

# THE 2017-2018 SEASONS AT ÇADIR HÖYÜK ON THE NORTH CENTRAL PLATEAU

*Sharon R. Steadman, Gregory McMahon, T. Emre Şerifoğlu, Marica Cassis,  
Anthony J. Lauricella, Laurel D. Hackley, Stephanie Selover, Burcu Yıldırım,  
Benjamin S. Arbuckle, Madelynn von Baeyer, Yağmur Heffron, Katie Tardio,  
Sarah Adcock, Emrah Dinç, Gonca Özger, Bengi Selvi, Stephanie Offutt, Alicia Hartley*

## ABSTRACT

*The Çadır Höyük mound is located in Yozgat Province, approximately 16 km from the city of Sorgun. Work commenced at the site in 1993 with an intensive surface survey, followed by excavation beginning in 1994. The deep sounding (excavated from 1994-2001) demonstrated that occupation stretches back to at least 5200 cal. BC; excavations on the mound summit indicate that occupation continued until a final abandonment perhaps in the 13<sup>th</sup> century CE. No gap in occupation of the mound over some six thousand years has been detected. The findings presented here derived from our work in three main periods represented at the site: the Late Chalcolithic exposure (ca. 3800-3500 BCE) located on the lower southern slope, the second and first millennium BCE, excavated in several areas of the site (the western slope work is presented here), and the Byzantine occupation, ca. 6<sup>th</sup>-13<sup>th</sup> centuries BCE on the mound summit, including mention of possible Roman architecture discovered in the 2018 season. The 2017 season provided some major discoveries, including three important child burials in the Late Chalcolithic area, a new gate and entryway into the Byzantine summit area, and a possible chapel. The 2018 season was devoted to further exploring these and other discoveries made in previous seasons in an attempt to solve major questions in preparation for a planned study season in 2019. By the close of the 2018 season we had achieved many of our goals; our work and interpretations are presented herein.*

## INTRODUCTION

The 2017 and 2018 seasons<sup>1</sup> were, in large part, “problem-solving” seasons for the Çadır Höyük team. The 2018 season marked twenty-five years of work at the Çadır site (Fig. 1),

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<sup>1</sup> Sharon Steadman (SUNY Cortland) and Gregory McMahon (University of New Hampshire) serve as co-directors of the project; Emre Şerifoğlu (Bitlis Eren University), Marica Cassis (Memorial University, Newfoundland) and Benjamin Arbuckle (University of North Carolina) serve as Assistant Directors; Anthony Lauricella (University of Chicago), Stephanie Selover (University of Washington), Laurel Hackley (Brown University), Burcu Yıldırım (METU), and Yağmur Heffron (University College, London)

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including surface survey beginning in 1993 and excavations beginning in 1994. Over the years, and especially since 2012, a wide range of occupational levels and horizontal exposures have been revealed, and with these came new, and often exciting, questions to answer. A much-needed study season, planned for the upcoming 2019 summer, necessitated that we attempt to tie up many loose ends and answer some of the larger questions remaining from the last two decades of excavations.

The 2017–2018 seasons saw our largest teams yet, with 37 researchers in 2017 working in 22 10 × 10 m trenches, and 47 in 2018 working in 18 10 × 10 m trenches, with 37 and 20 workers in each respective year. The following sections describe our findings over the last two years, particularly regarding the Late Chalcolithic exposure on the southern slope, the Byzantine exposure on the mound summit, and the Iron Age exposure on the western slope. Detailed summaries of previous and current work at Çadır, and <sup>14</sup>C dates for phases discussed, can be found in earlier issues of this publication and elsewhere (Cassis 2009, 2011; McMahon *et al.* 2018, 2019; Ross *et al.* 2019; Steadman *et al.* 2013, 2015, 2017, 2018, 2019a, b; Steadman and McMahon 2015, 2017; Yıldırım *et al.* 2018) as well as other publications noted in the text below.

## THE LOWER TOWN LATE CHALCOLITHIC OCCUPATION

Descriptions of the Lower Town layout and phasing can be found in a previous *Anatolica* publication and elsewhere (Steadman *et al.* 2017: 205; Hackley *et al.* 2018). In both 2017 and 2018 we worked in the five Lower Town 10 × 10 m trenches (LSS 3-5 and SES 1-2) as well as the two “Upper Town” trenches (USS 9-10) described below. Determining the stratigraphic relationship of the “Western” (Trenches LSS 3-4) and “Eastern” (Trenches SES 1-2, and the eastern half of LSS 5) Compounds was one of the major “problems” we hoped to solve by the end of the 2018 season. By the close of that season we established that the earliest extant phase, termed the “Agglutinated,” had been exposed across the entire expanse of the Lower Town (the “Agglutinated” precedes the “Burnt House & Omphalos Building” phase which dates to the second half of the fourth millennium); as the discussion below reveals, documenting the contemporaneity

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are core team members and overall area supervisors; Emrah Dinç (Bilkent University), Stephanie Offutt (SUNY Cortland), Alicia Hartley (Trent University), and Gonca Özger (Middle East Tech. University) serve as trench supervisors; Sarah Adcock (University of Chicago) and Katie Tardio (University of North Carolina) serve as project archaeozoologists; Madelynn von Baeyer (University of Connecticut) serves as the archaeobotanist; Bengi Selvi (University of Melbourne) serves as lithics specialist. We thank the Turkish Kültür Varlıkları ve Müzeler Genel Müdürlüğü, and Mehmet Nezir Arı, Necip Becene, and Ertan Yılmaz, our representatives in the 2017 and 2018 seasons, for their invaluable aid during these seasons of work. We also thank Hasan Şenyurt, Director of the Yozgat Museum, for his constant support of our project. In addition to the authors, our excellent core team includes Jennifer Ross (Hood College) Associate Director, Stefano Spagni, metals analysis, and Soran Avcil, conservation. Other important team members in 2017-2018 included trench supervisors Scott Coleman (Memorial University, Jordan Dills (Trent University), Kasia Kunczewicz (Bilkent University), Emrullah Kalkan (Hitit University), Christoph Schmidhuber (Cambridge University), and James Blundell (University College, London); lithics specialist Ryan Robinson (University of Washington); photographer Christopher Gallacher (University College, London); registrar, Joshua Britton (University College, London); and artists Umut Kambak (Hacettepe University) and Sercan Celep (Hacettepe University). We also acknowledge the invaluable help from many students, too numerous to list here, who contributed to the success of these two seasons. We would also like to thank the following institutions for financial and administrative support of the Çadır Höyük excavations: the National Science Foundation (BCS #1311511), the Social Sciences and Humanities Research Council of Canada (Insight Grant 435-2014-0944), Hood College, Memorial University of Newfoundland, SUNY Cortland, the University of New Hampshire, and the University of Chicago.

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of the entire area was challenging due to stratigraphic complications. At the close of the 2016 season (Steadman *et al.* 2017), the Agglutinated architecture was exposed in the eastern compound, though not all floors had been reached. In the western compound, however, we understood that we had reached a “Pre-Omphalos”<sup>2</sup> phase, the Omphalos Building level dating to ca. 3600-3300 BCE (see Steadman *et al.* 2017: 206, Table 1), but we were uncertain as to whether this was contemporary to the Agglutinated phase (ca. 3800-3600 BCE) in the eastern compound. For the majority of the 2017 and 2018 seasons we referred to the areas exposed in Trenches LSS 3-4 as the “Pre-Omphalos Phase.” The majority of the work in the eastern compound in the two seasons described here was dedicated to defining the Agglutinated architecture and reaching floor levels, contemporary with exposed walls, where possible.

## The Eastern Compound in the Lower Town

As noted above, the earliest architectural phase so far exposed at Çadır is referred to as the “Agglutinated” complex. It is composed of small (ca. 1 to 2m<sup>2</sup>), attached rooms clustered around larger open courtyards (Fig. 2). This architectural complex rests on the east side of a street that runs largely north/south, bisecting the Lower Town. On the west side of the complex, adjacent to the street, is a large courtyard with a smaller anteroom that opens onto the street; on the east side the Agglutinated complex is abutted by a structure of uncertain purpose, referred to as the “Non-Domestic” building.

The general layout of the Agglutinated complex, street, and Non-Domestic building have been understood for several seasons, but work in 2017 and 2018 successfully removed traces of later buildings and brought these three features into phase across the excavation area. The Agglutinated complex has been divided into two major sub-phases, but excavations have made it clear that the complex was subject to many minor alterations within these phases. These minor architectural changes were probably adaptations to shifting economic and social conditions (Hackley *et al.* 2018; Steadman and Hackley 2017; Steadman *et al.* 2019a), but the major renovations seem to have occurred in response to architectural damage from two destructive fires (Steadman *et al.* 2017).

### *The Street and Western Courtyards (Trench LSS 5)*

Throughout the Late Chalcolithic, the settlement is divided by the broad street. Immediately east of the street, at the southern extent of the mound, is a large open courtyard (Fig 2) in Trench LSS 5 that separated the interior space of the Agglutinated complex from the street (this courtyard persisted into the next Burnt House phase). A narrow (2 m wide) anteroom on the west was divided into north and south sections with built-in benches, with a larger (approximately 3 × 4 m) courtyard on the east. The door in the dividing wall (F80)<sup>3</sup> was staggered from the street

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<sup>2</sup> As excavations and stratigraphic analysis proceed, we may determine that this “Pre-Omphalos” phase is in fact the first stage of the “Omphalos Building” phase. At present, however, we retain with the “Pre-Omphalos” terminology for the sake of clarity.

<sup>3</sup> “F” refers to feature, and “L” refers to locus in our excavation recording system.

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entrance (F106, see Fig. 2), obstructing the line of sight from the street into the house.

Substantial burned debris, perhaps from a terminal Burnt House fire, was discovered in this courtyard. Beneath the debris, the eastern part of the courtyard was covered in a thick layer of hardened mudbrick (L129). Late in the 2017 season, this locus was finally identified as the façade wall of the Agglutinated house, which fell or was pushed from its foundation (LSS 5 F85/SES 1 F102) more or less in one piece. L129 extended roughly 3.3 m to the west of wall F85 and terminates on its western edge in a row of stones. Standing on its foundation, this wall would have been almost 3.5 m high, including its stone crown.

The L129 mudbrick was removed late in the 2017 season, revealing a deposit (L133) of finer pottery, the burial of a very young infant in a large black-burnished pot (L130), numerous lithics (see Lithics section below), and a great deal of animal bone, including skull elements of cattle and pigs and at least five cattle horncores). This deposit was concentrated to the south of the axis of entry between the anteroom and the house itself, effectively occupying the southeastern quarter of the large courtyard. To the west of this large locus, and also under L129, was a similar fill (L136) that contained considerably less pottery and bone. Although it appeared to the excavators to be heavily organic, flotation revealed that L136 contained very little grain or other material consistent with a domestic deposit. It did, however, contain a high proportion of red ochre. Taken together, these deposits suggest a ritual event consistent with a “house-killing” (Russell et al. 2014). The courtyard was swept clean, accounting for the lack of organic material, and an offering deposit of ochre with pottery and other objects was set up on the courtyard surface. The façade wall of the Agglutinated house was then intentionally toppled over, sealing the entire deposit underneath and ritually “closing” the house. The next phase, the Burnt House and Courtyard (Steadman *et al.* 2007, 2008, 2015, 2018; Steadman and McMahon 2017), was then immediately constructed directly over these remains.

Beneath the L136 fill, we discovered an unusually robust and well-laid plaster surface (F118), which covers the entire western portion of the courtyard and appears to be the Agglutinated phase courtyard surface. An effort to uncover the same surface to the south and east resulted in the biggest surprise of the 2018 season: a pavement of large flat stones (F120) covers the entire southeastern part of the Agglutinated phase courtyard (Fig. 4). It is constructed of non-local white limestone and slopes upward slightly from north to south. This pavement has not yet been fully excavated, but is clearly analogous to a similar feature discovered in LSS 4 in 2017.

### *The Agglutinated Complex Interior (Trench SES 1)*

The Agglutinated complex architecture was characterized by small rooms that were partly sunk below ground level, perhaps for temperature control and to make construction of and access to a second story easier (Steadman *et al.* 2017). After the Agglutinated complex was destroyed, these original subterranean floor levels were raised, often using mudbrick packing, to the level of the surrounding courtyard surfaces of the Burnt House phase occupation. During the 2017 and 2018 seasons several of these intentional packing/fills were removed in order to expose the original Agglutinated floor levels. It became clear that the packing was placed over deep deposits of rich, dark, ash with a high percentage of mixed grain types (based on flotation, M. von Baeyer, pers.

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communication). These deposits were probably the swept-up remains of soot and ash from a major and comprehensive burning event that deposited ash in all the rooms of the complex and may have signaled the end of the Agglutinated phase. An attempt to remove this ashy fill from one small Agglutinated room reached more than a meter's depth without locating a floor surface or the bottoms of the Agglutinated walls. This indicates that the depth of the Agglutinated-phase rooms is greater than was previously thought.

### *The Non-Domestic Building and Area in the Agglutinated Phase (Trenches SES 1-2)*

To the east of the Agglutinated and Burnt House architecture, occupying the eastern half of Trench SES 1, is a relatively large non-domestic space. First identified in 2015, this space has yielded fine ceramics and a figurine, as well as amulets and metal objects, but gives no indication of domestic or production functions. The space is centered on a curious semi-circular mudbrick feature (F137), which is preserved several courses high (Steadman *et al.* 2017; Steadman and McMahon 2017). We have speculated that this space may have served a ritual purpose. It was separated from the later Burnt House architecture by a substantial stone wall (F109) which connected to a perpendicular wall (F123) running east/west along the northern baulk (see Steadman *et al.* 2017: 207, Fig. 2 for these walls). After removing F109 in 2017, architecture consistent with the Agglutinated phase complex to the west was revealed. Therefore, in the earlier Agglutinated phase this non-domestic area was somewhat smaller and may have been open-air. In the Burnt House phase it was enlarged and enclosed by substantial walls. The semi-circular mudbrick feature (F137) persists from the Agglutinated phase through the Burnt House; as of the close of the 2018 season we had not yet reached the foundation of F137, and thus it may *pre-date* even the Agglutinated phase.

A large pit (F180) was excavated in the Agglutinated phase non-domestic area. It was cut from a post-Agglutinated but pre-Burnt House fill level (L166); it contained (L169) a great deal of fine ochre-painted pottery, as well as lithics, a bone bead, lumps of copper and possibly copper ore, and a substantial amount of red and yellow ochre. This assemblage, consistent with Chalcolithic foundation or offering deposits, suggests a special use for this space even prior to the Burnt House phase or perhaps in preparation for the building of the structure in that phase.

Two fire installations (F179 and F188) were excavated in the southeast corner of the space. While these are clearly related to the use of the non-domestic space, neither was used for a great length of time. Both were laid directly on the fill locus L168, and neither had the built sides usual for hearths in this trench. The southern of the two features (F188), however, was underlaid by a layer of broken pottery in the manner of the larger bread ovens and kilns excavated in LSS 4 (Steadman *et al.* 2017). All of these features, with the exception of the semi-circular mudbrick feature F137, were entirely sealed by the subfloor and floor of the Burnt House phase non-domestic space, indicating two discreet phases of activity here.

The easternmost Lower Town Late Chalcolithic Trench is SES 2; it has been consistently difficult to connect it stratigraphically with the rest of the excavation area. In 2018 excavations uncovered a burial (F18 [Fig. 5], ca. 12 years old [Y. Erdal, pers. communication, 2018]) covered by a mudbrick cap (F18) in the northern half of the trench, just to the south of a collapsed fire

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installation. The burial was of a subadult individual; the body was tightly flexed, probably bound or wrapped, lying on its right side with the head to the southeast. Both arms were folded over the chest, with the hands resting over the left side of the neck. The burial was in an oval, brick-lined pit cut into a badly burned mudbrick wall (F17) that runs north-south through the center of SES 2. The burial, however, showed no signs of burning, indicating that it was inserted into architecture that had already been compromised. Although it is appropriately oriented to be associated with the Burnt House architecture, stratigraphic connections have been destroyed by ancient trenching along the western boundary of SES 2. This locus of gritty, pebbly fill is especially homogeneous and free of cultural material, interrupting the architecture on both sides of it. Regardless, the presence of the subadult's skeleton is extremely interesting as it is a rare example at Cadır of an older individual buried intramurally in a Chalcolithic context.

## **The Western Compound in the Lower Town**

The stratigraphy in the Western Compound (Trenches LSS 3-4) was one the “problems” that needed solving in the 2018 season. Two issues prevent us from linking the Western and Eastern Compounds; the first, as described above, is the street that bisects the settlement. The other is the rather significant slope of the Late Chalcolithic settlement, approximately 80 cm. higher in the west than in the east. Excavations in the Eastern Compound (Trenches LSS 5 and SES 1-2) have been more consistent over the years and are therefore “deeper” and thus seemingly “older.” Excavations were reopened in the Western Compound (Trenches LSS 3 and LSS 4) in 2012 after an eleven-year hiatus. It soon became apparent that this western side of the settlement was “higher” than the other side and therefore we were likely to reach phases contemporary with the east more quickly. By the 2017/2018 seasons we believed that each compound was within a phase of one another, but confirmation of temporal linkages was lacking.

As noted above, prior to the end of the 2018 season (in the 2017, and most of the 2018 seasons) the excavated areas in the Western Compound, west of the street, were referred to as “Pre-Omphalos”; the architecture appeared devoted to light industry, especially the production of ceramics in an open-air but wall-bounded area. Though the Western Compound architecture offered some parallels to the Agglutinated in the east, its industrial and outdoor nature prevented us from linking the two sides temporally. By the close of the 2018 season, however, primarily due to a discovery in Trench SES 1 in the Eastern Compound (the F120 paving in SES 1, described above), we were confident in temporally linking the two sides of the street. The following describes findings in the Western Compound (Trenches LSS 3-4) over the two seasons of work. The term “Pre-Omphalos” to describe most of the excavations will be employed for consistency's sake; however, it should be noted that by the end of the 2018 season all of the remains in LSS 4 and many in LSS 3 may be considered as temporally related to the Agglutinated phase in the east (i.e., dating to the first half of the 4<sup>th</sup> millennium BCE).

### *Pre-Omphalos Architecture in Trench LSS 3*

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At the end of the 2016 season a number of architectural Pre-Omphalos features (Steadman *et al.* 2017: 212, Fig. 5) remained in Trench LSS 3. Most of the 2017 season's work in LSS 3 was devoted to removing these features to expose the earlier level. Additionally, the F51 arm of the Enclosure Wall (Fig. 6) which dates to one of the later phases of the Omphalos Building, was also removed, along with associated Enclosure Wall architecture (F65, 94, 95; not shown on drawing). After the removal of the Enclosure Wall architecture we explored the relationship between the architecture in the Pre-Omphalos and Omphalos Building phases and the enigmatic high pathway to the west, excavated in 2012 and 2013 (Steadman *et al.* 2013: 124, 155, Fig. 13; Steadman and McMahon 2015: 81; see especially walls F32 and F42 on Fig. 6). In a 2 × 2 m sondage located to the west of the F51 Enclosure Wall arm, we discovered a stone and mudbrick feature (F96, 97) leading up to the higher pathway excavated in years past (see F32 in Steadman and McMahon 2015: 81). We interpret this stone and mudbrick feature as a constructed staircase (heavily burned at some point) that once led from the Pre-Omphalos/Omphalos Building levels to the higher path that rests some 1.5 m above the Lower Town. This higher pathway runs north/south with an entry at the southern end of the settlement that leads, in part, to what may have been a cistern (Steadman and McMahon 2015: 80-81). Since its initial excavation, along with work in Trenches USS 9-10 (see below), we have come to believe that this pathway led from outside the settlement behind (west of) the Lower Town, past the cistern, after which it turned right (east) into the Upper Town. The F96 and F97 staircase allowed those already in the Lower Town to access the pathway behind the Omphalos (and possibly earlier Agglutinated) structures, while the southern end of the pathway allowed those approaching the village to go directly to the Upper Town in Trenches USS 9-10.

The earliest-phase Omphalos Building architecture removed in 2017 (see Fig. 6) includes the storage bin (F79, 91, 92) in the northwest quadrant of LSS 3, and the three-roomed storage building (F86-89 in LSS 3; F137-140 in LSS 4). Removal of the architecture confirmed that the floors of these structures were, like the Agglutinated to the east, “subterranean”) at least by 10-30 cm. The walls rested on a hard-packed mudbrick and clay surface (L143-144 in LSS 3), embedded with small pebbles, that appears to have served as the floor of an open-air courtyard. The mudbrick is similar to that described for Trenches LSS 5 and SES 1 as the type of “packing” laid over some Agglutinated architecture. The builders of the earliest phase Omphalos structures (bin, storage), who may well have also built the “Pre-Omphalos” phase, dug the floors slightly recast into the underlying architecture. We interpret the mudbrick surface phase extant in Trench LSS 3 at the end of the 2017 season as a type of “divider” between the earliest Omphalos and “Pre-Omphalos” phase. This open courtyard area is bounded by mudbrick walls (see Figs. 6, 8) that most likely date to the underlying “Agglutinated Phase” architecture and were reused by the Pre-Omphalos industrial phase occupants. Very little work was carried out in LSS 3 in 2018; the surface left in place in 2017 (L143-144) was cleaned and scraped. The tops of architecture were detected during the scraping which are interpreted as the remains of the earlier Agglutinated phase in this Western Compound, over which the “Pre-Omphalos” inhabitants placed the mudbrick/clay/pebble (L143-144 in LSS 3) packing. At this point in the 2018 season excavations in LSS 3 were closed.

#### *Pre-Omphalos Architecture in Trench LSS 4*

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As was the case in Trench LSS 3, the first goal in LSS 4 was to remove the Pre-Omphalos architecture that remained from the 2016 season. In the eastern half of LSS 4 a rectangular structure (F102-106, see Fig. 6), which seems to have been a Pre-Omphalos structure reusing earlier Agglutinated walls, was removed. At the base of the walls was the same type of mudbrick/pebbled surface (L141) found to the west in LSS 3 (L143-144). The surrounding area was covered in mudbrick collapse from this structure's walls; it is unclear if this wall was intentionally toppled as was the one to the east (see above). The 2017 excavations east of the Western Compound walls continued in 2018, in the area of the street, which is also the intersection between Trenches LSS 4 and LSS 5. The stratigraphy in this small but critical area is exceedingly complicated and is described in detail elsewhere (Steadman *et al.* 2019b). By the close of the 2018 season we were confident that what had been exposed in this area (the northeastern quadrant of Trench LSS 4) was a series of platforms and steps that served as the access point to the Upper Town, approximately 1.5 m above the Lower Town (see below, discussion of Trenches USS 9-10). Great care was taken in the construction of this central pathway, leading from the street level up to the Upper Town; both its stratigraphic position and its architectural style suggests it may have been constructed at least in the Agglutinated phase (first half of the fourth millennium BCE).

In the western half of the LSS 4 trench two other Pre-Omphalos phase structures were removed: the apsidal “ash pit” (F119-122; see Fig. 6) in 2017, and the large kiln (F133) in 2018. The ash pit was very carefully deconstructed to understand both its purpose (waste dump/cooling place for products from kiln) and its construction. The walls (F119-122) were built with two courses of molded reddish-grey mud slabs tempered with small pebbles and chaff (i.e., a type of *pisé* construction); most slabs were roughly 20 × 20 cm in size, and up to 5 cm thick (the slabs in F121 were 25 × 12 × 5 cm). Up to five layers of these mud slabs were preserved in some of the walls. Besides the “fire dogs” in this pit (Steadman *et al.* 2017: 213), the ca. 15 cm of fill (F110) consisted of layers of fine white ash interspersed with plaster, the latter laid to seal easily wind-blown ash and create a new layer for additional ashy deposit. This F110 fill rested on the original surface of this feature (F136) which consisted of a pebbly/mudbrick surface that is connected to the exterior surfaces noted above (L141).

The last of the Pre-Omphalos features, the kiln in the northern half of LSS 4 (F133) was carefully excavated in 2018 (Fig. 7a), revealing the construction method. The stratigraphy of this fire installation, the earlier of two installations spanning the Pre-Omphalos and Omphalos phases, was quite complicated and is offered in detail elsewhere (Steadman *et al.* 2019b). This fire installation was quite large and included a smaller circular access point at its entrance; there was a noticeable lack of the collapsed mudbrick which accompanied the later version in this same spot. Our excavations, therefore, suggest that this may have been a partially or wholly open-air kiln (Fig. 7b). As was the case with the other Pre-Omphalos architecture, the lowest level of this kiln was dug into the previous (Agglutinated) phase. Associated with the kiln was a large storage jar (F117, not shown on drawing). Three infant burials, two in storage jars,<sup>4</sup> were associated with this complex. One was excavated in 2017 (F156 lying on the right side, facing east; see Fig. 6); the other two were discussed in a previous publication (Steadman *et al.* 2017: 214). The F156 infant

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<sup>4</sup> An infant jar burial was also discovered next to the stone and mudbrick access to the Upper Town, perhaps also serving as a ritual foundation deposit to this important construction (see Steadman *et al.* 2019b; Yıldırım *et al.* 2018).



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burial may have been a type of ritual foundation deposit installed at the time of the kiln construction (see Yıldırım *et al.* 2018).

The kiln removal completed the excavations of Pre-Omphalos structures exposed in previous seasons; currently remaining in the northwestern quadrant of LSS 4 and the eastern half of LSS 3 is the mudbrick sealing/preparation layer put in place by the Pre-Omphalos builders designed to flatten out the pre-existing Agglutinated architecture (the latter visible at the end of the 2018 season as faint wall lines in this mudbrick surface). The discussion turns now to the only Agglutinated architecture currently nearly wholly exposed within the western compound.

#### *The Stone Paving and Infant Burials in Trench LSS 4*

Two major discoveries were made in the 2017 season in Trench LSS 4. The first discovery was a beautifully-made stone paving/patio (F159) 3.45 × 1.45 m in size, and the other was the three child burials laid within it. The F159 paving is still not entirely exposed, but our 2018 excavations allow us to better understand its construction; the stone paving is contemporary with the early fourth millennium BCE Agglutinated architecture found in the Eastern Compound. This structure is not flat but rather slopes up from north to south (Fig. 8a), meeting the southern boundary wall (F99) to the compound. Its original purpose is uncertain; it may have simply served as a ramp from outside the compound into the interior of the courtyard. However, the care put into the construction of this paving, and the additional architecture noted below, suggests that it may have been built for other purposes. Further, the stones used are not from the local granite widely available but rather a type of white limestone that must have come from some distance away. Some of the centrally-placed stones have natural channels creating “designs” on the paving surfaces that may have appealed to those building the feature (Yıldırım *et al.* 2018).

At the northern extant boundary of the paving, excavations revealed a hard greenish-grey clay (L172) laid up to and at times partially over the paving stones. This may have served to keep the stones in place, but it also created a surface into which two other stone features (Fig. 8b) could be built (F174, 177). These two stone features appear to be designed as post-stands. A flat rock in the center is surrounded by head-sized stones. The stones in F174 and F177 are not the special limestone found in the F159 paving feature, but rather the ordinary local granite, or in one case a piece of basalt (one small limestone paving was employed in F174). On either side of these were two postholes (F173, 179). Whether this assemblage of features signals that a doorway once stood here, supported some type of furniture in front of the paving, held up art or insignia relevant to the paving, or served some other purpose is not known. At this point we also cannot determine if these were installed at the time the paving was originally constructed, or were added later (further excavation is needed). The care and labor that went into building this entire set of features in the southeastern corner of the compound’s courtyard is notable and suggests that this area served an important purpose for those dwelling in the Western Compound. It should be noted that the white stone paving found in Trench SES 1 was also located in the southeastern quarter of the eastern compound’s courtyard and also sloped north to south, suggesting that this location and orientation may have been meaningful to the Agglutinated phase inhabitants.

In the final two days of the 2017 season three child burials were discovered in the F159 stone paving. In each case it appears a stone was removed from the paving in order to install a

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child burial. These stones were not replaced. By the 2018 season it had become clear that these burials were neither contemporary with the other burials mentioned above, nor with the F159 stone platform. They had been cut into the stone platform at a later date, possibly as early as the Pre-Omphalos phase, but more likely at some point during the construction of the Omphalos Building in the second half of the fourth millennium.

The three burials (F160-162), in a triangular layout in the platform (see Fig. 8b, 9a), were either contained within, or covered by, red or black burnished jars. All three were primary burials in flexed position; one (F160) had phytoliths associated, suggesting that the children may have been wrapped in mats. The child in burial F160 was approximately 1 year in age, the child in burial F161 was 3-3.5 years old, and the one in burial F162 was two years of age (Y. Erdal, pers. communication 2018). All had multiple burial goods.

The most westerly burial (F160) was lying on a black burnished jar and covered with a red burnished jar, around which mud had been packed. It was in the worst condition, but the head appears to have been to the northeast, the body lying on its left side, possibly facing east (the left arm was found under the body). This burial contained a copper hair slide and three copper bracelets. The center burial (F161) was in the best condition. It was contained at the bottom of a black burnished jar; the skull was located to the north and the body was placed facing west; the ankles were crossed. This burial contained an Omphalos Bowl with an animal bone in it, along with five copper bracelets/anklets and a copper hair slide. The most easterly burial (F162) was inside a black burnished jar; the legs were tightly flexed and the body was laid on its right side facing west, with the head to the north. This burial contained six copper bracelets/anklets with several other copper fragments.

Analysis of the burial goods suggests that they date to the second half of the fourth millennium (Steadman *et al.* 2018), and the stratigraphy (insertion into the platform) confirms that they post-date the F159 stone platform construction. At present we link the burials with the foundation of the earliest or middle phase of the Omphalos Building (ca. 3400-3100 BCE). The F159 stone platform and associated features clearly existed during the Pre-Omphalos light industry phase. The insertion of the burials into this pre-existing complex would suggest that this area was considered special in the first half of the fourth millennium (Fig. 10), and that it remained an important area of the Western Compound into the second half of the millennium.

At the end of the 2017 season the complex had not been entirely exposed, and even at the end of the 2018 season more remains to be uncovered. In the 2017 season and for most of the 2018 season we were uncertain whether the F159 and associated complex should be dated to the Pre-Omphalos period, most closely contemporary with the earliest stages of the Burnt House to the east, or whether it should be linked with the earliest exposed phase, the Agglutinated. As noted above, in the last two days of the 2018 season, a very similar stone platform, built of similar non-local white limestone, was discovered in Trench SES 1, resting on the outer courtyard floor associated with the Agglutinated complex. By the close of the 2018 season we were able to stratigraphically link the Eastern and Western Compounds based on the existence of these two stone platforms and the emergence of mudbrick wall outlines in the Western Compound that mirror those excavated in the Eastern Compound. The Lower Town Late Chalcolithic settlement came into focus in 2018.

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## THE UPPER TOWN LATE CHALCOLITHIC OCCUPATION

The Late Chalcolithic “Upper Town” can be found in Trenches USS 9-10, an area of ca. 16 × 6 m. The 2018 exposure in these trenches is largely contemporary with Burnt House and Courtyard Subphase 2 (see Table 1). The Upper Town consistently rested above the Lower Town at an elevation of approximately 1.6-1.7 m throughout the Late Chalcolithic and the Early Bronze I periods. Two phases of architecture were excavated in 2017-2018, each with a number of subphases. Throughout the 2017 and 2018 seasons the Upper Town architecture was bisected by an open pathway that is actually the Upper Town continuation of the “street” in the Lower Town. This Upper Town street consisted of hundreds of replastered floors, demonstrating constant renewal. This street remained in existence until it was blocked in the Apsidal or Early Bronze I period (Steadman *et al.* 2017: 223).

### USS 9-10 2017 and 2018 Excavations: Earlier Phase

The earlier phase<sup>5</sup> was excavated in 2018 and can be divided into three subphases (1a–c, with “a” being the earliest phase); we believe that this earliest exposed phase is contemporary with the Burnt House and Omphalos Building in the Lower Town. Subphase 1a (Fig. 11a) was left largely unexcavated at the end of the 2018 season. The street (F135) is bounded by a stone wall on the west (F92) and one on the east (F114). There are a number of architectural features west of F92 and east of the large stone and mudbrick wall at the western end of USS 9 (F129) which are not yet entirely exposed and thus remain enigmatic. The F129 wall appears to create an “alley” or area next to the street in which small stone features are built and deconstructed from phase to phase. East of the street, the F114 wall corners with the F106 stone wall, which extends eastward ending in a doorway and creates what may have been the southern edge of an Upper Town compound. In the center of Trench USS 9 Subphase 1a, the F134 mudbrick wall extends to the northeast from wall F114, creating two rooms (F133 north of it, F130 to the south). Both rooms had clay floors sloping from north downward to the south. The F133 brown clay floor was badly burnt with an ashy fill and an *in situ* pot base. The small area of exposure prevents us from interpreting the use of the room. The F130 floor consisted of white clay with a veneer of hard-packed micaceous clay; this area may have been used for the storage of clay in preparation for ceramic production, a craft performed in this area in later phases (Steadman *et al.* 2017: 219-23). The high number of sherds and partial vessels recovered from F130 further supports this interpretation. To the south of wall F106 was an open courtyard (F132) extending eastward; with the exception of a small test area in USS 10, which demonstrated that F132 does indeed extend eastward, this more easterly trench has not yet been excavated to the depth of the USS 9 trench at

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<sup>5</sup> The phasing and subphasing employed here is used to clearly represent the archaeological work in the 2017-2018 seasons and should not be considered permanent; further analysis may alter the entire sequence of subphases in these trenches.

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the end of the 2018 season. The F132 courtyard consists of the same hard-packed plaster and pebble surface found in the F135 street.

There are four notable changes in Subphase 1b (see Fig. 11a). First, a doorway was cut into the F92 western street wall. This doorway (F125) provides access to the “alley” between wall F129 and F92, which now holds the second change, a stone-lined bin (F128); the purpose of this bin remains uncertain. The third change is the construction of a drainage system. A well-made orange clay-lined and plastered drain (F127) was built from the F92 wall, first extending southward along the wall, then across the F135 (and in this phase, F131) street, and then extending eastward (F126, 127) to the south of F106. Over 4.3 m of drain were excavated; it contained ancient debris, including a surprisingly large amount of slag and many well-preserved twigs. It allowed water that collected in the street, perhaps from rooftops, to be directed away from the Upper Town to the eastern edge of the settlement. The fourth and final change was the removal of the F134 mudbrick wall, creating a larger open room (F123) which consisted of the brown clay found in the earlier F133 floor. This F123 floor had been swept clean.

A few more changes in Subphase 1c (see Fig. 11a) suggest adjustments in the usage of the area. In this phase an oven (F115) was placed between the western F129 (F120 in Subphase 1c) wall and the F92 street wall; the F128 bin had been filled in and covered with a hard-packed work surface. An ash pit (F118) in the street (named F122 in this phase) is an odd occurrence; it may contain the refuse from the oven F115. One possible interpretation for these features is a short-term abandonment; another is that it is related to a rebuilding of the drainage system, remnants of which were found at the edge of the trench.

## **USS 9-10 2017 and 2018 Excavations: Later Phase**

The later phase, excavated in 2017, consists of Subphases 2a-b and is likely contemporary to the end stage of the Burnt House and/or the Apsidal phase. In the earlier Subphase 2a (the street is now F108), the bounding F92 and F114 walls remain the same, and the top of F106 extending eastward from F114 is visible; it ends, at the east, in a doorway allowing access from the courtyard (F107) to the room north of it (F99). Interestingly, a pit (F110) in the F108 street contained a canine skull; unfortunately, though this is a unique occurrence, we cannot define what this burial might mark at this juncture. At the very western extent of USS 9 a mudbrick wall, F103 (connected to a poorly-preserved F104 wall), was built in this subphase. The area between these walls consisted of a surface (F113) that supported a badly-preserved ceramic workshop. In the northwest area of F113 was a round oven (F101) which contained numerous pottery fragments. To the southeast, the previous-phase F115 oven (see Fig. 11a) had been sealed to create a rectangular pit (F105) approximately 1 × .42 m in size, complete with a mudbrick bench (F102) on its northern edge; the pit was filled with numerous layers of burnt material which was likely waste material from F101. In the intersection between walls F103 and F104 a badly-preserved infant pot burial was recovered.

East of the F108 street and F92 wall were a series of spaces. Stone and mudbrick wall F94, on a slightly different orientation than F134 in the earlier phase, created two rooms (F99, F100). Both rooms had sloped clay floors, mirroring floors from later phases excavated in 2016 (Steadman

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*et al.* 2017: 219). Few finds were left in either room. It is possible that these areas, with their well-made but narrow stone walls, may have been the opening courtyards to domestic or public buildings located to the north. The shapes of these courtyards appear similar to those in the Lower Town Burnt House phase to the south. The larger room, F99, was bordered on the east by a mudbrick wall (F162) and a mudbrick platform (F125); the latter's purpose is unclear though it provided a leveled surface on the sloping F154 floor. This area (F125, 154), bounded on the south by stone wall F145, may have been a storage bin, but the only contents consisted of red gravel material not found elsewhere at the site.

To the east, stone wall F142 created two more rooms, the one to the north, F144, bounded on the west by stone wall F143, and wall F141, which may belong to another complex to the north and east. Floor F144 consisted of the brown clay that is the norm in these phases, and may have been an indoor surface. South of this were two mudbrick features, wall F158 and wall/platform F155, both of which form a doorway into, and the southern boundary of, a room (F159). The F159 floor sloped, as usual, from north to south and consisted of well-preserved brown clay. We recovered a highly oxidized copper fragment, a large number of unbaked clay ovoids, and a spindle whorl from this room, in addition to a large amount of pottery. This was likely a workshop space.

In Subphase 2b the architecture on either side of the street (most of USS 9) remained unchanged (see Steadman *et al.* 2017), but numerous adjustments were made to the architecture east of the street in USS 10. While the F141-143 walls remained in use, as did the F125 mudbrick platform and the F144 room, the F158 and F155 mudbrick walls did not. Instead, the southern half of the trench was quite different. New mudbrick walls (F109, 116, 127) were built which created three rooms (F148, 151, 152), all of which had the typical sloping brown clay floors. As was the case in the earlier phase, a number of unbaked clay ovoids were discovered, on F148 in this phase, as was a large ground stone. Walls F116 and 119 bounded a large oven, partially destroyed by slope erosion; this is the first of six ovens found in this precise location (see Steadman *et al.* 2017: 221). An ash pit (F150) rested next to this oven. This was likely a kiln used for making ceramics. It is clear in this later phase that the area is devoted to workshops and light industry, possibly taking up the slack for these activities as the Lower Town is transitioning away from the robust occupation found in the earlier Late Chalcolithic (see Hackley *et al.* 2018; Steadman *et al.* 2018, 2019a).

## THE WESTERN SLOPE EXCAVATIONS

Excavations on the Western Slope first began in 2015 (Şerifoğlu *et al.* 2016) in two 10 × 10 m trenches: WSS 5 and WSS 15 (WSS 4-5 are west of WSS 14-15, see Fig. 1). Work in WSS 5 revealed what we believe to be a 2<sup>nd</sup> millennium BCE destruction layer immediately below topsoil and slope wash. In 2017 and 2018 we turned our attention to the area up the slope in the two adjacent trenches, WSS 14 and WSS 15, where we focused on investigating the stratigraphic relationship between the three broad phases identified on the Western Slope so far: Phase 1, Late Roman or Byzantine; Phase 2, Late or Middle Iron Age; Phase 3, Late Bronze Age.

### Phase 1: The Late Roman or Byzantine Level

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Phase 1 is represented by an enormous pit (F4), first encountered in 2015 and currently partially exposed over an area of  $2.5 \times 1.7$  m extending across both WSS 14 and WSS 15. Pit F4 is filled with an entirely sterile deposit of pebbles and river stones and sealed by a hard-packed layer of pale gray clay approximately 20 cm in thickness (Fig. 12a). The total depth of the pebble deposit itself is 4 m, with an uppermost layer of coarse grit, below which lies a layer of small pebbles, and finally a layer made up of large riverbed stones at the bottom (Fig. 12b). These successive fills have clearly been carried up to the mound from elsewhere, suggesting that pit F4 was a planned large-scale construction, possibly with a drainage-related function, and also as part of a landscaping project. The absence of any archaeological material from the pebble deposit makes it impossible to date this pit with any certainty, but our current inclination is to attribute it to the Late Roman or even the Byzantine period, though eastern slope excavations in 2013 caught the very edge of a similar pit that dated to the late Iron Age. The original level from which F4 was dug is not preserved. However, it is clear that the pit's western edge cuts into the layer of clay fill that had built up against the eastern face of an earlier wall F1, F3 which is likely to have been appropriated into the construction of F4 and repurposed it as a retaining wall.

## Phase 2: The Iron Age

The only architectural remains exposed on the Western Slope thus far belong to Phase 2, the most prominent feature of which is a 1 m wide stone wall (F1 in WSS 14 and F3 in WSS 15) running ca. 14 m across trenches WSS 14 and WSS 15 (Fig. 12c). This in all likelihood was a perimeter wall which continues in both directions. The exposed portion of the wall in WSS 14 (F1) is made up of two well-preserved vertical courses of neatly cut rectangular blocks. A small patch of plaster on the eastern face of one of the uppermost blocks indicates this to be the inner face of the wall. We have not yet identified an associated surface. On its western face, F1 is equipped with a buttress measuring approximately  $1 \times 2$  m, positioned just where the wall has a slight bend as it follows the curve of the mound. The buttress seems to have been part of the original construction rather than a later addition.

A possible doorway, originally thought to be an area robbed of stones, rests near the southern end of wall F3 in WSS 15. It was identified as a doorway after the discovery of a small posthole (F7, not shown on drawing), approximately 7 cm in diameter, which was preserved in the clay packing of the threshold. Leading up to the doorway is a stone platform (F5) and southwest of F5 is a row of flat stones (F2) which seem clearly arranged as steps connected to threshold F5 in the unexcavated area between which separates these two features.

It is significant that the F2 steps immediately overlie a layer of burnt floor and mudbrick (Fig. 13), very much in the same way that Iron Age fortifications have been constructed directly over the debris of the Late Bronze Age fortification on the northeast side of the mound (Steadman *et al.* 2013, 2015). It is possible that the doorway and threshold (F5) associated with Wall F1 and F3, if indeed part of the original Iron Age construction, might indicate the location of an earlier counterpart. This means that reaching the 2<sup>nd</sup> millennium BCE levels below Phase 2 architecture presents a good chance of locating the entrance into the Hittite town.

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### **Phase 3: The Late Bronze Age**

Represented only by two small exposures of burnt debris in WSS 5 and WSS 15, Phase 3 remains uninvestigated. Its stratigraphic relationship with Iron Age architecture in WSS 15 suggests that this phase represents the fire horizon associated with the destruction of a 2<sup>nd</sup> millennium BCE occupation on the mound. A bronze pin<sup>6</sup> recovered from the burnt floor in WSS 15 and dated, on stylistic grounds, to the mid- or late 2<sup>nd</sup> millennium BCE, offers a *terminus post quem* (Steadman *et al.* 2017: 230). Therefore, we believe that the Phase 3 exposure in WSS 15 corresponds to the Late Bronze Age with a Middle Bronze Age to Late Bronze Age transitional layer lying just below it, which was partially exposed in WSS 5 in 2015. A similar stratigraphy was excavated on the eastern slope in previous seasons (Steadman *et al.* 2013, 2015; Steadman and McMahon 2015)

Our more recent work on the western side of the mound is allowing us to better understand how the inhabitants at Çadır Höyük used this part of the settlement over the course of at least two millennia. Though as yet we have only a small exposure, it appears that this area was in use at least by the Middle Bronze Age and continued into the Middle or Late Iron Age without much interruption. The steep slope probably did not allow later inhabitants to use this side of the mound efficiently, but the slope was subject to an extensive engineering project sometime during the Late Roman or Byzantine period. The principal focus of future excavations on the West Slope will be to investigate the 2<sup>nd</sup> millennium levels below the Iron Age.

### **THE BYZANTINE EXCAVATIONS ON THE MOUND SUMMIT**

The past two seasons of excavation at Çadır Höyük have proven pivotal for our understanding of the development of the site in the Middle Byzantine period. The 2017 and 2018 seasons expanded our understanding of the Byzantine occupation of the mound, and we now have a tentative phasing for the use of this space from the 9<sup>th</sup>-10<sup>th</sup> century through to the 12<sup>th</sup> century. As noted above, our 2018 season was, in large part, devoted to “problem-solving” prior to our planned 2019 study season. Many, but of course not all, of our questions were indeed answered by the close of the 2018 season.

### **Byzantine Occupation Phases on the Mound Summit**

By the close of the 2018 season we were tentatively identified seven phases in the summit exposures. These will be used in the context of this article but of course are subject to revision as we continue our analyses and future excavations. The first two phases are the earliest: Phase 1 is Late Roman (4<sup>th</sup>-7<sup>th</sup> centuries CE) in date; Phase 2 may be considered Early Byzantine (7<sup>th</sup>-9<sup>th</sup>

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<sup>6</sup> The pin (FCN number 18026) was studied and provisionally dated to the second millennium BCE by Dr. Stefano Spagni, the project’s metals specialist.

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centuries). The remaining five phases reflect building (and temporal) phases in the 10<sup>th</sup> through 12<sup>th</sup>–13<sup>th</sup> centuries CE on the summit.

### *Phases 1 and 2: The Late Roman (4<sup>th</sup>–7<sup>th</sup> Centuries CE) and Early Byzantine (7<sup>th</sup>–9<sup>th</sup> Centuries CE) Occupations*

This earliest phase (Phase 1) is primarily dateable from the North Terrace excavations, discussed in the last report published in *Anatolica* and elsewhere (Cassis 2009; Cassis and Steadman 2014; Steadman and McMahon 2015, 2017; Steadman *et al.* 2017). Several coins ranging between the 4<sup>th</sup> and 6<sup>th</sup> centuries were recovered from North Terrace excavations, along with good quality, locally made red slip ware. In 2017 mound summit excavations we opened a new trench, USS 1 (see Fig. 1) to a 5 × 5 m extent, in order to trace the trajectory of the Byzantine defensive wall to the southwest. These excavations exposed a large entryway with a deconstructed gate (see below), part of which contained a Late Roman brick with a raised cross on it (F4). South of this entryway the trench extends partially down the mound slope; here we exposed caches of Late Roman red ware, further suggesting that there was a Late Roman phase on the mound itself. Phase 2 is also primarily known from our previous North Terrace excavations (Cassis 2009; Cassis and Steadman 2014), but is also found on the summit in the form of what appears to be an initial attempt to fortify the mound summit (though with a far smaller wall), extant in the southeastern quadrant of the mound summit. This Phase 2 wall was eventually encompassed by the much larger and better-built 10<sup>th</sup>–11<sup>th</sup> century fortification wall.

### *Phases 3-7: Fortification, Rebuilding, Destruction/Abandonment, and Reoccupation*

These five phases of occupation are compressed within the 10<sup>th</sup> through the 12<sup>th</sup> or 13<sup>th</sup> centuries CE. They define shorter periods of time than the first two phases, characterized by architectural changes on the mound.

Phase 3 may be considered a period of “Fortification and Building Construction and Use.” At the beginning of the Middle Byzantine period, either at the end of the 9<sup>th</sup> century or the beginning of the 10<sup>th</sup>, intense effort was put into fortifying the mound. The original use of this space seems to have been largely devoted to processing and storage, based on the absence of clearly domestic structures and the presence of large numbers of processing materials, including ovens and ground stones. Examples of this are discussed below in relation to SMW 1 and 2, and SMT 14 and 9 (see Fig. 1).

Phase 4 is a period of “Rebuilding.” As became clear in Trenches SMW 1 and 2, discussed below, there was rebuilding of the walls over the course of the 11<sup>th</sup> century. More rooms were built and existing rooms were subdivided, particularly in areas associated with the fortification walls; additionally, the fortification wall took on a more obviously defensive character. Phase 5 can be considered a period of “Final Rebuilding” not long before the destruction phase on the mound. A concerted rebuilding of a number of walls occurred, more consistently using mudbrick rather than stone. This suggests a more intense domestic occupation of the mound, possibly in the face of an



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impending attack. It ends with an attempt to shore up parts of the mound, and block entrances. This is particularly evident in SMW 6 and likely USS 1, discussed below.

Phase 6, a “Destruction and Abandonment,” and Phase 7, “Reoccupation,” see the final usage of the mound summit. Based on numismatic evidence we are able to date Phase 6 to the mid-11<sup>th</sup> century. There was an attack on the settlement, and some left on the mound were killed, including two people in SMW 1 and in USS 2 (the western and southern sides of the summit), identified as guards or soldiers based on the presence of associated weaponry, armor, and reliquary crosses. Evidence of an attack on the mound has been identified in various places across the summit over previous years of excavation; the 2017-2018 recovery of skeletal material and the objects noted above confirm that such an event took place. The perpetrators of the attack have yet to be determined with certainty, but are probably either mercenaries that had broken away from the Byzantine army or early Turkic groups. The Phase 7 “Reoccupation” phase consisted of ephemeral reuse of the east side of the mound by a transitional population, probably Turkic in origin, and probably dating to the post-12<sup>th</sup> century, based on ceramics analysis (Steadman *et al.* 2017).

## **The 2017-2018 Excavations on the Summit**

Three main areas on the summit were investigated during the past two years: the series of rooms and fortification wall on the eastern side of the mound (SMT 9, SMT 14, and SMT 20), the top of the southern slope of the mound (USS 1-2), and the west summit (SMW 1-2, SMW 4, and SMW 6). The results from these trenches have allowed us to assess the different uses of areas across the mound, as well as the evolution of the use of this space over the course of the Middle Byzantine period.

### *The Byzantine Fortification Wall and Architecture on the Eastern Summit (Trenches SMT 9 and 14)*

Trenches SMT 9 and SMT 14 are adjoining trenches on the eastern side of the summit, the former trench first opened in 2016; this area includes space inside the fortification wall described previously (Steadman *et al.* 2017), and contains the highest point on the mound. Limited SMT 9 excavations in 2017 revealed F23, a very hard compacted mudbrick surface in the “courtyard” south of the series of rooms that were built against the fortification wall. After determining that F23 extended across the entire courtyard area, we removed F4, a stone and mudbrick bench, built near the entrance to Room 3 (Fig. 14). Underlying bench F4 was another mudbrick surface (F24) and finally beneath this was a large grinding stone with two holes drilled into it. The stone was laid flat with mudbrick packed around the edges. The stone sealed a pit (F26) cut into the F23 surface against the north-south oriented F17 wall. Fill inside the pit (L27) was loose, sterile brown soil.

The 2017 excavations in the adjoining SMT 14 trench were also limited; the majority of this trench, which included a stable full of animals and a storage building, was excavated by M. Cassis in 2004 (Cassis 2009). The work in 2017 allowed us to connect these earlier excavated areas

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with our more recently exposed series of rooms flanking the fortification wall (Steadman *et al.* 2017). After removing several topsoil loci, the SMT 9 F17 wall was discovered to continue into SMT 14 (F20). South of wall F20 we removed several loci to expose a mudbrick surface, F21, which is equivalent to the one found in SMT 9 (F24). Here the mudbricks were clearly visible, laid in diagonally-oriented courses with clear mortar lines (a similar surface was found in SMW 6 in 2017). These surfaces may well date to the Phase 7 final reoccupation of the mound in the 12<sup>th</sup> or 13<sup>th</sup> centuries.

West of the SMT 14 F20 wall we excavated two loci containing fragments of orange mudbrick and large stones. This revealed another mudbrick wall, F23, which is linked to the stone wall of a storage building excavated by Cassis in 2004. Removing these loci also exposed an earlier stone wall (F22) below the mudbrick F20 phase of the wall. This is consistent with architecture that we excavated in SMT 9 in 2016, and may date to either a rebuilding phase or the final reoccupation (Phase 7).

In this SMT 14 complex of architecture, bounded by walls F20/22 and F23 and a wall of the storage building mentioned above (not shown on drawing), we found a large cache of architectural debris in a “closet” or small storage compartment, roughly 1 × 1.5 m in size. In this pit were 80 roof tile fragments, several worked stones, and a granite threshold stone. Also resting in this pit was a rectangular worked stone with a Greek inscription (Fig. 15b). A preliminary reading suggests it is a standard Byzantine funerary message, although the second half is much degraded. One interesting feature of the stone is that it appears that figural imagery, which was originally present, was deliberately chiseled off before the stone was deposited in the pile of architectural debris. This debris appears to belong to the final, ephemeral Phase 7 use of the mound, and may represent a clearing of the parts of the mound that were used by this final population.

At the northern edge of SMT 14 we cleared a very well-built wall (F25) consisting of well-shaped stones at its edges; it is built differently from other walls on the summit, which tend to be made with irregularly shaped fieldstones. We also found F26, a group of several large stones placed against F20 to form a kind of platform. Inside this roughly square room, we uncovered what appears to be a storage bin (F28), comparable to one excavated in the adjacent SMT 13 years ago. The most significant architectural find in this area, however, was F31, a section of stone paving in the center of the room. This feature does not appear to be a fragment of a larger paved floor, but to have originally only been about three stones wide. The relative dates for these elements are uncertain at present.

East of this room is another set of architectural elements which include a wide mudbrick wall (F27) that has yet to be fully excavated. F29 is a hard-packed pebbly mudbrick surface in this area cut by a pit (F30) meant to hold multiple large pots. Just below F29 we also discovered a 7 cm wide *tandır* oven (F34), the fill of which contained fragments of wall plaster that we have previously found associated with early leveling fills. These elements seem to date to the original construction of the fortification, which was established on top of both Iron Age and Late Roman occupation.

The phasing of architecture in SMT 9 and 14 is not always clear. The courtyard surface (F23 in SMT 9) once continued at least partly across SMT 14. F20 in SMT 14 is built over fill that accumulated in a cut in the mudbrick surface as well as over an original, undisturbed section of

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the surface. Features 23 and 24 in SMT 14 postdate F20. It is safe to say that Phases 3-7, with some gaps, are represented in these two trenches. Certainly the fortification wall, storage building, and stable, all excavated in previous seasons, represent Phases 3 through 5; some of the architecture described in this section may date to Phase 7. The complicated stratigraphy of building, reorganization, abandonment, and reoccupation is challenging to trace even without the added complication of meters of overburden.

#### *The Byzantine Fortification Wall and Architecture on the Southeastern Corner (Trench SMT 20)*

In the 2017 excavation season, the southeastern corner of the summit was excavated (Trench SMT 20) with the intention of defining the 2004 excavation of the fortification wall and to understand the context of the earlier gate on the southeastern side of the summit (Cassis 2009). The small room in the southeastern corner was discovered to be much more complex than a simple guard or tower space. The plaster floor (F18) contained two pits (Fig. 16), one circular (F20) and a smaller oval pit (F19), which were clearly related to metallurgical work based on the debris found within them. It is unclear whether this work took place in the open air or within a structure, but the choice of location is consistent with the prevailing winds which come primarily from the north and would have blown smoke and fumes southward away from the summit.

The smaller oval pit (F19) was built into the F18 floor matrix and then covered with packed mud, which preserved the contents. The fill in the pit (L12) contained burned material, and the bottom of F19 was packed with small iron flakes embedded in the surface from use over time. Large stones rested at the base of the pit. Also contained in F19 were several pieces of ceramic that originally made up a *tuyère* along with a large piece of burnt wood which appears to have been a tool. Numerous pieces of slag were recovered, as were small metal tools, and a piece of iron ore. The *tuyère*, iron ore, and charcoal allow for the most probable interpretation of this pit as a bloomery forge. The larger circular pit (F20) was cut from the F18 surface, making it later than the F19 oval pit. The F20 pit was ca. 30 cm across and was not lined but rather simply filled with mudbrick and stones. The mudbrick surface was heavily blackened and burnt.

Excavations at Kinet Höyük in southeastern Turkey offered a similar set of features (Redford 2012). Two pits, similar in size and proximity to those at Çadır, served as a two-chambered pit furnace. At Kinet it was the larger pit that was used as the forge with the smaller pit showing less evidence of burning. The date for the Çadır installation is currently uncertain.

#### *The Southern Passageway and Drain on the Western Summit (Trenches SMW 1-2)*

Excavations over the past two years were intended to provide insight into the relationship between the rooms in SMW 1-2 (see Fig. 1), as well as a better understanding of the phasing of the drain system noted in a previous publication (Steadman *et al.* 2017). The focus in 2017 was further exploration of the western half of SMW 2 which can be separated into three spaces bounded by walls F1-3 (Fig. 17): the Northern Courtyard, the Central Room, and the Southern Passageway. In 2018, we returned to the southern edge of SMW 1 to conclude our excavations of the drainage system, and we finished excavations of the extant phase in SMW 2.

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The SMW 2 Northern Courtyard is located north of the F2 wall and east of a stone wall (F5) in SMW 1. The courtyard contained several large free-standing stones (F23-24) which we believe were used as furniture pieces in one of the final occupation levels (Phase 5 or 6). F23, in particular, is in line with the entryway formed by walls F1 (in SMW 2) and F5 in SMW 1. Additionally in SMW 2, there was a clear surface (F5) throughout the majority of the courtyard except along the northern side of wall F2 which may have been a pathway (this locus held concentrations of charcoal and wood splinters). A number of pits were scattered across this courtyard. Pit F13 was clearly cut from SMW 2 surface F5; it was 36 cm deep, had a nearly 1 m diameter, and was very carefully constructed with a hard compacted lining. Within this pit, pieces of an adolescent's skull were recovered; later analyses revealed that the head had suffered a puncture wound (Y. Erdal, pers. communication, 2018). It should be noted that in 2017 loci excavated above the surface in SMW 2 contained a considerable number of mixed bones, some of which were human. These belonged to adolescents, and included vertebrae, phalanges, and 2 separate right maxillae. In 2018, we continued excavations of this space by removing the F5 surface on which wall stub F4 (in the northern baulk) rested. Directly below wall F4, in what we originally interpreted as the foundation trench (F39), was an infant burial, only partially recovered due to its location. It is unclear whether the burial was inserted under wall F4 after it was built (thus dating somewhere in Phase 5-7), or as a type of foundation deposit at the time of building (possibly Phase 5).

The 2018 removal of the Northern Courtyard F5 surface revealed yet another surface in the courtyard (F26), this containing an 11<sup>th</sup> century bronze coin resting on it (Michael IV Class C Anonymous Follis). The F26 surface continues through the entryway of the F1 and F5 walls (in SMW 1), and therefore appears to connect with the F11 surface in SMW 1. The presence of the coin is in keeping with the context of the rest of the mound in the Phase 6 destruction; the surfaces above it, as well as the human remains, may reflect the transition from Phase 6 destruction and abandonment to just before the Phase 7 reoccupation.

The SMW 2 “Central Room” (Fig. 17) is bounded by the walls F1 (in SMW 1) and the SMW 2 walls F2 on the south and north, and F3 and F1 to the east and west. Walls F2-3 both have a substantial layer of mudbrick above their stone courses, a construction not evident in the other walls in these two trenches, though we see this construction method on the eastern summit in Trench SMT 14. Additionally, SMW 1 walls appear to be constructed with a more consistent matrix than those in the other trench. SMW 1 walls F1-2 are constructed with five courses of similar sized stones, whereas F1 in SMW 2 was constructed of stones in a variety of shapes, with the large spaces between them packed with mud filling. Finally, the walls in SMW 2 are not consistently bound at right angles while the walls in SMW 1 are. The walls in these two trenches have been the source of many questions and team consultations over the past few years; one point of clarity is that the manner of construction and the rough addition of the SMW 2 walls to those walls in SMW 1 suggest that this Central Room in SMW 2 was a later addition, perhaps in the period immediately preceding the attack (late Phase 5 or early Phase 6).

This Central Room appears to have been a working space, as it contained a number of utilitarian and light industrial items, including various iron objects, slag, and two grinding stones on two surfaces (F20, 29). The upper floor/surface (F20), excavated in 2017, offered a high volume

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of metals, including a small metal knife blade, an iron bracket, and an iron vessel. Evidence of a threshing sled (based on lithic remains) was also recovered. All of these finds lend credence to the interpretation that this space consistently functioned as a working area from the time it was constructed. Underlying the F20 surface was another, F29, also excavated in 2017. The F29 surface was a very hard compacted multilayered floor, composed of a mix of mudbrick and plaster. The fill between F20 and F29 also yielded human bones. Resting on the F29 surface was an almost complete glass bracelet, one of the best examples we have found at this site to date. Seven pits were cut into this surface (F30-F36). F30 was the deepest and largest pit, with a diameter of 82 cm and a depth of 34 cm. The fill contained traces of charcoal and evidence of burning indicating that F30 was once used for cooking; in fact a *tandır* was still imbedded in the northern edges of the pit. Inside the F30 pit we recovered some ceramics and various animal bones, as well as a stone token, a metal hoop, and a human bone. The other smaller pits appear to contain the remnants of individual meals (see the Archaeozoological section below).

The Southern Passageway is located in the southern-most part of SMW 2 and east of the Drain and its associated courtyard in SMW 1 (Fig. 17). Our 2017-2018 excavations in this area were intended to better understand the drainage system; it is now clear that this system changed over time as the overall function of the site changed, until it was eventually blocked off (F24) during the latest phases (Phase 5-6) of Byzantine occupation. The 2017 excavations of a Southern Passageway surface (F9) yielded three coins, at least two of which date to the mid-eleventh century (Constantine X Ducas; Michael IV Class C Follis; the third was too degraded to read). Beneath the F9 surface was another of compacted quasi-cemented material, F14, which seems to be connected to the drainage system to the west in SMW 1. Cut into the southwest corner of surface F14 was a pit (F18) which contained a high quantity of animal bones and fragments of cooking vessels. Excavations delved below F14 as well; ceramic analysis of these underlying layers suggest they are pre-Byzantine in date.

Our 2017-2018 excavations of the Southern Passageway and the Drain in SMW 1 (Fig. 17) have allowed us to hypothesize how the space was used in different in three phases. In the earliest period, which probably corresponds with Phase 3, the drain (F3) was built as part of the original construction of the fortification wall (F4) to allow runoff from the summit's interior. Draining water traveled toward the outlet, pooling on a hard-packed mudbrick and plaster surface (F37), and then exited through the drain (F3). Uneven and broken plaster found up against the interior of the fortification wall reflects where water pooled (at times likely carrying debris consisting of harder objects which damaged the wall's interior). To guard against damage, builders packed in an unusual amount of mortar inside the wall and around the drain, to protect its foundations from erosion.

In the second phase of space usage in SMW 1 (Fig. 20), corresponding to the Phase 4 reorganization of space in the early eleventh century, the drain became a more controlled drainage system with a clear channel, possibly related to the evidence for processing and light industry on the mound. In this phase there was a compacted quasi-cemented surface built (F25 and F26), that was cut by the drain channel (F27). The F27 drain channel itself had a stone lining (Fig 20), though it was not very substantial. It is likely that a severe rainstorm may have overwhelmed the drainage system and that the channel construction was a final stop-gap measure before the drainage area

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was blocked in the third and final phase. The blockage is made clear by a large stone placed within the drainage opening in the fortification wall, and the substantial blockage on the eastern side of the mudbrick “drainage courtyard area” excavated in 2016-2017 (F24 on Fig. 17). This blockage of the drainage system may have occurred in concert with the repurposing of space described above, when the cooking pits and light industrial work areas appeared in the Central Room and Northern Courtyard in SMW 2. The eradication of the Drain and creation of the Southern Passageway likely occurred in the Phase 5 rebuilding period; how water was diverted off the summit in this phase and later is not yet clear.

Our 2016–2018 seasons of work in SMW 1-2 have made it abundantly clear that a wide variety of activities took place in multiple phases, ranging from working and cooking to the military related activities reported elsewhere (Steadman *et al.* 2017). The multiple rebuilding and repurposing of the architecture in these two trenches make the original wall orientations and divisions of space difficult to identify; while many questions remain, it is clear that inhabitants in the last stages of occupation made substantial changes to the original architecture to suit what appears to be a need for a protected space to house a growing number of people and activities.

#### *The Chapel (?) on the Western Summit (Trenches SMW 4 and SMW 6)*

We opened Trench SMW 6 in 2017 to follow the large Byzantine fortification wall on the western summit. We expected to find interior rooms ringing the wall, as these are the norm elsewhere on the mound (Steadman *et al.* 2017; Steadman and McMahon 2015, 2017). We did indeed discover interior architecture east of the Byzantine wall, but it was not quite what we expected. The architecture in this and the SMW 4 trench opened in 2018, serves as one of the “problems” that needed solving prior to our upcoming study season.

In 2017 two mudbrick walls (F10, F15) were revealed in SMW 6 that extended into the northern baulk. The curvature of the F15 wall (Fig. 21) necessitated the opening of SMW 4 in 2018; as was suspected in 2017, these walls continued their apsidal form into SMW 4 as F3-4, with other associated walls being F5, south of the apse, and F11 to the west in SMW 6, and F1 in SMW 4 (Fig. 21). We have interpreted this structure as a small, possibly somewhat hastily-built, chapel. The chapel room measures ca. 3 × 4.2 m and is built on a SW-NE orientation.

There appear to be at least two construction phases in this complex. The earliest are walls F1 (SMW 4) and F11 (SMW 6), both ca. 70 cm wide and likely originally a single wall, built of smaller stones placed between larger ones on the edges. Mudbrick was added to the tops of these walls, and both seem to have been repurposed for the construction of the new building/chapel. Stones were removed from the original wall to create a 65 cm wide passage at the time of the chapel construction, breaking the walls into two sections (F1/F11); this passage was eventually blocked by mudbrick debris, possibly in preparation for attack on the summit. The chapel walls comprise a later building phase, consisting of SMW 6 walls F10 (3 m long) and F15 (1.5 m long) and SMW 4 walls F3 (2.5 m long) and F4 (3.7 m long). All were built of rectangular mudbricks, some in good condition, which were laid on a stone foundation ca. 60 cm wide.

There are several attributes associated with this building that support its identification as a chapel. The placement of F11 in SMW 6 creates two gaps/openings on either side of the rough

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apse. A second set of architectural features are also notable; these include brick “stubs” on the exterior of walls F3 and F4 in SMW 4. These seem to be built intentionally and at regular distances, quite possibly serving as buttresses to help support a substantial roof such as a small dome. A 35 cm wide posthole (F9), lined in baked clay, next to one of these buttresses lends credence to the interpretation of a substantial roof design for this structure.

The interior of this building also yielded some unusual finds that lead us to believe this was a chapel room. In the northeast corner of the chapel space in SMW 6 was a mudbrick feature (F5) semi-oval in shape (Fig. 22a) and built against the interior curve of walls F3-4. This feature measures 80 × 115 cm and was likely some sort of furniture; it contained mudbrick pieces that may have once created partitions within the feature. It is likely that this feature was once capped with wood or other material and it may have been used for storage, as a table, or possibly both. Also found within the feature were two items, an amulet (Fig. 22c) and a complete pot base.

To the west of this feature, within a meter, was another (F10), consisting of a flat grinding stone (Fig. 22b) measuring ca. 50 cm in diameter. It had been intentionally laid over a raised platform sitting on the F15 floor of the building. Placed along its edges were some mudbrick pieces, tiles, and stones. This F10 grinding stone is identified as a base for an altar or table for the following reasons: first, there was a nail placed in the central hole of the grinding stone which would have been used to stabilize a wooden pole that would have supported a tabletop; secondly, located directly next to F10 was a massive piece of burnt wood found lying aligned to the east of F10; thirdly, F10 rested underneath two flat worked stones. One of these stones has two circular holes on its surface which would have been used to stabilize some particular objects that would fit in them, or perhaps through which liquid could be poured. The other stone has a Byzantine cross carved on one of its surfaces, and looked like a recycled grave stone. It should also be noted that the fill above feature F10 provided an unusual amount of charcoal pieces, which might be explained by a burnt wooden roof (or dome), or, potentially, an iconostasis, which may have been placed in the doorway discussed above (Fig. 23).

North of the structure and presumably outside of it, in SMW 4, were two hard-compacted mud surfaces associated with the building walls: F6 (not shown on Fig. 21 plan), and below it F11, which was also plastered. These appear to be outdoor surfaces for a courtyard serving the side of the chapel. Both surfaces were cut by a later feature, L15, which is rectangular in shape (2 × 1.5 m in size); a flat stone raised at the northwestern end of this feature suggests that this is a burial (it remains unexcavated). A very fine bronze earring (Fig. 22d), associated with the as yet unexcavated burial, was recovered in the fill above L15.

This possible chapel (Fig. 24) was likely built during the mid 11<sup>th</sup> century when there was an external threat to the settlement’s occupants. Prior to this there must have been a substantial Byzantine religious structure situated in the close proximity to the Byzantine citadel but outside of the defensive walls. During this period of threat it may have been risky to leave the citadel to reach the religious structure outside the walls, and the community may have been forced to create a summit-based religious space in a hurry. This would explain the ephemeral character of the chapel and its somewhat awkward apse: pre-existing walls were repurposed to become a chapel for some period of time.

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### *The (Blocked) Phase 1 Gate on the Southern Summit (Trench USS 1)*

The trenches on the southern end of the summit, USS 1-2 were excavated in 2017 and 2018 and constitute another area of “problem-solving.” In 2016 we opened Trench USS 2 in order to continue tracing the Byzantine 10<sup>th</sup>–11<sup>th</sup> century fortification wall around the mound, and to further investigate the interior “ring rooms” we had documented in other trenches elsewhere. Indeed the ring rooms were discovered and excavated (Steadman *et al.* 2017); one room yielded evidence of the soldier/guard and associated belongings noted in the “Phasing” section above. Trench USS 1, directly west of USS 2 (Fig. 1), was opened to further trace the wall and ring rooms. What we instead discovered was an extensive amount of mudbrick collapse that appeared to have been either pushed or fallen from architecture north of the fortification wall. We proceeded to remove the mudbrick collapse in 2017 and were quite surprised to find an entirely new style of architecture and an absence of the 10<sup>th</sup>–11<sup>th</sup> century fortification wall.

Beneath the mudbrick collapse is what appears to be an older gate into the Byzantine summit occupation. The 3 m wide opening, which consists of a very hard plastered surface (F10; Fig. 25), creates an opening in the 10<sup>th</sup>–11<sup>th</sup> century fortification wall. This gate, though only ca. 30 m west of what was likely the main 10<sup>th</sup>–11<sup>th</sup> century gate, was likely also used until it was blocked, perhaps at the beginning of the Phase 6 (attack/abandonment). This well constructed “side entrance,” which may have been the main entrance in the 7<sup>th</sup>-8<sup>th</sup> centuries (Phase 1-2), is accessed from the south by a series of tiles which form a step (F3; Fig. 25). It is flanked by stone features on the eastern side (F8, 11) and on the western side (F5-6; Fig. 25 [F6 not shown in Fig. 25 photo]). The stone architecture on the eastern side (F8, 11) likely dates to a later building phase, but the western stone features (F5-6) are consistent with the original construction of this earlier gateway. These do not appear to be walls but rather semicircular platforms; it is possible that a pillar or other upright architecture once stood here next to the entryway. A Late Roman brick resting at the southwestern corner of the entryway bore a cross (Fig. 26a). Also discovered in the matrix associated with the entryway was a St. Peter’s cross (Fig. 26b), the second one so far discovered at the site. There were several postholes in this pathway (F9 and F12 in USS 1, F16 and 17 in adjacent SMT 16). In addition, a number of metal items such as a hinge, a nail, and burned wood were discovered in Trench SMT 16 just to the north. It is quite possible that a gate once rested just at the apex of the pathway.

We returned to USS 1 in 2018, expanding excavations approximately 1 m to the west and exploring more of the southern area of the trench. In addition, in order to more thoroughly understand this newly discovered entryway, we opened SMT 16 (to a 5 × 5 m extent) to trace what happens when one proceeds up the entry into the summit. Careful USS 1 excavations allowed us to better understand the construction of this entry. Builders laid the F10 plaster atop a packing of plaster/egg-sized rocks, which in turn sealed a fill of very hard-packed mud (almost cement-like), which likely rests on earlier (possibly Iron Age) architecture. Upon this they laid a thick plaster surface approximately 2 cm thick. The plaster was repeated above a thin fill, renewing the surface of the entryway (F10). The tiles at the southern entrance, creating a threshold (F3), were discovered to partially rest on an earlier stone-built wall or platform (F19; Fig. 27a-b) which may be Roman or Late Roman in date, although this remains uncertain. This F19 stone step, platform, or wall,



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may lead to an even earlier entrance to the summit either in this location or elsewhere. Near the end of the 2018 season it became clear that the builders of the F19 stone wall/path/platform had used earlier architecture for support. Mudbrick walls lie at the southern extent of the USS 1 trench, not excavated, and are most likely Late Iron Age in date. This construction method, using Iron Age architecture to support Late Antique/Byzantine architecture is found in nearly every summit trench. Our 2018 excavations also confirmed that the 10<sup>th</sup>–11<sup>th</sup> century fortification wall leads up to this earlier entrance, likely encompassing any early wall that adjoined it, but the later fortification wall did not block the entrance. This confirms that this entrance was used for centuries until its final blockage.

The blocking of the USS 1 entrance was more clearly understood once we opened SMT 16. Almost immediately we came down on mudbrick, some of it heavily burned; whole burned posts were resting within the mudbrick debris which was likely a continuation of the mudbrick collapse excavated in USS 1 in 2016. Underneath this mudbrick collapse were two structures, one a building, the other a constructed blockage across the entryway (F9; Fig. 28b) consisting of chest and head-sized stones and mortar. On the north side of F9 mudbrick and more stones were placed to fortify the blockage. This F9 blockage stretched across the pathway and was clearly meant to seal off entry onto the summit from this access; it was also probably used to fortify and block the wooden gate mentioned above. Lying directly atop the F9 blockage was burned mudbrick, including the metal artifacts and burned wood noted above; this mudbrick may have come from the nearby building. At present we do not know the date of this building, but it was likely built either in Phase 2, or in one of the later phases of occupation on the mound. We are also uncertain as to whether the mudbrick blocking the entrance, some of which was heavily burned, was intentionally knocked down by Byzantine residents to completely block this entrance, or if this circumstance came about as a result of attack at the time of abandonment (Phase 6). It may well be a combination of both. The work in these two trenches has added significantly to our understanding of building phases and usage of summit space over the course of the first and early second millennia.

Overall the past two years of excavation of the Byzantine remains on the top of the mound have created new avenues for exploration and new questions. The stratigraphic levels suggest a complex utilization of the mound over the period stretching from the late 9<sup>th</sup> century to the mid-11<sup>th</sup> century (and beyond). Further analysis of the ceramics and the wood will help us to isolate these dates further, and perhaps create a more coherent narrative of the changes and events that took place during these centuries.

## THE ARCHAEOZOOLOGICAL ANALYSES

Archaeofaunal work during the 2017 and 2018 field seasons focused on recording data from the Byzantine trenches as well as data analysis from Bronze Age and early Iron Age loci in Trench USS 4 (see Steadman *et al.* 2017, 2019b for reports on USS 4 excavations), and analysis of equid remains from the site.

### **Byzantine Fauna**

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Analysis of the Byzantine faunal materials from both the North Terrace and the summit contexts continued through the 2017 and 2018 excavation seasons. To date over 5500 specimens from this chronological period have been recorded, with almost 2500 specimens coming from the North Terrace (Table 2). Taxonomic abundance data from the North Terrace trenches demonstrate that the Byzantine animal economy of this area was mixed, with sheep and goats the most abundant taxa (45% based on livestock specimens identified to genus), followed by approximately equal numbers of cattle (25%) and pig (23%) and smaller numbers of equid (including horse and donkey) (3%) and domestic fowl remains (3%). Dog, camel, and cat are present in small numbers as are wild taxa including deer, fox, hare, hedgehog, and rodents. This assemblage differs considerably from Byzantine faunal assemblages from the southern Levant, where caprines are dominant and pigs poorly represented, and from Byzantine remains from Sagalassos in southwestern Turkey where cattle dominate the assemblage (Perry-Gal *et al.* 2015; Vionis *et al.* 2010). These new data from Çadır's North Terrace define a distinctive rural central Anatolian Byzantine animal economy which will continue to be explored in greater detail.

The Byzantine faunal assemblage from the summit contexts tells a unique story. As described previously, the assemblage is dominated by cattle remains (60%), many of which represent a discrete *in situ* deposit indicating the kill-off of a large number of animals in contexts associated with the abandonment of the Byzantine settlement in the eleventh century CE (Steadman *et al.* 2017) (Table 2). In the summit trenches sheep/goat and pig are represented in modest numbers (26% and 12%) with equids (0.9%) and fowl (1.6%) also represented in lower frequencies than on the North Terrace. Trenches SMT 14 and 15 contained the bulk of the remains of this death assemblage and provide a unique window into the livestock economy and animal management at the settlement.

Deposits from the west side of the summit (Trenches SMW 1 and 2) provide insight into daily activities near the fortification wall. Species frequencies from these trenches are intermediate between those of the summit and North Terrace with sheep/goat and cattle represented in equal numbers (ca. 40%), followed by pigs (14%), fowl (8%), and only a few equids (<1%). Pit features within these two trenches are filled with the remains of discrete eating events, in which small amounts of butchered and burned material were buried. In addition, and as mentioned earlier, human bones were found throughout the material in this area, often intermingled with the faunal remains. This will be the focus of continued study in order to understand their depositional history.

## **Bronze and Early Iron Age Fauna**

As of the 2017 and 2018 seasons, analysis of the Middle Bronze, Late Bronze (Hittite), and Early Iron faunal materials remains ongoing. To date, over 7300 specimens from these chronological periods have been recorded (Table 2). An in-depth analysis examining change across time within the Late Bronze assemblage is forthcoming (Ross *et al.* 2019), and a similar analysis of the Early Iron Age materials from USS 4 is in preparation (see Steadman *et al.* 2019b for 2018 excavations in USS 4). Generally, speaking, species frequencies (based on NISP) for the Middle and Late Bronze Age faunal assemblages are quite similar, suggesting a strong degree of continuity

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across these periods. Caprines (43%) and cattle (38%) dominate the Bronze Age assemblages and are represented in identical proportions in both the small Middle Bronze and larger Late Bronze Age assemblages. Pigs represent ca. 15% of both Bronze Age assemblages, while equids and birds are represented by small numbers of remains (<3%). The proportions of livestock taxa shift in important ways after the Late Bronze Age collapse as evidenced by the Early Iron Age deposits from Trench USS 4. The relative frequency of caprines increases to nearly 70% during the Early Iron Age, while cattle drop to 23% of the assemblage. Pigs decrease dramatically down to just 4% of the Early Iron Age fauna. These changes in the frequencies of livestock species likely reflect a major restructuring of the animal economy at Çadır in response to the environmental and political realities of the Early Iron Age.

## Equids

The remains of equids (NISP=232) have been recovered from every occupational phase at Çadır and are the subject of a current detailed study of the use of equids in ancient Anatolia. Horses are the most abundant equid at Çadır (NISP=82); they are particularly well represented in the Iron Age and Byzantine where they represent domestic horses (*Equus caballus*) and exhibit evidence for bit wear associated with riding and also butchery (Fig. 29). Horses are, however, present from the earliest levels of the settlement, with several horse specimens identified from loci in the deep sounding in Trench LSS 5, radiocarbon dated to the mid-fifth millennium BCE (AA84957) and also from loci in Trenches SES 1, LSS 3-4, and LSS 10 firmly dated to the latter half of the fourth millennium BCE. In addition, specimen CD1875 was directly dated to 3300 cal BC (BETA 418461). These Chalcolithic horses likely represent local Anatolian wild horses (*Equus ferus*) and are similar to the wild horses from Neolithic and Chalcolithic sites in central and western Anatolia including Çatalhöyük, Köşk Höyük, Orman Fidanlığı, and Kez Kaya (Martin and Russell 2006; Uerpman 2001). Given evidence for early horse management north of the Black Sea in the fourth millennium BCE, it is unclear if the Chalcolithic horses at Çadır represent early managed animals or if they represent a continuation of a tradition of horse hunting on the Anatolian plateau. This question is currently the subject of paleogenetic analysis.

In addition to horses, the remains of small-bodied equids have also been identified at Çadır (NISP=61). The majority of these specimens have been identified as domestic donkeys (*Equus asinus*). Although one donkey specimen was recovered from a Late Chalcolithic trench, it is from a disturbed locus (LSS 10, L6) and likely derives from overlying Hittite deposits, where donkey remains are relatively common. Donkeys are most abundant in the North Terrace Byzantine deposits. In addition, one tooth specimen (CD5198) from the Iron Age combines features of both horses and donkeys and likely represents a mule, indicating that equid hybrids were bred and used in the early first millennium BCE.

In addition to donkeys, wild Anatolian hemionines (*Equus hemionus hydruntinus*) may also be present among the small equid remains at Çadır. Like wild horses, these wild 'hydruntines' were heavily hunted in Neolithic and Chalcolithic central Anatolia but disappear sometime in the later Holocene (Crees and Turvey 2014). The latest identifications of hydruntines in Anatolia come from Early and Middle Bronze Age deposits from Acemhöyük and Demircihöyük (Arbuckle 2013;

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Rauh 1981) in central and western Anatolia. Although the remains of donkeys and hemiones are difficult to distinguish, one specimen at Çadır (CD625), displays the distinctive mandibular molar morphology of a hydruntine (Fig. 29). This specimen is from an Iron Age locus (Trench LSS 3, L12), and, if the identification is confirmed through ancient DNA, represents the latest identification of this species in Turkey. Even more intriguing, this tooth specimen exhibits abnormal “wavy” wear on the occlusal surface, a feature more often seen in managed and confined animals rather than in wild animals. Although speculative, if wild hemione were under human management, they may have been used to breed donkey x hemione hybrids—a high status animal known in Bronze Age Mesopotamian texts as a *kunga* (Zarins 2014).

## THE ARCHAEOBOTANICAL ANALYSES

The archaeobotanical research program is focused on highlighting how the Çadır population adapted their plant use practices in response to environmental and cultural shifts throughout the entire sequence. Many of plant use behaviors, such as agricultural practices, animal management, and fuel use, are often performed at a household level but can be controlled by a larger centralized or state level power. Therefore, changes in plant use affect both household and site level organization and contribute to the resilience, or demise, of a population at a site. To observe changes in plant use, archaeobotanical analysis employs counts, descriptive statistics like relative abundance, ubiquity, ratios between taxa, and correspondence analysis. By comparing these statistics between phases, periods, and buildings, it is possible to document changes in plant use over time or between spaces.

During the 2018 season, the focus of the archaeobotanical research was a pilot study of 11 Byzantine samples, chosen to determine general patterns in Byzantine plant use. The samples were excavated between 2012 and 2017 and come from seven different trenches, six from the summit and one from the North Terrace, from 10 different contexts (Table 3). All the samples were collected as part of an intensive sampling strategy that focused on all securely defined contexts, with a slight preference for surfaces, pits, and hearths. When possible, 20 L were collected from the field and floated using a modified Siraf style machine (Nesbitt and Samuel 1989). The preliminary study identified both seeds and wood charcoal. Seed statistics are recorded by counts while wood charcoal statistics are recorded by weight due to increased friability that makes fragmentation more likely for wood charcoal. While the mixed count and weight recording makes it difficult to directly compare seed raw counts and wood weights, proportional measures between counts and weights can be compared due to the positive relationship between wood charcoal counts and weights (Chabal 1988).

Preliminary identifications indicate that cereal cultivation was an important aspect of plant use during the Byzantine period (Table 4). Three different types of cereal were identified that had high relative abundance: free threshing wheat (*Triticum aestivum/durum*), barley (*Hordeum vulgare* L.), and rye (*Secale* sp.); indeterminate cereal grains were found in every sample. Furthermore, the amount of chaff, as well as the ubiquity of chaff, supports the argument that cereal was an important crop at the site. Both bread wheat rachises (*Triticum aestivum* L.) and barley rachises were found in every sample and had very high relative abundance percentages

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(Table 5). Culm fragments were also very ubiquitous and abundant, suggesting that straw was an important resource at Byzantine Çadır; future studies of the assemblage will aim to clarify what the straw was used for, i.e. in crop processing or as fuel.

Other non-cereal economic species were identified as well: grapes (*Vitis* sp. L.), chick peas (*Cicer arietinum* L.), lentils (*Lens culinaris* Medik.), and flax (*Linum usitatissimum* L.). In general, these species preserve less well than cereals due to high starch, sugar, and oil contents of the seeds. At Çadır, grapes were moderately abundant and ubiquitous, while the chick peas, lentils, and flax all had very little ubiquity, and in the case of lentils and flax, very little abundance as well. Legumes, however, are often found with low ubiquity due to how the seeds are processed on site (Graham and Smith 2013), although in comparison to other periods, the ubiquity and abundance of the legumes is rather low (Steadman *et al.* 2019a).

While very few flax seeds were found in the assemblage, it is possible that flax fibers were used to create a textile found in SMW 1 that was wrapped around metal objects from a wooden box (Steadman *et al.* 2017). A large amount of charred textile was recovered in the light fraction from L9 in SMW 1 (Table 6; Fig. 30a) and while the textile has not yet been formally analyzed, the way the textile bubbled when burnt is reminiscent of the way flax seeds burn.

The wood charcoal remains indicate that wood charcoal was a fairly important resource for Byzantine Çadır. Three types of wood: pine (*Pinus* sp.), oak (*Quercus* sp.), and possible elm type (cf Ulmaceae sp.) dominated the samples. Trench USS 3 (see Steadman *et al.* 2013) had the largest percentage of wood charcoal in sample compositions. It is still unknown whether or not the wood charcoal assemblage represents fuel or construction materials or repurposed construction materials into fuel. This too will be the focus of future research.

The preliminary results in this pilot study show similar cereal patterns to the Byzantine remains from the Çadır Höyük terrace that were analyzed and published by Alexia Smith (2007). On the terrace, the Byzantine archaeobotanical remains had high numbers of free threshing wheat grains, barley, and straw (Smith 2007). A similar archaeobotanical profile is found in the Byzantine assemblage of Komana located north of Çadır in the Tokat province (Pişkin and Tatbul 2015). Wheat, barley, and grapes were the three most abundant economic crops at that site, along with smaller concentrations of rye, lentils, chick peas, and flax (Pişkin and Tatbul 2015). Despite the abundance of wheat at Komana, unlike the findings at Çadır, there was a relatively low amount of straw in the assemblage; this highlights the importance of future research focusing on the role of straw at Çadır.

Overall, the pilot study of Byzantine archaeobotanical samples during the 2018 season illustrated that the Çadır Byzantine assemblage is fairly robust, diverse, and follows general patterns seen in other Byzantine assemblages in Anatolia. Future research on the assemblage will focus on three areas: 1) the ecology and distribution of the weeds (not reported here) and wood charcoal found across the site to determine patterns of fuel use and ecological exploitation; 2) whether or not there is evidence for on-site crop processing during the Byzantine; and 3) the textile found in SMW 1. Results from the preliminary archaeobotanical study suggest that there are complex environmental and cultural factors that have shaped this assemblage, and the preservation of the assemblage is good enough to untangle what these were.

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## THE LITHICS ANALYSES

All stone artifacts excavated from 2016 to 2018 were analyzed (n=375), 32 of which were unworked. The raw material preference was primarily chert or obsidian. Chert is the most common raw material with 45% in the total assemblage, followed by obsidian with 40%. Chalcedony, a common local raw material, constitutes only 11% of the total finds, which is probably the result of the non-elastic nature of the stone. Only a few ground stone items (basalt and pumice) were found in the 2016-2018 excavations (this does not include large items such as querns or grinding stones). Obsidian was brought to the site, likely derived from the closest known quarries such as Erciyes, Acıgöl or Göllüdağ, approximately 150 km away.

The lithics in the 2016-2018 assemblages (Table 7) included a total of 80 formal tool types (after deducting flakes with no retouch or use wear, cores, and chips), with 67% retouched. There were a limited number of cores in the assemblage, suggesting that knapping activity was not regularly carried out on the site; instead there might have been an area off-site dedicated to chert and chalcedony knapping. Blades (including broken blades) are the most common tool type (70% of the assemblage), followed by scrapers and retouched flakes, each of which comprise 15% percent of the assemblage.

A significant number of the blades (42%) were knapped from chalcedony which is an abundant raw material in the region, and another 28% consisted of chert. A majority (55%) of the blades were not retouched; however six blades had denticulate retouching on either one or both laterals (Fig. 30b). The blades found at Çadır are indicative of a formal tool typology suggesting the presence of skilled flintknappers (of chalcedony and chert) (Fig. 30c). Given that over 70% of the blades were knapped out of the local raw material, further surveys in the region may identify the sources exploited. In addition to blades, less formal and more expedient tools such as retouched flakes and scrapers were recovered. Chert was the most common raw material for retouched flakes, and all scrapers were knapped from flint (Fig. 30d).

Over 90% of the lithics studied came from the Late Chalcolithic and Early Bronze Age levels (primarily Trenches LSS 4-5 and SES 1). Only five individual items were recovered from the second millennium (including Iron Age) levels which is not surprising due to the much smaller exposures dating to these periods. Interestingly, the largest cache of lithics was recovered from L133 in Trench LSS 5. From this context a total of 60 pieces were found, including six blades, a scraper, and two unidentified retouched obsidian tool pieces. This is the “foundation” context below the toppled Agglutinated Phase wall, which also contained an infant burial, cattle horns, and pottery; these items, including the lithics noted here, have been interpreted as a foundation deposit in association with the intentional destruction of the wall.

Although wild animals represent a small percentage of the total taxa, the Chalcolithic and Early Bronze Age levels reveal the presence of some species (see Table 2 above and Steadman *et al.* 2017: 243, Table 3). However, surprisingly there no arrow or spear heads in the lithics assemblage. This lack may be simply due to the vagaries of archaeological recovery; other explanations may be that only certain (as yet unexcavated) households hunted, or that hunting materials were kept elsewhere than the domestic area. It is worthwhile to note, however, that no

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evidence of hunting was found in the tool kit from the previous three seasons of work. Preliminary analyses of the lithic assemblages show a dominance of blades in the tool kit, along with some scrapers and expedient tools; more than half of these were knapped from local raw material. The exploitation of raw material strategies requires more research to interpret the preference of obsidian, through trade, versus the use of local raw materials by Çadır knappers.

## CONCLUSION

The 2017-2018 seasons constituted the largest fielded teams in the history of Çadır excavations. The work accomplished allowed us to not only solve our “problems” but also provided new directions for study. When excavations recommence in 2020, we plan to return to the areas reported on here, with expanded investigation of second and first millennium BCE occupation of the site. It is clear that the Çadır settlement has much to offer regarding life at a rural settlement over its 6000 years of occupation.

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