiln slag is present on SE slopes, which suggests that pottery manufacturing was concentrated in SE part of the site. Abundant EBA pottery occurs over the entire site. Further details will be reported by B. Lyonnet. A good assemblage of Halaf pottery came from mound E, located to the SE of the tell just beyond a broad crescent-shaped depression. The Lyonnet survey had not detected Late Neolithic occupation here.

TBS 61

Height: 1.5 m Length: 120 m Width: 120 m Area: 1.1 ha Sherd density: 7,3 s/ha
Small low mound on low loam terrace of Wadi ‘Aweidj; to W of channel. Today site is cut by small canal which exposed a deep reddish soil with $CaCO_3$ soft concretions. The date of the pottery is Halaf, (with a few stray EBA sherds), and this therefore appears to be a shallow site that has been transformed by soil forming process into a complete soil profile.

TBS 65/66: Tell Khazna

TBS 65, Tell Khazna II is the low mound in NW of area, within the village of Khazna, in valley to E of basalt plateau. Eroded conical mound ca. 6 m high. No subdivisions. Strong Late Chalco presence at the surface. Excavations have shown a Late Neolithic presence (Munchaev and Merpert 1994). Close to the mound of TBS 66, Khirbet Khazna al-Gharbi.

TBS 74: Khirbet Ayid West

Height: 1.5 m Length: 70 m Width: 70 m? Area: 0.4 ha Sherd density: 95 s/ha
Collected in 1998. In NW part of area ca. 2 km W of Tell Farfara and 1 km W of village of Khirbet Ayid. Small low mound, now heavily bulldozed as result of extension of cotton fields. Site now remains as low upstanding ridge ca. 1.5 m high with bulldozed areas to W and E. Upstanding residual also cut by N-S drain. Pottery, which is moderately common, collected from bulldozed surface to W. Good collection of Halaf wares, some Late Chalcolithic.

TBS 81

Height: 2 m Length: 180 m E-W Width: 170 m N-S Area: 2.4 ha Sherd density: 14,6 s/ha
Small site ca. 300 m W of Wadi Aoueij between Tell Beydar and Tell Rajab, collected by J Ur and P.V. . E of Hasseka road. SE of Beydar III. Slightly mounded site 170 x 180 m x 2.5 m high. Common basalt stones on surface; frequent pottery of early Ceramic Neolithic date.

Aggregate site area: 20.26 ha
Mean site area: 1.2 ha
Mean Late Neolithic sherd density: 25,6 s/ha