

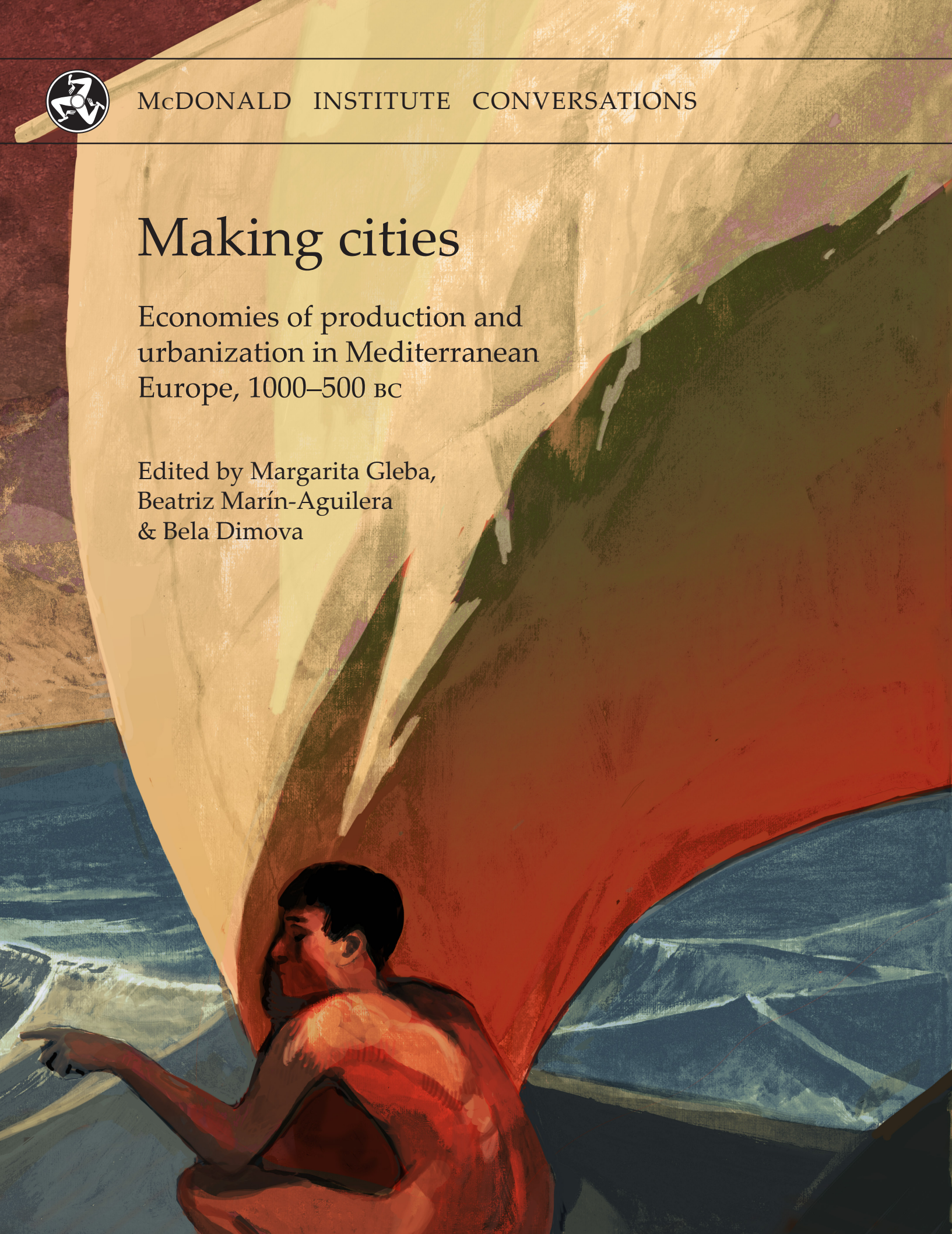


McDONALD INSTITUTE CONVERSATIONS

# Making cities

Economies of production and  
urbanization in Mediterranean  
Europe, 1000–500 BC

Edited by Margarita Gleba,  
Beatriz Marín-Aguilera  
& Bela Dimova





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Edited by Margarita Gleba,  
Beatriz Marín-Aguilera & Bela Dimova

*with contributions from*

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## Chapter 11

### Resource and ritual: manufacturing and production at Poggio Civitate

Anthony Tuck

Poggio Civitate, straddling the geological division between the Crete Senesi and Tuscany's Colline Metallifere, was well positioned to exploit the abundant natural resources of the region (Fig. 11.1). The Colline Metallifere to the west provided access to vast metal ores while the agricultural capacity of the rolling expanse of the Crete Senesi east of the site potentially provided an abundance of food for the community's populace.

To date, archaeological evidence reflects three major phases of architectural development at Poggio Civitate. The construction of the earliest phase dates to the late eighth or early seventh century BC and consisted of a large palazzo with a deep, eastern-facing porch located immediately west of a large plateau known locally as Piano del Tesoro. This building appears to have employed a tiled, terracotta roof with decorative elements such as horn *akroteria* and ornamental plaques (Fig. 11.2).<sup>1</sup> The building, called Early Phase Orientalizing Complex 4 (henceforth EPOC4), appears to have been dismantled in the years around the middle of the seventh century BC. Traces of another structure, possibly a pavilion contemporary with EPOC4, are located several metres to the east of EPOC4 and have not yet been fully explored (Tuck *et al.* 2016; Tuck 2017).

This phase of development at Poggio Civitate is followed by a period of growth considerably more ambitious in scale and scope. Atop Piano del Tesoro, architects designed and constructed three opulently decorated, monumental buildings (Fig. 11.3) (Nielsen & Tuck 2001). Orientalizing Complex 1/Residence (henceforth OC1/Residence) was a 36 × 6 m *palazzo* positioned along the plateau's western edge. Perpendicular to OC1/Residence's southern end was a tripartite structure. This building, Orientalizing Complex Building 3/Tripartite (henceforth OC3/Tripartite), was badly damaged in the site's final phase

of development, although its architectural form and materials recovered from preserved portions of its floor are strongly suggestive that the structure served as an early form of temple. Finally, running along the southern edge of the plateau was a 54 m long pavilion, Orientalizing Complex 2/Workshop (henceforth OC2/Workshop). This building housed a range of different forms of manufacturing and will be considered in greater detail below. All three employed a common system of architectural decoration consisting of a sculpted lateral *sima* and *akroteria* adhered to the crowning ridgepole tiles of the roofs' apex (Winter 2009, 51–5).

This phase of Poggio Civitate's development was destroyed by a fire that swept across the hill around the end of the seventh century BC. Following a period of salvage and levelling of the plateau, builders constructed a massive, 60 × 60 m four-winged structure with a three-sided, central colonnade (Fig. 11.4) (Phillips 1993, 5–49). This building was later augmented with a defensive work constructed off of its southwestern corner, perhaps intended to enclose a well, which was never completed (Tuck *et al.* 2016, 94–5). Like the structures that preceded it on the plateau, this building was also opulently decorated. Akroterial sculpture adorned the roof's pitch, complimenting sculptured lateral and raking *simae*, as well as a series of frieze plaques depicting various scenes of aristocratic life. This final period of life at Poggio Civitate ended in the second half of the sixth century BC when the building was methodically dismantled. The decorative program of sculpture was removed and buried around the building's perimeter, the walls were apparently knocked over and the site abandoned from that point forward.<sup>2</sup>

Excavation to the west of the Piano del Tesoro plateau has revealed traces of non-elite habitation dating to the years around the site's early and intermediate phases of development (Tuck *et al.* 2013). These



**Figure 11.1.** Map of central Italy (Poggio Civitate Project).

simple structures appear to have served as domiciles for individuals who enjoyed some degree of material comfort, but occupied spaces considerably smaller than the households of the community's elite family (Tuck 2017). Wells excavated in the area around these non-elite houses have also been identified but date to the final, Archaic phase of the site's occupation, likely indicating that this area to the west of the elite households continued as an area occupied by the rest of the Poggio Civitate community (Tuck *et al.* 2010; 2016).

All three phases of Poggio Civitate's development preserve evidence of industry, but the middle phase's OC2/Workshop provides an unusually clear picture of the site's manufacturing capacity. The building was impressively large, extending 54 m along the east–west axis of the plateau's southern side and shared a decorative program with the other two buildings that stood with it on the plateau (Fig. 11.5) (Nielsen 1987). The absence of walls would have allowed for considerable movement for workers, while its position on the plateau's edge would have allowed for considerable updraft and ventilation.

Evidence of a range of industrial practices was recovered from the building's floor and environs. Metallurgy, reflected by numerous fragments of crucibles, small furnaces, rivulets of bronze from the casting process, and hundreds of bronze objects – some mis-cast – was clearly a feature of labour housed within the building's eastern extent. Limited evidence suggests that the roasting of ores occurred some distance from



**Figure 11.2.** Early Phase Orientalizing Complex Building 4 (c. 725–675 BC) reconstruction (Poggio Civitate Project).





**Figure 11.3.** *Orientalizing Complex (c. 675–600 BC) reconstruction (Poggio Civitate Project).*



**Figure 11.4.** *Archaic Phase Structure (c. 600–530 BC) reconstruction (Poggio Civitate Project).*

Piano del Tesoro and the available evidence from OC2/ Workshop suggests the efforts of workers within that space were focused on the final production of objects rather than the antecedent processes of the conversion of ores to metals in ingot form (Nielsen 1998).

Within the same space as evidence for metal production, excavation produced thousands of examples of partially cut, sawn or planed portions of bone and antler (Fig. 11.6) (Nielsen 1995). Finished objects such as delicate wrought plaques and furniture inlays along





**Figure 11.5.** *Orientalizing Complex roofing elements (Poggio Civitate Project).*



**Figure 11.6.** *Partially worked and complete bone, antler and ivory from Orientalizing Complex Building 2/Workshop.*



with the occasional discovery of intact objects, such as a human head carved from ivory, attest to the skill of artisans working with these materials. Moreover, the overwhelming majority of preserved elements of carved or worked bone are portions of the forelegs of red deer, suggesting a relationship between the aristocratic behaviour of hunting and the acquisition of the resource required to ornament objects employing such inlay.<sup>3</sup>

The slaughter and butchering of animals is evident in the thousands of examples of bone displaying cut or chopping marks. The majority of domestic taxa represented in examples recovered from OC2/Workshop are pigs, followed by sheep/goat and finally cattle (Kansa & MacKinnon 2014). Non-domesticated animals, such as the red deer described above as well as wolves, bears and wild pigs, are also found within the faunal assemblage of OC2/Workshop, but represented in observably higher percentages in the space of OC1/Residence, suggesting that hunting for prestige animals was a feature of behaviour associated with the inhabitants of OC1/Residence. Overall, the volume of animal bone recovered from strata associated with

the middle phase of Poggio Civitate's development suggests a diet reasonably rich in meat. However, evidence of hunting associated with OC1/Residence, especially for 'prestige' animals, suggests that the site's elites may have utilized this behaviour to provide significant quantities of meat for larger groups.

The exploitation of animals is also reflected in a thriving fibre processing industry. Hundreds of spindle whorls and ceramic spools (*rocchetti*) point to thread and textile production at some scale (Cutler *et al.* 2020). Loom weights, while not as densely represented, do indicate the presence of at least one standing loom within the confines of OC2/Workshop.

The area of this workspace was also used for the production of roofing elements in terracotta. Resting on OC2/Workshop's floor was a mould for the fabrication of antefixes in the form of human heads.<sup>4</sup> Nearby, a series of semicircular-sectioned cover tiles were formed from wet clay and placed on the floor to dry in the shade provided by the roof. When the building caught fire, artisans rushed from the building and stepped on the clay, preserving their footprints (Fig. 11.7).

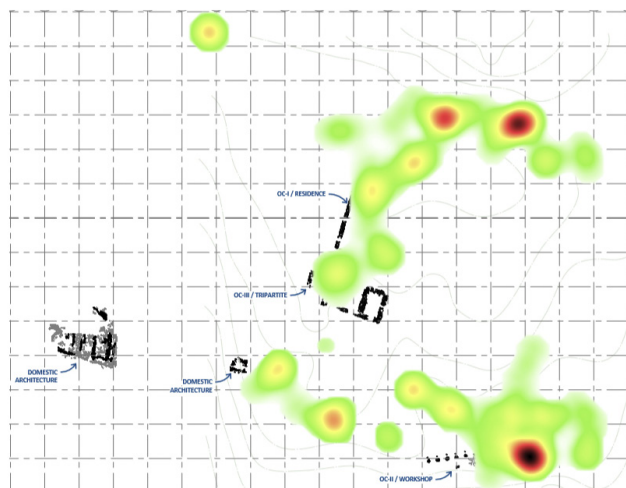


**Figure 11.7.** Unfired cover tiles with human footprints (Poggio Civitate Project).

Several additional forms of manufacturing were housed within this space: production of rope and cord and basketry among them. All told, the space of OC2/Workshop and its relationship to the other structures of the plateau provide a remarkable window onto a period of productivity at Poggio Civitate and allows for some informed speculation as to the relationship between manufacturing and other social concerns of the site.

For example, comparison between materials associated with fibre processing and spinning recovered from OC2/Workshop and OC1/Residence reveal a curious feature of textile production within those different spaces.<sup>5</sup> Ceramic spindle whorls of a number of different shapes and sizes were recovered in high concentration from both areas. However, discussion with modern experienced spinning experts indicates that differently weighed whorls are optimal for different thread weights. Heavier whorls rotate more slowly and are more effective for the production of heavier, coarser threads. Lighter whorls rotate more quickly and are better for the production of finer threads.

When the distribution of ceramic spindle whorls of a diameter of 1.5 cm or greater is mapped across the plateau, we see clear concentrations in the areas within OC2/Workshop and to the northeast of OC1/Residence. However, when spindle whorls of a diameter of 1.5 cm or less are mapped, they concentrate within the area of OC1/Residence (Fig. 11.8).<sup>6</sup> This suggests that while the process of converting fibre into thread and textiles was not limited to a specific area of the community (dedicated industrial versus domestic industry), the nature and quality of materials produced was likely reflective of the different social standing of the individuals operating within those varied contexts.

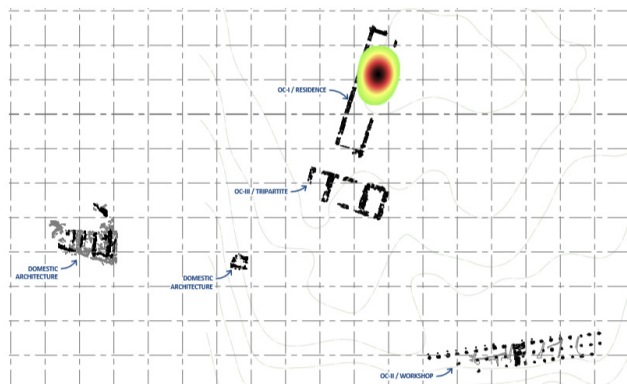


Distribution of spindle whorls  $\geq 1.5$  cm diameter

In spite of OC2/Workshop's considerable size, it seems that almost nothing manufactured there left the environs of Poggio Civitate itself. To date, only a few examples of objects ornamented with bone inlay recovered from sites north of Poggio Civitate appear indicative of any form of exchange (Milani 1905, 225–42; Pernier 1916, 263–81; Nielsen 1984a; 1984b). Similarly, while some examples of imported ceramics from other Etruscan centres or from elsewhere in the Mediterranean are known from Poggio Civitate, these imports represent an infinitesimally small percentage of the total volume of pottery recovered from the site (Phillips 1992). Rather than a space dedicated to the manufacture of goods for export, OC2/Workshop instead appears to have been intended to satisfy the needs of the community itself – an economy largely inwardly directed and self-sufficient even if many of these local products reflected knowledge of aspects of the broader Mediterranean world.<sup>7</sup>

Some elements of this production system would be necessarily seasonal. Excavation of the eastern extent of OC2/Workshop and its immediate environs recovered a number of examples of carbonized seeds, olive pits,<sup>8</sup> and grape pips (Fig. 11.9).<sup>9</sup> The relative scarcity of such organic finds could be an effect of data collection processes at the time of the building's excavation but equally be the result of the time of year when the building was destroyed. If the fire that swept across the plateau occurred in mid- to late summer, it is entirely possible that the community's harvest season was not yet fully underway.

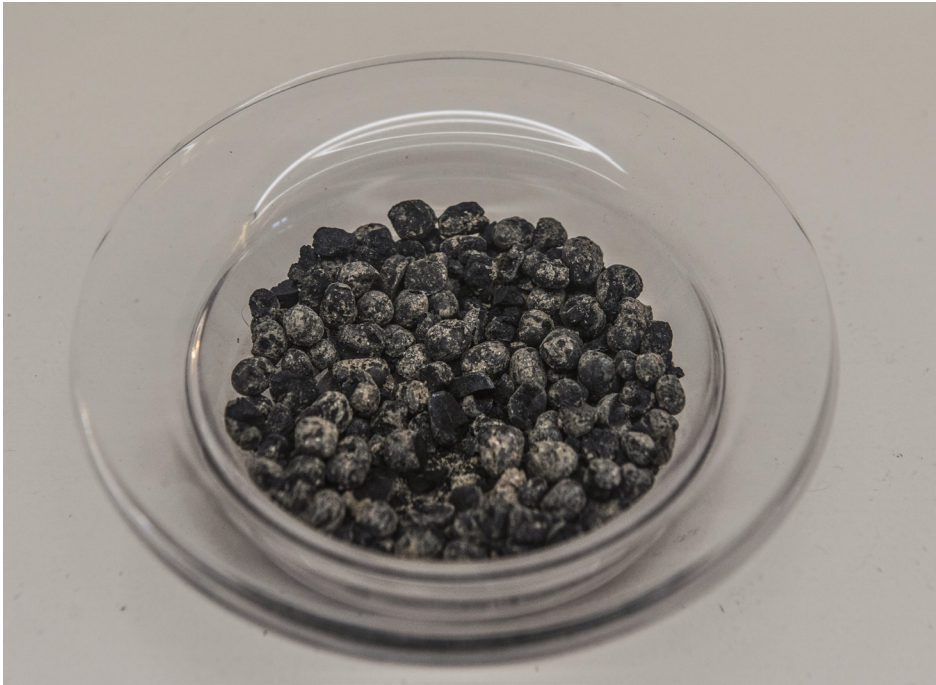
Other features of OC2/Workshop's production were likely episodic. The unfired roof tiles recovered from the building's floor suggest that planning and preparation was underway for another construction project. Other aspects of this planning appear to be reflected in fragments of terracotta figurines that appear



Distribution of spindle whorls  $\leq 1.5$  cm diameter

**Figure 11.8.** *Distribution of variable sized spindle whorls (T. Oshan, Poggio Civitate Project).*





**Figure 11.9.** Carbonized seeds from Orientalizing Complex Building 2/ Workshop (Poggio Civitate Project).

to anticipate aspects of the iconography associated with Poggio Civitate's final phase of development. For example, 19820081,<sup>10</sup> recovered from OC2/Workshop's floor, preserves a portion of a human arm grasping a curved, horn-like attribute (Fig. 11.10). The break edges of the fragment indicate that it attached onto a torso, projecting out at a right angle. This posture is notably similar to that of the 'Cowboy' images of the four-winged structure built following OC2/Workshop's destruction.

Other materials associated with the roofs of Poggio Civitate's various buildings hint at a feature

of such episodic production. Across the site, approximately three to five per cent of roofing tiles are marked before firing with single letters or symbols. The *sigla* are placed on the wet clay, usually with a finger, and take a number of forms (Tuck & Wallace 2013).

As of the most recent study of these *sigla*, 21 different alphabetic letters or non-alphabetic symbols were employed in this system. The majority (23 per cent) consist of the letter *alpha* followed by the letter *khi* (19 per cent). Precisely why these *sigla* were placed on tiles prior to firing is unclear, but we can be confident



**Figure 11.10.** Fragment of statuette from Orientalizing Complex Building 2/Workshop (Poggio Civitate Project).

their purpose did not relate to the placement of the tiles on the roofs of the buildings for which they were intended. *Sigla* are found only on pan and cover tiles and never on elements of raking or lateral *sima*, never on ridgepole tiles, nor on elements of sculpture.<sup>11</sup> Indeed, the portions of the terracotta roofing systems of Poggio Civitate that did have specific, prescribed placement on roofs do not employ *sigla* while those that could be placed on any of the unornamented area of the roof occasionally do.

Another possibility is that the letters and symbols served as a way of linking the production of roofing tiles to specific groups of contributors (Tuck & Wallace 2013, 230–7). The labour required to excavate, levigate, cure, form and fire the clay associated with roofs of the scale of those at Poggio Civitate would have been considerable. For example, the roof of OC2/Workshop alone required approximately 1200 pan tiles, each weighing approximately 22 kg. This 26,400 kg of finished, fired ceramic reflects a considerably greater quantity of excavated, unrefined clay, and would have required a management of labour. Conceivably, a specific letter or symbol placed on a tile could have indicated which group of individuals contributed the materials and labour to produce a given batch.

Curiously, similar glyphs are also found on some ceramics produced at Poggio Civitate (Stopponi 1985, 148–9). While no kiln has yet been recovered in excavations of the site, a number of features of the material remains of OC2/Workshop indicate that it also manufactured pottery. For example, a number of small, fist-sized balls of clay were found within OC2/Workshop's environs.<sup>12</sup> These balls preserve impressions of a labourer's hands as she or he kneaded the clay, presumably before positioning it on a wheel to throw. More conclusively, recent archaeometric testing of ceramics from the site indicates that the overwhelming majority are made from a clay with an elemental signature consistent with local clay sources (Bauer *et al.* 2014).

*Sigla* placed on pottery from Poggio Civitate are usually done prior to firing, although some exceptions to this are found. As with roofing tiles, *alphas* and *khis* are common, as are X signs. Curiously, a few *sigla* types are only associated with either tiles or pottery. For example, the *alberello* (tree) sign is only found once at Poggio Civitate, on the base of an *impasto* vessel.<sup>13</sup>

If the ruling elite of Poggio Civitate were able to draw on the human and natural resources of the area to effect such large scale building projects or other concerns, we might profitably speculate as to how subordinate populations were enticed or compelled to participate in this system. Although any given site's archaeological record is often too crude a data set to

view such social and political nuance, a few features of Poggio Civitate's material remains hint at how such a system was maintained.

One feature of the material remains of OC1/Residence is a banquet service of considerable size. The *bucchero* elements of this service (Berkin 2003), coupled with bronze serving cauldrons, a selection of imported Greek wares, and elegant *impasto* forms could have easily accommodated over 100 individuals. Clearly, such a group of attendees at a banquet would have vastly exceeded the total number of inhabitants of OC1/Residence itself.

It bears noting that a feature of the architectural iconography of Poggio Civitate's final phase employed images of collective banqueting (Fig. 11.11). One of the four types of frieze plaques that were adhered onto exposed beams depicted males and females reclining on dining couches (Small 1971). Food is depicted on the tables set before the couches as individuals lift drinking cups and one plays a lyre. Clearly, the representation of such a reclining banquet is inspired by Greek models but its incorporation into the iconography of the building suggests its importance to the daily concerns of Poggio Civitate's elites. If communal banqueting were a feature of the community's life, it is reasonable to speculate as to its social and performative value within the community's political architecture. Fortunately, a few aspects of the material remains help shed light on these behaviours and their relationship to material production.

In 1973, excavation on Piano del Tesoro's northern flank revealed the presence of a large deposit of pottery.<sup>14</sup> The ceramics were recovered from a fill beneath the floor of a small structure apparently contemporary with the site's final monumental building phase and positioned approximately 9 m north of that structure. The stratigraphic placement and typological forms of these ceramics indicate a date in the mid to late seventh century BC. In all likelihood, the vessels were part of a dump or fill intended to level this area of the plateau in preparation for the construction of the Archaic Phase structure. While we cannot know the original place of the use of this collection of ceramics, it is certainly possible if not likely that they originated in OC1/Residence.

The deposit consists of multiple vessel types: drinking vessels such as *kantharoi*, *kyathoi* and *skyphoi*, pouring vessels and *oinochoi*, as well as a large number of broad, open plates set on conical bases referred to as 'compotes' in the excavation records (Fig. 11.12). These compotes are the most numerous vessel type within the deposit (Stopponi 1985, 138–9). Over 40 examples were conserved and reassembled from fragments at the time of recovery and perhaps that many more





**Figure 11.11.** *Frieze plaque depicting banqueting scene, Archaic Phase Structure (Poggio Civitate Project).*



**Figure 11.12.** *Elements of a banquet service from the Orientalizing Complex (Poggio Civitate Project).*



were collected and placed in storage without further conservation.

Whether this deposit represents a formal banquet service or simply was debris gathered from elsewhere for the purpose of levelling the plateau, we cannot say. However, one reason to believe the grouping of compotes reflects a degree of intentionality is the fact that four of them are marked in the same location with the same glyph. Placed on the vessels' exterior at the juncture between the base and bowl, the manufacturer (or manufacturers) placed a *khi* sign prior to firing (Fig. 11.13).

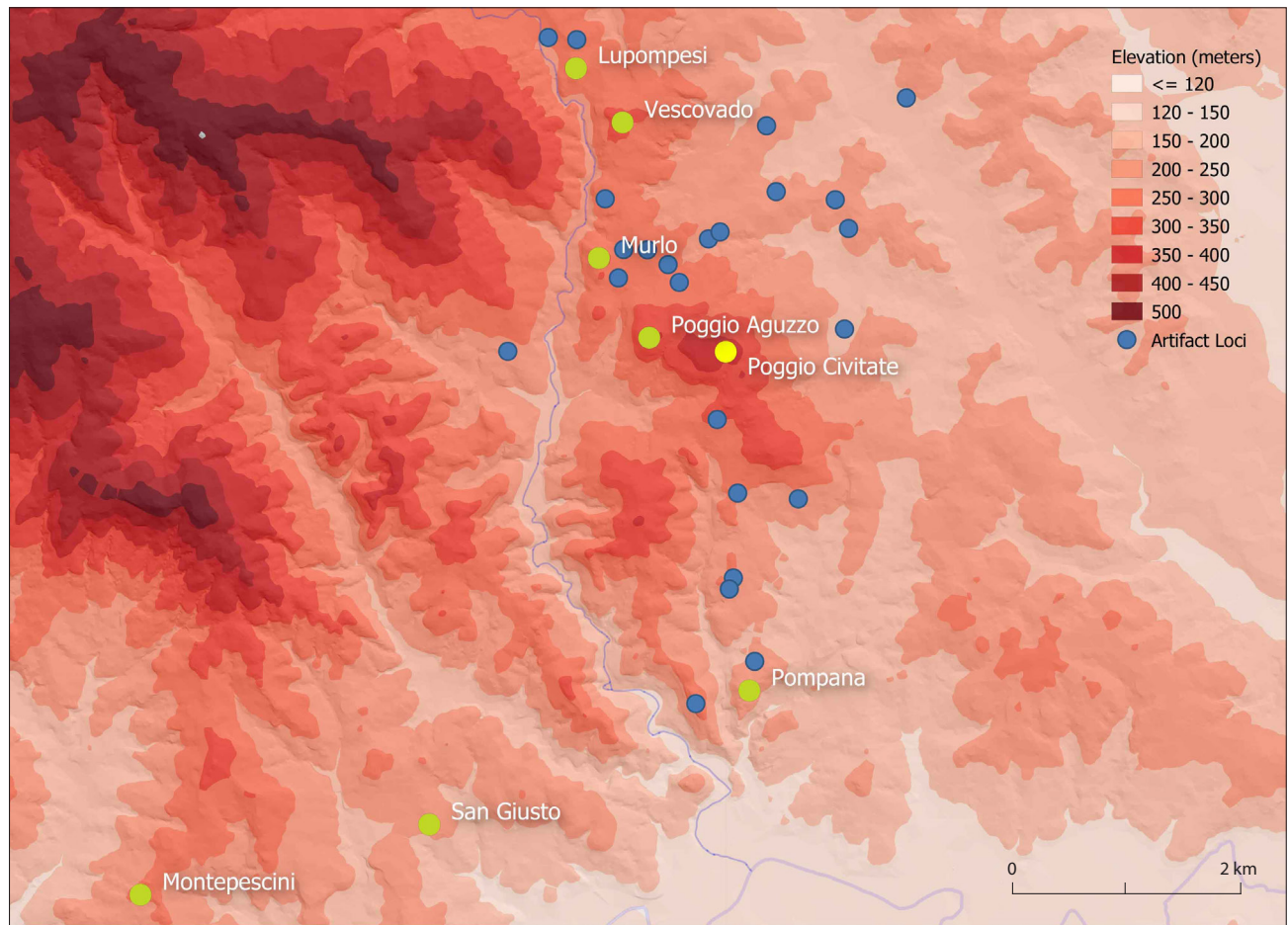
If we are correct in seeing *sigla* placed on roofing tiles as related to episodic spikes in demand for such materials, perhaps the same is true for some of the similar glyphs seen on ceramics. Seasonal events such as harvest or springtime festivals likely occurred wherein the entire community was welcome or expected to participate. Equally envisionable are singular or irregular events such as celebrations of birth, marriages or funerals where collective banqueting would likely have been held. If so, we might imagine circumstances wherein a given group, perhaps in at least one instance a group associated with the *khi* sign, was asked or required to produce a table service which was marked as an indication of its origin.

Another feature of Poggio Civitate's material remains may reflect such events. The recent analysis of animal remains from over five decades of excavation shows that pigs and sheep were an important element of the community's diet (Kansa & MacKinnon 2014). Among the hundreds of thousands of bone specimens are tens of thousands of fragments displaying indications of butchering. Of these, a considerable subset are skeletal remains of juvenile animals. Since the estrus of both sows and ewes is guided by the photoperiod, we can be confident that breeding would occur in the autumn and birthing in the spring. The culling of lambs and piglets, as reflected in the butchered elements of their skeletal remains recovered in such high volume at the site, would therefore have regularly occurred during the springtime or early summer (Tuck 2014, 131). While we cannot know the likely social or ritual armatures whereby such events would have occurred, it is inviting to imagine that their seasonal predictability would have required related spikes in production of materials – be it other forms of food or the equipment needed to consume it.

An additional feature of the social organization of Poggio Civitate's community brings the possibility of communalized production into clearer focus. Excavation in 2012 and 2013 revealed the presence of a



**Figure 11.13.** *Compote with incised khi (Poggio Civitate Project).*



**Figure 11.14.** Map of Poggio Civitate and surrounding traces of settlements or other human activity (Poggio Civitate Project).

cluster of small houses dating to the years between the early and late seventh century BC located to the west of Piano del Tesoro (Tuck *et al.* 2013). Unfortunately, this area of the hill is subject to heavy erosion but the preserved portions of these structures suggest modest overall spaces of approximately 20 sq. m. While the overall area of preserved structures was not large, their position between a pair of wells located in the area suggest a relatively large community extending west from the edge of Piano del Tesoro. Simple utilitarian cooking wares along with a few objects in bronze suggest a degree of material comfort while concentrations of cut and worked bone recovered from within the area of one of the structures suggest a modest degree of domestic industrial activity within these spaces (Tuck *et al.* 2013, 297–303). At a minimum, these structures reveal that the monumental buildings of Piano del Tesoro did not stand in isolation, but rather were a feature of a more complex social landscape.

Unlike the broad coastal plateaus occupied by contemporary urbanizing centres such as Caere or Tarquinia, the topography around Poggio Civitate is varied. Immediately west of the site, the rugged hills of the Colline Metallifere are largely unsuited for large scale, concentrated habitation, whereas to the east, the undulation of the Crete Senesi do not provide many elevated, defensible plateaus upon which population might aggregate.

Instead, the adjacent hilltops near Poggio Civitate appear to have supported smaller communities. Recent exploratory excavation 2 km to the north in Vescovado di Murlo has revealed evidence of occupation that was ultimately destroyed in the early years of the fourth century BC (Tuck *et al.* 2015, 135–47). Elsewhere, sporadic evidence recovered in modern construction projects suggests areas of occupation on the hilltops of Murlo and Lumpompesi. The results of limited survey atop nearby hills such as Pompana and Montepescini suggest additional settlements in

these localities (Fig. 11.14) (Capana 2001, 276–92). As is illustrated in Figure 11.14, it is curious to note that concentrations of ceramic or roofing tile suggestive of areas of occupation appear to align with the geological juncture of the Colline Metallifere and the Crete Senesi. However, without additional exploration of these potential settlement sites, it remains impossible to speculate as to the overall population of area.

While the social, economic and political relationship between Poggio Civitate and these settlements around it are difficult to deduce without additional extensive excavation of the peripheral communities, a possible model for understanding them survives in the *comune* of Murlo itself. The *comune*'s current form took shape in the eleventh century AD, with the construction of an episcopal *palazzo* in the centre of the town of Murlo (Passeri 1985). This monumental structure remains visible from the *comune*'s largest population centres of Vescovado di Murlo and Casciano di Murlo and is surrounded by several smaller clusters of habitation. The result is that while the *comune* bears few of the physical hallmarks of an 'urban' centre, shared municipal resources and a common social identity link together non-nucleated settlements under a single political aegis. In fact, some degree of serendipity resides in the fact that the modern *comune* has adopted as its uniting emblem the image of one of Poggio Civitate's most identifiable akroterial sculptures, the 'sombbrero'-wearing, enthroned male figure sometimes referred to as the 'Murlo Cowboy,' an image that potentially served a similar function in antiquity.

While considerable additional excavation and research is required to refine this thesis, it is possible to cautiously speculate based on the evidence currently available. Poggio Civitate stood at the strategic juncture of a remarkable degree of mineralogical and agricultural abundance. However, the topography of the hill itself and the immediate surroundings did not encourage significant population aggregation on any specific hilltop. Small clusters of population accrued on neighbouring hilltops but remained politically subordinate to the elites atop Poggio Civitate, who drew on mythological narratives to describe and reinforce their position of dominance over the surrounding area (Tuck 2010). When these elites required contributions of material and labour, whether it was predictably seasonal or episodic and singular, they could draw on these peripheral population centres to contribute that which was required. Raw materials were collected and converted into finished products on Poggio Civitate itself, but the contributions of any given community were measured and recorded by a glyph system. The relative size of the various population centres is conceivably reflected in the varying percentages of the

use of different signs to mark different communities' contributions.

One of the possible mechanisms whereby aristocratic control over such subordinate communities was maintained was through collective banqueting. Whether through hunting or the slaughter of domesticated animals, the elites of Poggio Civitate could return value back to the community. However, when groups from peripheral settlements came to Poggio Civitate, they would encounter architectural spaces designed to communicate the social and political narratives that justified this system (Tuck 2010).

The evidence of manufacturing from Poggio Civitate is one feature of the complex archaeological record of the site. The rich material remains of spaces such as OC2/Workshop indicate that manufacturing was not driven by a desire to produce surplus goods for export but, instead, responded to local agricultural rhythms and satisfied indigenous demand. This cyclical system, intertwining manufacturing and social form, was successful for several generations as Poggio Civitate grew and evolved from the eighth century BC into the sixth. Additionally, one contributing explanation for the site's ultimate fate may relate to the inwardly directed nature of its economy. If the success of this redistributive process was such that the community did not require meaningful commercial contacts beyond its political orbit, it may have found itself dangerously isolated as other communities sought to extend control into these rich territories. The prominence of Chiusi in the Roman mytho-historical record of the sixth century makes it a possible suspect in Poggio Civitate's demise. However, the truth of the matter is that we can be historically confident of virtually nothing concerning the economic, diplomatic or military interaction of Etruscan city states of this period. Nonetheless, the archaeological certainty that is Poggio Civitate's material record might serve as a model for how we understand the social and economic organization of communities throughout the inland reaches of central Tuscany.

## Notes

- 1 The early date of this structure, indicated by fragments of ceramics recovered from its floor, appears to contradict current arguments concerning the introduction and development of terracotta roofing systems in the region (see Winter 2009, 55). Excavation beneath the floor of EPOC4 has produced several examples of flanged elements of terracotta akin to pan tiles, further complicating the question of the date and origin of this type of roofing technology in the region. The EPOC4 structure is currently still under study and a detailed analysis of evidence associated with its date of construction will be



- comprehensively published when that work is complete. However, since the apparent date of the building rests upon the comparison of ceramics from its floor to examples from burials throughout the region, any adjustment to the assumed date of those burials will necessarily require adjustment to the date of EPOC4 as well.
  - 2 Limited evidence suggests this event was a violent one. Fragments of an adult human skull were recovered on the ground immediately adjacent a recently excavated well (Tuck *et al.* 2016, 106–8).
  - 3 The comprehensive analysis of animal bone recovered at Poggio Civitate is currently underway. I owe this observation to Sarah Kansa, the coordinator of this analysis.
  - 4 Tuck 2012: <https://opencontext.org/subjects/EBC1BD60-037E-4C55-EEAA-F5DA83691945>
  - 5 Analysis of mineralized textiles from Poggio Civitate's necropolis, Poggio Aguzzo (Tuck 2009), demonstrates that wool fibres were used to produce both tabby and tablet weaves at the site (Gleba 2012).
  - 6 Our ability to convert a vast body of archival excavation data into such visualized descriptions of material distribution is due to the efforts of many archivists and programmers. First among them is Taylor Oshan, with whom it is an honor to work and to whom we are greatly indebted.
  - 7 This conclusion is supported by recent isotopic analysis of skeletal remains of sheep from Poggio Civitate indicating the relatively limited mobility range of such herd animals exploited at the site (Trentacoste *et al.* 2020).
  - 8 Tuck 2012: <https://opencontext.org/subjects/7F9DB8AA-0B16-4EB7-B851-685D60A3E1E3>
  - 9 Tuck 2012: <https://opencontext.org/subjects/07219CF3-F76F-46C3-D731-01387D8F8354>
  - 10 Tuck 2012: <https://opencontext.org/subjects/ED3D6E77-38D1-4D6E-D013-D93AC14BA029>
  - 11 Two exceptions are examples of covertediles associated with Poggio Civitate's final phase of development preserve portions of the attachment point of decorative terminal antefixes. See Tuck 2012: <https://opencontext.org/subjects/2D757007-EBD9-405F-8119-FED9431743C9> & <https://opencontext.org/subjects/BBEF36C6-F80C-4145-E257-DCDEE10DED6A>. Both preserve elements of *alphas* and were recovered in proximity to one another along the northern flank of Piano del Tesoro.
  - 12 For example: <https://opencontext.org/subjects/50B86EB4-E669-4442-44DB-91569F889934>
  - 13 Tuck 2012: <https://opencontext.org/media/B8DB1C22-F39E-4715-152C-9A9F14099278>
  - 14 Tuck 2012: <https://opencontext.org/documents/e4676e00-0b9f-40c7-9cb1-606965445056>
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## Making cities

Large and complex settlements appeared across the north Mediterranean during the period 1000–500 BC, from the Aegean basin to Iberia, as well as north of the Alps. The region also became considerably more interconnected. Urban life and networks fostered new consumption practices, requiring different economic and social structures to sustain them. This book considers the emergence of cities in Mediterranean Europe, with a focus on the economy. What was distinctive about urban lifeways across the Mediterranean? How did different economic activities interact, and how did they transform power hierarchies? How was urbanism sustained by economic structures, social relations and mobility? The authors bring to the debate recently excavated sites and regions that may be unfamiliar to wider (especially Anglophone) scholarship, alongside fresh reappraisals of well-known cities. The variety of urban life, economy and local dynamics prompts us to reconsider ancient urbanism through a comparative perspective.

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