

Stability and change at Çadır Höyük in central Anatolia: a case of Late Chalcolithic globalisation?

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Abstract

Scholars have recently investigated the efficacy of applying globalisation models to ancient cultures such as the fourth-millennium BC Mesopotamian Uruk system. Embedded within globalisation models is the ‘complex connectivity’ that brings disparate regions together into a singular world. In the fourth millennium BC, the site of Çadır Höyük on the north-central Anatolian plateau experienced dramatic changes in its material culture and architectural assemblages, which in turn reflect new socio-economic, sociopolitical and ritual patterns at this rural agro-pastoral settlement. This study examines the complex connectivities of the ancient Uruk system, encompassing settlements in more consistent contact with the Uruk system such as Arslantepe in southeastern Anatolia, and how these may have fostered exchange networks that reached far beyond the Uruk ‘global world’ and onto the Anatolian plateau.

Özet

Bilim adamları son zamanlarda küreselleşme modellerinin MÖ 4. bin yıla ait Mezopotamya Uruk sistemi gibi antik kültürlerle uygulanmasının etkinliğini araştırmaktadırlar. Küreselleşme modelleri içinde ‘karmaşık bağlantı’ modeli, farklı bölgeleri tek bir dünyada bir araya getiren bir modeldir. M.Ö. 4. binyılda, kuzey-orta Anadolu platosundaki Çadır Höyük yerleşimi, maddi kültür ve mimari örneklerinde çarpıcı değişiklikler yaşamıştır, ki bu değişiklikler bu kırsal ve tarımsal-pastoral yerleşimdeki yeni sosyo-ekonomik, sosyopolitik ve ritüel yapıları yansıtmaktadır. Bu çalışmada, güneydoğu Anadolu’daki Arslantepe gibi Uruk sistemi ile sürekli temas halindeki yerleşimleri kapsayan eski Uruk sisteminin karmaşık bağlantıları ve bunların, Uruk ‘küresel dünyası’nın’ ötesine ve Anadolu platosuna ulaşan değişim ağlarını nasıl destekleyebileceği incelenmektedir.

Excavations at the site of Çadır Höyük, located in a river valley that features well-travelled trade routes, rich agricultural lands and plentiful fresh-water sources, commenced in 1994 and have proceeded, with only a few gaps, to the present. Situated on the north-central Anatolian plateau (fig. 1), Çadır boasts an occupational history spanning 6,000 years (ca 5200 BC to the 13th century AD; see table 1; a deep sounding demonstrates occupation since the late sixth millennium). The occupants of this rural village introduced, and weathered, many changes to their lives and livelihoods over these millennia. Some of the most dramatic of these occurred during the fourth millen-

nium BC, known as the Late Chalcolithic period on the plateau. Our aim over recent seasons has been to understand the underlying factors that may have kindled or, more likely, bolstered, the somewhat rapid and substantial modification of the village plan, expansion in socio-economic activities and long-distance trade, and the apparent evolution in sociopolitical and religious ideologies that took place at Çadır during the second half of the fourth millennium BC. While closely examining the micro and macro changes at Çadır itself has been illuminating, we also recognised that it was necessary to situate Çadır in the larger global context of the fourth millennium. The Late

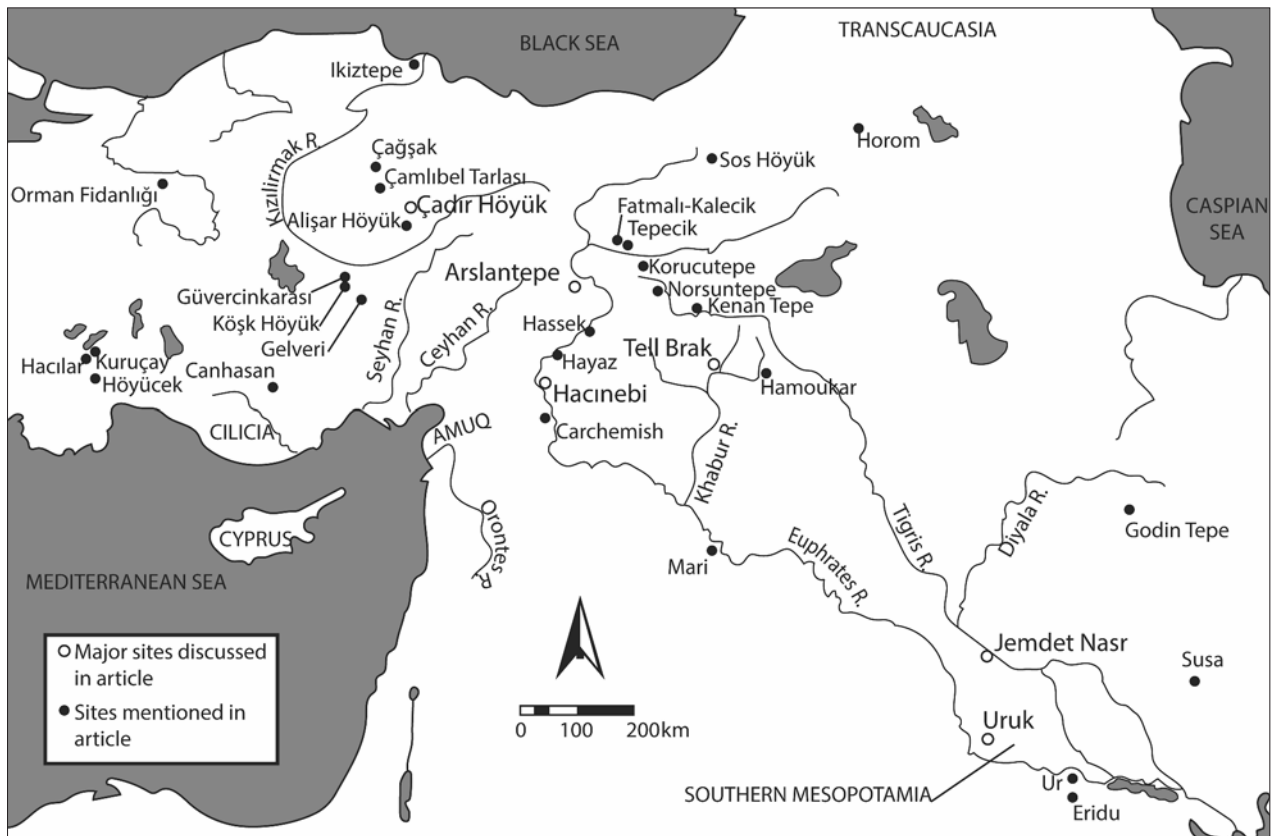


Fig. 1. Map of sites and regions discussed in the text.

Chalcolithic is a period of dynamic changes witnessing the rise of the first urban complex societies in southwestern Asia, particularly in the Mesopotamian lowlands, though the impact of this Mesopotamian ‘Uruk system’ on the Anatolian plateau has been largely unexplored.

The Uruk system, with its centre in southern Mesopotamia, eventually encompassed sites in what is today northern Iraq, southern and southeastern Anatolia, the Levant and western Iran. The Uruk culture is one of the first urban, literate cultures in the world, and as such has been the focus of intensive archaeological investigations. Volumes have been written on the fourth-millennium Uruk system and the controversies surrounding its emergence, growth, nature and subsidence (Edens 1992; Algaze 1993a; 1993b; 2001; 2008; Stein 1994a; 1994b; 1998; 1999a; 1999b; 2002; Frangipane 2001; Butterlin 2003; Rothman 2004; and see discussions in Rothman 2001). Although there is disagreement about the exact nature of the Uruk influence outside southern Mesopotamia (colonisation, emulation, etc.), all scholars recognise the unprecedented expansion of interregional interaction in the second half of the fourth millennium BC.

Our methodological approach to understanding the Late Chalcolithic at Çadır is reflected in the structure of the present article. Our primary focus has been to document carefully lifeways at Çadır over the fourth millennium and

into the early third (the latter commonly called the Early Bronze Age on the plateau). Attention has also been directed toward understanding regional links that may have existed between Çadır and other plateau sites (Steadman et al. 2007; 2008), though this is challenging for the north-central plateau due to the limited number of excavated sites. More long-distance ties to the west (Steadman 1995) and to the east (Steadman et al. 2018) have also been areas of enquiry. The subject of this study outlines our investigation of evidence that Çadır was interconnected on some level with regions to the south, including the largely contemporary Mesopotamian Uruk system. The challenge was to identify the mechanism that would explain an admittedly unlikely interaction between a rural settlement on the northern Anatolian plateau and Mesopotamia.

The relatively recent archaeological investigation of theories involving ‘globalisation’ emerged as the key to unlocking the mechanisms that linked Çadır Höyük with southern Mesopotamia. Though the term globalisation initially described the complex processes that connect the modern world, it was not long before archaeologists recognised its pertinence as a model to explain past complex societies (Labianca, Scham 2006; Jennings 2011; Kardulias 2014; Pitts, Versluys 2015; Hodos 2017a). Justin Jennings (2017), among others, identifies trends present in today’s globalisation as simply new versions of something

<i>Sample no.</i>	<i>Trench</i>	<i>Context</i>	<i>Maximum and minimum calibrated age</i>
Pre-Agglutinated phase (deep sounding)			
AA84957	LSS 5	L62 (DS) fill above F53 wall 1–1.2m below Agglutinated-phase ‘street’	¹⁴ C age uncal. BP 5829 +/- 56
Beta no. 146707	LSS 5	F43 (DS) fill from stone wall ca 1.2–1.4m beneath Agglutinated-phase ‘street’	5220–4940 BC (cal. BP 7170–6890)
Beta no. 146710	LSS 5	L65 (DS) burned area just below F43 stone wall	4520–4480 BC (cal. BP 6670–6430)
Agglutinated phase (ca 3700–3600 BC)			
Beta no. 134069	LSS 5	L46 (DS) from Agglutinated Outer Courtyard	3705–3620 BC (cal. BP 5655–5570)
Burnt House and Omphalos Building phase (ca 3600–3200 BC)			
Beta no. 134066	LSS 5	L53 roofing material of Burnt House/Courtyard	3780–3505 BC (cal. BP 5730–5455)/ 3435–3380 BC (cal. BP 5385–5330)
Beta no. 146714	LSS 5	F56/L71 wooden beam from Burnt House/Courtyard	3670–3360 BC (cal. BP 5620–5310)
Beta no. 391301	SES 1	L139 inside Non-Domestic Building	Cal. 3625–3590 BC (cal. BP 5575– 5540)/cal. 3525–3485 BC (cal. BP 5475–5435)
Beta no. 159391	LSS 4	L69 fill between floors of Omphalos Building	3650–3340 BC (cal. BP 5600–5290)
Beta no. 159391	LSS 4	L42 courtyard between second Omphalos Building structure and Burnt House	3485–3475 BC (cal. BP 5435–5423)
Beta no. 391309	LSS 3	L94 Enclosure Wall	Cal. 3335–3210 BC (cal. BP 5285–4970)
Transitional/Early Bronze I phase (ca 3200/3100–3000/2900 BC)			
Beta no. 363831	SES 1	F107 Transitional-phase courtyard	Cal. 3100–2920 BC (cal. BP 5050–4870)
Beta no. 363830	SES 1	L112 Transitional-phase courtyard	Cal. 3350–3080 BC (cal. BP 5300– 5030)/cal. 3060–3030 BC (cal. BP 5010–4980)
Beta no. 363865	USS 10	L50 feature in Early Bronze industrial area	Cal. 3090–2910 BC (cal. BP 5040–4860)
Beta no. 363833	USS 10	L49 from inside large oven	Cal. 3090–3060 BC (cal. BP 5040– 5010)/cal. 3030–2910 BC (cal. BP 4980–4860)

Table 1. Selected radiocarbon dates relevant to the discussion.

quite ancient. Both ancient and modern globalisations involve the emergence of a powerful system and an increase in interregional interaction that exchanges not just goods and resources, but also ideologies and behaviours, and can sometimes result in various aspects of socio-economic or sociocultural assimilation. Jennings asserts that globalisations are cyclical processes (2011: 19), demonstrating this with three case studies of ancient globalisations that arose and then either collapsed or transitioned into a new and different form; one of his case studies is the ancient Uruk system. Identifying this as an

example of ancient globalisation very closely fits the evidence of how the Uruk ‘phenomenon’, as it has been termed (Collins 2000; Foster 2012), operated. The present study focuses on elements of interregional interaction emanating, in part, from the Uruk system itself but also examines the ‘connectivity’ this interaction generated in more outlying regions. This element of ‘complex connectivity’, a term offered by John Tomlinson (1999: 2) to describe modern globalisation, is a critical factor in explaining an ancient interconnection between the Uruk system and the north-central Anatolian plateau.

There is little evidence to suggest that the Uruk system had *direct* contact with, and impact on, sites on the north-central Anatolian plateau. However, the presence of an intricate web of interregional interaction well explains the significant and relatively rapid changes that occurred at Çadır over the course of the later fourth millennium BC, many of which may have partially resulted from the immense connectivity generated within globalisation processes at work in the Uruk system. At Çadır, a settlement-wide increase in socio-economic activity, including extra-domestic levels of production and more robust long-distance trade, and a major reorganisation of the village plan occurred largely commensurate with the mid-fourth millennium socio-economic expansion of the Uruk system. As Uruk influence reoriented near the end of the fourth millennium, Çadır experienced its second major change: a decrease in socio-economic activity and a second major reorganisation of the village, including an abandonment of public areas. Here we explore the newly emerging globalisation model that has been applied to describe the ancient Uruk system. Through this framework, it will become clear how changes at a small settlement on the north-central Anatolian plateau were intertwined with those occurring at large and small settlements in neighbouring regions through the mechanism of ‘complex connectivity’ that characterised the fourth millennium BC.

Globalisations(s) and the archaeological past

The topic of ‘globalisation’ has been an intense subject of discussion in the academy for several decades, but it was not until recently that the mechanisms involved in globalisation have been explored for their applicability to the archaeological past (for example Jennings 2011; Pieterse 2012; Hodos 2017a; Boivin, Frachetti 2018). In previous decades, scholars had attempted to apply World Systems analysis to explain the rise and structure of powerful and vast ancient empires and systems (for example Blanton, Feinman 1984; Woolf 1990; Algaze 1993a). The varying levels of success inherent in the application of the World Systems model left many scholars open to a more dynamic, less top-down model with which to explain ancient systems. The emergence of the globalisation model, for many, corrected the inaccuracies present in the application of other frameworks to explain the archaeological past (Hall, Chase-Dunn 2008; Kuecker, Hall 2011; Hall 2014; Kardulias 2014).

The notion that globalisation might be applicable to archaeological contexts emerged out of Tomlinson’s identification of globalisation as a system of ‘complex connectivity’ (1999: 2), though the author is describing the modern, not ancient, world. Complex connectivity is, essentially, what it sounds like: increasingly complex and concentrated systems of interaction carrying the movement

of goods, ideas and peoples across short and vast distances. Globalisation results as a product of complex connectivity in that social change, in part due to that complex interaction, takes place in disparate regions. Archaeologists have long recognised the efficacy of interregional interaction analysis as a way to explain such exchanges (Boyd, Richerson 1985; Schortman 1989; Lightfoot 1995; Steadman 1995; Cusick 1998; Schortman, Urban 1998; Boone 2000; Parker 2006), sometimes with dramatic effects on the senders and recipients. The complex connectivity integral to globalisation is in many ways a restructuring of interregional interaction analysis, a formalisation of it; globalisation characterises these interactions writ large, that is, suggesting that they affect every corner of ‘the world’.

The connectivity that defines globalisation in the modern world was unknown, in fact impossible, in the past. However, in the past, globalisation need not have been literally ‘global’ in scale. Tamar Hodos notes that globalisation can be used ‘to signal wider changes within a conceptual or experiential world’ (2017a: 4), by which she means the ‘known’ world at the time. Just as ‘World Systems analysis’ need not include the world, so ‘globalisation’ does not always include the ‘globe’, even in the very recent past (see Feinman 2017). Limitations on the distance one can transport goods effectively identify the known world. For instance, fourth-millennium BC Near Easterners were limited in their transport technologies; horses and camels had not yet been domesticated. Long-distance mobility was carried out on foot, via rivers and perhaps using donkeys, domesticated in this period. All cultures in the archaeological past had an ‘experiential world’ which, according to Hodos and many others, defined their ‘globe’. Some argue that today’s world is only the latest, modern, stage of globalisation processes that began long ago, such as with the origins of agriculture or even earlier human activities (McNeil 2008; Pieterse 2017). In these interpretations, ‘globalisation’ began on a very small scale, eventually encompassing the true ‘globe’ only in the 21st century.

More commonly, scholars see examples of repeated, discrete, ‘globalisations’ in the past (Jennings 2011: 11; and see chapters in Hodos 2017b). The task, therefore, is to differentiate between an ancient society simply engaged in trade and exchange from an ancient globalisation. Jennings identifies two critical criteria for identifying globalisation in a past society (2011: 21): ‘(a) a surge in long-distance connections that (b) caused the specific array of cultural changes associated with the creation of a global culture’. The first of these is fairly straightforward and largely identifiable in the archaeological record. The ‘creation of a global culture’ needs a bit more unpacking. Jennings identifies a total of eight trends that are present in the creation of a past (and present) globalised culture,

outlined here in table 2. Jennings cautions that a ‘global culture’ does not mean a homogenised culture (2011: 31); these trends, outlined below, can manifest themselves in a variety of ways as complex connectivity affects peoples and places across a diverse landscape.

In the ‘time/space compression’ trend there is a ‘complex connectivity between groups’ which sees ‘changes in one place [which] can have swift ramifications across a broad region’ (Jennings 2017: 14). These changes result from quicker and more continuous access to new and greater quantities of goods (often accompanied by peoples and ideologies). An example from ancient southern Mesopotamia involves the use of water transport in the pre-Uruk fifth-millennium Ubaid period. Ecological alterations allowed for a more extensive water system which promoted the movement of goods by water vessel rather than overland (Algaze 2008: 51–52). By the mid-fourth millennium, the donkey was domesticated and had become a pack animal, enabling a far greater movement of goods into regions where waterways did not reach (Algaze 2008: 66). Goods, traders, ideas and social customs began to spread out of southern Mesopotamia at far greater rates, and much faster, than ever before, commensurate with the rise of the Uruk-system period.

The second trend, deterritorialisation, depends, in part, on the time/space compression and the movement of goods and peoples. In this trend there is a loosening of ties with local traditions and the embracing of ‘foreign’ and new

elements (Jennings 2017: 14). The presence of bevelled-rim bowls as a food distribution method in the Uruk period (Collins 2006; Hodos 2017c), the shared appreciation of ceramic forms and other material culture in the later second-millennium Mediterranean ‘international age’ (Sherratt 2017; van Dommelen 2017) and the use of Greek and Roman goods in local contexts (Hodos 2014; Versluis 2014; Egri 2017) are examples of deterritorialisation.

Standardisation, the third trend, follows on from the first two. The diverse nature of new things and new peoples coming together requires a commonality, a standardisation (Jennings 2011: 127). Jennings suggests that the development of pidgin languages or Greenwich Mean Time (2017: 15) are modern examples of standardisation within a globalisation model; the spread of the Uruk system’s bevelled-rim bowl exemplifies the process in ancient Mesopotamia. Henry Colburn (2017) suggests that the Persians used Aramaic as a standardising language across the breadth of their vast empire during the Achaemenid period. The same can be said of Latin in the Roman period, and also of Roman coinage (Morley 2015). Jennings notes that standardisation allows ‘for people from disparate groups to better understand each other’ either through communication systems or familiar objects (2011: 129).

The fourth, ‘unevenness’, trend is described as ‘interaction networks’ that can have ‘power differentials between regions’ (Jennings 2017: 15). Some elements of connectivity reach a remote region, while many others do

<i>Globalisation trend</i>	<i>Description</i>	<i>Present at Çadır Höyük?</i>
1. Time/space compression	The connectivity between regions initiates and can cause more rapid changes across regions	Yes
2. Deterritorialisation	Greater numbers of foreign elements weaken the ties to local practices and material culture	Maybe
3. Standardisation	The bridging of geographic and cultural boundaries results in material culture and behavioural commonalities	No
4. Unevenness	Differentials emerge in extensions of power over regions and the influence of material cultural and behavioural modes	Yes?
5. Cultural homogenisation	Complex connectivity results in cultural uniformity through practices such as emulation	Yes?
6. Cultural heterogeneity	The blending of outside influences with local traditions produces a variety of new material culture and practices	Yes
7. Re-embedding of local culture	A reaction to globalisation results in local material culture and practices being reasserted or reinvented	Yes
8. Vulnerability	Interdependence between disparate parts of the globalised region means that the failure of a prominent centre will affect all areas	Yes

Table 2. The ‘eight trends’ of globalisation and their presence at Çadır Höyük.

not. The Roman world once again illustrates this concept. Robert Witcher (2017) describes different settings across the Empire, ranging from Italy to Roman Britain, illustrating both the presence of some 'Romanisation' but also, in the case of Britain, the 'lack of shared identity and integration around the Roman world' (Witcher 2017: 639). This, in part, stemmed from difficulty in the transport of goods to outer reaches of the Empire, but also depended on the efforts put forward by the centre to 'Romanise' certain regions. The same can be said of the ancient Uruk system, which would have exhibited unevenness depending on transport to outlying locations and the varying interests in resources across a variety of regions.

The fifth trend, 'cultural homogenisation', is an obvious factor in a globalisation model and, perhaps, the most obvious result of 'connectivity'. Jennings asserts that homogenisation is more than using the same goods, it is how 'people come into contact with widely shared ideas and products and make them their own' (2011: 132). Jennings uses the example of McDonald's to illustrate homogenisation in today's world, but one of this article's authors (Steadman) would cite the American company Domino's Pizza, which she has eaten in both Turkey and India; in each case the 'pizza' was quite different from what one would see in the US, with toppings and crust more in tune with local cuisine. In both countries, locals considered pizza from this outlet 'their pizza' and not necessarily an import from the US. The ubiquitous Uruk bevelled-rim bowl is an ancient example of homogenisation (Jennings 2011: 133), appearing in identical forms in settlements far outside the Uruk heartland, but employed, perhaps, for a variety of uses that did not include the provision of rations (which was likely its function in southern Mesopotamia).

Seemingly opposite to homogenisation is 'cultural heterogeneity', the sixth trend in which 'cultural variation actually increases' (Jennings 2017: 15). Through unevenness and homogenisation, the motifs, ideologies and material culture that have been spread are reinterpreted as they become ensconced in their final destinations. The local versions of pizza, mentioned above, illustrate this trend. The archaeological discovery of a 13th-century AD shipwreck in the Java Sea clearly illustrates the heterogeneity trend (Niziolek, Respass 2017). The ship was carrying numerous ceramic vessels produced in China, but their forms and decorations reflected those originating in far-flung places such as the Middle East, Thailand and South Asia. No matter the final destination of these Chinese ceramics, recipients would recognise the forms/decorations through the heterogeneity of shared identity.

The seventh trend, 're-embedding of local culture', is a reaction to globalisation. In this trend there is a return to, or continuation of, traditional practices or material culture,

or a new but local innovation; this is, in many ways, similar to the heterogeneity of the sixth trend (Jennings 2011: 136). Some might argue that the rise of today's religious and political fundamentalism is an illustration of this 're-embedding' of traditional customs, practices and beliefs. Identifying this trend archaeologically is somewhat challenging, but ceramics can sometimes serve as an example. At the fourth-millennium BC site of Hassek Höyük in southeastern Turkey, potters incorporated elements of Uruk-style ceramics but held stubbornly to local traditions such as the use of chaff temper (Helwing 1999). A similar circumstance can be found in the Cilicia region at the site of Gözlü-Küle (Tarsus), where chaff-faced tempered wares and the 'Coba Bowl' are the norm with almost no evidence of a Uruk ceramic presence whatsoever (Steadman 1996; Mazzoni 2000).

The final trend of 'vulnerability' refers to the 'interdependence' created by the complex connectivity found in a globalisation system (Jennings 2017: 16). If supply chains disappear due to the collapse of an exchange network, those down the line can face significant consequences if there is some level of dependency on previously supplied goods (or other commodities, such as information) that are no longer available. Archaeologically, vulnerability can be demonstrated by a gradual or sudden absence of materials or a shift in technologies or other socio-economic and/or ideological patterns. The second-millennium BC Anatolian Hittite Empire exemplifies this aspect of vulnerability. The connectivity within this empire was 'uneven' (Mac Sweeney 2017) though the Hittite imperial centre did have a vast network dedicated to distributing Hittite-style ceramics, architectural techniques and important resources such as metal ores. At the authors' own site, Çadır Höyük, the late 13th-century decline of the Empire had a dramatic impact on all three of these; new (actually a resurgence of old) ceramics and new technologies for metal smelting emerged to replace those that had been lost through the collapse of supply chains (Ross et al. 2019). The appearance of vulnerabilities can be rapid, as was the case at late second-millennium Çadır, or more gradual, depending on the erosion of connectivity within the globalised system.

The Uruk system, as demonstrated in some of the scenarios above, lends itself well as an example of past globalisation, given that many of these trends are evident throughout its existence (characterised, in the past, within a World System framework: Frangipane, Palmieri 1987; Edens 1992; Algaze 1993a; Frank 1993). Jennings acknowledges the presence of these trends in the fourth-millennium BC Uruk system (2011: 57–76); many archaeologists working in western Asia agree that not only does 'globalisation' characterise the Uruk system, but it is also applicable to other cultural phases earlier and later than the fourth millennium (Collins 2006; Frahm 2011;

Kardulias 2014; Hodos 2017c; Mac Sweeny 2017; Nieuwenhuys 2017). The intent here is not to argue that the Uruk system embodies an example of past globalisation; others have already made a strong case for this. The question explored here is whether the complex connectivity present in the Uruk system, i.e. the globalisation trends, had any impact on the small settlement of Çadır Höyük on the north-central Anatolian plateau, and, if so, in what form?

The complex connectivity of the Uruk system in a ‘global world’

In following Jennings’ identification of Uruk as an example of ancient globalisation, the broad nature of Uruk ‘connectivity’, particularly as it was manifested at sites in southeastern Turkey such as Arslantepe, is explored here. From southeastern regions of Anatolia, connectivity reached onto the plateau through movements of obsidian and copper ore, and possibly other less documentable items such as textiles. If this complex connectivity occurred within the context of globalisation, how far did it reach? What evidence would suggest that a site such as Çadır Höyük was affected by these mechanisms? Briefly outlining the Uruk sequence lays the groundwork to answer these questions.

The Early Uruk (ca 4200–3600 BC, levels XVI–X; see table 3) defines a period when population centres developed in southern (and to a lesser extent northern) Mesopotamia and regional trade links were first established. By the mid-fourth millennium (ca 3600–3300 BC, Uruk levels IX–VI; see table 3), the southern Mesopotamian city of Uruk had grown to immense size and was engaged in extensive long-distance trade to acquire both utilitarian and luxury goods (Algaze 1993a; Frangipane et al. 1993). Trade relations extended from the northern Levant and the Amuq region (i.e. Lebanon and the Syro-Anatolian coast), to southeastern Turkey and into regions in western Iran (Emberling, Minc 2016; Gopnik et

al. 2016; Minc, Emberling 2016). Other southern Mesopotamian cities followed, devising socio-economic structures that served to acquire resources and finished goods, and engage in a redistribution of both subsistence and luxury items to regional and long-distance partners. In the Late Uruk period (ca 3300–3000 BC, levels V–IV; see table 3), some of these connectivities began to erode. In the following early third-millennium Jemdet Nasr period the Uruk system was in transition, and connections were redirected, ushering in a new age of competitive city-states and fewer long-distance contacts.

The ‘global world’ of the Uruk system encompassed western and northwestern Iran, northern Mesopotamia and southeastern Anatolia, the Amuq and the Levant, but not the Anatolian plateau. However, the complex connectivity of several urban centres in the northern reaches of the Uruk global world, and the additional widespread socio-economic networks they may have inspired, provide the opportunity for potentially fruitful exploration of the far-reaching impact beyond what were the porous boundaries of an ancient globalisation.

The site of Arslantepe rests on the Malatya plain of southeastern Turkey, with easy access to the Anatolian plateau. The material record of Arslantepe demonstrates urbanisation trends prior to the rise of the Uruk system (Frangipane 2003; 2009; Frangipane et al. 2017). Several hundred sealings in one structure reveal long-distance contacts with centres such as Tell Brak and other areas of Mesopotamia (Frangipane et al. 2017), and numerous bowls in another structure suggest a food distribution programme, perhaps in the context of feasting or ceremonies (Frangipane 2003; 2012). Products acquired from outlying lands appear to have been collected at Arslantepe, perhaps for redistribution (Frangipane 2010; 2012). This centre, therefore, had developed a complex network of exchange with surrounding regions prior to the mid-fourth millennium. The Arslantepe centre became heavily involved with the Uruk system in the mid- and later fourth millennium.

<i>Uruk period</i>	<i>Uruk site levels</i>	<i>Sociocultural development</i>	<i>Çadır Höyük phasing</i>
Early Uruk ca 4200–3600 BC	Uruk levels XVI–X	Consolidation and growth of Uruk centre	Extant Agglutinated phase ca 3700–3600 BC
Middle Uruk ca 3600–3300 BC	Uruk levels IX–VI	Population increase; development of trade networks	Burnt House & Omphalos Building phase ca 3600–3300/3200 BC
Late Uruk ca 3300–3000 BC	Uruk levels V–IV	Establishment of trade colonies; system begins to wane	Transitional phase ca 3200–3100/3000 BC
Jemdet Nasr ca 3100/3000–2900 BC	Uruk level III	Uruk system collapses	Early Bronze I phase ca 3100/3000–2900 BC

Table 3. Uruk phasing, levels and sociocultural events in relation to Çadır Höyük phases and dates.

Arslantepe period VIA (ca 3350–3000 BC) generally coincides with the Late Uruk phase (ca 3300–3000 BC). One of the clearest indicators of Arslantepe's interaction with the south is a substantial change in the phase VIA ceramic assemblage (Frangipane 2002). New mass-produced forms are similar to Uruk styles but are clearly locally produced. These may have been emulations, but the influence of Uruk styles appears clear. Evidence of trade with Uruk, or Uruk-influenced centres, also appears at Arslantepe in the form of other Late Uruk-style vessels and the growth in numbers and styles of metal objects; the latter likely resulting through trade contacts that brought additional raw resources to Arslantepe and new metallurgical techniques and styles observed through those contacts (Frangipane 2002; 2011).

Arslantepe obtained its obsidian from eastern Anatolian sources as well as from central Anatolian flows (Fornaseri et al. 1975), indicating the presence of exchange networks across the plateau. Recent research also suggests that obsidian sources as far away as Transcaucasia may have been part of Arslantepe's socio-economic connectivity (Frahm et al. 2016). Arslantepe residents also appear to have exploited a variety of copper-ore sources, ranging from as far afield as the Black Sea region to Transcaucasia (Hauptmann et al. 2002; Lehner, Yener 2014), as well as likely exploiting the eastern Anatolian source at Ergeni (Wilkinson 2014; de Jesus, Dardeniz 2015). There is additional evidence of interaction between Arslantepe and the Transcaucasian region in the later fourth and third millennia BC, including the presence of Transcaucasian-style ceramics and metals (for example Schwartz et al. 2009; Frangipane 2011; 2015; Palumbi, Chataigner 2014), as well as ceramics reminiscent of styles and forms from the north-central plateau (Palumbi 2008; Çalışkan Akgül 2012). The implications for a triangular interaction between Transcaucasia and Arslantepe, with regard to Çadır Höyük, are briefly discussed below and in much greater detail elsewhere (Steadman et al. 2018).

Arslantepe's connectivity in the VIA period created an extensive interaction sphere that reached right onto, and indeed across, the Anatolian plateau, as well as to the northeast (Palumbi 2008; 2011; Çalışkan Akgül 2012). There is growing evidence that some, even much, of this interaction resulted from the movement of goods via transhumant populations, perhaps originating in Transcaucasia, and involving Arslantepe as a major node in the system (Palumbi 2010; Frangipane 2014; D'Anna, Palumbi 2017). The excavator of Arslantepe explains the site's geopolitical position in the second half of the fourth millennium:

though clearly linked to the Uruk world Arslantepe manifested its diversity from the Mesopotamian neighborhoods and also expanded its interests and external

connections towards the North. Judging from the evidence provided by the archaeological material, it would appear that its interactions with other Anatolian populations started to increase in the course of the 4th millennium when these were oriented mainly towards North-Central Anatolia (Frangipane 2015: 174).

During the second half of the fourth millennium, contemporary with the height of the Uruk system, settlements across the Uruk world developed their own interaction spheres; that is, they expanded the complex connectivity of the Uruk system. Some of these connections, from centres such as Arslantepe and others not reviewed here (for instance, recent evidence from Siirt-Başur Höyük, in far southeastern Anatolia, has revealed the presence of Uruk-style bevelled-rim bowls: Sağlamtimur, Ozan 2012), demonstrate far-reaching connections beyond the Uruk 'globalised world'. How much further northward and northwestward, and onto the Anatolian plateau, traces of Uruk influence may have extended has been largely uninvestigated, but scholarship suggests it may indeed have reached well beyond the Uruk direct sphere of contacts (for example Algaze 1993a; Sunsdal 2011). Trade networks on the plateau may have been bolstered by demands from the south for useful raw resources, such as copper, obsidian and other less traceable items. For instance, not far from Çadır, excavations at the rural agricultural hamlet of Camlıbel Tarlası have revealed a focus on metal and textile production (Schoop 2014; 2017), suggesting that regional and possibly long-distance trade networks reached much deeper into the fourth-millennium countryside than previously realised. The connectivity generated by new and more robust exchange systems may have had some role in strengthening and hastening socio-economic and possibly sociopolitical changes at plateau sites.

The Uruk system began a transition by the end of the fourth millennium in the Jemdet Nasr period (Matthews 1992), corresponding to the very end of the Late Chalcolithic in Anatolian terms. Previously developed extensive trade networks may have become difficult to maintain in the face of internal competition within the system (Frangipane 2009; Ur 2010); a small-scale climatic change may have affected food-production strategies, which would have had a substantial impact on urban centres (Thompson et al. 2002; 2006; Wilkinson 2003; Charles et al. 2010). By the end of the fourth millennium, the reach of the full-scale Uruk system had retracted, re-emerging later in newly formed dynastic structures in disparate city-states.

The ripple effect of this transition could have been a significant factor in an abrupt cessation or major disruption of a well-established interregional interaction network within which the residents at places such as Çadır were

intertwined. Impacts were certainly felt at Arslantepe where ‘a radical crisis overwhelmed the central institutions at the beginning of the third millennium B.C.E.’ (Frangipane 2011: 980). A fire at the end of the fourth millennium along with weakening trade relations with areas once well-ensconced in the Uruk system brought significant change to the settlement. In the centuries just after the turn of the millennium, Arslantepe level VIb phase 1 saw what appears to have been the settlement of a transhumant population, perhaps originating in Transcaucasia (Frangipane 2007; 2014). The presence of ceramics known as Red Black Burnished Ware, found on the Anatolian plateau, at Arslantepe and at sites to the north and east, including Transcaucasia (Palumbi 2008), as early as the later fourth millennium and continuing into the early third (D’Anna, Palumbi 2017; Palumbi 2010; 2012), suggests transhumant populations continued to ply trade routes across the region. However, as resource needs dwindled in Mesopotamia, the more remote regions such as the north-central plateau may have experienced a decrease in the need for the exploitation and transport of goods across exchange lines.

The north-central plateau in context

Unfortunately, we know little about Late Chalcolithic and Early Bronze I socio-economic and political organisation across the plateau (see Schoop 2005; 2011a; Steadman 2011), a situation attributable to a dearth of recently excavated multi-period sites with relevant exposures (Düring 2011a; Schoop 2011a; Steadman 2011). This is particularly true for the Late Chalcolithic on the north-central plateau, illustrated by Bleda Düring who, in his comprehensive study of prehistoric Anatolia, notes that ‘the Prehistory of northern Asia Minor [on the north central plateau] ... is among the most problematic in the land’ (2011b: 229). There are very few excavated Middle and Late Chalcolithic sites in close proximity to Çadır. Closest are the late Middle Chalcolithic sites of Büyük Güllücek and Kuşsaray, both providing only minimal information on community life (Koşay, Akok 1957; 1966). Mudbrick architecture with stone foundations at Büyük Güllücek appears to conform to the type of village layout found at contemporary sites to the south such as Köşk Höyük and Güvercinkayası (Gülçür 1997; 2004; Öztan et al. 2004), and at Late Chalcolithic Çadır Höyük. These sites, in addition to other Middle and Late Chalcolithic sites such as Gelveri, Kuruçay, Höyücek and Orman Fidanlığı, have demonstrated evidence of possible long-distance exchange based on ceramic stylistic similarities with regions such as south-eastern Europe (Özdoğan 1991; Esin 1993; Steadman 1995).

The Late Chalcolithic yields more sites near Çadır, but only one of them, Çamlıbel, has been carefully excavated and extensively published. Çengeltepe (Ünal 1966), located quite near Çadır, yielded few architectural remains,

but the ceramic assemblage, which contains fruitstands and the types of bowls and jars recovered at Çadır, suggests the site is contemporary. Evidence of lithic and textile production was found at the site, as was an infant jar burial (Ünal 1966) similar to those from Çadır (see below). The Late Chalcolithic excavations at both Alaca Höyük and Aşılar Höyük likewise revealed minimal data (Koşay, Akok 1973; von der Osten 1937). At both sites, exposures were small, providing evidence of small two- or multi-roomed mudbrick or wattle-and-daub structures in association with courtyards; infant and sub/adult burials were found in association with the architecture (usually underneath floors). The ceramic and other assemblages are similar to those of Çadır; Aşılar in particular appears to feature a ceramic assemblage congruent with the middle/Burnt House phase at Çadır, outlined below. Excavations at Alaca have recently resumed investigation of the prehistoric levels; additional data from this site may soon be forthcoming, which will add to the picture of Late Chalcolithic life on the north-central plateau.

The data from Çamlıbel have very interesting correlates with those from Çadır and add to our understanding of the area (Schoop 2008; 2009; 2010; 2015). The site dates to the mid-fourth millennium (Schoop et al. 2009), contemporary with Çadır’s Burnt House phase, described below. Çamlıbel was a small settlement (ca 50m × 50m) that may have been an outlier and specialised production site for a larger settlement in the area. Ulf-Dietrich Schoop speculates that, in addition to normal subsistence activities, residents at Çamlıbel may have been engaged in metallurgical endeavours and possibly jewellery production (Schoop 2011b; Pickard, Schoop 2013). In the second phase of occupation, the residents at Çamlıbel II built at least six free-standing domestic structures that were partially subterranean; the lower walls were built of stone and the superstructures of *pisé* (Schoop 2015). A large domed oven was built against one of the structures in this phase, echoing what was discovered in Çadır’s Southern Courtyard (see below). By level IV, Çamlıbel sees the development of a new structure with a flagstone floor next to a domestic structure; between these were fire installations, evidence of chipped-stone production, possibly metal production and other materials (Schoop 2015). Again, this setting is reminiscent of what is found, on a much larger scale, at Çadır, as described below. Finally, Çamlıbel demonstrates the types of infant jar burials found at Çadır and also produced an interesting animal figurine head, likely of a bovine, similar to one found at Çadır (Steadman, McMahon 2017; Steadman et al. 2018). The excavations at Çamlıbel have demonstrated, according to Schoop, ‘evidence for the existence of extensive networks of trade/exchange and communication at this time’ (2015: 65). This is in accordance with data from Çadır, described below.

There are more numerous excavated sites on the southern plateau, many of them providing excellent data. Closest to Çadır are sites in the Cappadocian region such as Köşk Höyük and Güvercinkayası (Gülçur 1997; 2004; 2012; Öztan et al. 2007; 2009; Öztan, Açıgöz 2011); these sites are Middle Chalcolithic in date, more contemporary with Ubaid Mesopotamia, and thus do not overlap with the earliest phases of the currently exposed occupation at Çadır. Recent work, however, has suggested that exchange systems involved metals/metal ores and possibly other objects between these southern plateau sites and the Taurus region at this time (Hacar 2017). This, combined with evidence of Neolithic-period obsidian trade between southeastern Anatolia and Armenia (Frahm et al. 2016), suggests that a robust long-distance trade system existed on the southern plateau beginning at least in the Neolithic and extending into the Middle Chalcolithic.

The Late Chalcolithic sites contemporary to Çadır, Canhasan (though see Thissen 2002) and Kuruçay, are further afield from Çadır. Although it rests at the greatest distance of all the sites noted here, Kuruçay (Duru 1983; 1994; 1996; and see Steadman 2000), in the Lake District, offers some of the closest parallels to contemporary Çadır. The Late Chalcolithic Kuruçay levels 6A–4 demonstrate single-roomed individual structures of variable size, built with stone and mudbrick, and featuring storage units associated with the structures. At least one structure was thought by the excavator and others to be dedicated to ritual rather than domestic activities (Eslick 1988; Duru 1996: 115–16). The excavator also suggests that the Late Chalcolithic settlement presented a type of wall to those approaching, primarily consisting of the back walls of houses knitted together by connecting walls; at least three gates allowed access into the settlement (Duru 1996: 114). Infant and child jar burials were found under house floors and courtyards, and the ceramic assemblage, while dissimilar from Çadır's, shows a comparative range of types as does the lithic assemblage (Duru 1996: 120–21, 126–27). The residents of Late Chalcolithic Kuruçay made use of metal tools, but evidence for the production of metals is missing; the excavator notes that while evidence for extensive trade networks is lacking, all the available evidence suggests a 'community [that] possessed some degree of wealth and a definite social hierarchy' (Duru 1996: 139). He does note, however, that the presence of metals at the site is in fact indicative of some level of exchange interaction (Duru 1996: 141), as is the presence of obsidian at Kuruçay. Added to this is the research conducted by various scholars revealing that some of the ceramics at this and other sites demonstrate parallels with Balkan assemblages (Özdoğan 1991; Esin 1993).

The fourth-millennium sites of the Anatolian plateau, including Çadır, were involved in exchange networks that

extended not just across the plateau but to the southern coastal sites in Cilicia (Steadman 1996) and to the east, to the region known as Transcaucasia (Steadman et al. 2018) and possibly to the west, including southeastern Europe (Özdoğan 1991). Metals, metallurgical techniques, ceramics and other items, concepts and possibly people passed between the regions in the second half of the fourth millennium. On the plateau, this was a period that featured an established exchange system, perhaps ripe for expansion. As noted above, another region engaged in interaction with Transcaucasia was southeastern Anatolia and, in particular, Arslantepe (Batiuk, Rothman 2007; Özbal 2011; Sagona 2011), creating a link with the complex connectivity chain of the Uruk system's global world. These various trade networks, which became quite robust in the second half of the fourth millennium BC, might have offered valuable trade opportunities and new markets for local residents at settlements such as Çadır Höyük who lived beyond the formal 'boundaries' of the Uruk system but were interconnected with it via these interaction chains. The transition of the Uruk system and its complex connectivities at the end of the fourth millennium rippled throughout its world: some sites were abandoned, others experienced significant socio-economic and political reorganisation, and some developed as independent polities (Cooper 2006; Frangipane 2009). Data from Çadır, presented below, suggest the tremors resulting from this transition travelled beyond the Uruk world to the north-central plateau.

The fourth millennium at Çadır

The Çadır Höyük mound and surrounding terrace cover at least 20ha. A 1993 regional survey in the area demonstrated that Çadır was surrounded by 'clusters' of smaller Late Chalcolithic sites (Branting 1996; Steadman et al. 2007; 2008); this is perhaps similar to the situation of Çamlıbel, described above. Çadır may have functioned as a small regional centre, perhaps facilitating trade and subsistence activities for the surrounding settlements. Our most intensive work in the prehistoric periods has taken place on the lower southern slope of the mound. Trenches LSS 3–5, LSS 8–10 and SES 1–2 (see figs 2, 3) have offered both Late Chalcolithic and Transitional/Early Bronze I remains. The discussion below offers an overview of the major occupational phases; discussion of the more detailed intraphasal interstices can be found in various reports (Steadman et al. 2013; 2015; 2017; Steadman, McMahon 2015; 2017).

Data spanning the three main Çadır phases discussed here (tables 1, 3) are presented in three categories: architecture and town plan; subsistence strategies; and material culture. The earliest Late Chalcolithic horizontal exposure is the 'Agglutinated' phase (ca 3700–3600 BC, contempo-

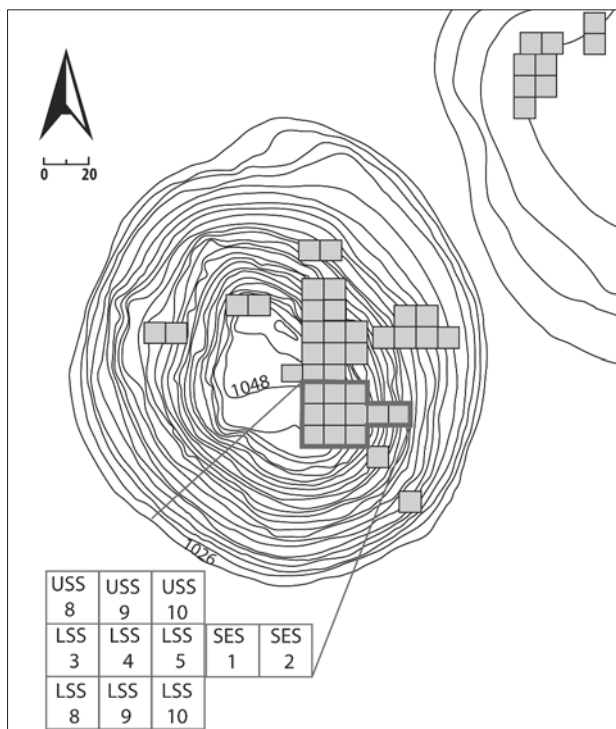


Fig. 2. Topographical map of Çadır Höyük and locations of excavated trenches.



Fig. 3. The Çadır Höyük mound looking southwest.

rary with the end of the Early Uruk period), which features a fairly standard southwest Asian agro-pastoral economy, with the majority of material culture produced directly at the settlement. The middle phase at Çadır is known as the ‘Burnt House and Omphalos Building’ phase (ca 3600–3200 BC, largely contemporary with the Middle and part of the Late Uruk periods), which sees a dramatic change

from the previous Agglutinated phase in all three of the categories of data presentation. The final occupational phase discussed here is termed the Transitional/Early Bronze I period (ca 3200/3100–3000/2900 BC, contemporary with the Late Uruk and Jemdet Nasr periods), when yet another fairly dramatic change in architecture and material culture occurred at Çadır.

The Çadır architecture and town plan

When Chalcolithic excavations were opened in the 1990s we expected to find village plans that matched those of contemporary sites on the southern plateau, which often feature rooms with shared walls (i.e. agglutinated architecture). It was not, however, until the 2015 and 2016 seasons that this type of town plan was discovered. This earliest exposed Agglutinated phase dates to the first half of the fourth millennium, ca 3700–3600 BC (based on Deep Sounding Beta no. 134069; see table 1), which is contemporary with the Early Uruk period in Mesopotamia (table 3). The general layout of this Çadır occupation conforms to those found at other Middle and Late Chalcolithic settlements such as Hacilar II (Mellaart 1970), Canhasan 1 (French 1998) and Güvercinkayası (Gülçür 1997).

Excavations in trenches LSS 5 and SES 1 (figs 2, 4 top) in 2015 identified seven separate single-celled rooms or spaces, some with built-in storage bins made of packed mud and mudbrick. Exterior walls were sufficient to bear the weight of a substantial roof, possibly an outdoor work area or second storey. Internal and external courtyards provided ground-level work spaces; and a forecourt offered access to the complex from a street. An interesting feature of this structure was the inclusion of two infant burials, inside whole or partial storage jars, placed *within* the walls at the corners of the structures. These infants were under one year in age and were emplaced at the time of construction. Our 2016 excavations allowed us to recognise a similar housing layout in trench LSS 4, west of this complex (Steadman et al. 2017). An open courtyard and street separates these two complexes (fig. 4 bottom). The residential layout is suggestive of socio-economically cooperative groups residing in each complex; future additional exposure of the entire Chalcolithic community will allow us to assess more deeply the Agglutinated-phase household economy.

The Burnt House and Omphalos Building phase (trenches SES 1–2 and LSS 5) spans much of the second half of the fourth millennium (ca 3600–3200 BC; see tables 1, 3) and sees a dramatic change in the settlement areas just described. The Burnt House and Courtyard are so named for a hearth fire that destroyed the complex; to the west in trenches LSS 3–4 is the Omphalos Building (fig. 5). Structures in the combined Burnt House/Omphalos Building phase are free-standing, unlike those of the previous Agglutinated phase. In addition, the Omphalos Building and another structure to the east of the Burnt House are non-domestic in nature. Evidence suggests that socio-economic and possibly sociopolitical circumstances altered in the mid-fourth millennium at Çadır Höyük, manifested in new architectural styles with new functions. This reorganised community corresponds

temporally to the full emergence of the Middle Uruk period (levels IX–VI) in southern Mesopotamia and the robust economies at sites such as Arslantepe.

The Burnt House and Courtyard residents reused Agglutinated-phase walls, but filled in some of the southern storage and living rooms with brick platforms to make a courtyard. This Southern Courtyard (fig. 6) featured several hearths, including a bread oven, and evidence of ceramic production, based on the presence of a kiln, unbaked clay ovoids (clay ready for working), burnishing stones and ochre for paint (Steadman et al. 2013). The Southern Courtyard may have been a community production area associated with or controlled by the residents of the Burnt House. The Burnt House's main (private) western courtyard was enclosed by a stone and mudbrick wall situated against the Enclosure Wall, discussed below. Contained within this courtyard were querns and piles of grain (resting in baskets), evidence of lithic production and whole vessels for cooking, storage and food consumption. The extant walls of both the house and courtyard could support a second storey or working areas on a roof. Discovered in the roofing materials was evidence of textile production in the form of spindle whorls, loomweights and several metal needles. Only a portion of a single room of the Burnt House has been exposed, as the remainder extends northward into the northern baulk. The floors – of which there were at least two phases – were sunk slightly lower (ca 50cm) below the exterior courtyard, and mudbrick furniture was found beside the doorway, perhaps below a window. The Burnt House and Courtyard were well outfitted, suggesting that those residing within the house had access to trade items and a selection of high-quality household goods (see below). In 2016 a child burial belonging to the Burnt House occupation was discovered in the Southern Courtyard, cut into a wall from the earlier Agglutinated phase. This burial is noteworthy due to the presence of a bronze earring, the first example of crafted jewellery found in a child burial at Çadır.

East of this complex was another structure, nicknamed the 'Non-Domestic Building'. The southern wall of this comparatively large room (5m × 5m) has been lost down the mound slope, and the eastern wall is beyond the baulk or lost to later construction. However, the two extant walls are substantial, with stone foundations and solid mudbrick superstructure. Inside, partially damaged by a later building, was a semicircular mudbrick feature. A posthole rested in the centre of the feature, and just west of it were two head-sized stones between which was another posthole (fig. 7). Next to the stones were two small holes, at least one of which contained seeds (see below for discussion). Three circular depressions to the west of this complex were pot rests; two of these depressions lay atop

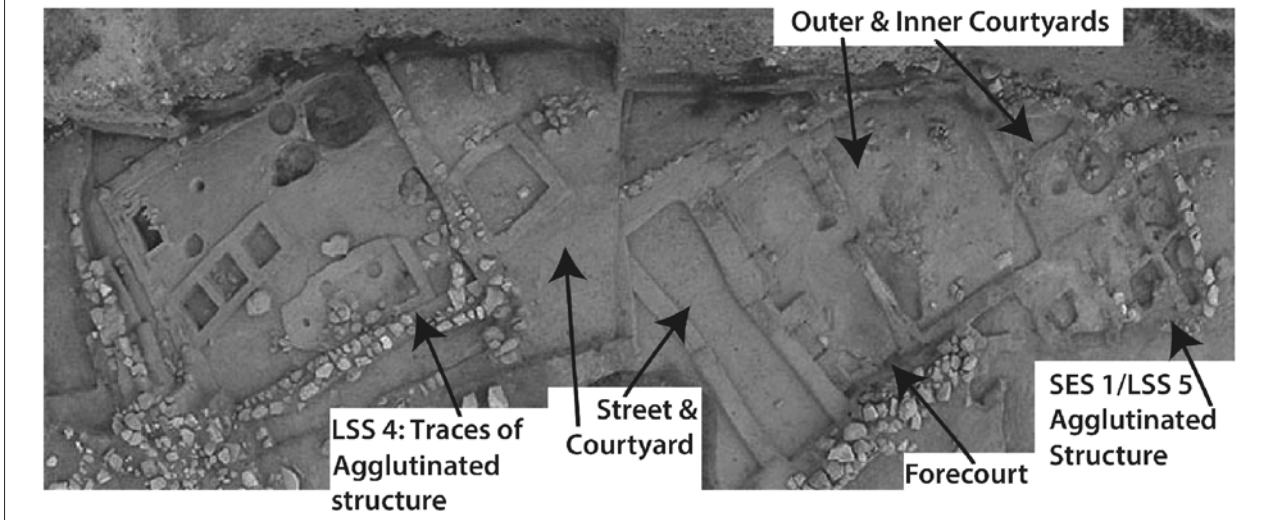
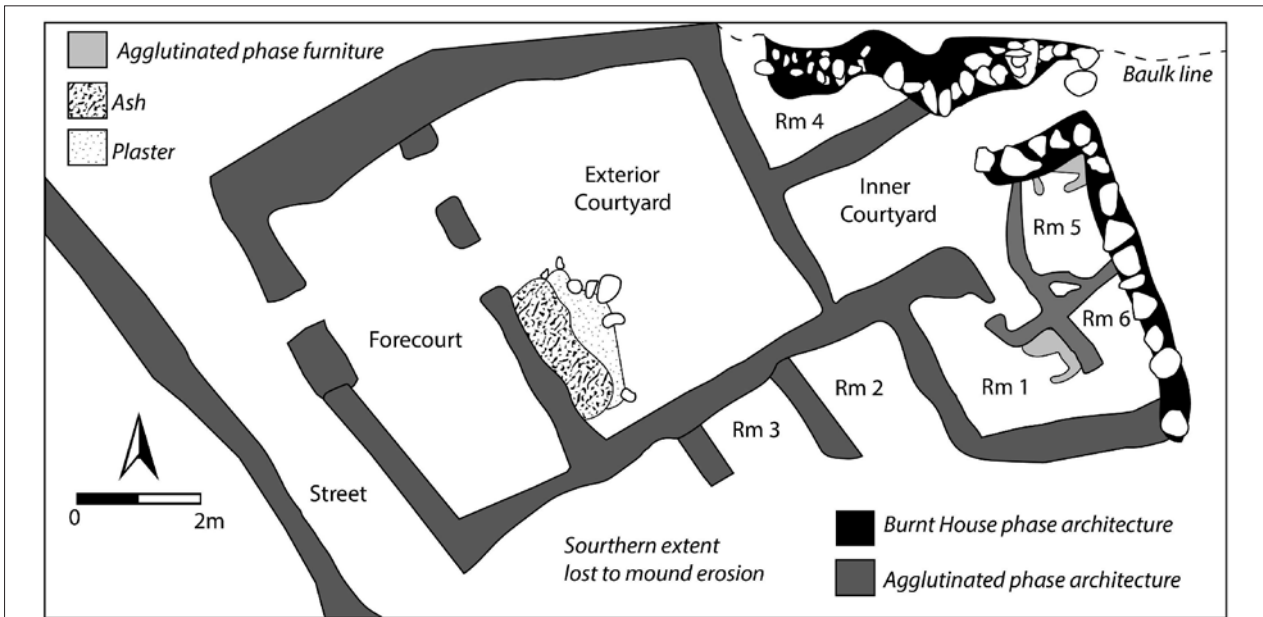


Fig. 4. Top: plan of Agglutinated occupational phase in trenches SES 1 and LSS 5; bottom: aerial view of entire southern slope showing Agglutinated architecture and associated courtyards in SES 1/LSS 5, street and open courtyard to west, and remnants of Agglutinated architecture underlying the Omphalos Building in trench LSS 4.

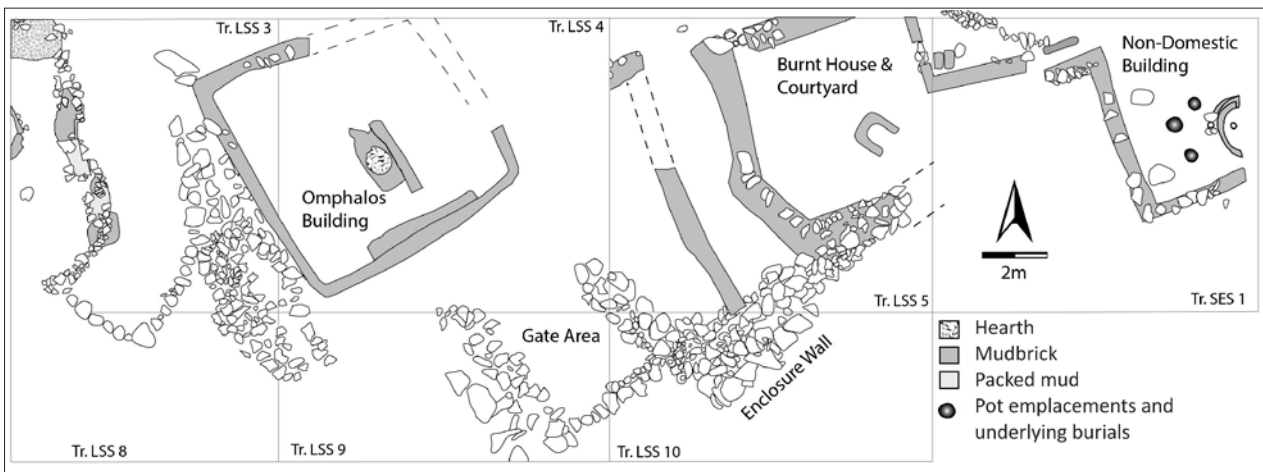


Fig. 5. Plan of the Burnt House and Omphalos Building phase at Çadır Höyük.

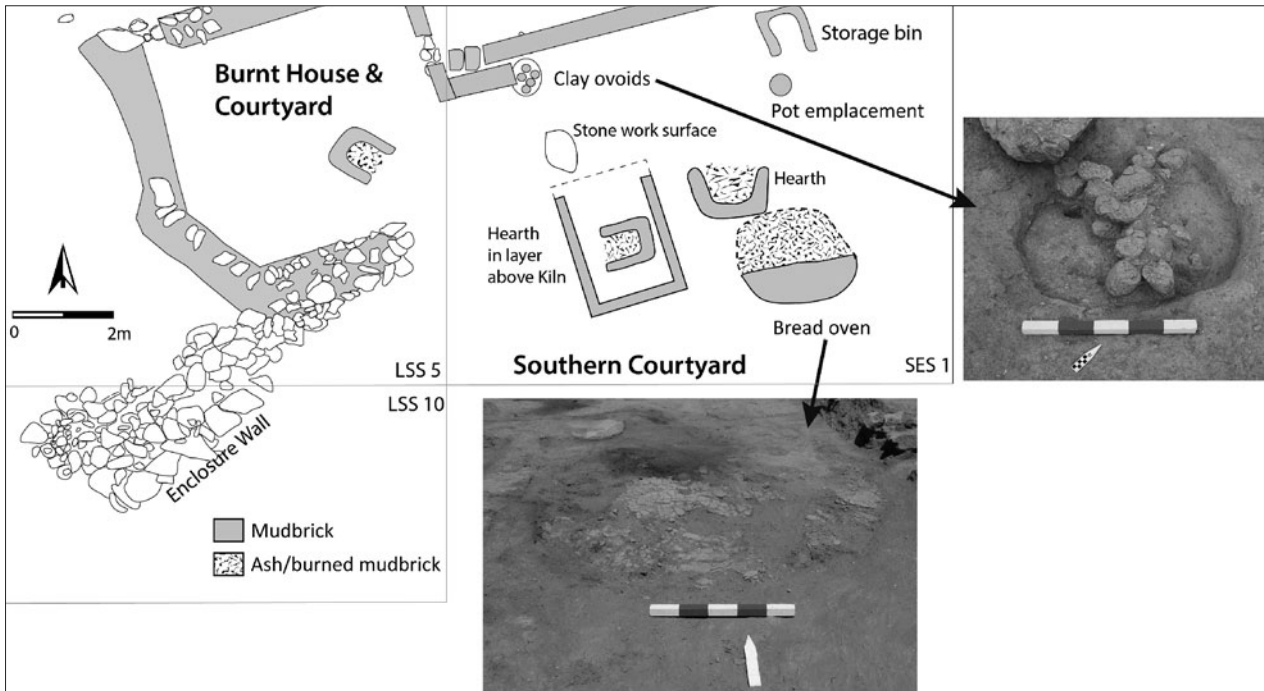


Fig. 6. Plan of the Southern Courtyard features including multiple hearths and bread oven, and ceramic production materials (clay ovoids, kiln, stone work surface); bottom: bread oven; right: clay ovoids.

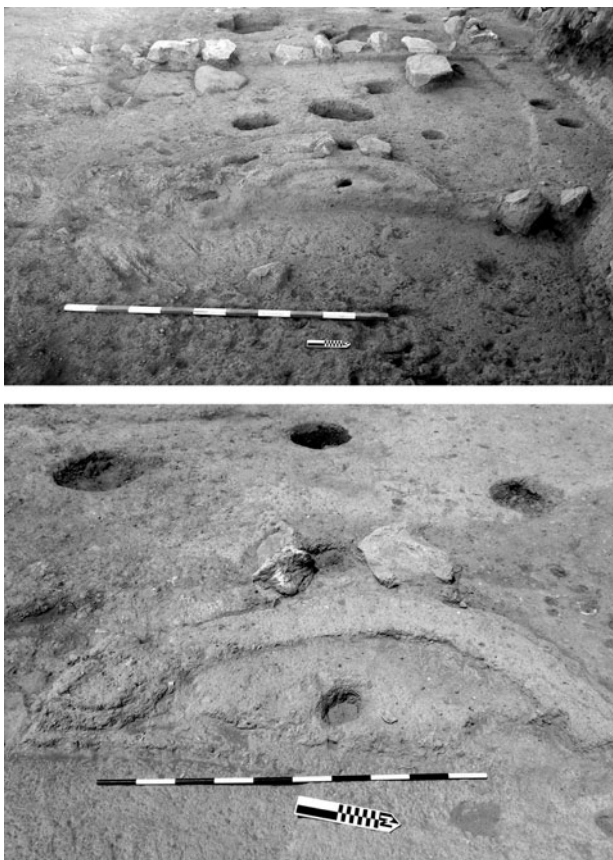


Fig. 7: Top: western half of the Non-Domestic Building in trench SES 1; bottom: close-up of semicircular mudbrick feature in the Non-Domestic Building with postholes and three pot emplacements/burials.

infant/child burials covered by ceramics (fig. 8). A broken fruitstand bowl (a vessel associated with ritual functions) covered one and a storage vessel covered the other. A third infant burial, recovered in 2012, was also part of this complex. There is no evidence of domestic activity in the room; few ceramics were found and no evidence of food preparation or food-related tools were present. Three items of note were recovered: a crystal amulet was found near what we interpret to be the doorway (fig. 9 top left), a copper axehead (our finest metal piece from the period) was found inside the room (fig. 9 bottom) and a small unbaked clay figurine also came from inside the building (fig. 9 top right).

The Omphalos Building in trench LSS 4 is named after the Omphalos Bowl, which is largely particular to Çadır. It is soup-bowl sized with a small dimple in its base (fig. 10, and see fig. 17b.8). The first Omphalos Building, built by the mid-fourth millennium (ca 3600–3500 BC), had two structural reorganisations following its initial construction. The earliest structure featured a large single room with a mud-plaster floor, which may have had an organic partition breaking up the space into northern and southern halves (Steadman et al. 2017). In this earliest structure there was a collection of ceramics, mainly storage vessels and smaller bowls, sitting on the floor. A century or so later a mudbrick wall was built to create eastern and western rooms (see fig. 5); a bench stretched along the southern wall. Inside the westernmost room, phytoliths were spread across the floor in a shelf pattern, interspersed



Fig. 8. Left: broken fruitstand bowl placed over infant burial under pot emplacement; right: child burial under broken ceramics beneath pot emplacement.



Fig. 9. The crystal amulet (top left), clay figurine (top right) and copper axehead (bottom) recovered from the Non-Domestic Building.



Fig. 10. Omphalos Bowl.

with ceramic vessels; the room had clearly been lined with shelves that had once held dozens of vessels. Some of these vessels were ‘brand new’ and others showed signs of burning or use. Also in the western room there was a mudbrick platform with a small fire installation that may have served to heat the room or make small meals. A ceramic piece (fig. 11) was found in a ‘box’ sunk into the floor of the western room. It has a bull’s head set on a four-cornered vessel in the form of a portable hearth. The more easterly room was largely devoid of materials, containing only a few ceramics. A final structural re-organisation, occurring in the late fourth millennium, returned the building to a single room largely empty of contents; it may have fallen into disuse at this time. The Omphalos Building, like the Non-Domestic Building, does not appear to have been domestic in nature, serving instead as some sort of ceramic distribution or communal-use centre, particularly in its two-roomed phase. Previous publications suggest that residents may have ‘rented’ ceramics for specific uses, thus explaining the burned nature of some of the bowls (Steadman et al. 2007). It was clearly during the two-roomed phase (dated to ca 3500–3300/3200 BC) that the structure reached its zenith of use, generally commensurate with the height of power of the Uruk system.

The complexes of the Burnt House and Omphalos Building were enclosed by a wall-and-gate system that stretched from just south of the Burnt Courtyard to the back of the Omphalos Building (see fig. 5). A gate leading into the settlement was centred in this wall, flanked by two small rooms (Gorny et al. 2002; Steadman et al. 2008).



Fig. 11. The bull-headed ceramic object found in a box within the Omphalos Building floor. This object demonstrates stylistic similarities to portable hearths (andirons) found to the east in Kura-Araxes contexts.

The Enclosure Wall has a significant stone foundation, 1.5m wide, with a mudbrick superstructure. One entered the settlement through the gate into an open courtyard; a turn left led to the Omphalos Building, while to the right was the Burnt House complex. This wall-and-gate complex went through three building stages. The earliest was the grandest, with a 3m-wide gate opening; it was perhaps built in conjunction with the Burnt House and may have made use of an earlier (Agglutinated-phase) mudbrick wall surrounding the settlement. At some point, perhaps when the Omphalos Building entered its final iteration (returning to a single largely unused room), the gate was considerably narrowed to about 2m wide; shortly after, by the end of the fourth millennium, the gate was completely blocked, suggesting that easy access to the public areas of the community was no longer desired.

As noted above, the Late Chalcolithic Çadır settlement may have functioned as an economic, and possibly ritual, regional centre (Steadman et al. 2007; 2008), perhaps serving as a distribution centre for surrounding communities, providing locally manufactured goods as well as items acquired through regional or long-distance trade. Neutron activation analysis of a small selection (number = 41) of Burnt House/Omphalos Building ceramics indicates that some wares came from clay sources some distance away (Kealhofer et al. 2010), further supporting the suggestion of a regional trade network in the Çadır area. Activities and the associated material culture also speak to a growth in trade and wealth distribution at the settlement.

The final occupational phase discussed here is the Transitional/Early Bronze I (ca 3200/3100–3000 and 3000–2900 BC, respectively; see tables 1, 3) that occurred at the end of the fourth millennium and into the early third. In trenches LSS 5 and SES 1–2 there were two phases of building, an early Transitional house (nicknamed the ‘H-House’) and two ‘Apsidal’ structures (Steadman et al. 2008; Steadman, McMahon 2015); these were replaced by Early Bronze I structures. The H-House was small and two-roomed with walls substantially thinner than those of the Omphalos or Burnt House structures; the Apsidal structures may have been used for storage only. The Early Bronze I structures were even less sturdy than the Transitional buildings; they were small and one-roomed, built of thin and crooked mudbrick walls. There were at least five of these, approximately 2m × 1.5m in size, scattered across the lower southern exposure (trenches LSS 4–5 and SES 1–2). Unfortunately, preservation is poor, given their proximity to the surface. Firepits were interspersed between these one-roomed structures in areas that may have functioned as shared courtyards (fig. 12). As noted above, the Enclosure Wall and Gate complex had fallen out of use, and the gate itself was blocked by the end of the fourth millennium.

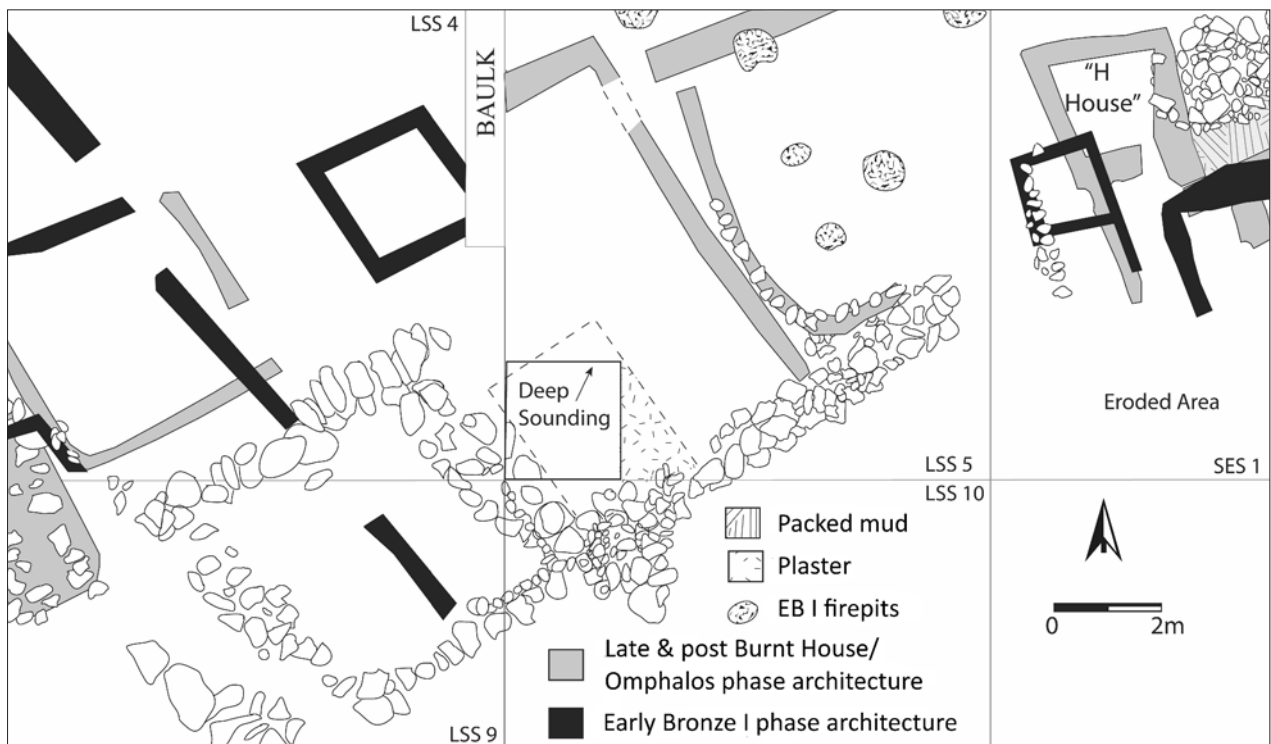


Fig. 12. Plan of Early Bronze I architecture and features with underlying earlier (Transitional and late Burnt House/Omphalos Building) structures visible.

Our 2012–2016 excavations in USS 9 and 10, further up the slope (see fig. 2), provided a new understanding of what happened at Çadır Höyük in the centuries near the turn of the millennium. The area was surrounded by a large mudbrick wall over 2m wide, which may have functioned as the new perimeter wall for the settlement – given that the Enclosure Wall and Gate further down the slope were no longer used. Inside and just outside the Early Bronze I perimeter wall were industrial areas and large fire installations (probably kilns) (fig. 13), demonstrating that production activities had moved further up the slope, though remaining on the edge of the main settlement. The principal domestic area was likely located north of this industrial area, deeper under the mound and largely inaccessible to our excavations.

The Transitional and Early Bronze I phase at Çadır is largely contemporary with the Late Uruk and Jemdet Nasr periods in Mesopotamia when the Uruk system had entered a transitional phase during which trade networks were reworked and redirected. Evidence suggests that the Çadır settlement contracted at the turn of the millennium, with the main population moving up the slope inside a newly constructed mudbrick perimeter wall, leaving a small and perhaps less socio-economically stable population on the lower slope, which had once functioned, just a couple of centuries before, as a vibrant centre of the Late Chalcolithic settlement. Changes in fortune for the Çadır

population, corresponding with an alteration of the Uruk system, are further attested by the subsistence strategies and material culture of this period.

Subsistence strategies

Archaeobotanical samples from the Agglutinated phase are still under analysis; preliminary data suggest that Çadır residents engaged in cultivation of standard regional crops such as hulled wheats (mostly emmer, *Triticum dicoccum*) and barley, with the possible addition of lentils (*Lens culinaris*) (Chernoff, Harnischfeger 1996; Smith 2007). This type of agricultural economy is consistent with that found at other Late Chalcolithic sites such as Korucutepe and Tepecik (van Zeist, Bakker-Heeres 1974; 1975), Hacinebi Tepe (Stein et al. 1996), Kuruçay Höyük (Nesbitt 1996), Fatmalı Kalecik (van Zeist 1998) and Sos Höyük (Longford et al. 2009).

Although the faunal sample from the Agglutinated phase is small (number of individual specimens [NISP] = 67), it provides the first evidence for an early fourth-millennium animal economy on the northern Anatolian plateau (table 4). Domestic sheep and goat, as well as pigs, were the focus of the animal economy in this early period. Although none of the large mammal remains were identified to species, four specimens likely represent domestic cattle. Biometrics from the small sample of pig remains indicate that these animals were much smaller than central

<i>Species</i>	<i>Pre-Agglutinated ca 5200–3700</i>	<i>Agglutinated ca 3700–3600</i>	<i>Earlier BH/Omph ca 3600–3300</i>	<i>Later BH/Omph ca 3300–3200/ 3100 BCE</i>	<i>Transitional ca 3100–3000</i>	<i>Transitional/ EB I ca 3000–2900</i>	<i>EB I and later ca 2900–2800</i>	<i>Total all periods</i>
Rodent	0	0	16	29	0	1	3	49
Small mammal	3	0	4	13	2	2	0	24
Medium mammal	3	21	161	706	60	123	76	1,150
Large mammal	0	4	116	94	15	14	10	253
Medium artio	2	0	8	12	23	4	1	50
Large artio	0	0	5	6	3	0	1	15
Ovis/capra	6	7	87	77	16	34	36	263
Ovis	0	0	44	7	4	5	1	61
Capra	0	0	27	13	5	0	2	47
Canis sp.	0	0	39	22	2	2	0	65
Ruminant	6	0	7	1	2	0	1	17
Bos	1	0	24	52	9	5	3	94
Capreolus	0	0	1	0	0	0	1	2
Dama	0	0	1	2	0	0	0	3
Cervus	0	0	2	0	0	0	0	2
Sus	1	18	39	41	25	14	5	143
Equus ferus/caballus	1	0	2	1	1	0	0	5
Equus sp.	1	0	2	1	0	0	0	4
Small carnivore	0	1	1	3	1	0	0	6
Med. carnivore	1	0	2	6	0	5	0	14
Felis sp.	0	0	2	0	0	0	0	2
Mustela nivilis	0	0	0	1	0	0	0	1
Meles	0	11	0	0	0	0	0	11
Vulpes	5	0	1	5	0	0	0	11
Hedgehog	3	0	0	0	0	0	0	3
Spalax	0	0	0	1	0	0	0	1
Lepus	16	0	18	6	1	0	1	42
Reptile	0	0	0	1	0	0	0	1
Testudo	1	4	21	1	9	0	2	38
Snake	0	0	5	0	0	0	0	5
Amphibian	0	0	0	1	0	0	0	1
Fish	1	0	0	0	0	1	0	2
Bird	0	1	2	8	3	0	2	16
Total	51	67	637	1,110	181	210	145	2,401

Table 4. Faunal samples by species from target periods at Çadır Höyük.

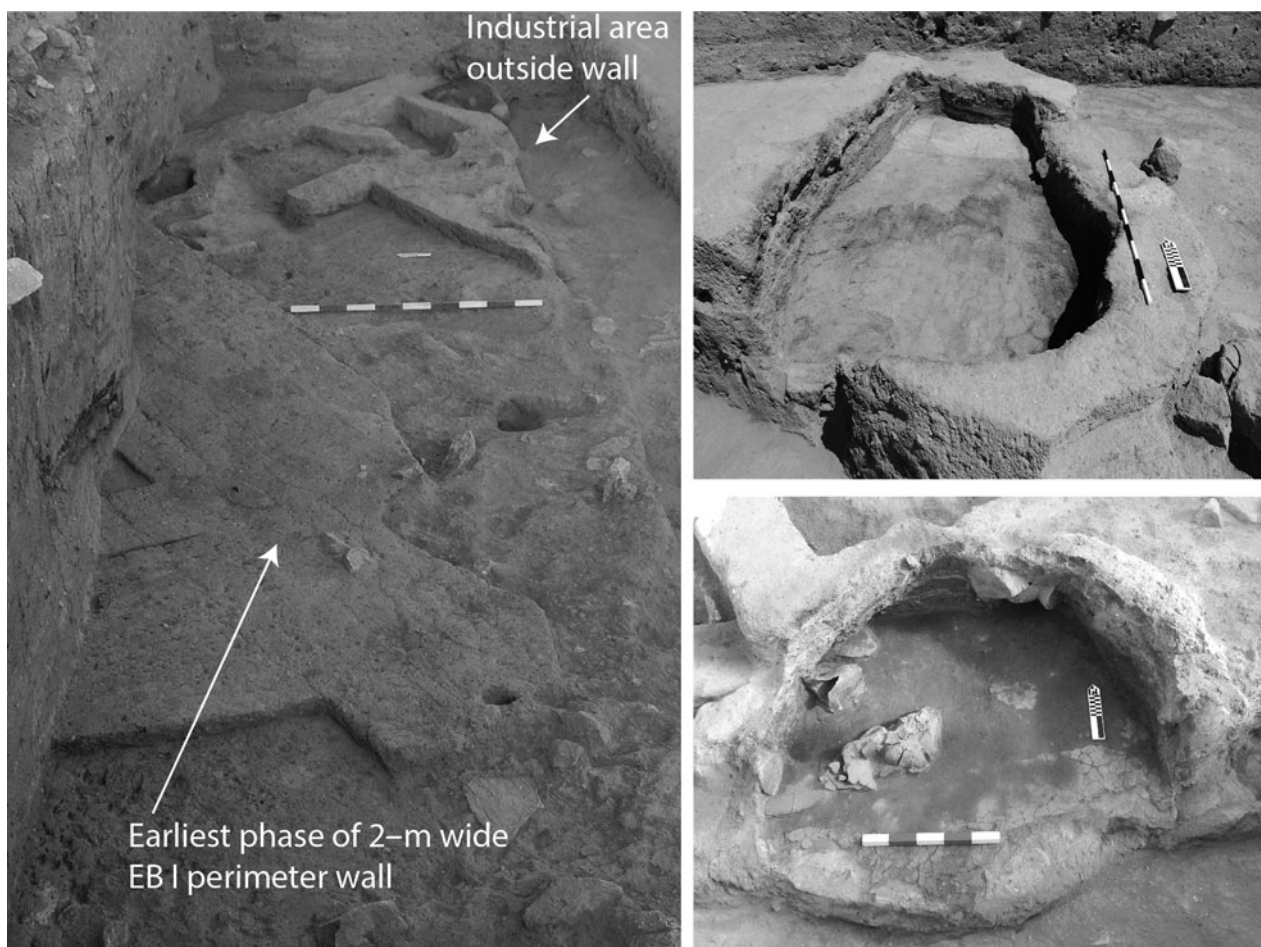


Fig. 13. Left: Early Bronze I perimeter wall and industrial area in USS 9–10; top right: very large oven in USS 9; bottom right: large oven/kiln in USS 10 with broken ceramics in situ inside.

Anatolian wild boar from sixth- and fifth-millennia BC Köşk Höyük but similar in size to domesticates from the nearby Late Chalcolithic site of Çamlıbel and Late Bronze Age Hattuşa (von den Driesch, Pöllath 2003; Bartosiewicz et al. 2013). Despite the small sample size, the faunal data from this phase are relatively diverse, with badger, tortoise, a small carnivore (probably a mustelid) and a small bird represented. Overall, the data from this early phase indicate that subsistence strategies of the early fourth-millennium Agglutinated phase are consistent with small-scale agricultural and animal husbandry economies found at contemporary sites on the plateau.

Extensive botanical and zoological evidence exists for the Burnt House/Omphalos Building phase. Analyses have revealed that barley (*Hordeum vulgare*, 78%) was the most ubiquitous crop (ubiquity equals the proportion of samples containing any given taxon), followed by hulled wheats dominated by emmer (60%), lentil (*Lens culinaris*, 47%) and bitter vetch (*Vicia ervilia*, 42%) (fig. 14). Lentils and barley, recovered from caches, were found in the largest amounts. In the Southern Courtyard, over 200 lentil seeds were found in situ next to a hearth, and were likely being

cooked when a fire consumed the area. A deposit of bitter vetch seeds was found in one of the holes next to the semi-circular mudbrick feature in the Non-Domestic Building described above (the second depression may have contained seeds, but had been disturbed by rodent activity). Bitter vetch grows in the region today and is often used as livestock fodder, but it can be processed for human consumption (Valamoti et al. 2011; Zohary et al. 2012).

Flax (*Linum usitatissimum*) was also present in the sample (28% ubiquity); it can be used for weaving, oil production and cooking (Valamoti 2011). Flax has been recorded at Late Chalcolithic Kuruçay (Nesbitt 1996) and Korucutepe (van Zeist, Bakker-Heeres 1975), and has been found in Ubaid and earlier Chalcolithic phases at Kenan Tepe (Graham, Smith 2013). The presence of flax in this phase of the Çadır settlement is consistent with the evidence of textile production found in the Burnt House Courtyard, and it may have been used in conjunction with wool (see below).

Well-preserved cereal plant parts provide insights into how crop processing was organised at Çadır. Gordon Hillman's (1984) cereal-processing model, based on

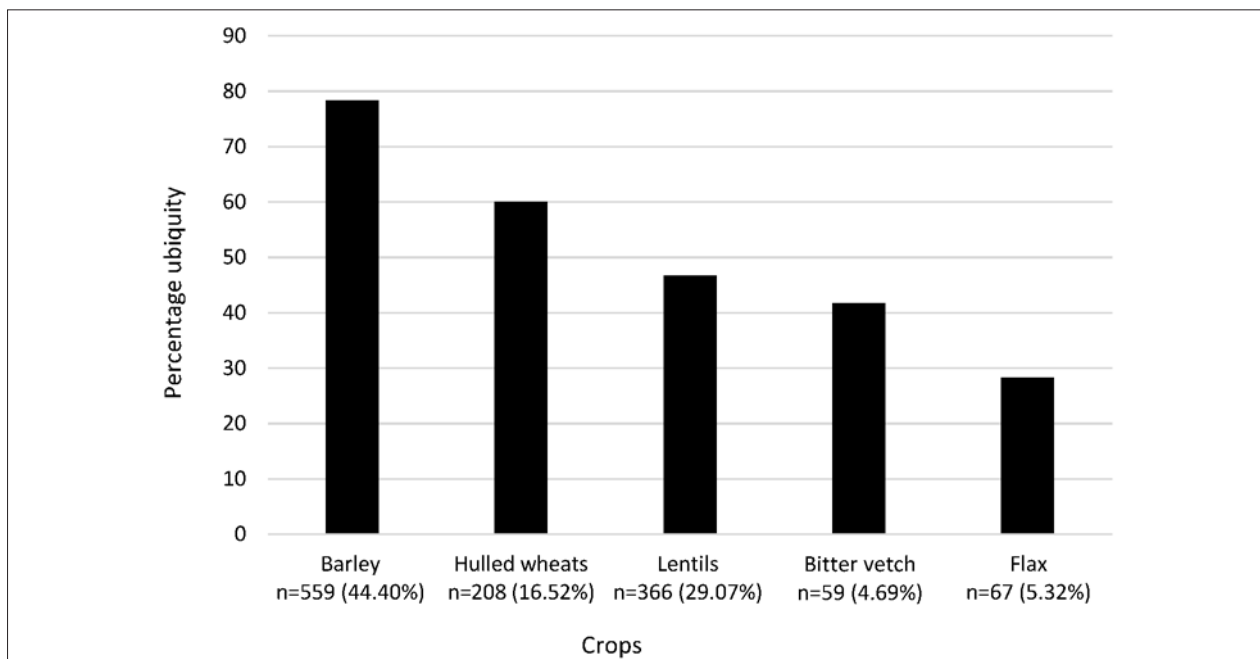


Fig. 14. Ubiquity (the proportion of samples within which any given taxon is present), raw counts and percentage abundance (in parentheses) of the most ubiquitous crops recovered from 60 samples dating to the Burnt House, Omphalos and Apsidal building phases.

ethnographic work in Turkey, describes crop products and by-product waste produced at each stage (see also Stevens 2003). Emmer wheat glume bases are the most common by-product found at Çadır, followed by barley and free-threshing wheat rachises. The density of hulled wheat glume bases, combined with weeds that are generally removed during late-stage processing, indicates that hulled wheat spikelets were processed on site, with the bulk of the processing taking place in the Southern Courtyard area (near the large bread oven). It is possible that this activity was communal in nature, perhaps initiated or overseen by the residents of the Burnt House. Dense concentrations of crop by-products were also recovered from inside the large kiln, which may represent the incorporation of chaff into dung fuel used within the kiln (Miller, Smart 1984; Charles 1998) or the addition of chaff to the kiln chamber to control the burning environment. Analysis of the weed samples suggests that dung was the predominant fuel used for cooking at this time.

A modest faunal assemblage was recovered from the Burnt House/Omphalos Building phase (NISP = 637; table 4). Domestic sheep and goat are the most abundant species, representing 65% of the economically important taxa and 72% of the livestock. Sheep outnumber goats in this phase at a ratio close to 2:1. A large number of dog remains were also identified (number = 39), some bearing cut marks indicating that canines were both present and occasionally butchered and consumed on the mound. Wild taxa represent approximately 10% of the assemblage and

include deer, horse, cat (wild/domestic?), fox, hare, snake, tortoise and birds. The presence of horse remains dating to the mid-fourth millennium BC is noteworthy and links Çadır with a small group of contemporary sites in eastern and southeastern Anatolia, including Arslantepe, Norşuntepe, Tepecik and Sos Höyük (Boessneck, von den Driesch 1976; Bökönyi 1991; Uerpmann 2001; Arbuckle 2009). Given the well-documented presence of wild horses on the Anatolian plateau in the Neolithic and Chalcolithic periods (for example Boessneck, von den Driesch 1976; Bökönyi 1991; Uerpmann 2001), it is assumed the Çadır horse remains represent wild, hunted, animals. However, clear evidence for horse husbandry is present at contemporary sites in central Asia at this time, indicating that the question of early horse management at Çadır requires further assessment.

Evaluation of caprine management strategies at Çadır suggests that wool production may have been an important focus of the economy. Çadır sheep exhibit a larger body size than those from Middle Chalcolithic Köşk Höyük (Arbuckle et al. 2009), suggesting either the presence of more robust animals at Çadır or, more likely, an increase in the abundance of large males in the adult population – a feature expected in husbandry regimes focused on fibre. The size distribution of sheep in this phase is similar to that documented at Middle Bronze Age Achemhöyük, where it has been argued that wool production was an important goal of herd management (Arbuckle 2015). Evidence for wool production is further supported by the

age of slaughter, which indicates a greater focus on culling mature adult animals (77% adult) compared to the earlier caprine economy at Köşk Höyük, which likely focused on primary products, as the majority of sheep were culled as juveniles (Arbuckle et al. 2009). This combination of biometric and age data provides a strong case that fibre production was an important focus of caprine management in the Burnt House/Omphalos phase of occupation at Çadır – a new feature of Anatolian livestock economies at this time. The faunal data correlate well with the indication that textile production took place in and near the Burnt House in this phase.

A similar dominance of caprines and management strategies emphasising wool production are found at contemporary Uruk sites such as Hacinebi and possibly Hassek and Hayaz Höyük (Boessneck 1992; Zeder 1998; Stein 2001; Vila, Helmer 2014) and at Late Chalcolithic Transcaucasian sites such as Horom in Armenia (Obermaier 2006). However, the Çadır caprine-focused economy is dissimilar to those at other north-central Anatolian settlements such as Camlıbel and nearby Yarikkaya, where pigs and cattle dominate (Boessneck, Wiedemann 1977; Bartosiewicz, Gillis 2011). Sites associated with Uruk influence (especially colonies) exhibit a strong preference for caprines, especially sheep (Pollock 1999). At Arslantepe, the native Anatolian animal

economy emphasising cattle and pigs in pre-Uruk level VII was replaced by one focused on caprines in period VIA, when Uruk influence is most evident (Bartosiewicz 1998). Çadır's herd-management strategies in this phase may have been influenced by increased opportunities to engage in commodity production (i.e. wool and textiles) for both trade and local consumption due to a more robust economy and access to new markets generated by the interregional interaction connected broadly to the Uruk system (for example Schoop 2014). This demonstrates important elements of connectivity linking the central plateau with the outer regions of the Mesopotamian Uruk world.

In addition to its focus on sheep and wool production, the animal economy at Çadır also differed from neighbouring plateau sites in terms of the frequency of pig remains. Domestic pigs represent 15% of the Çadır assemblage, while pig remains are more than twice as abundant at Camlıbel and Yarikkaya (fig. 15; Bartosiewicz, Gillis 2011) and pigs are absent from other Chalcolithic and Early Bronze Age plateau sites to the south and west of Çadır; this may reflect a major cultural difference between the southern/western and northern/eastern plateau (Arbuckle 2006). Çadır's pig frequency is, however, in line with some settlements found within the Uruk sphere of influence, including Hacinebi and Norşuntepe (Boessneck,

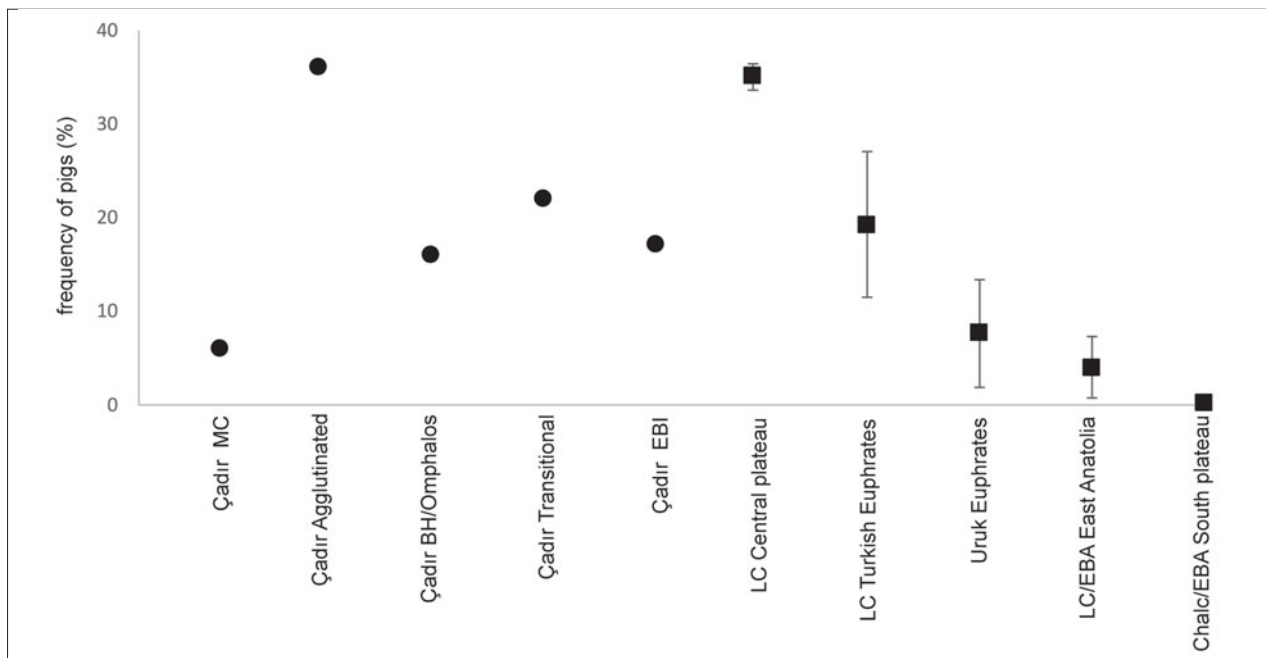


Fig. 15. Pig frequencies for the Middle Chalcolithic, Late Chalcolithic and Early Bronze I phases of Çadır compared with those for other regions of Anatolia. 'Late Chalcolithic Central plateau' includes Camlıbel Tarlası and Yarikkaya; 'Late Chalcolithic Turkish Euphrates' includes Norşuntepe, Tepecik, Hacinebi, Arslantepe and Kor Tepe; 'Uruk Euphrates' includes Hacinebi, Arslantepe and Tell Brak; 'Late Chalcolithic/Early Bronze Age East Anatolia' includes Sos Höyük, Büyüktepe and Mokra Blur; 'Chalcolithic/Early Bronze Age South plateau' includes Köşk Höyük I and Early Bronze Age Acemhöyük.

von den Driesch 1976; Stein 2001), providing parallels (along with the presence of horses) to the upper and lower Turkish Euphrates regions. Of particular interest is the burial of a two-year-old pig within a feature inside Çadır's Non-Domestic Building. This special deposit suggests that pigs played an important role in ritual practices as well as subsistence strategies.

A total of 21 archaeobotanical samples have been recovered from Transitional and Early Bronze Age contexts of the lower Çadır settlement. Charred remains are very poorly preserved, but indicate a similar range of plants relative to the previous phases of occupation, including barley, emmer wheat and indeterminate cereal grains, glume wheat spikelet forks, bitter vetch and small wood fragments. At this point, it is not possible to examine temporal changes in farming activities, but a preliminary overview suggests that farming strategies and crops remained stable.

Archaeozoological information indicates that significant economic change took place in this latest phase (table 4). Contemporaneous with the decline in Uruk influence, the animal economy exhibits a decrease in the abundance of caprines from 72% to 54% of livestock and an increase in the frequency of goats, which outnumber sheep for the first time. In contrast, there is a dramatic increase in cattle (12% to 24%) and pigs (15% to 22%). However, biometric and age data indicating large-sized, probably male, individuals, with an emphasis on the culling of adults (74%), suggest a continuity in caprine management strategies focused on secondary products. These changes are suggestive of a shift to an animal economy with less emphasis on the surplus production of the secondary products of sheep (i.e. wool) and more emphasis on household production and risk reduction (Stein 1989; Zeder 1991). In addition, the increase in cattle may reflect a rise in their use for labour in agricultural production – a hypothesis that can be tested by analysing the botanical material for isotopic evidence of increased use of irrigation and biometric evidence for the presence of oxen.

Material culture

The main categories of material culture, described below, include metals, lithics and ceramics; relevant small finds indicative of the main arguments pursued in this study will also be mentioned as they too provide evidence of Çadır's connectivity to the larger Uruk system.

Metals were analysed using a portable X-ray fluorescence device (Bruker Tracer IV series), in combination with an Al-Tl filter at 43.00 kV and 17.30 µA with an irradiation time of 60 seconds. Few metal items were retrieved from the Agglutinated phase (fig. 16). The only recognisable item is a loop-headed pin, perhaps an *ante litteram* toggle pin, broken into several pieces. Only a few other

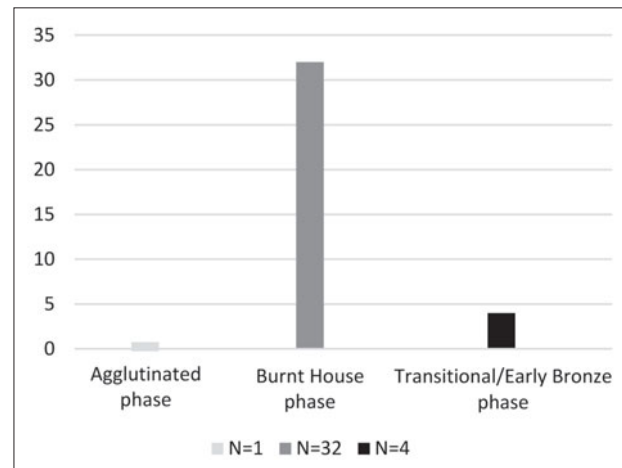


Fig. 16. Copper and copper-alloy metal objects (not including unidentifiable fragments) recovered from the three phases of Çadır Höyük discussed in the text. Only those with reliable provenances are included here.

metal fragments were retrieved from the Agglutinated architectural areas. The pin consists of nearly 100% copper containing no arsenic, but with trace elements of iron and nickel, likely by-products of the smelting process.

In the Burnt House/Omphalos phase, over 30 well-preserved and complete metal items were recovered, including pins, needles and especially jewellery. Many were recovered from the Burnt House and Courtyard areas, suggesting they belonged to that household. The most remarkable discovery is the complete axehead excavated from inside the Non-Domestic Building (fig. 9 bottom), just east of the Burnt House complex. The flat axe has a bell-shaped profile with a winged blade, a fairly common type in the central Anatolian and Pontus areas during the Late Chalcolithic period and Early Bronze Age. The copper of the axe contained iron, nickel, silver and gold. There was a modest quantity of arsenic in the axe and in the earring, noted above, recovered from a burial ($As < 0.5\%$). The presence of nickel and zinc suggests an exploitation of copper sulphides such as chalcopyrite, since chalcopyrite, sphalerite and iron sulphides are present with these types of copper-nickel and copper-zinc ores; often, gold and silver are also present, which may be associated with copper sulphides.

The closest known copper ore source is Çağsak (TG274) in the Çorum province (Wagner, Öztunalı 2000), 45km from Çadır Höyük. However, samples from Çağsak are too small to allow a comparison to the Çadır metals. The 2017 excavations yielded evidence of metallurgical activities dating to the second half of the fourth millennium (this area is not yet completely exposed); it is therefore likely that Çadır residents imported both finished products and copper ores in this phase.

An important metal artefact was found near the gate (which was later blocked). This double-spiral pin has horns, flattened by hammering, which were then neatly rolled several times to form two tight spirals (Steadman et al. 2007: fig. 6c). The pin contains a good quantity of arsenic, and has no traces of nickel and a poor value for zinc ($Zn < 0.1\%$); antimony is also present ($Sb 0.2\%$). This pin may have been made of copper from a different exploitation site than that of the other items from this phase. The double-spiral pin is the only example of its kind known from this region of Anatolia and is comparable with examples from Arslantepe, Norşuntepe and the Van region, together with some others from the Kura-Araxes culture (Marro 2011; Porter 2012: 69; Carminati 2014; Frangipane 2014; Palumbi 2016).

Very few metal artefacts were recovered from the third Transitional/Early Bronze I phase of occupation (fig. 16). This may reflect a lack of access to these items via trade routes or a decrease in the availability of ores to process, also due to weakening trade lines.

The ceramic assemblage remains largely consistent throughout the fourth millennium. Previous publications offer a more extensive discussion of the late fourth-millennium assemblage (Steadman et al. 2007; 2008). Only a brief overview of the earliest assemblage is necessary here. Residents in the Agglutinated phase exploited two clay sources, one containing mica (less commonly used) and the other lacking this substance. There is no discernable difference in the quality of the clay, and the micaceous source was not selected for a post-firing ‘sheen’ since all ceramics were heavily burnished and often slipped, eradicating evidence of mica in the clay. Vessels were

handmade (fig. 17a); small and medium-sized vessels generally began with a flattened piece of clay pinched into the desired form; bi-slab construction was used for large storage vessels. Very occasionally, coiling was used for medium-sized bowls. Vessels were often slipped, then burnished to a black sheen (achieved by using a reducing atmosphere during firing), occasionally with buff to orange mottling (a result of incomplete coverage during firing); occasionally the rim or the entire exterior or interior displays these non-black colour ranges. Vessel shapes include jars that flare above the shoulders, small bowls (sometimes chaff-faced, sometimes carinated) and cups, hole-mouth jars and large storage vessels. Other than burnishing, surface decoration is rare, with only the occasional incised decoration or, even more rarely, painted white lines several centimetres in length.

For the Burnt House and Omphalos Building phase there is an increase in the forms and styles in the ceramic assemblage, as well as in the amount and type of decoration. In addition to the Agglutinated-phase forms noted above, a greater variety of large jars and bowls appears, as does the iconic Omphalos Bowl (fig. 17b.8). Also becoming common in this phase are the so-called ‘fruit-stands’ (fig. 17c), which may have been used for specialised activities rather than in daily utilitarian functions. The glossy black burnish remains standard, but now with occasional orange, red or buff interiors or exteriors, adding colour to the assemblage. Firing, especially of the smaller vessels, stabilised, thereby cutting down on mottling; the clay is fairly well levigated, particularly in smaller bowls, jars and cups. Four surface decoration styles are found in this phase: plain incision, incision

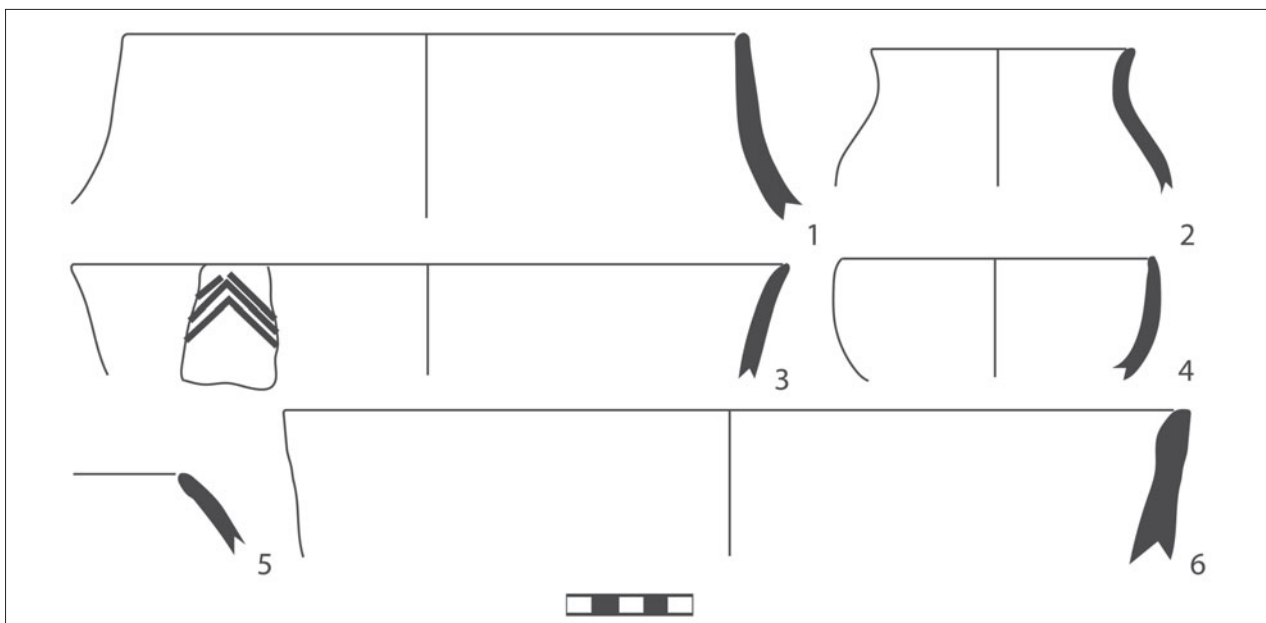


Fig. 17a. Typical Agglutinated-phase ceramics (see Appendix for details).

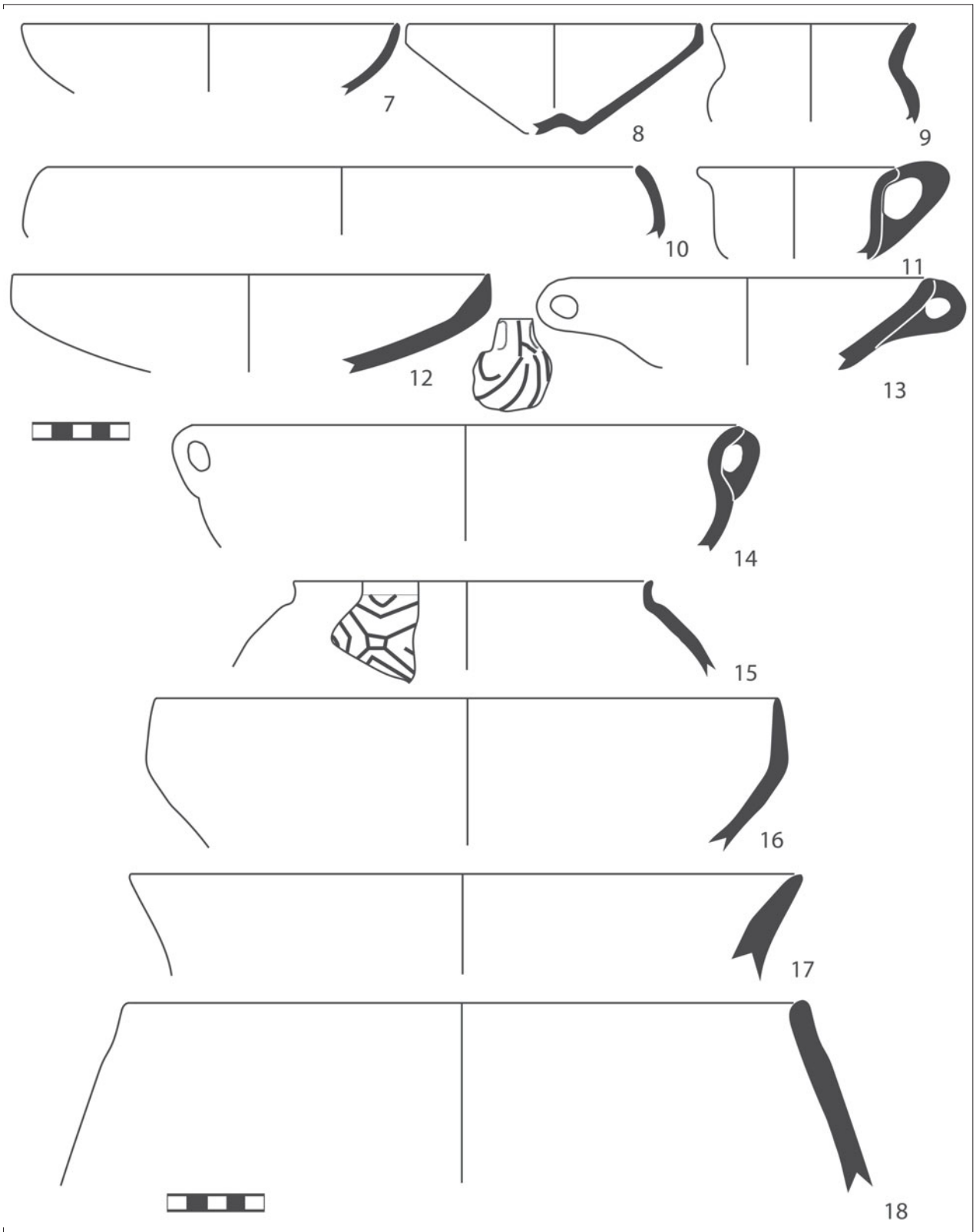


Fig. 17b. Sample of the expanded types of forms typical of the Burnt House and Omphalos Building ceramics (see Appendix for details).

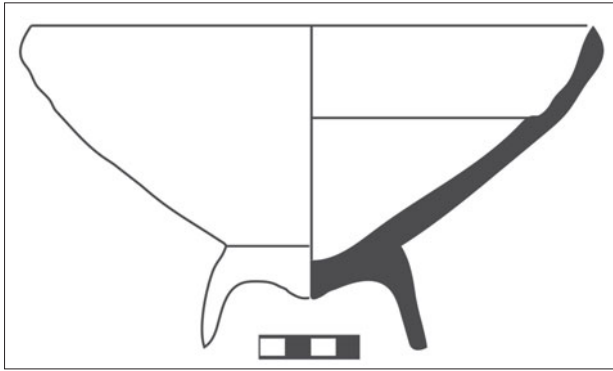


Fig. 17c. Complete fruitstand from just above the Burnt House roof (see Appendix for details).

with white in-fill, white-painted stripes (also present in the earlier phase) and red paint. The latter was applied post-firing and manifests as a fine powder (probably ochre) when vessels are excavated. The paint was applied to the inner rims of bowls and outer necks of jars, above the shoulders. This red paint may have been used to decorate vessels not employed in everyday use.

Several other ceramic items from this phase are worth noting here. Two are figurines: a bull figurine from one of the floors of the Omphalos Building and the tiny unbaked clay figurine (see fig. 9) found in the Non-Domestic Building. Also found in the Non-Domestic Building was a portion of a jar with a hole in the shoulder, just above what might be described as a cupped ledge handle that would catch and pool a small amount of liquid spilled from the hole in the jar. To date, this vessel type is unique in the Çadır assemblage. The bull-headed andiron with Transcaucasian parallels, mentioned above, dates to this phase. Also found in the Omphalos Building was an andiron with decorative motifs suggesting Transcaucasian origin or inspiration (Steadman, McMahon 2017; Steadman et al. 2018). By this phase of occupation at Çadır Höyük residents were making a wider range of ceramic forms with a greater number of decorative styles; figurines and other types of objects were being produced and used in various contexts. The ceramic assemblage offers the picture of a thriving economy with a wider range of activities and the use of a greater number of imports.

The Early Bronze Age ceramics (forms similar to those presented in fig. 17a), recovered from both the lower town – where the somewhat shabby one-roomed structures stood – and the upper USS 9–10 area, demonstrate some subtle but noticeable changes in the assemblage. One notable technological change is the more frequent use of chaff as a temper; chaff appears in a higher percentage of the vessels, especially in bowls and jars. The predominant grit temper is larger in this phase. The actual paste of the vessels is also coarser overall, not only because of the chaff

and larger grit temper inclusions, but also due to a less intensive preparation of clay and the less care given to proper firing of the vessels. There is a lower incidence of mica present in the fabric of the vessels, indicating that one clay source may not have been exploited as frequently as in earlier phases. These changes may have resulted from more limited access to clay sources and perhaps a return to household production from more specialised production in the previous phase.

Surface treatment in this phase also sees some changes. There is a much higher incidence of brown and grey surface colours in comparison to the primarily black and red/orange colours of earlier phases. This may be related to how the firing of the vessels was handled (less control over the reducing atmosphere) or perhaps preferences had changed to embrace more neutral browns and greys. Vessels are less frequently slipped and burnished, and are sometimes simply smoothed; many that did receive burnishing are unevenly burnished, creating vessels that lack the high gloss of earlier phases. Only incised decoration persists into this phase.

Ceramic forms in this phase return to the more basic levels of the Agglutinated period; fruitstands and Omphalos Bowls are far less common. The main difference between the Agglutinated and Transitional/Early Bronze assemblages is quality and surface treatment, with the later vessels showing a lower level of quality and treatment (with regard to clay, pre-firing manufacture and firing technology).

A brief mention of our ongoing lithic analyses is relevant to the present discussion. Lithics from the three phases were retrieved from all prehistoric areas, though exposure of the Agglutinated period is limited to the eastern lower town. Analyses of lithics retrieved up to the 2015 season are largely complete, but the 2016 and 2017 samples are still being reviewed; therefore, only estimated details of the lithic assemblages for each phase can be offered here.

It has been observed that, although the percentage of obsidian in the assemblages from the Agglutinated to Burnt House phase remains consistent (fig. 18), the total number of partially or wholly completed tools and flakes increases nearly four-fold from the earlier to later phase (J.D. Geyer, personal communication October 2016). As noted above, excavation in the Burnt House Courtyard indicates that lithic production took place there, and this seems to be supported by the sheer numbers of lithic artefacts retrieved for this phase. In addition, it seems that access to raw-stone resources and trade in obsidian sources became more robust in the Burnt House/Omphalos Building phase in order to supply greater need. There is some evidence that Çadır residents had access to obsidian coming from Bingöl in southeastern Anatolia (Steadman

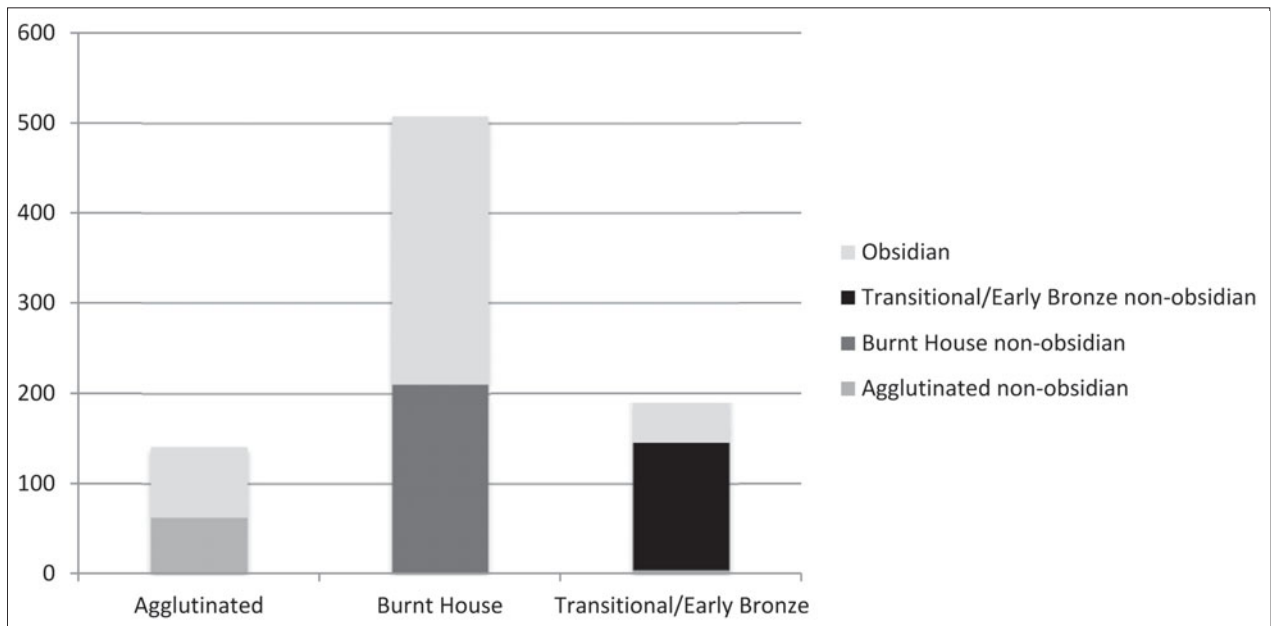


Fig. 18. Current estimation of the size of the Çadır Höyük lithics assemblage for each phase (only whole or partial tools and flakes are included) with the proportion of obsidian indicated. Agglutinated phase (retrieved from ca 250m²): total assemblage n = ~141, obsidian n = ~79 (56%); Burnt House and Omphalos Building phase (retrieved from ca 300m²): total assemblage n = ~508, obsidian n = ~298 (58%); Transitional/Early Bronze phase (retrieved from ca 350m²): total assemblage n = ~186, obsidian n = ~46 (25%).

et al. 2013), but the majority of obsidian at the site was acquired from Cappadocian sources (Doyle et al. 2014). In the Neolithic and later, residents of Domuztepe and Arslantepe exploited an Armenian source for some of their obsidian (Frahm et al. 2016). Further sourcing of Çadır obsidian could yield data suggesting a wider field of acquisition in the Late Chalcolithic. A dramatic drop in obsidian exploitation is observed in the Transitional/Early Bronze phase (fig. 18), in which only 25% of the assemblage (again with a drop in the number of whole/partial tools and flakes) consists of obsidian. Residents produced or used fewer tools in this phase, and access to obsidian seems to have been more limited.

Discussion

Jennings notes that at the heart of ancient globalisations, such as Uruk and the Roman Empire (2011; 2017), all eight trends of globalisation, outlined above and in table 2, can be identified. What has not been tested is how far *beyond* the identified ‘boundaries’ of an ancient globalisation the connectivity might extend. Çadır provides an ideal opportunity to test the impact of ancient globalisation beyond what might be considered the ‘known world’ of the time.

There is a surprisingly close chronological link between the emergence, flourishing and decline of the Uruk system and archaeologically recognisable changes that took place in the three major prehistoric phases of

occupation at the rural Anatolian site of Çadır Höyük. The evidence thus far available from the fourth millennium BC Çadır settlement, as shown in table 2, demonstrates that it is possible to document, to one extent or another, a majority of the trends present in a globalised system. We argue that the archaeological evidence suggests that Çadır was integrated into, or at least in part affected by, the complex connectivity within the Uruk globalised system. An examination of the eight globalisation trends, outlined in table 2 and identified by Jennings (2011; 2017), helps to support this interpretation.

The time/space compression trend, in which physical or ideological changes in one place can quickly manifest in another, can be identified at Çadır. The architectural and material culture changes at Çadır, first between the Agglutinated and Burnt House/Omphalos phases, and then again at the turn of the millennium leading into the Early Bronze period, were relatively rapid. The reorganisation of the settlement, the appearance of non-domestic buildings, the sudden increase in the access to metals and the increase in lithic and ceramic production all appear to have occurred within a generation or two. The same can be said of the abandonment of the lower town and decrease in access and production a few centuries later. Although it cannot be conclusively stated that these changes occurred as a *result* of the Uruk global system, the temporal correlations and the rapidity and breadth of the changes strongly suggest that the timing was not coincidental.

The deterritorialisation trend, in which local traditions fade and new elements emerge, is not as apparent at Çadır, and yet there are ‘international goods’, especially from Transcaucasia, present in the Burnt House/Omphalos phase that suggest a desire for these objects and an expansion beyond local stylistic traditions (Steadman et al. 2018). A claim of a total ‘deterritorialisation’ drift from local traditions and the adoption of ‘foreign’ practices cannot be supported at Çadır; but an interest in unusual and perhaps desirable non-local items can be attested.

The third trend, standardisation, has the weakest showing at Çadır. One could point to the similarities in herd management between Çadır and settlements in the Uruk sphere (see above), but this does not really meet the criteria set out to describe the globalisation patterns of standardisation.

The fourth, ‘unevenness’, trend manifests rather strongly at Çadır. Materially, metals and metallurgy, increased exploitation of obsidian sources and extra-household production of textiles and ceramics, all likely fed by more robust regional exchange networks in the Burnt House/Omphalos Building phase, demonstrate increased socio-economic activity at Çadır, perhaps resulting from complex connectivity. Further, the food- and textile-based activities in the Southern Courtyard may represent the potential organisation of labour to turn raw resources into finished products for extra-household distribution; the same may be true of ceramic production in the Omphalos Building area. However, there is no evidence that such labour was recompensed with food distributed in Uruk-style bevelled-rim bowls. Thus, behaviours associated with the Uruk world emerged at Çadır, but ‘payment methods’ for services rendered must have been varied. Hence the existence of ‘unevenness’ in any connectivity between the Uruk system and the north-central plateau.

Homogenisation, in which goods and practices are adopted across the globalised region, is another trend that appears to be present at Çadır on some level. Herd management strategies in the Burnt House/Omphalos Building phase suggest a transition to wool production, a trend also found at contemporary Uruk system sites. Products from wool processing, as well as flax processing, would also have contributed to a wider exchange system across the plateau, perhaps connecting southward to Uruk system exchange networks. Another suggestive development is the appearance of the Non-Domestic Building, representing the first time a structure apparently intended for ritual purposes was constructed at the site (as yet no such structure dating to the Agglutinated phase has been identified). Though hardly a ‘temple’, such as might be found at Arslantepe or in southern Mesopotamia, this building does represent a new element in the architectural repertoire of Çadır. Finally, the desire for metal, for the

purposes of decorating humans (at least in burials), might signal a degree of homogenisation, particularly with Transcaucasian cultures to the east and with settlements such as Arslantepe to the south.

The sixth trend, ‘cultural heterogeneity’ (an increase in cultural variation), is difficult to identify with certainty at Çadır, but evidence suggests it is present. There is no question that the range of goods increased at Çadır during the Burnt House/Omphalos Building phase, with the presence of metals perhaps the most notable. In one case, the spiral pin, the motif is similar if not identical to that found at Arslantepe. Most of the other metals – pins, the axehead and wrist and ankle bracelets – are rendered in local or regional styles; a possible exception is the double-spiral pin that may be Transcaucasian in style. Whether this reflects limits on technological capabilities or local preferences is unclear. The use of metals as a common burial good, however, is indeed a trend that begins in this phase and is also found in Transcaucasia and at many Uruk-period sites. It is also perhaps worth noting the increase in ceramic decoration in this phase. Some designs are reminiscent of those found in southeastern Europe (Steadman 1995), suggesting a further direction of connectivity for the site; others can be compared to Transcaucasian wares also found at Arslantepe as well as eastern Anatolian sites (Chataigner 1995; Frangipane 2000; Sagona 2000; 2003; Kiguradze, Sagona 2003; Rothman 2003; 2011; Sagona, Abramishvili 2008). The architectural footprint at Çadır, as described in detail above, underwent a dramatic change in the middle phase; evidence of emulation of styles is not present, but the emergence of new ideologies is suggested. At the very least, with regard to the ‘cultural heterogeneity’ trend, it can be argued that material culture variation and socio-economic and possibly sociopolitical behavioural patterns altered substantially in the mid- to late fourth millennium at Çadır.

The ‘re-embedding of local culture’ trend, which identifies an innovation, or underlying continuation, of local practices, is exemplified in several scenarios at Çadır. The tradition of infant jar burials, first observed in the Agglutinated phase, continues into the Burnt House/Omphalos phase and actually increases in frequency. This may simply signal changes in ritual behaviour and symbolic thought, but it does also represent a reassertion of a local tradition. Two ceramic forms also emerge as prominent in the middle phase – the fruitstand and the Omphalos Bowl. The former has also been identified at the nearby site of Alişar Höyük (von der Osten 1937: 52), but the latter is largely confined to Çadır (the bowl gave its name to the Omphalos Building in which a number of these vessels were found). Another relatively unique practice was the application of ochre-based paint on vessels *after* firing, a practice so far restricted to only a few sites on the north-central plateau.

Numerous examples of this practice have been identified at Çadır. Whether spurred by globalisation trends, or for more local purposes, the continuation or development of what might be considered ‘indigenous’ practices can be found in the second half of the fourth millennium at Çadır Höyük.

The eighth and final trend, vulnerability, in which the interdependence within a globalisation creates a ripple effect when alterations occur, can also be identified at Çadır. Roughly commensurate with the retraction of the Uruk system in the very late fourth millennium, the second dramatic alteration of settlement and material culture took place at Çadır. The amount of obsidian and metals noticeably decreases, perhaps representing difficulty accessing trade networks or sources; ceramic production (forms, decoration) alters, and there is a substantial reorganisation of the settlement with the previously prominent lower town largely abandoned and a movement up the slope and behind a new wall. Do these changes represent the vulnerability of Çadır due to its connectivity with the Uruk system? The temporal correlation and the effect on socio-economic interregional interaction suggest this is a distinct possibility.

Evidence attesting to, or at least suggestive of, a majority of the eight trends of globalisation can be demonstrated at Çadır to one extent or another. Where does this leave the question of connectivity between Çadır Höyük and the Uruk (global) system? The foregone conclusion is that this north-central Anatolian settlement was *not* encompassed directly within the Uruk system, nor, likely, was much of the central plateau. A more nuanced answer to the question of connection between Uruk and the Anatolian plateau, however, is that the settlement of Çadır appears to have been *affected* by that global system and its complex connectivity. Examination of interaction by residents at settlements such as Arslantepe with the Uruk system demonstrates that these sites established their own extensive network of contacts, extending the ‘complex connectivity’ of globalisation well onto the plateau. It is possible, even likely, that settlements both in Transcaucasia and on the plateau in turn established more extensive exchange networks to feed a more robust socio-economy desiring a greater range and amount of resources. In this way, the complex connectivity that is so much part of an ancient globalisation can in fact engage other regions that are not part of that system, but are affected by it. This is the case at Çadır Höyük.

Jennings notes that:

a more fruitful means of identifying earlier eras of globalisation is by demonstrating a correlation between the increased flow of products and people *and* evidence for the cultural array of changes that are commonly associated with globalization (Jennings 2017: 14).

This can be seen, to a large extent, at Çadır, though not at a level that argues the north-central plateau was *part* of the Uruk global world. Rather, the connectivity generated by the Uruk system fed into an already established trade network that then developed new and longer tendrils reaching further into the rural landscape. Settlements such as Çadır took advantage of the ‘booming market’, acquiring greater amounts of desirable resources such as obsidian and copper, while also producing products such as textiles and perhaps ceramics for extra-community distribution. A case in point is the small contemporary settlement of Camlıbel, not far from Çadır, which was devoted to copper smelting, perhaps for a regional market (Schoop 2017). Internal socio-economic and sociopolitical changes at Çadır developed locally but may have occurred more rapidly and dramatically due to the new opportunities for connectivity emerging in the mid- and later fourth millennium BC. Once regional exchange became a norm, the erosion of trade networks and markets at the end of the fourth millennium delivered a second impact on Çadır, one that required another reorganisation of the settlement and new patterns of materials production. Though the waxing and waning of globalisation trends brought rapid and often dramatic changes to Çadır, ultimately residents maintained a stable presence at the settlement in spite of the distant variations in the larger Mesopotamian system.

Conclusion

As we learn more about globalisation in the modern world, archaeologists become more informed about how to understand its mechanisms in the ancient world. Globalisation impacts far-flung regions of the modern world in vastly different ways, and the same was almost certainly true for the ancient world. An application of the eight trends identified as indicators of an ancient globalisation is found to be partially lacking at Çadır Höyük, largely verifying that it was not directly encompassed within the fourth-millennium BC Uruk system. Nonetheless, the rapid and dramatic changes that occurred at this north-central plateau settlement, and elements of a majority of these trends being present at the site, more than suggest that the complex connectivity of the ancient fourth millennium BC was extensive enough to affect even such a distant land.

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Appendix

FCN = field catalogue number.

Fig. 17a. Typical Agglutinated-phase ceramics

1. Jar (FCN 18504; LSS 5; F75); highly burnished black exterior; tool-smoothed interior, black at rim, orange-buff below; black/buff core; small to medium white grit temper.
2. Jar (FCN 18533; LSS 5; L101); smoothed and lightly burnished buff exterior showing chaff marks; untreated light-red/buff interior; uniform buff core; chaff and medium white grit temper.
3. Jar or bowl (FCN 16116; SES 1; L149); slipped and burnished black exterior with three white painted chevron lines; slipped and burnished orange-grey interior; black and orange core; small white grit temper.
4. Bowl (FCN 16613; SES 1; L153); lightly burnished and smoothed buff exterior and interior; small dark spots may be oil burns; outer edges of core are buff and interior light grey; small white grit temper.
5. Hole-mouth jar (FCN 19271; LSS 5; L124); lightly burnished black exterior showing chaff marks; cloth-smoothed buff interior; black/buff core; chaff, mica and large white grit temper.
6. Bowl (FCN 18481; SES 1; L150); medium burnished black exterior with buff rim; slipped and burnished buff interior; uniform buff core; chaff, mica and white grit temper.
10. Bowl (FCN 17761; LSS 4; L116); highly slipped and burnished red exterior; some grey mottling, tool-smoothed buff interior; uniform black core; very small white grit temper; well-levigated paste.
11. One-handed cup (FCN 19062; LSS 4; F111); lightly burnished and smoothed brown-black exterior; tool-smoothed buff interior; uniform brown core; small white grit temper.
12. Bowl (FCN 16633; SES 1; L160); slipped and burnished light-orange exterior; slipped and burnished black interior; black and orange core; medium white grit temper.
13. Two-handed bowl (FCN 19062; LSS 4; F111); smoothed brown-black exterior with incised decoration; lightly burnished brown interior; uniform brown core; small white grit temper.
14. Bowl with handles (FCN 17770; LSS 4; L119); smoothed red exterior with chaff visible; red interior with burnishing at rim and smoothing below; red and black core; large white grit (and possible quartz) temper; micaceous ware.
15. Bowl (FCN 17770; LSS 4; L119); lightly burnished brown exterior with incised decoration; smoothed brown interior; brown/black core; medium to large white grit temper; micaceous ware.
16. Bowl (FCN 15674; SES 1; L144); slipped and burnished orange/grey (mottled) exterior; slipped and burnished red/grey (mottled) interior; uniform buff-pink core; medium white grit temper.

Fig. 17b. Sample of the expanded types of forms typical of the Burnt House and Omphalos Building ceramics

7. Bowl (FCN 13424; SES 1; L115); slipped and burnished grey-orange (mottled) exterior; slipped and burnished black interior; uniform black core; small white grit temper; well-levigated paste.
8. Omphalos Bowl (FCN 17770; LSS 4; L119); smoothed and burnished red exterior; highly slipped and burnished black interior, buff at rim; black and buff core; small white grit temper; micaceous ware; well-levigated paste.
9. Cup (FCN 17643; SES 1; L139); streaky burnished black-grey exterior; smoothed red interior; red/black core; chaff and medium to large white grit temper; micaceous ware.
17. Flare-rimmed bowl (FCN 16115; SES 1; L137); wiped and smoothed black exterior; slipped and burnished buff interior, dark spots may be oil; black/buff core; medium to large white grit temper.
18. Closed bowl (FCN 16643; SES 1; L139); streaky burnish on black exterior with chaff marks visible; very light burnish on red interior; mostly black core; medium white grit temper; micaceous ware.

Fig. 17c. Complete fruitstand

- Fruitstand (FCN 3701; SES 1; L51); highly burnished pink-orange exterior darkening at rim, dark spots may be oil; highly burnished black interior; uniform black core; small to medium white grit temper.

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