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Breaking continuity? Site formation and temporal depth at Çatalhöyük and Tell Sabi Abyad

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Abstract

Spatial continuity of the house is often seen as crucial in providing temporal depth for the Neolithic societies of southwest Asia. While an emphasis on the creation of such continuities is evinced at densely agglomerated sites, other sites are characterised by dispersal and frequent relocation of habitation. Çatalhöyük (Turkey) and Tell Sabi Abyad (Syria) appear to be at either end of this spectrum. However, recently found evidence and reinterpretation of older evidence call into question the apparently stark distinction between the two sites. The purpose of this paper is to compare aspects of the archaeological evidence from Tell Sabi Abyad and Çatalhöyük, and in doing so to understand the different ways in which site formation and social continuity were achieved. In particular, the presence of breaks in spatial continuities – an often overlooked aspect of site formation – and its implications are discussed. It appears that at these two sites both continuity and breaks gave form and meaning to the settlements and to the societies that inhabited them. We argue that social continuities and anchors to the past can be constructed in many variable ways, and that direct spatial continuity of the house is but one.

Özet

Evin mekansal sürekliliği, güneybatı Asya'nın Neolitik toplumları için zamansal derinlik sağlamada genellikle çok önemli görülmektedir. Yoğun şekilde toplanmış yerleşimlerde bu tür sürekliliklerin yaratılmasına vurgu yapılırken, diğer yerleşimler ise yerleşimin dağılması ve sık sık yer değiştirmesi ile karakterize edilmektedir. Çatalhöyük (Türkiye) ve Tell Sabi Abyad (Suriye) bu yelpazenin her iki ucunda gibi görünmektedir. Bununla birlikte, son zamanlarda bulunan kanıtlar ve eski kanıtların yeniden yorumlanması, bizleri bu iki yerleşim arasındaki görünen keskin ayrımı sorgulamaya itmektedir. Bu makalenin amacı, Tell Sabi Abyad ve Çatalhöyük'ten gelen arkeolojik kanıtların farklı yönlerini karşılaştırmak ve bunu yaparken yerleşim oluşumunun ve sosyal sürekliliğin farklı yollarını anlamaktır. Özellikle, yerleşim oluşumunun genellikle gözden kaçan bir yönü olan mekansal sürekliliklerdeki kırılmaların varlığı ve etkileri tartışılmaktadır. Görünüşe göre bu iki yerleşimde, hem süreklilik hem de kırılmalar yerleşim yerlerine ve burada yaşayan toplumlara biçim ve anlam vermiştir. Bu makalede geçmişe yönelik sosyal sürekliliklerin ve bağların birçok değişken yolla inşa edilebileceği ve evin doğrudan mekansal sürekliliğinin bunlardan bir tanesi olduğu savunulmaktadır.

Çatalhöyük in Turkey and Tell Sabi Abyad in Syria (fig. 1) are both known for their remarkably long and continuous site histories, spanning the seventh and early sixth millennia, ca 7100–5600 cal. BC (table 1). Despite their similar dating, it is easy to regard the sites as being polar opposites in terms of settlement structure. While Çatalhöyük is well known for its agglomerated settlement pattern (Mellaart 1967; Düring 2006; 2007; Hodder 2007a), habitation at Tell Sabi Abyad is usually described as dispersed and segmented (Akkermans et al. 2006; Akkermans 2013a; Nieuwenhuys, Akkermans 2019).

Similarly, they are often understood as very different in terms of site-formation processes. Neolithic Çatalhöyük East, along with other sites in central Anatolia, is marked by an apparently extraordinary emphasis on continuity, with house built on house in long temporal sequences (Hodder, Cessford 2004; Düring 2005; Hodder 2019; Kinzel et al. 2020). As a consequence, the site itself is seen as having been produced by long-term stable occupation despite the many material culture changes noted throughout its sequence (Hodder 2014). Population and density estimates are high (Cessford 2005). Tell Sabi

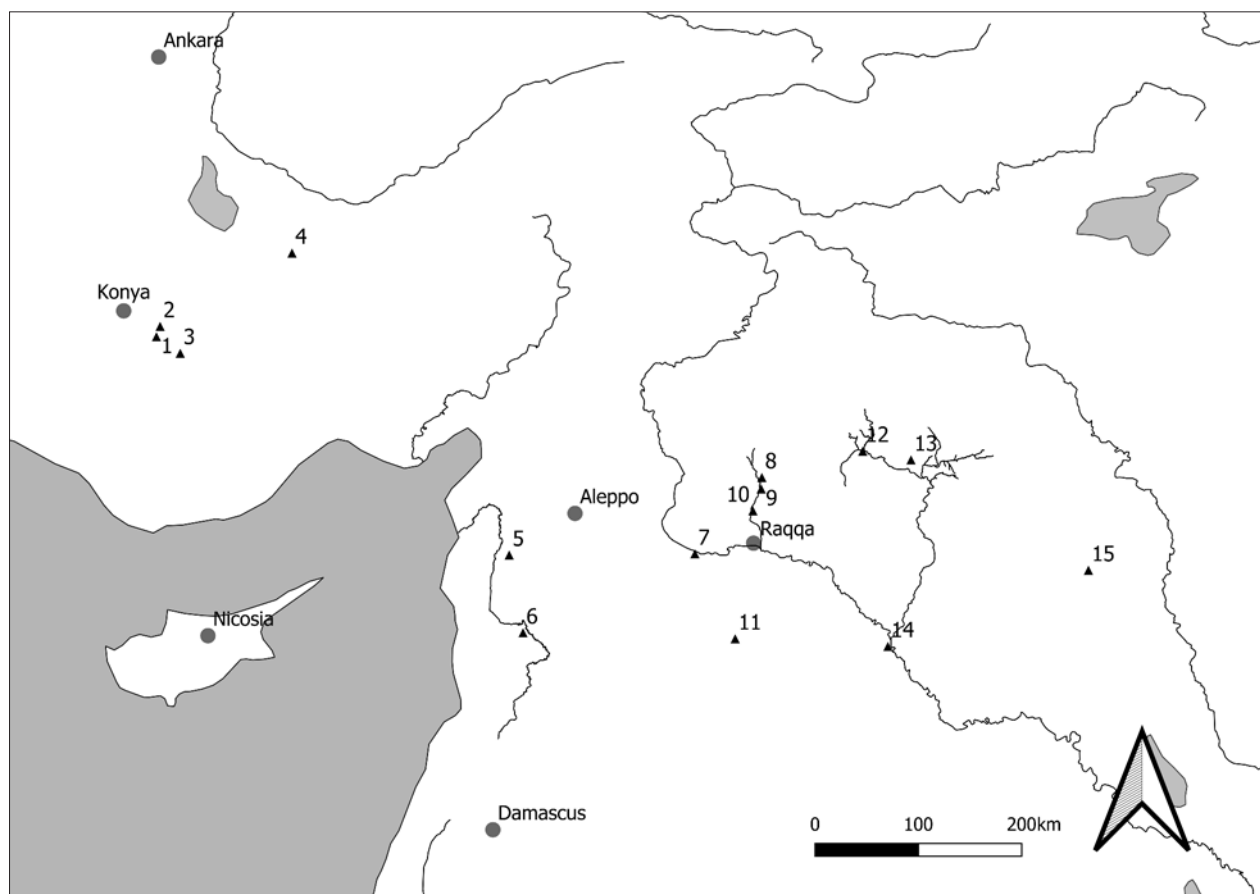


Fig. 1. Sites referred to in the text: 1. Çatalhöyük, 2. Boncuklu, 3. Pınarbaşı, 4. Aşıklı Höyük, 5. Tell el-Kerkh, 6. Shir, 7. Abu Hureyra, 8. Tell Sabi Abyad, 9. Tulul Breilat, 10. Tell Mounbatah, 11. El-Kowm, 12. Seker al-Aheimar, 13. Kashkashok, 14. Bouqras, 15. Umm Dabbaghiya (map: D.J.H. Halbertsma).

Abyad, on the other hand, consists of multiple mounds within and amongst which there was significant movement and shifting of settlement; there was less emphasis on the continuity of houses and population estimates are lower (Akkermans 1993; 2013a; Akkermans et al. 2006). While both sites were apparently successful in maintaining habitation for over 1,500 years, the observed differences in settlement structure imply different mechanisms behind their continuity.

The issue of continuity at the scales of both house and settlement is relevant to numerous questions regarding the size and organisation of Neolithic communities in southwest Asia. At the settlement scale, various authors have argued for increased sedentism over time from the Epipalaeolithic onwards (Bar-Yosef, Belfer-Cohen 1989; Kuijt 2006; Goring-Morris, Belfer-Cohen 2011) and for a major expansion in population density with the onset of settled farming (Bocquet-Appel 2011). However, much debate exists as to the density inside these agglomerations and their internal organisation, especially the mega-sites of the later PPNB (Rollefson 1987; Hole 2000; Simmons 2000; Verhoeven 2006; Düring 2007; Campbell, Fletcher

2013). In this discussion, spatial continuity is key: were the large tell sites, including mega-sites, ‘towns’ or ‘villages’ or were they ‘palimpsests’, the result of small-scale, short-term, fairly mobile settlement? What was the settlement (and by extension population) size at any one time? Current evidence suggests a large degree of regional and temporal variability regarding these issues.

At the house scale, continuity can be seen as crucial in providing temporal depth as delayed-return systems became increasingly prevalent in the Neolithic of southwest Asia (Banning 1998; Hodder 2007a; 2019). The long house histories of Çatalhöyük and Aşıklı Höyük (Duru 2018; Hodder 2018) have become emblematic of continuous habitation in the Neolithic of southwest Asia, particularly in central Anatolia (Özbaşaran 2011; Bami et al. 2016; Baird et al. 2017). Ruth Tringham (2000; see also Borić, Beck 2007) identifies large-scale regional differences in the forms of these continuities. Throughout Anatolia and the Levant, she sees tell sites with vertical superimposition of buildings whereas in southeastern Europe she identifies tells with partial vertical superimposition of buildings. As the Neolithic moved northwards –

Date cal. BC	Tell Sabi Abyad					Çatalhöyük							
	Op.I	Op.II	TSA I Op.III	Op.IV	Op.V	TSA II	TSA III	CH East South	CH East North	CH East TP, TPC, GDN	CH East IST	CH East Mellaart	CH West
5600													
5700			D-Seq										
5800	Level 1	Level 1	C-Seq.										
5900	Level 2												
	Level 3	Level 2											
	Level 4		Level B1		Phase III								
	Level 5A/B	Level 3	Level B2							TP.Q-R		I	West
6000	Level 6	Level 4	Level B3										
	Level 7A		Level B4										
	Level 7B		Level B5										
6100	Level 8A		Level B6										
	Level 8B		Level B7										
	Level 9		Level B8										
6200	Level 10		Level B9		Phase II					TP.O-P		II	
			Level A1		Phase I								
6300			Level A2					South.T		TP.N		III	
			Level A3	Level 1				South.S		TP.M			
6400			Level A4	Level 2				South.R	North.H-J	TP.L	IST	IV	
			Level A5					South.Q					
			Level A6					South.Pb				V	
6500			Level A7					South.Pa					
			Level A8					South.O				VIA	
6600			Level A9					South.N	North.F-G			VIB	
			Level A10			Level 1 Trench H7		South.M				VII	
6700			Level A11					South.L				VIII	
6800			Level A12					South.K				IX	
			Level A13			Level 2 Trench H8		South.J				X	
6900			Level A14					South.I				XI	
			Level A15					South.H				XII	
7000			Level A16			Level 3 Trench H9		South.G					
7100						Level 4							

Table 1. The site chronologies of Tell Sabi Abyad and Çatalhöyük. At Tell Sabi Abyad excavation proceeded at Tell Sabi Abyad I (with Operations I, II, III, IV and V), Tell Sabi Abyad II and Tell Sabi Abyad III (note that habitation at Tell Sabi Abyad II started in the mid-eighth millenium cal. BC: see Verhoeven, Akkermans 2000). At Çatalhöyük excavation focused on several areas of Çatalhöyük East (South Area, North Area, TP, TPC, GDN, IST and the Mellaart trenches) and on Çatalhöyük West.

in central Europe – she identifies tells and open sites with partial and complete horizontal displacement of buildings. However, there is much more variability than implied by this model, and many sites, especially those further to the east – such as Tell Sabi Abyad – do not fit neatly into this scheme.

The purpose of this paper is to compare aspects of the archaeological evidence from Tell Sabi Abyad and Çatalhöyük, and in doing so to understand the different ways in which site formation and continuity were achieved. In particular, the presence of breaks in these spatial continuities – an often overlooked aspect of site formation – and its implications will be discussed.

Çatalhöyük and Tell Sabi Abyad: two sites on a spectrum

At Çatalhöyük there are many examples of houses built precisely on the footprint of earlier houses. These house sequences at Çatalhöyük do not appear to be purely functional in nature – for example, necessary due to the dense settlement structure of the site – as in the later phases of the site the long-term stacking of houses is still witnessed despite the existence of very large open areas (see Hodder 2019 for a more extensive discussion). Furthermore, the continuity of building in specific locations is also seen at the nearby site of Boncuklu, which has a much more open and dispersed settlement pattern (Baird et al. 2012). Although not the standard at Tell Sabi Abyad, several instances of the rebuilding of structures in the same spatial location are witnessed at the site (Akkermans, Brüning 2019). However, habitation at the site is characterised more often by a continual relocation of structures, with individual buildings only rarely remaining in a single location longer than one generation (Akkermans 2013a: 69). Furthermore, at Çatalhöyük there is ample evidence of repeated practices and memory construction between buildings founded on the same spot, for example through the identical positioning of internal features or the repetition of specific symbolic acts (Hodder, Cessford 2004; Hodder 2019). In contrast, at Tell Sabi Abyad no clear examples exist of specific symbolic links between sequential buildings, and the locations of internal features are often subject to change. From a more practical perspective, at both sites earlier buildings could have provided a sure foundation for later construction. While at Çatalhöyük such a use of disused buildings is commonplace, at Tell Sabi Abyad foundation platforms are usually specifically built for new structures or no foundation is used at all (Akkermans et al. 2006: 136; 2011).

Indeed, the differences between Çatalhöyük and Tell Sabi Abyad can be seen as emblematic of two ends of a spectrum. On the one hand, at Çatalhöyük there appears to have been a focus on the spatial continuity of settlement and house while, on the other, at Tell Sabi Abyad there

seems to have been a focus on breaks, through the shifting pattern of settlement. While this distinction may be valid, recently found evidence and reinterpretation of older evidence are beginning to question such a stark distinction between the two sites. There is increasing evidence of breaks in occupation and shifting of settlement at Çatalhöyük and it can be argued that at Tell Sabi Abyad there is more evidence of continuity, both of the built environment and in the cemetery, than meets the eye initially. It appears that at each site both continuity and breaks gave form and meaning to the settlements and the societies that inhabited them.

What can these new interpretations tell us about the processes of sedentism and agglomeration? How were the continuities that are key components of agricultural societies constructed at these two sites? With the ample evidence for breaks, how were place and identity produced? At both sites the implications of such breaks, as well as their relationships to the maintenance of continuities throughout time have not yet been investigated fully. Our aim is to show that a comparison of these two sites on their respective sides of the aforementioned spectrum contributes to a better understanding of these questions.

Some initial comparisons

Despite the apparent significant differences, the clear similarities between Çatalhöyük and Tell Sabi Abyad do not end at their dating. Although the sites are located in culturally and ecologically distinct areas, the Konya plain and the Balikh valley respectively, various aspects of their lifestyles and material culture can be seen as similar.

The sites compare well; they are both long-lived settlements that have been extensively excavated, resulting in well-dated and detailed site chronologies. The site chronology of Tell Sabi Abyad is the product of extensive stratigraphic analyses, large-scale radiocarbon dating (Verhoeven, Kranendonk 1996; Verhoeven, Akkermans 2000; van der Plicht et al. 2011; Akkermans et al. 2014) and, for part of the site, Bayesian modelling (van der Plicht et al. 2011; Akkermans et al. 2014; Plug et al. 2014). The evidence indicates continuous habitation at the site throughout the entire seventh to the first half of the sixth millennium cal. BC. Similar analyses at Çatalhöyük including Bayesian modelling have also established continuous occupation during this period (Cessford 2001; 2005; Bayliss et al. 2015; forthcoming; Marciniak et al. 2015a; Orton et al. 2018).

The prehistoric deposits of the main mound of Tell Sabi Abyad stand ca 6m above the surrounding plain, but another 4m of the mound is below modern field level due to the build-up of alluvium (Akkermans 2008: 622; Akkermans, van der Plicht 2014). So, Tell Sabi Abyad I

would be around 10m in height, compared to the 21m of Çatalhöyük on the Konya plain. In terms of size, Çatalhöyük East is 13ha (Hodder 2007a) whereas Tell Sabi Abyad is around 5ha (Akkermans et al. 2006). Nonetheless, both sites were dominant, important visual points of reference in their contemporaneous prehistoric landscapes (Akkermans 2013a: 73). Survey of the Konya plain conducted by Douglas Baird recorded sites earlier than and later than the main occupation at Çatalhöyük, but only very few sites contemporary with the seventh-millennium sequence (Baird 2005; see also Massa et al. 2020). While survey of the Balikh floodplain has yielded several sites contemporary with Tell Sabi Abyad, the longevity of the latter stands in contrast with most other sites in the region (Akkermans 1993).

In terms of site formation processes, at both sites construction is largely of sun-dried mud. At Çatalhöyük all the houses are made of mudbrick, although house walls are also supported by timbers in the earlier part of the sequence (Love 2013; Barański et al. forthcoming). The houses at Tell Sabi Abyad are occasionally made of mudbrick, but more commonly of rammed earth or large clay slabs (Akkermans et al. 2006). On rare occasions there are stones at the base of the walls (Akkermans 2010; 2013a; 2013b: 40). Both sites have open areas where external activities and midden deposition occurred (Akkermans et al. 2006; Düring 2007; Nieuwenhuys 2018), although these seem more extensive at Tell Sabi Abyad than at Çatalhöyük.

There were similar subsistence practices, based on the exploitation of domesticated plants and animals, supplemented by wild resources. Evidence of domestic sheep, goat and cereals occurs at both sites. Domesticated cattle do not seem to have appeared until the latest occupation of Çatalhöyük and no evidence of domesticated pig has been found (Russell et al. 2013). Domesticated pigs were present at Tell Sabi Abyad, and cattle are seen to transition from being proto-domestic to fully domestic in the second half of the seventh millennium cal. BC (Cavallo 2000; Russell 2010: 198). Both sites have revealed early pottery, and for most of the sequence ceramics are plain with organic temper (Nieuwenhuys et al. 2010; Yalman et al. 2013); towards the end of the seventh millennium cal. BC decorated and fine-ware styles gradually appear in large quantities (Nieuwenhuys 2009; Özdöl 2012; Nieuwenhuys, Akkermans 2019).

Although Çatalhöyük is distinctive in terms of its elaborate symbolism and ritual, there are similarities in ritual practice between the two sites and regions. As at Çatalhöyük (Russell et al. 2013), animal horns and other bones occur in ritual contexts at Tell Sabi Abyad. For example, at the latter site they are sometimes found in graves, as well as in foundation and abandonment deposits

(Russell 2010: 100, 248). Additionally, clay balls containing animal horns have been found in the ‘burnt village’ of Tell Sabi Abyad in association with two deceased individuals (see below). These have been interpreted as ritual objects, possibly representing stylised animal figures (Akkermans, Verhoeven 1995: 16; Verhoeven 1999: 221). In other symbolic spheres, both sites reveal evidence of the intentional breakage of figurines and dowels used to affix figurine heads (Meskell et al. 2008; Kluitenberg 2014: 126). And, as discussed further below, fire appears to have played a ritual role in the closure of some buildings at both Çatalhöyük and Tell Sabi Abyad.

It is important, however, not to ignore the differences between the two sites. For example, there are significant distinctions in terms of the importance of communal activities. At Çatalhöyük, each house had its own storage (Mellaart 1967; Hodder, Cessford 2004; Twiss 2012; but see Kay 2020), while at Tell Sabi Abyad there are examples of groups of houses appearing to have shared storage space in the form of bins or small plastered rooms (Akkermans et al. 2006; Akkermans 2013a). Moreover, from at least the later seventh millennium cal. BC onward there were large, communal storehouses at the latter site (Akkermans, Duistermaat 1997). Similarly, at Çatalhöyük each house had its own oven and hearth (Mellaart 1967; Hodder, Cessford 2004), while at Tell Sabi Abyad only some houses had their own hearths and ovens, with most cooking facilities located in the large, shared yards between the clusters of houses (Akkermans et al. 2006; Nieuwenhuys 2018). At Çatalhöyük people were buried in the houses (Haddow et al. 2020), but at Tell Sabi Abyad the vast majority were buried in the long-lived communal cemeteries located on the northeastern slopes of Tell Sabi Abyad I and III (Akkermans 2013b: 40–43; Plug et al. 2014; Plug, Nieuwenhuys 2018). Only a few individuals – mainly infants and children – were buried in houses (but often only after their abandonment: Akkermans 2008: 624–25). Finally, houses at Çatalhöyük were foci of art (Last 1998; Hodder, Cessford 2004), but at Tell Sabi Abyad there is just one example of house decoration. It appears that, while at Çatalhöyük much daily and ritual practice was based in the house, social groups at Tell Sabi Abyad constantly engaged in communal activities in open areas between the houses and, occasionally, on platforms in the centre of the settlement (Akkermans et al. 2011: 5).

Such differences may be related to the scale of population at each site – it can be argued that the larger a community, the more anonymous it becomes (see, e.g., Hole 2000). Living in small communities allows for close face-to-face contact and exchange; by itself, this promotes a lifestyle where sharing and communal activity are at the fore. However, regional differences may also be at play

here. Such a focus on communal activity is witnessed elsewhere in the upper Mesopotamian and northern Levantine regions, with communal storehouses and/or cemeteries evident at several sites, including Shir, Tell el-Kerkh, Umm Dabbaghiya and Bouqras (Kirkbride 1975; Akkermans et al. 1983; Tsuneki, Miyake 1996; Bartl 2012: 387; Jammo, Tsuneki 2020).

In terms of natural environment and subsistence, Çatalhöyük is situated on an alluvial fan amidst the flat marl Konya plain. The settlement was placed within the multiple rivulets of an anabranching river system within which there was a mosaic of dry and wetland habitats and resources (Ayala et al. 2017; Wainwright, Ayala 2019). At about 1,000m above sea level and with annual precipitation of 300–400mm, the Konya plain offered marl environments, wetlands and surrounding uplands to be exploited for a variety of resources from oak and juniper to chert and grinding stone (Ayala et al. 2017; Wainwright, Ayala 2019). However, human and animal isotopes indicate that sheep were rarely grazed off the plain, and cereals seem to have been grown locally in a diversity of wet and dry environments (Bogaard et al. 2021). Much agricultural labour was local, integrated and intensive, with little need for long-distance mobility for most of the population (Bogaard et al. 2021). However, there is evidence for a wider use of the plain after 6500 cal. BC, perhaps related to dryer environmental conditions in the later phases of occupation at the site (Pearson et al. 2021).

Like the majority of Neolithic sites in its surrounding region, Tell Sabi Abyad was located along the watercourses of the Balikh river, a perennial tributary of the Euphrates which meanders across the Jazirah plain (Akkermans 1993: 19, 139). The semi-arid steppe of the Jazirah lies approximately 300–450m above sea level, and the area can be considered as marginal for dry farming (Wilkinson 1998). With an annual precipitation limited to 200–300mm (Wossink 2010), the proximity of Tell Sabi Abyad to water is not coincidental. Despite its arid surroundings, until at least the mid-20th century the Balikh valley was well-watered, with several small branches of the Balikh intersecting the area (Mallowan 1946; Akkermans 1993: 20). Nonetheless, it appears that the region was prone to periods of drought (Boerma 1988; Wilkinson 1998). Such environmental unpredictability would have required a degree of resilience and flexibility on the part of the Neolithic inhabitants of the region.

As is true for Çatalhöyük, the inhabitants of Tell Sabi Abyad engaged in a local, intensive form of agriculture in which water and nutrients were carefully managed in order to optimise the fields close to the site, alongside pastoral activities (Akkermans 1993: 216; Styring et al. 2017). However, towards the end of the seventh millennium cal. BC it appears that the inhabitants of the region adopted an

increasingly mobile lifestyle which may have included mobile pastoralism (Cavallo 2000: 114). Survey of the region has suggested a decline in both the number and size of settlements in the Balikh valley towards the end of the seventh millennium cal. BC and an increase of small sites in the early sixth millennium cal. BC – also into the previously uninhabited steppe at this time (Akkermans 1993; 2014: 1467; Becker 2015; Nieuwenhuys, Akkermans 2019: 119). Many of these small sites show only short-term and intermittent habitation. While a degree of variation in the ovicaprid diet suggests that separate flocks were grazed in isotopically distinct areas throughout most of the sequence at the site, in the second half of the seventh millennium a (subtle and gradual) narrowing of dietary variability is witnessed (Russel 2010; van der Plicht et al. 2012). This may indicate that towards the end of the seventh millennium cal. BC flocks were herded increasingly in areas with isotopically homogenous food sources or, alternatively, that flocks were herded increasingly together, perhaps as a form of pooling of resources. The latter interpretation is especially interesting given the emergence of large-scale storage facilities around the same moment in time, possibly providing another example of the communal management of resources.

It is possible that, while at Çatalhöyük house groups were able to maintain their autonomy due to their profitable and stable ecological surroundings, community-wide cooperation was increasingly necessary towards the end of the seventh millennium cal. BC and onwards in the ecologically marginal surroundings of Tell Sabi Abyad. The variation in the strategies employed at Tell Sabi Abyad and Çatalhöyük may also be related to the significantly different numbers of inhabitants at each site. Whereas a population of only several dozen individuals has been postulated for Tell Sabi Abyad (Akkermans et al. 2006: 151), estimates for Çatalhöyük are in the several thousands (Cessford 2005). Therefore, the communal management of resources would have been more practicable for the much smaller community of Tell Sabi Abyad.

Continuities and breaks at Çatalhöyük and Tell Sabi Abyad

Having established a basis for the comparison of the two sites, we can now consider the breaks in occupation and their relationships to the maintenance of continuities through time. As noted above, while the continuous nature of the Çatalhöyük house has received much attention for some time now, recently it has become increasingly clear that such continuities were punctuated by breaks. Although a degree of continuity has always been acknowledged alongside a general trend of shifting habitation for Tell Sabi Abyad, the complex interplays between breaks and continuities at the site have yet to be evaluated in detail.

In the context of this paper, a spectrum of breaks, from the smaller and shorter-term to the larger and longer-term, will be discussed systematically for each site:

- (1) larger-scale breaks in mounds and sub-mounds;
- (2) abandonment of a series of adjacent houses to use as open space;
- (3) changes in the use of a single building or space;
- (4) burning of buildings or groups of buildings.

Larger-scale breaks

Of the four separate mounds at Tell Sabi Abyad, each measuring between 0.5ha and 5ha, only Tell Sabi Abyad I, II and III have been excavated due to the presence of a modern cemetery on the mound of Tell Sabi Abyad IV. Occupation of all the excavated mounds appears to have been founded in the late eighth or early seventh millennium cal. BC (Akkermans, Verhoeven 2000; Nieuwenhuys et al. 2010; Akkermans, Brüning 2019). The settlement throughout this long period consisted of several dispersed clusters of habitation of only ~0.1–0.2ha in size (Akkermans 2013a; Nieuwenhuys, Akkermans 2019) and was marked by several relocation events (fig. 2). While initially the mounds – each separated by a few dozen to a few hundred metres – were inhabited simultaneously by small, spatially defined groups, around approximately

6700 cal. BC habitation contracted to the main mound (Tell Sabi Abyad I) (Verhoeven, Akkermans 2000; Nieuwenhuys et al. 2010; Akkermans et al. 2011; Akkermans 2013b). In the following centuries, mounds II and III were used mainly for mortuary purposes, with just some minor building activity. The main mound shows a complex settlement history, with the sequence of habitation layers representing the entire use-life of the site (Akkermans et al. 2006). Excavation at Tell Sabi Abyad I focused on several different areas, named Operations I to V. These excavations revealed that Tell Sabi Abyad I consists not of one mound, but several partly merged sub-mounds. The two western sub-mounds were founded at the beginning of the seventh millennium cal. BC. Around 6200 cal. BC these settlements relocated to their eastern slopes, where the two eastern sub-mounds formed due to ongoing habitation in the centuries up to approximately 5700 cal. BC (Akkermans et al. 2006).

It is especially interesting to note that during the long period in which the settlements at Tell Sabi Abyad I underwent several relocation events, the main cemetery of the site – located in Operation III – was continuously in use. While the precise beginnings of this cemetery are unknown, its chronology provides evidence of continuous burial activity throughout the second half of the seventh



Fig. 2. Tell Sabi Abyad I, II and III appear to have been founded in the late eighth or early seventh millennium cal. BC. Habitation contracted to Tell Sabi Abyad I around 6700 cal. BC. Subsequently, around 6200 cal. BC, the settled area shifted from the western sub-mounds of Tell Sabi Abyad I to their eastern slopes.

and early sixth millennia cal. BC (Plug et al. 2014). However, since excavation of this area was halted before deposits without graves were reached, there is good reason to believe that this cemetery was already in use much earlier. It appears that, while there was remarkably strong continuity in the spatial location of the dead, the precise spatial location of the living was more flexible, as evidenced by significant events of relocation – both on larger and smaller scales (see below).

The main mounds at Çatalhöyük East and West, separated by several hundred metres, each appear to be more singular than the main mound at Tell Sabi Abyad. However, recent research at Çatalhöyük East has begun to appreciate the importance of separate sub-mounds. Excavations on the northern and southern sub-mounds have identified a number of material-culture differences (Mazzucato 2019; Mazzucato et al. forthcoming), and it seems that the northern sub-mound was abandoned in the later phases of the site while the southern sub-mound continued in use (Farid et al. forthcoming). Recent excavations under the direction of Çiler Çilingiroğlu have confirmed the late Neolithic date of the occupation on a low eastern sub-mound (Çilingiroğlu personal communication, August 2019). Analysis of radiocarbon dates from

the East and West Mounds at Çatalhöyük has suggested that occupation on the West Mound may have started by 6300 cal. BC (Orton et al. 2018). At that point, four mounds or sub-mounds may have been occupied: dwindling settlement on the northern eminence or sub-mound of the East Mound; the smaller sub-mound on the eastern side of Çatalhöyük East; the main southern sub-mound; and the beginnings of occupation on the West Mound, separated from the rest by a few hundred metres. Through time, there was a shift from the northern sub-mound to the eastern sub-mound and West Mound, while the southern sub-mound continued to be occupied throughout (fig. 3). As already noted, at Çatalhöyük East burial occurred within houses and there was no cemetery that could have acted as a focus of continuity for the community as a whole. However, after the move to the West Mound in the late seventh and early sixth millennia cal. BC the East Mound continued to be used for burial (Orton et al. 2018), creating continuity in, perhaps, similar ways to that seen at Tell Sabi Abyad.

The shifts at this scale may be related to overall changes in population density and organisation. At Çatalhöyük there is evidence for a gradual decline in population density after 6500 cal. BC, linked to greater settlement

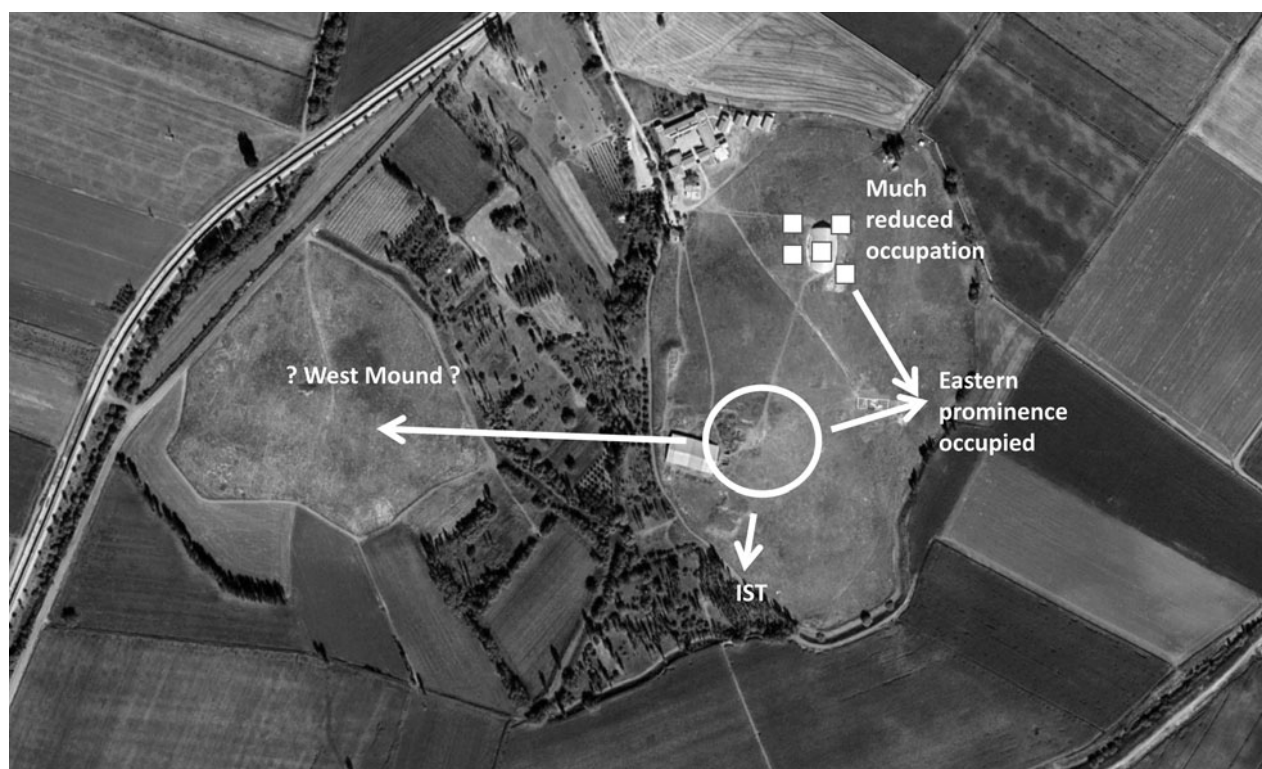


Fig. 3. Hypothesised spread of occupation onto different mounds and sub-mounds in the second half of the seventh millennium cal. BC at Çatalhöyük. The date of the shift of some settlement to the West Mound, at around 6300 cal. BC, is conjectural (see Orton et al. 2018). The shifts to IST and the eastern prominence in the late and final phases (from 6500 cal. BC onwards) are based on excavation and ceramic distributions; the depletion of settlement on the northern eminence from 6300 cal. BC is based on excavation evidence.

mobility and dispersal (Hodder 2014). Density of buildings on the northern eminence declined as houses apparently became more independent with greater areas of open space around them. There are numerous indicators of increased mobility (for example in human femur mid-shaft indices) and a wider use of the landscape (as seen in sheep isotopes) (Hodder, Marciniak 2015). This is also the period of a linked herding station at Pınarbaşı (Baird et al. 2011). Furthermore, there is much evidence from slumping and collapsed walls and very deep wall foundations that, as the mound grew in height (to a maximum of 21m above the Neolithic plain), houses became increasingly unstable and this may have encouraged the move from the northern eminence to the new eastern area (Barański et al. forthcoming). However, as suggested by later settlement mounds which can rise up to 40–50m without apparent problems, such a purely functional explanation for the abandonment of the northern eminence seems insufficient, especially in relation to a site with many centuries of strong socially defined house continuity. It is likely that other, more socially and symbolically influenced motivations played important roles. For example, it has been proposed that the shifts in settlement may represent social fissioning, linked to increased household autonomy, competition and mobility (Orton et al. 2018: 635).

Continuous fissioning has also been proposed as a social tactic during the later Neolithic of Upper Mesopotamia (Akkermans, Schwartz 2003: 150) and may also have played a role in the intra-site mobility witnessed throughout the sequence at Tell Sabi Abyad. Although at Tell Sabi Abyad occupation contracted to the main mound in the mid-seventh millennium cal. BC, rather than spread out as at Çatalhöyük, a segmented character of settlement is witnessed throughout the sequence of the site. The existence of dispersed occupations continued through the shifts of habitation seen at the end of the seventh millennium cal. BC. Therefore, it has been argued that the settlement at Tell Sabi Abyad was characterised by the existence of small, spatially segregated occupations, which periodically relocated within the site (Akkermans 2013a). Nonetheless, the extremely long-lived use of the general location of Tell Sabi Abyad and the placement of the settlement's dead suggest, at least on a larger scale, a significant attachment of the local Neolithic community to continuity of place.

The exact motivations behind this largest scale of shifting habitation at Tell Sabi Abyad are unclear. They may have been the result of natural fluctuations of the social groups present at the site. However, they can also be linked to wider cultural practices witnessed at the site and across the wider region. In particular, the large-scale shifts in settlement at the end of the seventh millennium cal. BC were accompanied by several gradual changes in

material culture and subsistence activities (van der Plicht et al. 2011; van der Horn et al. 2015; Nieuwenhuys et al. 2016). These include an increased focus on storage and ownership, as well as changes in symbolism and the expression of identities through burial practice, pottery and architecture. Also, it has been suggested that at the end of the seventh and start of the sixth millennia cal. BC the population of the region adopted an increasingly mobile and pastoral lifestyle (Cavallo 2000; Akkermans, Schwartz 2003: 126–31, 151–53; Russell 2010; van der Plicht et al. 2011). It is possible that the introduction of a spatially flexible lifestyle associated with increasing mobility at both Çatalhöyük and Tell Sabi Abyad had an impact on the overall attachment to place. However, at Tell Sabi Abyad the limited importance of spatial continuity of habitation within the general location of the site appears to have preceded the increasingly mobile lifestyle postulated for the later seventh and early sixth millennia cal. BC.

Abandonment of a series of adjacent houses

At a second level of scale, there is also evidence of abandonments involving a consecutive swathe of buildings. In the South Area of Çatalhöyük there is remarkable continuity of buildings up until South O (ca 6600 cal. BC). Many, but not all, excavated buildings of this phase had been burnt, although not all at exactly the same time. In the following Level P (ca 6500 cal. BC) there were widespread levels of dumped building material and midden and quarry pitting, and also trampled surfaces interspersed with external fire spots and small fire pits, in addition to some large external ovens. There was also a child cemetery in this open area, on top of which Building 75 was constructed (this break can be seen in section in fig. 4). The overall extent of the open area in Level P is difficult to assess due to truncation by the excavations conducted in the 1960s by James Mellaart, but it potentially stretched from Building 86 to Building 53: an area about 30m in length (incorporating Spaces 371 and 132). A similar break, though smaller in extent, has been identified within the North Area at Çatalhöyük. Space 279 consists of areas of midden and pitting that extend over earlier houses (Farid et al. forthcoming). Dated to North I, this discontinuity occurs rather later than the event described in the South Area and is likely another example of localised areas of open activity that occurred from time to time across the site, especially in the later levels.

At Tell Sabi Abyad this scale of discontinuity in habitation is common, with clusters of habitation continuously shifting around, periodically growing or contracting. This is most clearly exemplified in Operation I, where repeated instances of localised abandonment involving larger groups of houses are witnessed. Habitation in Operation I, located in the southeast of Tell Sabi Abyad I, appears to

have started around 6200–5950 cal. BC (Akkermans et al. 2014: 32). The occupation of this area is characterised by a continuous cycle of construction, abandonment and gradual infilling, followed by construction. This habitation was spread over ten successive phases, most of which were separated by phases of localised abandonment (see fig. 5). Bayesian modelling of Operation I suggests that most habitation phases lasted for relatively short periods of time, roughly 15–35 years or a generation at most (Akkermans, van der Plicht 2014: 27). It must be noted that this duration includes the entire cycle from construction to decay, suggesting a very short use-life for most structures (Akkermans 2014: 248). Additionally, the modelling confirms the existence of a number of hiatuses of up to 50 years interspersed throughout the use of the area for architecture. In these phases of abandonment and decay of the structures, there is evidence for the accumulation of waste and ashes, the construction and use of fire places, and the burial of mainly sub-adult individuals, suggesting not a complete abandonment, but rather the localised shifting of habitation (Akkermans 2013a: 70). Occupation dating to the observed hiatuses may have existed very nearby (perhaps at a distance of just a few dozen metres). The end of one of the building phases of Operation I, Level 6, is characterised by a large-scale conflagration. This phase is also referred to as the ‘burnt village’ and dates to ca 6010–5995 (Akkermans, Schwartz 2003: 112; Akkermans, van der Plicht 2014: 31).

This cycle of occupation and abandonment seen at Operation I of Tell Sabi Abyad has no exact parallel in the first part of the sequence at Çatalhöyük, but in the second half of the occupation, the open area between Buildings 86 and 53 mentioned above was reoccupied in a very sporadic and perhaps cyclical manner (Farid et al. forthcoming). This open area in South P first housed Building 53; there was then a return to open space before Building 42 was constructed. Other intermittent use of this open area is indicated by Buildings 75 and 85 (Taylor forthcoming a). Explanations for this type of local abandonment are difficult to discern for Çatalhöyük. One possibility concerns cycles of social relations. In the South Area there is an increase in the amount of symbolism, ritual and burial in houses up to South O, and this is also the period in which we have evidence of various forms of stress on the human body (Haddow et al. 2020). It is possible that a local neighbourhood group experienced internal tensions that led to dispersal and abandonment. At Tell Sabi Abyad, for the end of Level 6 of Operation I such intensification of ritual expression is witnessed in the wholesale intentional destruction of the buildings by burning (Akkermans, Verhoeven 1995). However, in the other phases of this sequence of habitation in this area, no such indications have been found. This shifting pattern of habitation is part

of the ebb and flow of building witnessed at the site, perhaps a result of both the lower population density and a more diffuse settlement pattern in comparison to those seen at Çatalhöyük.

Changes in the use of a single building or space

At a third scale is the abandonment of individual buildings followed by their use for other activities, such as the deposition of midden or burials. Some of the abandoned buildings are not used for any sort of activity, but are simply manually deconstructed or left to decay. At Çatalhöyük careful consideration of stratigraphic relations coupled with detailed dating and Bayesian modelling has allowed the sequence of occupation in part of the North Area to be mapped in 25-year slices between 6650 and 6400 cal. BC (Bayliss et al. forthcoming). This shows clearly (fig. 6) that there were three types of space at Çatalhöyük in this period: house buildings; open areas or midden, often in abandoned houses; and empty lots (i.e. buildings that were left open or partially filled in but not rebuilt and not used as a dense long-term midden).

There is much evidence for the diverse use of these empty lots at Çatalhöyük. Building 2 is an example of a building that, following abandonment, was employed for a series of uses (Hodder 2007b). Biomolecular analysis indicates human faecal material, confirmed by both sterol and bile acid residues (Matthews et al. 2013). This supports the hypothesis that this particular abandoned building was used as a latrine and waste dumping area, before it was back-filled with debris from building demolition. Burcu Tung and Marek Barański (forthcoming) note a brief penning episode after the abandonment of Building 163 and before the construction of Building 52. As another example, the walls of Building 116 were simply left standing as the building began to be used as an external area, Spaces 99 and 101 (Hodder forthcoming). After abandonment, Building 86 became part of an open area (Hodder forthcoming). James Taylor (forthcoming b) describes how the end of the use of Building 97 is defined by the accumulation of midden debris. Further evidence of a hiatus between the end of the use of Building 97 and its infilling is indicated by the clay silt room fill within the western quarter of the building which occurred prior to a burning event. Another clear example of a break and change of use is provided by the main room of Building 132 (Klimowicz, Tung forthcoming). When this was abandoned, the main room, Space 531, was carefully filled in and then used as a burial ground (Space 602) for five different burials before Building 77 was built.

As at Çatalhöyük, at Tell Sabi Abyad there is evidence of both spatial continuity in house construction and the abandonment or change of use of individual buildings. It is especially in the early phases of the site (ca 7000–6700



Fig. 5. South- and west-facing sections through the deposits of Trench P15, Tell Sabi Abyad I. Clearly visible is the localised cycle of habitation and abandonment so characteristic of Operation I (illustration: D.J.H. Halbertsma; phases after Verhoeven 1999: 34, fig. 3.5).



Fig. 6. The apparent clustering of contemporary buildings in the North Area at Catalhöyük (left) compared with the Bayesian probabilities of the use of space in the 25-year time slice 6575–6550 cal. BC (right) in part of the same area (source: Alex Bayliss, Justine Issavi and Camilla Mazzucato).

cal. BC) that most continuity of construction is observed. During this period, at the start of the seventh millennium cal. BC, structures are not only much more standardised in terms of construction but they are also much more frequently founded on the remains of their predecessors, usually with only a slight reorientation and/or shifting between the separate phases of construction (Akkermans, Brüning 2019). An extreme example of such continuity is found in the early seventh-millennium cal. BC layers of Tell Sabi Abyad III, where a structure was repeatedly and continuously rebuilt at least ten times in the same location, with only minor adaptations to the building plan (fig. 7). Each individual building was preserved to a height of a few centimetres only. Thus, it appears that this long sequence of rebuilding was realised by continuously demolishing each house almost to its foundations. The repeated building of structures in the same location is encountered in the later phases of the site, too, but at this time it is less frequent and less prolonged.

Nonetheless, throughout the history of the site discontinuity rather than continuity in house construction appears

to be the norm. This is usually seen in the gradual replacement of structures – the intentional relocation of houses and the presence of single-phase houses in continuously used areas. This is exemplified in Operation III, where houses are seen to replace each other gradually over time (see fig. 8). It appears that, as a building fell out of use, it was replaced with another; often the replacement would not be in the same location, but nearby. In many cases a disused house was simply left to decay rather than being manually dismantled in any way (Akkermans 2013a: 70). Such spatial flexibility in the replacement of structures may be an important factor in the settlement drift witnessed at Tell Sabi Abyad, which appears to account for the large size of the site relative to the small proportion settled at any given moment in time.

Therefore, at Tell Sabi Abyad the distinction between the different scales of breaks and shifts should be seen as highly gradual and strongly interconnected. This is different from Çatalhöyük, where changes in the use of a single building were continual throughout the sequence and rarely led to shifts at the larger scale.

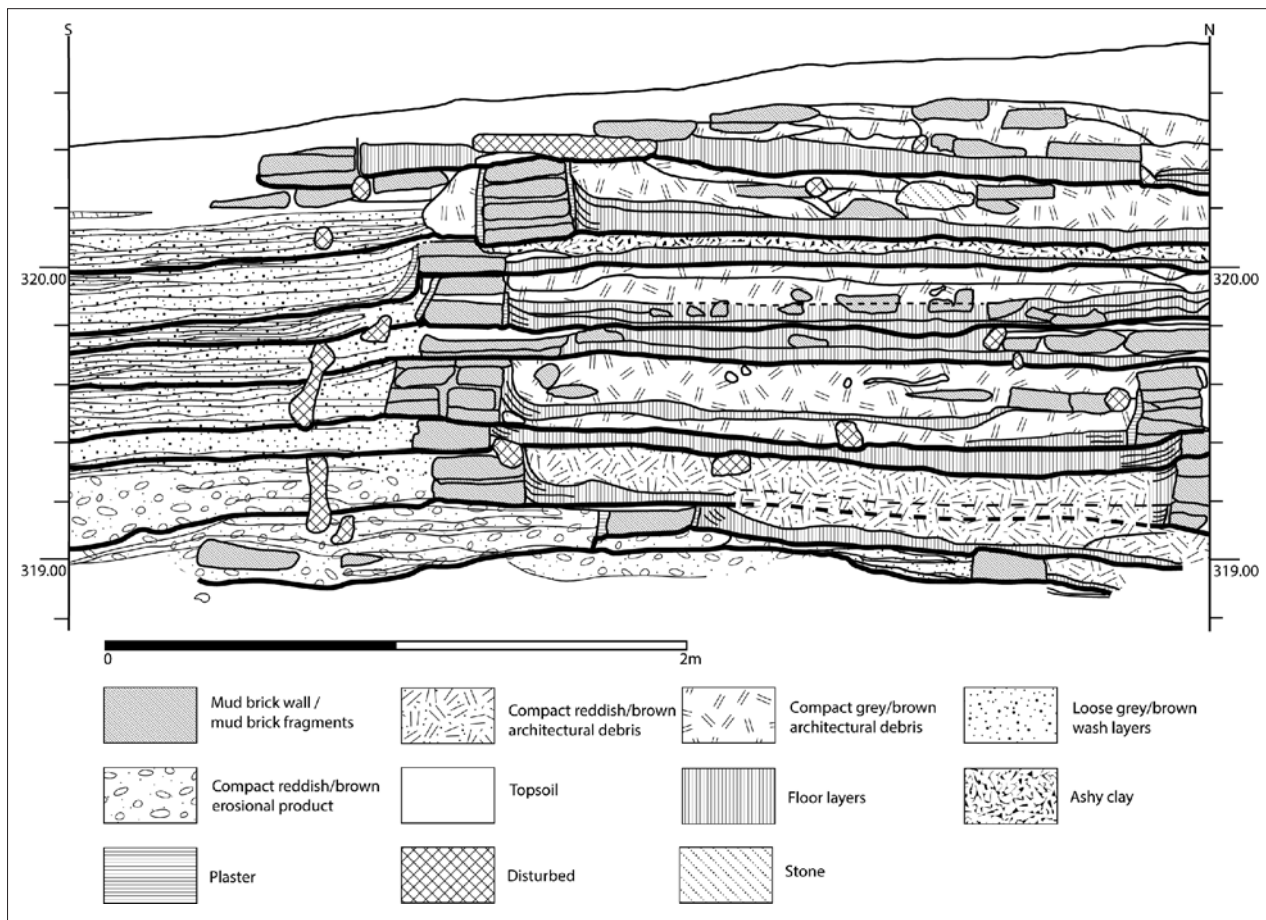


Fig. 7. East-facing section of Trench 18E, Tell Sabi Abyad III. The repeated and continuous rebuilding of house structures is especially witnessed in the early phase of the site, for example on the mound of Tell Sabi Abyad III. The ten phases identified in this instance form an extreme example of such continuity of construction (illustration: D.J.H. Halbertsma).



Fig. 8. The gradual replacement of structures so characteristic of Tell Sabi Abyad: Tell Sabi Abyad I, Operation III, occupation phases Level A3 to A1 (ca 6395–6225 cal. BC) (source: A. Kaneda, Tell Sabi Abyad Project).

For Tell Sabi Abyad most evidence for the abandonment of houses comes in the form of collapsed and eroded building material and wash layers within the fill of buildings. Additionally, several examples exist of the use of houses for other activities for a certain period of time. Such activities include the burial of infants or children (Akkermans 2008: 623), the construction of features (such as a large basin built into the remains of a disused building: Akkermans et al. 2006: 134) and the use of the decaying house structure as a midden. An example of the latter is found in Operation III, Level A2 (6385–6325 cal. BC). Here, directly on and also partly above the floor of the main room of Building A3.2 (see fig. 8b), a deposit rich in organic material and (mainly broken) artefacts was found. All in all, the finds present in the fill of this building are characteristic of midden. Crucially, the deposits also contained large amounts of mixed structural debris, loose pieces of plaster and other erosional product presumably originating from the building's walls and roof. It appears that the building had been left to decay and in the meantime was used for the disposal of household refuse. Interestingly, this building also provides an example of a type of spatial continuity in construction encountered regularly at Tell Sabi Abyad. After the structure had been filled, apparently gradually, with waste, building debris and erosional product, Building A1.1 (see fig. 8c) with partly the same floorplan was constructed directly on top of the stubs of the older walls of Building A3.2. However, it is clear that the older walls were already in an advanced state of decay, as the stubs were no longer upright. In this example, a form of house continuity was achieved, albeit interrupted by a break of considerable duration. Such a juxtaposition of both spatial continuity and breaks in construction appears to be common at the site, and perhaps may be more prevalent than often assumed at other Neolithic sites in the wider region.

This scale of break in continuity may again, for Çatalhöyük, be explained by changing social configurations and the life cycles of domestic groups. There was always a need to find open areas within the settlement for refuse discard and for a range of outdoor activities, as indicated by fire spots and debitage. As social groups expanded and contracted, houses might temporarily have been abandoned, have been turned into open areas or new houses might have encroached into areas previously used as middens. There is much evidence at Çatalhöyük that households formed local neighbourhood groups, and that the internal arrangements of these groups changed through time (see, e.g., Düring 2006). Due to the overall lower density of occupation at Tell Sabi Abyad, there appears to have been a less urgent need for the direct repurposing of space. The abundant open areas between the clusters of buildings would have allowed a certain flexibility in

construction and the option to leave buildings to decay. However, much like at Çatalhöyük, the use of areas was not motivated by practical, constructional considerations only, but also by other community needs. As mentioned above, it is clear that, while the remains of a building could have been utilised as a stable foundation for the next (which indeed was frequently done in the early seventh-millennium cal. BC phases of the site), in many cases the Neolithic inhabitants of Tell Sabi Abyad chose not to make use of this potential. In general, individual buildings were not used for more than one generation, and often their locations were not subsequently reused without a significant break. This has prompted the suggestion that buildings were tied to specific occupants, with only general areas being tied to wider social lineages (Akkermans 2013a: 70–71).

Burning of buildings or groups of buildings

Further possible evidence of breaks in continuity at Çatalhöyük is provided by the burning of buildings. The abandonment of most houses involved quite formalised procedures of cleaning, dismantling, covering and infilling (Twiss et al. 2008). But from South O and North G (ca 6600 cal. BC) onwards some houses were burned. Many of these burns seem to have been carefully managed and intentional (Twiss et al. 2008), although there are instances in which an accidental fire seems possible. The burning of buildings produces very different types of assemblages and fills. On the whole, burnt buildings have large amounts of collapsed architectural material in their fill, often remarkably well preserved by the burning. And there is often more material found on floors and more evidence of fixtures that have not been dismantled.

It is these rich assemblages of the burnt buildings that have offered the clearest insight into the complexity and scale of some abandonment practices at Çatalhöyük. Notably, in Building 77 there was intentional breakage of a large quantity of groundstone before the building was burned (Tsoraki forthcoming). In the burnt Building 52 a remarkable collection of wild cattle horns was stacked above a bucranium before burning (Twiss et al. 2008). Building 114 is a further interesting case (Tung forthcoming). The structure itself was not burned, but there was much burnt fire-installation material and ash and charcoal in the fill. Indeed, the fill of this building is unique in terms of its concentration of finds and sits in contrast to the rather sterile fills observed in most unburnt buildings. The finds from the fill include large amounts of animal bone, such as bucrania, and parts of human skeletons (feet, arms and crania). While this material could be interpreted as the dumping of refuse and material from disturbed graves, most of the skeleton of a human juvenile was sprawled out in the fill, in a manner suggesting a deliberate ritual purpose.

At Tell Sabi Abyad a number of structures and groups of structures provide intriguing evidence for the intentional application of fire at the end of their use-life (Akkermans 2008: 627–31). The most well-known example of such practice at the site is the ‘burnt village’ of Level 6, Operation I (Tell Sabi Abyad I). As mentioned above, after abandonment most of the structures belonging to this phase were subjected to a large-scale event of intentional burning (Akkermans, Verhoeven 1995; Verhoeven 1999; 2000: 46; Akkermans et al. 2014). Inside the very small rooms comprising several of these structures, many items, such as burnt grain, pottery, flint and stone tools, personal ornaments, figurines and clay sealings, were found, prompting their use to be interpreted as related to controlled storage (Akkermans, Duistermaat 1997; Verhoeven 1999). The remains of eight sub-adults were found within this settlement phase; most had been buried when the area was already abandoned, but some were buried prior to the conflagration (Aten 1996; Otte et al. 2014). Interestingly, the remains of the only two adults present in the burnt village, a male and a female, were found in the burnt collapse deposit filling one of the burnt buildings, suggesting that their bodies had been located on the roof of the building prior to the fire. It appears that the burning of the settlement marked an important moment in the use of the area, as following the fire the formerly densely packed occupation of storehouses was replaced by a much smaller collection of mainly residential structures (Akkermans 2014: 255).

A similar, but slightly earlier example of intentional burning of a house structure at Tell Sabi Abyad, found in Operation II (dating to 6050–6020 cal. BC), shows that the ‘burnt village’ was not unique at the site (Akkermans et al. 2012). As in the case of the ‘burnt village’, the Operation II burnt structure was found in association with human remains. In this example, the body of an adult female was placed on the floor of one of the rooms and covered with a layer of soil prior to the burning of the building. Again, this structure was filled with many highly fragmented items. Intriguingly, none of the hundreds of pottery sherds found in this building could be reassembled into complete vessels. Peter Akkermans thus proposes that the items present in this building, and by extension possibly also those found in the ‘burnt village’, may not represent the original inventories of the structures or refuse deposits, but rather were placed there as part of the wider ritual act of burning (2014: 255). The burnt remains (including ashes) were limited to the building’s interior; the area around the burnt building was kept clean from burnt materials. The structure, still standing up to 1.5m in height after the fire (Akkermans et al. 2012), must have stood as a highly visible, burnt reminder in this part of the settlement. After a period of

unknown duration, this location was once again used for the construction of a building with exactly the same floorplan and orientation.

Thus, at both sites the predominant account of the burning of buildings is that it was intentional and managed. Also, at each site the burning of buildings at times involved the deposition of large amounts of fragmented items, indicative of the participation of the wider community in the burning and ending of the use-life of a house. However, at Çatalhöyük it appears that the fires were house-based rather than on the larger scale of the ‘burnt village’ of Tell Sabi Abyad. House burnings certainly affected neighbouring houses and Mellaart notes extensive conflagrations in the South Area (1967); but even in the latter cases not all buildings were affected. House burning at Çatalhöyük seems related to complex rituals, started at a particular moment in the life of the settlement (Level South O, ca 6600 cal. BC). There was a build-up of symbolic elaboration of houses and of increased burial within houses in the decades leading up to South O; this was also the time of the greatest density and packing at the site, and there is human skeletal evidence of increased stress and disease (Hodder 2014). It is possible that the ritual burning was somehow a response to these pressures. Certainly, from South P (ca 6500 cal. BC) onwards the pressures seem to have been alleviated and there were numerous changes in the settlement (greater mobility, greater dependence on sheep herding, more secondary burial, more independence of houses, less continuity of houses: Hodder, Marciniak 2015). However, the burning of houses continued sporadically throughout the upper levels of occupation.

While at Tell Sabi Abyad significant changes in settlement are also witnessed in Operation I after the large-scale conflagration, it is possible that the main relevance of fire as a ritual agent was linked to practices surrounding death. The occurrence on multiple occasions of the intentional conflagration of buildings packed with items in association with human remains has been interpreted as reflecting established symbolic practices at the site relating to mortuary behaviour (Verhoeven 2000; 2010; Akkermans 2008: 629–31; 2014: 255). Crucially, it should be noted that both the ‘burnt village’ of Operation I and the earlier burnt house of Operation II were already in a state of abandonment at the moment of conflagration and, during the period of abandonment, had already started to be used for the disposal of the dead (Akkermans 2008: 631). As such, it may be suggested that the burning might not have been related to the abandonment of the buildings *per se*, but rather should primarily be associated with the use of the area for the dead. It is of interest in this regard that fire also appears to have played an important role in the wider mortuary sphere at the site. For example, this is witnessed

through the association of the burial of infants or young children with ovens on several occasions, the placement of burnt material into funerary contexts as a type of grave good and the treatment of burial pits with fire prior to use (Plug, Nieuwenhuys 2018: 347). The most exceptional use of fire in the mortuary sphere at Tell Sabi Abyad involves the application of fire directly to the human body. In these striking burials, the inside of the chest cavity only was found to be scorched (Plug, Nieuwenhuys 2018: 337). Interestingly, this practice reoccurs at least 13 times throughout a period of several hundred years in the main cemetery on Tell Sabi Abyad I, but also in the smaller cemetery found during the 2010 season of excavation on Tell Sabi Abyad III (Plug forthcoming).

It thus appears that on occasion at Tell Sabi Abyad fire may well have marked the end of the use-life of buildings and groups of buildings, but more often and more convincingly it marked the end of life of community members. While mortuary practices involving fire, including the burning of houses, were apparently exceptional at the site, it is of note that they appear to have been regularly spaced throughout a long period, occurring no more than once or twice per generation. This suggests that on select occasions specific past events were re-enacted, sometimes in a reinterpreted way, providing a sense of identity, time-depth and continuity for the community of Tell Sabi Abyad that was not sought in the house *per se*. Rather, the abandonment of houses at Tell Sabi Abyad seems very often to be intentional and definitive. It can be hypothesised that at Tell Sabi Abyad houses were abandoned for good with the departure or death of their inhabitants, the burnt buildings perhaps providing exceptional examples of this practice. If the abandonments were, indeed, intentional and generational, it was the fate of the occupants of the houses that was decisive in this process of desertion. It also suggests that the houses were very closely tied to their occupants; direct reuse of the buildings was apparently not undertaken (or was perhaps even taboo). Thus, their extended presence in the lived environment after their use-life and their slow and gradual merging with the fabric of the mound may have been a quite powerful reminder of past generations.

Discussion

As has become abundantly clear, breaks formed an integral part of site formation at both Çatalhöyük and Tell Sabi Abyad. Nonetheless, despite the abundance of breaks there are a number of ways in which continuities were created spatially at these sites, at both the settlement and house levels.

At the house level, continuity was achieved in several ways. At Çatalhöyük earlier buildings provided a sure foundation for later construction, and there is much evidence of repeated practices and continuities in art and

symbolism between buildings founded on the same spot. Although definitely not the standard, certain buildings at Tell Sabi Abyad (especially in the earlier phases of the site) are seen to be rebuilt in the same location, in one exceptional case up to ten times. However, in general at Tell Sabi Abyad rebuilding is less direct and there is more evidence of abandonment between rebuilds than at Çatalhöyük. Nonetheless, houses and other facets of material culture at Tell Sabi Abyad were made according to long-lived styles and traditions, aimed at the continuity of practically proven local life-ways.

At the level of the settlement as a whole, despite the shifting between sub-mounds, each site acted as a key focal point in the inhabited landscape across a remarkably long time-span. Both Çatalhöyük and Tell Sabi Abyad have long sequences, with continuous settlement at the site level over at least 1,500 years, or roughly 60 generations. People were strongly tied to these places, because of favourable local resources, ancestral connections and a sense of belonging. Desertions of entire sites were drastic, rare measures, employed only when no other options to ensure (some form of) continuity were at hand. On the other hand, localised breaks and abandonments were part of the natural, commonplace waxing and waning of settlements.

Indeed, important breaks in occupation are seen at both sites on different scales. Our main conclusion is that direct continuity must not be taken for granted. Recent research indicates a common pattern of the frequent and sometimes prolonged disuse of buildings and sections of the settlement at both Çatalhöyük and Tell Sabi Abyad. While these abandonments may have been prompted by factors such as accidents or have been due to buildings simply having reached the ends of their use-lives, there is extensive evidence for planned, intentional breaks. Evidence from Tell Sabi Abyad indicates that houses typically lasted for a single generation, with their abandonment possibly tied to the passing or departure of their original users (generational shift). However, the ubiquitous evidence for floor renewal suggests that buildings at the site were, indeed, generational to a very large extent, but at the same time often dynamically altered during their lifetime. Buildings were subsequently usually left to their fate or used as middens. We should envision a settlement comprised of houses in use standing amongst abandoned houses in varying states of decay. In the words of Akkermans: ‘The people ... literally lived in their past, in the sense that the ruins of earlier occupations were omnipresent in their villages’ (2014: 249).

Consequently, it is clear that a careful consideration of continuities and breaks is key to any attempt to evaluate settlement and population sizes. Site size and continuity are often used very loosely by archaeologists to propose

large settlements and populations, as in the case of ‘mega-sites’ (Akkermans 2013a: 71–72). This paper illustrates that the scale of settlement needs to be determined by detailed stratigraphic and dating analyses (Akkermans et al. 2006). The identification of three types of space at Çatalhöyük – buildings, open spaces and abandoned houses – should temper attempts to calculate population size based on settlement plans that are in fact composites of spaces of different dates. Such issues of contemporaneity of structures at Neolithic sites and their implications have been raised by several scholars (e.g. Birch-Chapman, Jenkins 2019). Wesley Bernardini and Gregson Schachner (2018: 7) propose that Çatalhöyük may have had a settlement structure comparable to southwestern Pueblos, where on average 57% of the settlement consisted of open space. The recent Bayesian analysis of the North Shelter trench at Çatalhöyük indicates that in any 25-year time slice an average of 47% of the area in this part of Catalhoyuk East was not occupied (Bayliss et al. forthcoming). Extrapolated to the whole site, this indicates a population estimate at maximum occupation of around 2,800 people, rather less than the 3,500–8,000 suggested by Craig Cessford some time ago (2005). While not quite as drastic a shift as proposed by Bernardini and Schachner (2018), it is clear that a significant part of the settlement would not have been occupied at any given moment in time. As at Çatalhöyük, a considerable part of Tell Sabi Abyad was also not occupied by buildings at any given time. There apparently was plenty of building space, as the deserted structures were often not levelled but simply left to decay. There may have been more open space at Tell Sabi Abyad because of its particular environment and social and economic systems that were focused on smaller groups of dispersed people with much higher mobility.

Indeed, both the multi-sitedness and the shifting habitation witnessed at Tell Sabi Abyad are seen at other seventh- and sixth-millennium cal. BC sites in the Balikh area, such as Tulul Breilat and Tell Mounbatah (Akkermans 1993: 163; 2013a), and also at sites in the wider region, such as Tell el-Kerkh, el-Kowm, Kashkashok and Seker al-Aheimar (Akkermans, van der Plicht 2014). It appears that the communities in the region consisted of several largely self-sufficient social groups living in larger agglomerations which were marked by ever-changing spatial, and presumably social, configurations. The unpredictability of the environment around Tell Sabi Abyad may well have favoured flexible, spatially dispersed groups, as opposed to the dense agglomerations and large numbers of people witnessed at Çatalhöyük. On the other hand, a higher density of population and more limited mobility were possible at Çatalhöyük due to the rich and reliable mosaic of dry and wetland resources on

the alluvial fan of the Konya plain. However, social, cultural and economic factors must be considered as well, as evidenced by larger communities known from arguably even more challenging environments than that of Tell Sabi Abyad, such as Bouqras on the lower Euphrates (Akkermans, Schwartz 2003: 120–21).

Thus, another explanation for the differences between the two sites can be suggested. There is much evidence at Çatalhöyük that the house was an important social, productive and symbolic unit, and the main mechanism for creating social rules (Hodder, Cessford 2004). In particular, burial within the house created continuity with ancestors and the house was the vehicle for passing information from earlier ancestors to the contemporary community. It is of relevance that at the end of the occupation of Çatalhöyük, in the final phases in the TP Area, focus on house continuity decreased, accompanied by fewer burials in houses (Düring 2006; Marciniak et al. 2015b). Additionally, through the shift of settlement from Çatalhöyük East to West, burial activity appears to have remained tied to the East mound, and even persisted after its final abandonment (Orton et al. 2018: 636). Therefore, it may be proposed that at Çatalhöyük the relevance of the house as a focal point for the creation of temporal ties lessened throughout time and that continuities were increasingly sought in a more general past.

Throughout the sequence at Tell Sabi Abyad the dead are virtually never associated with buildings during their use. Rather, a separate, communal funerary location provided continuity through time. While settlement areas shifted and changed, the cemetery continued as a focus. If the cemetery at Tell Sabi Abyad was indeed a mechanism for creating social rules, there may have been less emphasis on creating continuities via the house. As a result, there is less evidence of memory construction in the buildings at Tell Sabi Abyad and also less evidence of their exact reconstruction on the footprints of earlier buildings in comparison to Çatalhöyük. If dwellings were not intended for reuse or rebuilding on the same alignment, it is also possible to explain the wider practice of shifting settlement at the site. However, also at Tell Sabi Abyad buildings were more than simple, practical, anonymous providers of shelter. Certainly, there is overall intentionality and meaning in the continuity of houses at Tell Sabi Abyad. For example, the tripartite house plans built on platforms in the early seventh millennium cal. BC are repeated again and again over hundreds of years and many generations (Akkermans, Brüning 2019), and have local iterations continuing into the sixth millennium cal. BC (Akkermans 2014: 250). This suggests that social conventions and norms related to house building were strongly developed; adhering to these rules was crucial to the local community. Moreover, several clear examples of repeated

building in one location do occur at the site, most prominently in the earliest phases. But the breaks in occupation are more substantial at all scales and there is less continuity of individual buildings across them. Therefore, while for both sites it can be suggested that the ‘idea’ of the house could be replicated (with the repetition of standardised house plans), at Tell Sabi Abyad specific houses themselves were often not.

Conclusions

As we have seen, rather than being polar opposites, Çatalhöyük and Tell Sabi Abyad illustrate the importance of both continuity and break in the structuring of the lived environment and evidence of changing emphases on continuity versus dispersal at different scales. At both sites breaks in occupation occurred as social groups waxed and waned in size and composition. At the level of individual houses, their use at Tell Sabi Abyad appears to have been mostly generational and tied to the life cycles of their inhabitants. Some houses at Çatalhöyük were also occupied at the generational scale, but others were inhabited for 50 to 100 years before being quickly rebuilt and reinhabited (Bayliss et al. forthcoming). However, Çatalhöyük seems to have been much less continuous and agglomerated than is usually supposed. At both sites there were cycles of concentration and dispersal at the neighbourhood and settlement levels. These different levels were linked so that greater dispersal at the larger scale was often associated with more frequent breaks and relocations at the house level.

How can we explain the different yet similar practices at Çatalhöyük and Tell Sabi Abyad, two sites over 500km apart? There are numerous possible mechanisms that may have homogenised practices over extensive areas, such as migration (Pilloud et al. 2017), exchange (Carter et al. 2008) and the circulation of ideas (Hodder, Meskell 2011), but we are not convinced that a singular narrative of cultural influence is needed. While such mechanisms of cultural influence undoubtedly played a formative role in architectural traditions, we must also consider that the constraints of mudbrick construction may often have led to similar responses to the challenge of house building in sites occupied over many generations.

More important perhaps are the broader implications of the similarities in site formation observed between the two sites. The recognition of cycles of concentration and dispersal may undermine attempts (e.g. Bar-Yosef, Belfer-Cohen 1989; Kuijt 2000; Moore et al. 2000; Goring-Morris, Belfer-Cohen 2011) to determine long-term evolutionary trends towards greater sedentism and higher population densities from the Epipalaeolithic onwards in southwest Asia, particularly with regard to the so-called ‘mega-sites’. It is essential to realise that estimates of

settlement areas and their degree of contemporaneity are usually highly arbitrary; or, stated differently: simultaneous settlement all over a site is often simply assumed, rather than proven through extensive excavation and precise layer-by-layer dating. While, for example, the extensive ‘mega-sites’ of the late eighth to early sixth millennium BC, up to 20ha in areal extent, are commonly understood in terms of ‘towns’ and ‘proto-urbanism’ with concomitant huge population densities (e.g. Kuijt 2000; Moore et al. 2000; Bienert 2004; Gebel 2004; Simmons 2007; Ben-Shlomo, Garfinkel 2009), their site plans commonly reveal groupings of smaller mounds, the contemporaneity of which cannot be established beyond broad phases of often many decades or even centuries in duration (cf. Hole 2000; Akkermans et al. 2006: 151–52; Akkermans 2013a). It is worth noting that most of the models of exponential site growth, density and inferred population growth in the late PPNB and afterwards are derived from sites in the southern Levant, with the situation in the northern Levant and Anatolia perhaps being substantially different. However, it is probably not unreasonable to propose a re-evaluation of the southern Levantine data, in light of the evidence brought forward in this paper. We suspect at least some of these large sites to represent palimpsests of basically small and dispersed habitations, which were in the making over many centuries or even millennia.

In delayed-return agricultural systems there is the need to construct continuity despite this waxing and waning of generations, houses, neighbourhoods and sub-mounds. At the two sites considered in relation to each other, these continuities across breaks were established in rather different ways. At Çatalhöyük there is much evidence of ritual and symbolic continuities in houses, with artefacts and skeletons and skulls passed down between generations. But this active memory construction in the house was tied to place. It seems to have been important to repeat the activities in each house in ensuing houses on the same footprint, to maintain the ancestral home across stacks of buildings. Such a focus on the house appears to be a broader phenomenon across the Neolithic and beyond. Moritz Kinzel and colleagues (2020: 3) note that ‘Neolithic buildings, houses in particular, are perceived by many as a focal point for maintaining, building up and transmitting social memory’ and similar arguments have been made by a wide range of authors discussing numerous different contexts (e.g. Joyce, Gillespie 2000; Watkins 2006; Beck 2007; Borić 2008; González-Ruibal 2016). At Tell Sabi Abyad, however, the focus on ancestry and place primarily occurs at the community level in the location of the site and the cemetery, as well as in the continuity of mortuary practices and styles of houses and other forms of material culture. But in terms of actual house

location and settlement there is greater drift. It can be suggested that the difference between the two sites in these respects is mirrored in the more abundant evidence for collective storage and communal food preparation at Tell Sabi Abyad in contrast to the predominantly house-based storage and food preparation of Çatalhöyük.

Indeed, very real differences between the two sites have been pointed out in site formation, linked to the different social and economic systems at the respective settlements. Perhaps the modular house-based system at Çatalhöyük allowed larger and more continuous occupation. Perhaps at Tell Sabi Abyad living in small, flexible, tight-knit communities provided the means to be resilient in a frequently challenging environment. And, as discussed above, the different emphases on continuity versus break in the built environment may be due to different social systems in which relations with the ancestors were house based versus community based. The differences between Çatalhöyük and Tell Sabi Abyad are to an extent part of larger regional trends. The small-scale shifting settlement pattern at Tell Sabi Abyad is not only typical for the seventh millennium cal. BC in the region, but also for many PPNB sites. Current evidence from Syria is strongly in favour of merged sites with evidence of restricted and dispersed occupations, similar to the Tell Sabi Abyad grouping (Akkermans 2013a: 71; contra Moore et al. 2000 and Tsuneki 2012 regarding the possible ‘mega-sites’ of Tell Abu Hureyra and Tell el-Kerkh). As such, one could consider Tell Sabi Abyad a ‘type site’ for the later Neolithic in upper Mesopotamia and the northern Levant. In a similar way, Çatalhöyük can be considered a ‘type site’ for the central Anatolian region, with a greater emphasis on the continuity of houses within larger, denser settlements.

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However, we must also recognise the significant variability in settlement within these regions and throughout time. The creation of overarching regional narratives is not the aim of this paper. Rather, we argue that for the two case studies discussed both continuity and breaks in houses were options, and that even where continuity seems the norm it should not be seen as self-evident. While rebuilding is often acknowledged in publications, interruptions have the potential to be overlooked. Thus, spatial continuities are easily emphasised at the expense of the breaks, which may have been just as real. Such continuities and breaks are not unique to either Çatalhöyük or Tell Sabi Abyad, but can be found elsewhere. We have demonstrated in this paper that the apparent differences may mask subtle similarities that only careful and detailed long-term excavation and dating can tease apart. By reading or diffracting the detailed evidence from the two sites in relation to each other we hope to have shown that the recurring tensions between agglomeration and dispersal in the Neolithic of southwest Asia were managed and handled in both similar and different ways. Also, we hope to have illustrated the variable construction of social continuities and anchors to the past, of which direct spatial continuity of the house is but one manifestation.

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