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### Commensality and Labor in Terminal Ubaid Northern Mesopotamia

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# Commensality and Labor in Terminal Ubaid Northern Mesopotamia

Recent anthropological research on commensality has emphasized how food consumption creates and mediates social relations and social identities. The goal of this paper is to integrate the often neglected study of production and labor into studies of commensality. I will explore the commensal relationships formed by the consumption of food during cooperative communal work events through a discussion of the Terminal Ubaid levels from three sites in northern Mesopotamia. I have suggested that flint-scraped bowls were used to provide for extra-household labor recruited during times of labor shortage by households of similar social standing, while painted ceramics were used for daily food consumption. In this scenario flint-scraped bowls were used in different social contexts by people of similar social standing.

Near Eastern archaeology; Ubaid period; organization of labor; work feasts; food production; ceramic use-alteration.

In der neueren anthropologischen Forschung zu Kommensalität wird betont, dass der Verzehr von Nahrungsmitteln soziale Beziehungen und soziale Identitäten kreiert und vermittelt. Ziel dieses Beitrages ist es, die häufig vernachlässigten Bereiche Produktion und Arbeit in die Forschung zu Kommensalität einzubeziehen. Ich erörtere kommensale Beziehungen, die durch den Verzehr von Lebensmitteln im Rahmen von Gemeinschaftsarbeit entstanden, anhand dreier nordmesopotamischer Fundorte der ausgehenden Ubaid-Zeit. Ich schlage vor, dass „flint-scraped bowls“ dafür benutzt wurden, zusätzliche Arbeitskräfte zu versorgen, die von einem Haushalt in Zeiten von Arbeitskräftemangel aus anderen Haushalten mit gleichem sozialen Status angeworben wurden. Dagegen wurde bemalte Keramik für den täglichen Gebrauch genutzt. In diesem Szenario werden „flint-scraped bowls“ in unterschiedlichen Kontexten von Leuten mit gleichem sozialem Rang benutzt.

Vorderasiatische Archäologie; Ubaid-Zeit; Arbeitsorganisation; Arbeitsfeste; Nahrungsmittelproduktion; Gebrauchsspuren an Keramik.

## 1 Introduction

In preparing a paper for this workshop we were asked to consider the ways in which the collective consumption of food affects the establishment and reproduction of social

I would first like to thank Susan Pollock for the invitation to participate in this workshop on a topic that has become a passion of both my academic and domestic endeavors, as well as for help in editing the final manuscript. I would also like to thank all of my fellow participants for their insightful presentations and the lively discussions that followed. This project would not have been possible without the support and encouragement of the entire Upper Tigris Archaeological Research Project (UTARP) directed by Bradley Parker. I greatly appreciate the assistance of Philip Graham for sharing and explaining the unpublished data from his dissertation on the archaeobotanical remains from Kenan Tepe. My gratitude is also extended to Reinhard Bernbeck, Jennifer Luedtke Kennedy, Bradley Parker, Maria Theresa Starzmann, and two anonymous reviewers who read previous drafts of this paper and provided great insight and suggestions. All remaining errors or omissions are of course my own.

For the following images all rights are reserved, in contrast to eTopoi's Creative Commons licence usage: Fig. 1; Figs. 3–10.

relations and identities. Given my own particular Marxist frame of reference, I reflected on the emphasis that has been placed on the processes of consumption in recent anthropological research. Many recent studies have emphasized the role of consumption and the ways in which people consume material goods to implicitly or explicitly shape social relations.<sup>1</sup> Some anthropologists, such as Daniel Miller,<sup>2</sup> have even suggested that consumption has replaced production as the prime mover of the “globalized” capitalist economy.

Following Theodor Adorno,<sup>3</sup> I suggest that this emphasis on consumption is largely related to the development of “Late Capitalism.” The commodification of culture through mass media reifies the social relations between human beings in a decentralized global network, creating globalized unity in consumption. This view of consumption has neglected the process of production, creating studies that analyze consumption and production as separate moments, overlooking the complex interconnections between labor, production, and the act of consumption. Many studies focusing on consumption have failed to take into account Karl Marx’s emphasis on the dialectical unity on production, consumption, distribution, and exchange.

Marx’s emphasis on the unity of economic processes results from his belief that classical economic theory removes these processes from both the specific social structures that condition their operation, as well as the diachronic development of these movements. In the *Introduction to a Critique of Political Economy*,<sup>4</sup> Marx outlines very specifically the relationship between production, distribution, exchange, and consumption. He writes that they “form a regular syllogism; production is the generality, distribution and exchange the particularity, and consumption the singularity in which the whole is joined together.”<sup>5</sup> In such a formulation production, distribution, exchange, and consumption form a totality mediated by the “definite relations between these different movements.”<sup>6</sup> Marx’s schema is diagrammed in Figure 1.

These definite relations are the social relations created by the forces of production, distribution, exchange, and consumption, while at the same time they structure the continual reproduction of these processes. In *Capital*,<sup>7</sup> Marx emphasizes the social relationship between laborers and their objects and instruments of labor. Many current studies of consumption and materiality with an emphasis on the social meaning of an object for the consumer fail to incorporate the multitude of relationships between people and objects that are created and negotiated through the production, distribution, and exchange processes.

Marx<sup>8</sup> states that consumption produces production in two ways: (1) an object becomes a product when it is consumed, and (2) consumption creates the need for new production, or provides production with its “internally impelling cause.” Likewise production produces consumption by creating the materials consumed and by determining the manner of consumption. I would argue that archaeologists need to forgo an emphasis on the synchronic moments of this process (i. e. consumption) and seek to integrate Marx’s productive totality to broadly understand social formations in the past. Thomas Patterson<sup>9</sup> has suggested that archaeologists account for not only how societies organized themselves for the production, distribution, exchange, and consumption of goods, but

1 e. g., Miller 1995; Carrier and Heyman 1997; Tilley 2004; Meskell 2005;

2 Miller 1995; Miller 2005.

3 Adorno 2002.

4 Marx 1993, 81–111.

5 Marx 1993, 89.

6 Marx 1993, 99.

7 Marx 1990.

8 Marx 1993, 91.

9 Patterson 2005.

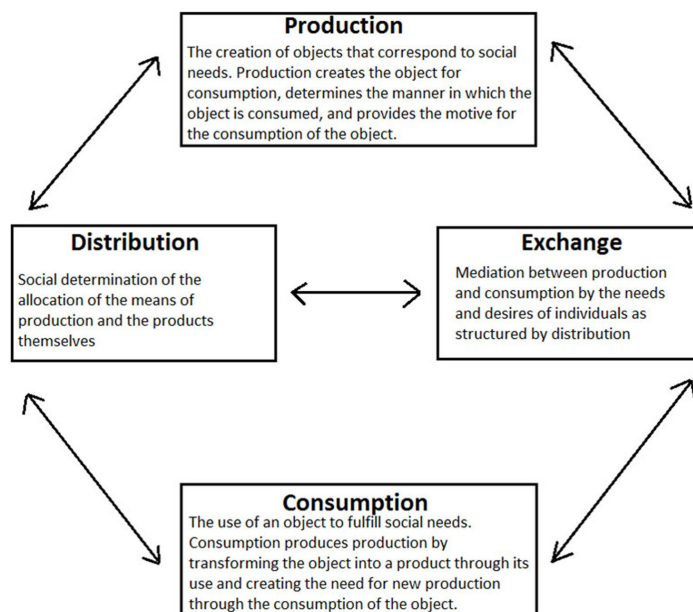


Fig. 1 | Diagram of Marx's Productive Totality. After Marx 1993, 88–100.

also how human beings reproduce themselves through procreation as well as the knowledge and goods required to sustain the social formation. I suggest that this emphasis on the social reproduction of societies is the key for a more nuanced understanding of productive totalities.

An effective locus to begin studies of social reproduction and the relations of production are food-related practices. Susan Pollock has suggested this, because their “enormous plasticity allows them to play a role in a wide array of social relations.”<sup>10</sup> The primary goal of this paper is to integrate the study of production and labor into studies of commensality. I hope to accomplish this by integrating a Marxist-inspired emphasis on the forces and social relations of production with an analysis of the daily practices of food consumption and commensality to understand local changes in the organization of labor during the Terminal Ubaid period in northern Mesopotamia.

## 2 Archaeological Approaches to Commensality

Anthropologists have been interested in food, commensality and feasting since the 19th century origins of the discipline.<sup>11</sup> Anthropologists have studied food and commensality in innumerable ways ranging from empirical studies of caloric intake to the symbolic meaning of consuming particular food items.<sup>12</sup> In archaeology, one of the more prominent avenues of research generated by this approach has been a focus on the analyses of the ritual practices of food consumption and the durable materials associated with distributing, preparing, and consuming food at feasts.

Many recent archaeological studies of feasting have focused on what Michael Dietler<sup>13</sup> called “commensal politics,” which builds on Arjun Appadurai’s concept of “gastro-politics.”<sup>14</sup> Dietler emphasizes how the consumption of food is involved in the construction and maintenance of social relations of power and inequality.<sup>15</sup> Additionally some studies

10 Pollock 2010, 94.

11 Gummerman 1997.

12 Mintz and Du Bois 2002.

13 Dietler 2001.

14 Appadurai 1981.

15 Dietler 2001.

have emphasized food consumption as a symbolic event that positions individuals in the social collectivity through the foods that they consume and whom they consume them with.<sup>16</sup> Many studies of food consumption are designed to approach the social collective with a “bottom-up” approach to understanding socio-political organization in the past rooted in the “micro-politics” of everyday life.<sup>17</sup>

Archaeologists have recognized the ubiquity of feasting events in modern and ancient societies. In providing a definition of a feasting event, I follow Kathryn Twiss in defining feasts as “occasions consciously distinguished from everyday meals.”<sup>18</sup> These distinctions include: a greater number of participants, large amounts of food and drink, the consumption of special foods, distinct methods of preparation and discard, the occurrence at specific times or places, the material culture used, or the performances undertaken. Twiss also states that “feasts are dialectically linked to everyday meals, both in form and in meaning, and are not isolated from quotidian social realities.”<sup>19</sup>

Michael Dietler has outlined three directions in which an emphasis on feasting and commensal politics should lead archaeological research.<sup>20</sup> First, it should expand studies of politics and power beyond an analysis of state actions. Second, it should enrich interpretive possibilities by analyzing consumption as a political practice and by highlighting the importance of ritual as an active force in this process. And third it should expand the consideration of foods beyond the traditional means of subsistence to include their symbolic dimensions and the ways in which they operate in political processes.<sup>21</sup>

Dietler’s suggestions for future research highlight the importance of feasting for political transformation and the conversion of economic capital into social capital. However, this approach downplays the role of feasting in the development, maintenance, and renegotiation of the roles of individuals in the social collectivity. Dietler argues that in societies with a prevailing egalitarian ethos feasting would have provided the primary means for social advancement, because feasting conceals or euphemizes the political machinations of the hosts through the socially valued and integrated institution of hospitality.<sup>22</sup> Taken to the extreme this approach merely substitutes feasting and commensal politics as the prime mover in the origin of social complexity.

I am not questioning the potential for feasting to create, maintain, and elaborate structures of social stratification, however it is important to remember that feasts create social cohesion as much as they promote or maintain hierarchy. In order to better understand the “micro-politics” of ancient societies we need to be able to fully contextualize the ways in which feasting and daily commensality work to maintain social cohesion and promote the reproduction of the social totality. In other words, what are needed are archaeological approaches that address both issues of consumption and production in their dialectical unity. Such an approach would address the two sides of consumption outlined by Marx.<sup>23</sup> The first form of consumption, called “individual consumption” refers to the consumption of food and drink by individuals that provides the basis for biological and social reproduction. Marx’s second category, productive consumption, describes the use of materials, labor, and social capital to produce an object distinct from the individual or collective.

Michael Dietler and Ingrid Herbich have suggested that studies of the relationship between consumption and production should begin where they explicitly overlap: the mobilization of labor through commensality, or collective work events.<sup>24</sup> They define

16 Bloch 2005.

17 Bray 2003.

18 Twiss 2008, 419.

19 Twiss 2008, 419.

20 Dietler 2003.

21 Dietler 2003, 272.

22 Dietler 2001.

23 Marx 1990, 717–719.

24 Dietler and Herbich 2001.

collective work events as feasting events where extra-household labor is called together to work on a specific, primarily agricultural project, in which participants are provided with food and drink, after which the host household owns the proceeds of the event.<sup>25</sup> Based on their ethnoarchaeological research among the Luo in East Africa, Dietler and Herbich posit that there are two polar forms of collective work events, the work exchange and the work feast. Work exchanges represent the gathering of limited groups of people, usually less than 15 people, organized through kinship or friendship networks. The food presented to invited laborers is often limited to ordinary refreshment; however, these events carry a strong moral obligation to reciprocate by working at the work exchanges of your guests.

Work feasts, as described by Dietler and Herbich,<sup>26</sup> are much larger in scale, up to several hundred participants recruited from far greater social networks without reference to kinship or social status. The food provided at such events is more copious and lavish than at work exchanges, which negates the obligation on the part of the host group to participate in the feasts of other participants. Additionally, Dietler and Herbich define two forms of work feasts, voluntary work feasts and obligatory work feasts.<sup>27</sup> Voluntary work feasts rely on the reputation of the host and the lavishness of the comestibles to draw laborers to the event. Obligatory work feasts, often called *corvée* labor, require an institutional apparatus with the moral authority to extract tribute labor from local populations. The difference between work exchanges and work feasts is “one between an exchange of labor for labor versus an exchange of labor for hospitality.”<sup>28</sup>

The key point here is the central role of voluntary forms of the recruitment of labor to counter temporary labor shortages in agrarian communities. Dietler and Herbich note that, “communal work events are fundamental to the operation of the agrarian economy because they mobilize the essential inter-household communal labor flows that, in fact, sustain domestic units.”<sup>29</sup> Given the importance of communal work events, an analysis of the ways in which agriculturalists interact within a community to manage periods of labor shortage through cooperative labor becomes a crucial point of archaeological inquiry.

### 3 Labor and Commensality in Late Chalcolithic 1 Northern Mesopotamia

Studies of the beginning of the Late Chalcolithic period (4400–3800 BCE)<sup>30</sup> in northern Mesopotamia have traditionally taken incipient socio-political complexity as the starting point of their investigations.<sup>31</sup> The interest in the emergence of socio-political complexity during this time period has been framed in reference to a narrative in which Late Chalcolithic societies are viewed as the developmental lynchpin in the emergence of the state in greater Mesopotamia.<sup>32</sup> This increase in complexity is generally attributed to a model of staple-finance-based chiefdoms, in which villagers produce an agricultural surplus for an elite class or chief.<sup>33</sup>

For Ubaid period sites in southern Iraq and southwestern Iran this model of staple-finance-based chiefdoms can be easily supported by archaeological evidence such as the niched and buttressed temple complexes at Eridu, Warka, and Tell Uqair, the platform

25 Dietler and Herbich 2001, 241.

26 Dietler and Herbich 2001.

27 Dietler and Herbich 2001.

28 Dietler and Herbich 2001, 256.

29 Dietler and Herbich 2001, 246.

30 Rothman 2001.

31 Stein 1994; Frangipane 2001; Helwing 2003.

32 Henrickson and Thuesen 1989; Carter and Philip 2010.

33 Stein 1994.

complex from Susa, the Level II village at Tell Abada, and the multi-tiered settlement pattern in the Ur/Eridu survey regions.<sup>34</sup> While Stein's staple-finance model was created to explain socio-economic changes in southern Mesopotamia, Stein implicitly suggests that expansion of Ubaid material and ideological traditions into northern Mesopotamia and Anatolia during the latter half of the 5th millennium BCE represents the "*replication* of existing small systems, rather than the *absorption* of neighboring areas into a few large, expansionistic chiefdoms."<sup>35</sup> In this vein, the peaceful expansion of Ubaid materials and ideas into northern Mesopotamia was accompanied by the "replication" of the socio-political system of staple-finance-based chiefdoms in northern Mesopotamia.<sup>36</sup> Likewise, Hans Nissen has suggested the existence of an "Ubaid interaction sphere" based on an extensive system of regional communication and exchange.<sup>37</sup> According to Nissen, interaction occurred between groups with similar socio-political complexity and was based on mutual and equal exchange practices. In other words, models of Ubaid period interaction in northern Mesopotamia have implicitly<sup>38</sup> conceived of Ubaid societies as stratified, corporate groups in which lower class villagers produced agricultural surplus as a result of ideological manipulation by an elite substrate or chief in order to neatly fill the teleological void between small-scale village societies of the Neolithic and the state-level apparatuses of the Late Chalcolithic 3–5 periods.

The argument for the presence of elites in northern Mesopotamia at this time is based on five lines of archaeological evidence: the appearance of public architecture;<sup>39</sup> the intensified use of administrative tools such as stamp seals;<sup>40</sup> multi-tiered settlement patterns;<sup>41</sup> the mass production of crude bowls, interpreted as ration containers that were used to distribute meals to dependent laborers;<sup>42</sup> and the use of painted pottery as a prestige item to signify elite status.<sup>43</sup>

However, during the Late Chalcolithic 1 or Terminal Ubaid Period of northern Mesopotamia, these criteria are difficult to locate in the archaeological record. The general similarity of domestic tripartite architecture to temple structures suggests a similarity in domestic and public architecture.<sup>44</sup> Temples are distinct from domestic architecture only by their niched decoration but not necessarily by internal function. Excavations of Terminal Ubaid cemeteries have provided little evidence for social differentiation in the burial remains.<sup>45</sup> Also, the majority of known sites in northern Mesopotamia are relatively small, approximately 1 hectare, with an estimated population between 50–100 inhabitants and evenly dispersed on the landscape.<sup>46</sup> Households are also remarkably similar in terms of their artifact distributions both on the site and regional levels.<sup>47</sup> Additionally, Hans Nissen has argued that stamp seals are actually indicative of a low-level, kin-based storage system, rather than an institutional one.<sup>48</sup>

The only criterion of complexity that can be firmly placed in the Terminal Ubaid-period is that of mass-produced, scraped "Coba" bowls. The expedient production of these Coba or "flint-scraped" bowls is indicated by the trimming of the lower walls with a

34 Adams 1981; Wright 1981; Stein 1994; Pollock 1999a.

35 Stein 1994, 43; italics in original.

36 Stein 1994; Stein and Özbal 2007.

37 Nissen 2001.

38 sometimes explicitly, cf. Oates 2004.

39 Oates and Oates 1997; Stein 1999; Rothman 2002.

40 Rothman 2002.

41 van Loon 1988; Ball 1990; Ur 2002; Ur 2010; Oates et al. 2007.

42 Frangipane 2001; Wright 2001.

43 Helwing 2003.

44 Akkermans and Schwartz 2003.

45 Woolley 1955; Kamada and Ohtsu 1991; Koizumi 1996.

46 Algaze et al. 1991; Algaze, Breuninger, and Knustad 1994; Akkermans and Schwartz 2003.

47 Rothman 2002; Gurdil 2005; Gurdil 2010.

48 Nissen 2000.



ceramic or flint scraper without subsequently smoothing the surface of the vessel. Several scholars<sup>49</sup> have suggested that Terminal Ubaid period scraped bowls were used as ration containers in a system of labor mobilization similar to that posited for the Uruk period beveled-rim bowl.<sup>50</sup>

Marcella Frangipane writes that “the appearance of social and economic inequalities is suggested by the development of the mass production of bowls, which must have already been related to the distribution of meals to persons not belonging to the family, and possibly working for it” in a “Dispersed Corvée” labor system.<sup>51</sup> Cathy Lynne Costin<sup>52</sup> defines a “Dispersed Corvée” system as one where goods are produced by part-time labor within a household or local community for an elite or governmental institution. In this scheme the elite class would be responsible for the mobilization of labor, with the Coba bowl serving as a ration container for the payment or sustenance of dependent labor. Frangipane’s interpretation grounds the practice of food distribution to dependent laborers using mass-produced bowls in levels VII and VIA at Arslantepe during the Late Chalcolithic 3 through Late Chalcolithic 5 periods as a uniquely northern Mesopotamian phenomenon.<sup>53</sup> By projecting such a system back into the Terminal Ubaid and Late Chalcolithic 2 periods (contemporaneous with Arslantepe level VIII), Frangipane is able to argue for political development at Arslantepe uninfluenced by the southern Mesopotamian Uruk expansion in the mid-fourth millennium BCE.

In this sense, the presence of social and economic divisions between laborers and elites occurs prior to a time when those elites are visible in the archaeological record of northern Mesopotamia. Researchers such as Frangipane<sup>54</sup> and Wright<sup>55</sup> have posed the question, who made Coba bowls, and for what purpose? However, they have also narrowed the realm of possible answers by associating the bowls with emergent political complexity.

In my Master’s thesis,<sup>56</sup> I reviewed the evidence for a “Dispersed Corvée” labor organization during the Terminal Ubaid period. I suggested that Terminal Ubaid-period expediently produced bowls were not used by emerging public institutions but by households to provide small collective meals or feasts. These feasts would have worked to attract extra-household labor during temporary labor shortages. I propose that households often pooled labor to handle increased workload in instances such as harvests, field preparations, and house construction or repair. Households called upon the help of others and would sponsor a feast in which the participants consumed similar kinds of foods from similar vessels that had been expediently produced for the occasion. Additionally, painted ceramics were used in contexts of daily consumption within the household, rather than functioning as prestige goods for local elites. In this model, public commensality occurs within the sphere of collective work events, which are organized ad hoc within a largely non-hierarchical society.<sup>57</sup>

49 Frangipane 2001; Wright 2001; Balossi Restelli 2008.

50 Nissen 1970; Johnson 1973; Wright and Johnson 1975; Nissen 1988.

51 Frangipane 2001, 322.

52 Costin 1991, 9.

53 Frangipane 2001.

54 Frangipane 2001.

55 Wright 2001.

56 Kennedy 2008.

57 It is entirely plausible to envision a scenario in which the utilization of Coba bowls and the collective labor feasts they may have represented were manipulated by larger or more affluent households to consolidate economic or political power. The archaeological manifestations of such manipulation, however, elude archaeologists at sites dating to the Terminal Ubaid period. It is my opinion, that during the succeeding Late Chalcolithic 2 period in northern Mesopotamia, the manipulation of this labor system may have led to the proliferation of public architecture and increase in site size and settlement organization witnessed at numerous sites such as Tell Brak (Oates and Oates 1997), Tepe Gawra (Rothman 2002), and Hammam et-Turkman (van Loon 1988). To place it in a teleological framework, the step in development between small-scale village society and the rise of indigenous socio-political complexity



Fig. 2 | Selected Terminal Ubaid Sites in greater Mesopotamia. Wikipedia commons, ETOP1 , and World Data Bank I. The base map is from Wikipedia commons: [https://commons.wikimedia.org/wiki/File:Middle\\_East\\_topographic\\_map-blank.svg](https://commons.wikimedia.org/wiki/File:Middle_East_topographic_map-blank.svg); the topography and bathymetry is from ETOP1 from the National Oceanographic and Atmospheric Administration: <http://www.ngdc.noaa.gov/mgg/global/global.html>; the rivers are imported from the World Data Bank II.

In order to test the above hypothesis, one of the major questions that must be asked is where the preparation of and participation in such events occurred. This problem is not easily answered given the limited knowledge of Terminal Ubaid commensality and the dearth of spatial evidence from Terminal Ubaid sites. Addressing the depositional location of Coba bowls involves two postulates. First, where were these items utilized? It is possible that Coba bowls served as containers that would be taken to the work site and used to serve meals away from the household. Second, were Coba bowls discarded after their use or used again, possibly for different purposes? Given the nature of the production of Coba bowls it is possible that they held very little value outside of their initial function, in which case they might have been discarded or stored until the next collective work event. To address these questions I will briefly outline the spatial reconstructions for two primary activities associated with labor feasting events, the preparation and consumption of foodstuffs, as evidenced in the Terminal Ubaid levels at the sites of Değirmentepe, Tepe Gawra, and Kenan Tepe (Fig. 2).

### 3.1 Değirmentepe

Değirmentepe is a small settlement mound in the Malatya Plain in the Upper Euphrates valley in what is today central Turkey. Excavations of Değirmentepe Layer 7 have uncovered remains of 14 building complexes including ten tripartite buildings and four multi-room complexes dating to the Ubaid period.<sup>58</sup> Bekir Gurdil's dissertation<sup>59</sup> provides a

may have occurred rather rapidly during the Late Chalcolithic 2 period in northern Mesopotamia. This is not to argue that this change was unilinear or universal, however. The development of larger, stationary consumption vessels such as "hammerhead" bowls and "casseroles" in indigenous Late Chalcolithic 3 ceramic assemblages could represent an increased emphasis on communal consumption that developed out of eating food during labor feasts as well as a resistance to the expansion of socio-political authority represented in the promotion of individual portions through the provisioning of rations in mass-produced ceramics (Kennedy 2008; Bernbeck and Costello 2011).

<sup>58</sup> Esin and Harmankaya 1986; Esin and Harmankaya 1987.

<sup>59</sup> Gurdil 2005.

thorough analysis of the spatial relationships of artifacts from within the 14 buildings unearthed by the broad horizontal excavations at Değirmentepe. This analysis provides a good glimpse into the spatial organization of Ubaid houses and storage structures, but fails to provide any data on the associated artifacts uncovered outside of these building complexes. In addition the ceramics analyzed by Gurdil consist of only the partially reconstructed and whole vessels unearthed in the excavations at Değirmentepe. Nonetheless, his analysis suggests that the extended family household was the locus of food and craft production as well as ritual activities which made the house “the center of daily life . . . developed by the co-existent relationships of domestic, social, economic and religious activities.”<sup>60</sup>

The analysis that follows is based on the work conducted by Gurdil.<sup>61</sup> However, Gurdil categorized Coba bowls as one of many forms of unpainted bowls which he labeled “Plain bowls.” In Gurdil’s spatial reconstructions (Figs. 3– 4) Coba bowls cannot be distinguished from other forms of Plain bowls. However the presence of Coba bowls in specific locations within buildings was reconstructed from the finds catalogue provided in Appendix I.3.<sup>62</sup>

In Building BC, shown in Figure 3, only one painted bowl was discovered, which was found in the central hall (Room BC). Multiple Coba bowls, a total of 15, were found in four rooms in the complex, including six Coba bowls from Room BD which opens into the central hall (Room BC). The presence of Coba bowls in multiple locations in Building BC suggests that these items were not discarded following their use at the worksite but rather may have been used to feed guests at the house following the collective work event.

In Building I (Fig. 4), a total of nine Coba bowls were discovered. Four of these bowls were found in Room R in the northwest corner of the building, and another in Room AD which connects Room R to the central room (Room I). Building I is one of the two buildings at Değirmentepe which possessed Coba bowls in the central room (Room I). Curiously no painted serving vessels were found in Room I, however remnants of one cooking pot and a pot stand were recovered in the eastern portion of the room. Two more Coba bowls were found in Rooms AC and K which are only accessed via the central hall. It is important to note that the floor plan presented in Figure 4 depicts only the first floor of Building I. The presence of the second story is suggested by beam holes found in Rooms K and U, as well as the presence of a hearth in the north wall roughly 3 meters above the floor level in Room I.<sup>63</sup>

In Building FC, a total of two Coba bowls were discovered, whereas no painted ceramics were recovered from the building. One Coba bowl was found in the central hall (Room FC) near the entrance to Room GE, which contained the entrance into the complex. The other Coba bowl was found in Room ER of the complex. In Building GK, no painted ceramics were recovered, however a large number of unpainted serving vessels were uncovered in the central hall (Room GK). In addition to the plain ware serving vessels, two Coba bowls were found in Room GK; however, Gurdil’s analysis does not provide the exact location of their discovery.

One Coba bowl was found in the central hall (Room DU) of building DU, however no painted ceramics were uncovered. Another Coba bowl was found in Room BE of Building DU, which provided access to the central hall from the storage facilities labeled Rooms DZ and VF. Coba bowls were also discovered in Room BY1 of building BY1, however, the majority of building was not excavated and it is not clear that BY1 was a residential structure.<sup>64</sup>

60 Gurdil 2005, 279.

61 Gurdil 2005; Gurdil 2010.

62 Gurdil 2005.

63 Gurdil 2005, 76.

64 Gurdil 2005, 166.

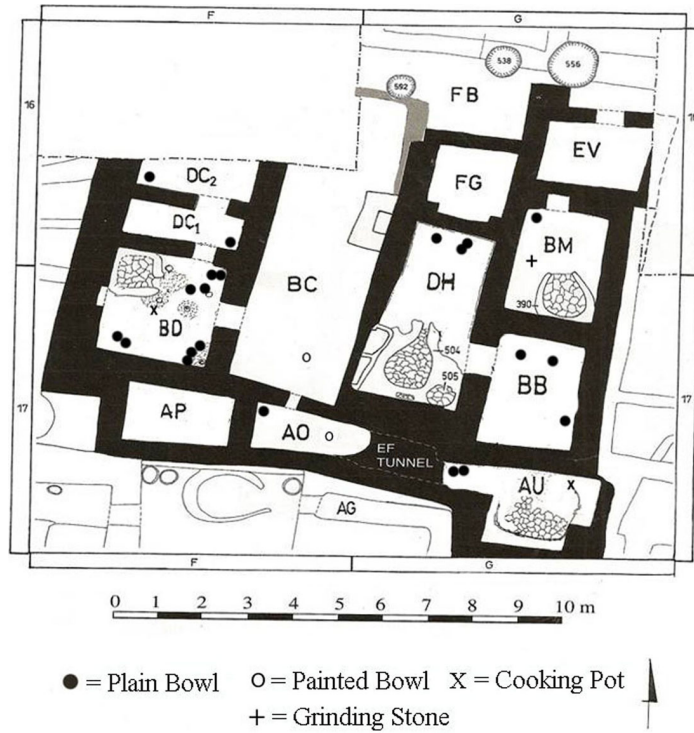


Fig. 3 | Location of selected artifacts in Building BC at Değirmentepe. After Gurdil 2005, 416 Plate 55.

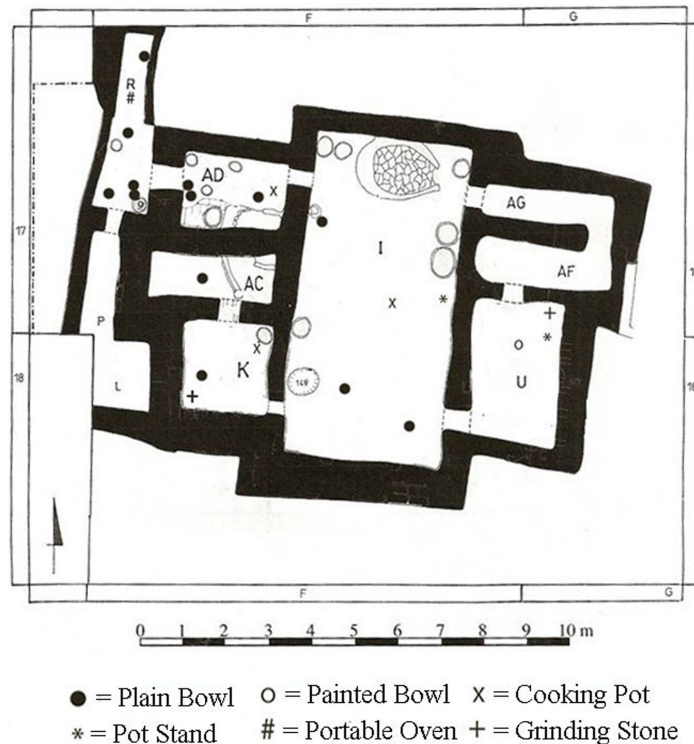


Fig. 4 | Location of selected artifacts in Building I at Değirmentepe. After Gurdil 2005, 415 Plate 54.

Hearths were found in nearly every residential structure at Değirmentepe. In addition to the 14 hearths recorded in the residential buildings, five large two-chambered ovens were excavated. Three of these two-chambered installations were associated with metal production tools and slag, suggesting their use as metal-working furnaces. However, one furnace in room DH of Building BC was associated with cooking pots, suggesting the potential for multiple functions of these facilities. In Building BC, excavators also recovered

a large fire installation in room AU. The fifth chambered oven was identified outside of Building I. This oven at the south wall of Building I was surrounded by an exterior surface on which two ground stone artifacts were recovered.

### 3.2 Tepe Gawra

Tepe Gawra is located on the eastern flank of the piedmont of northern Mesopotamia, to the east of the Tigris River and north of the Greater Zab River, northwest of modern Mosul. Excavations have revealed successive occupations dating from the Early Northern Ubaid to the Early to Middle Uruk period.<sup>65</sup> On the basis of the ceramic finds, level XII dates to the Terminal Ubaid period.<sup>66</sup>

An analysis of the spatial relationship of ceramics in the Terminal Ubaid buildings from Level XII at Tepe Gawra can provide further insight into the use of Coba bowls. Rothman included Coba bowls in his analysis, and marked them on his maps of the Late Chalcolithic 1 and Late Chalcolithic 2 buildings at Tepe Gawra as “wide flower pots.”<sup>67</sup> Only the buildings of the Terminal Ubaid level XII at Tepe Gawra will be examined due to their contemporaneity to the buildings analyzed by Gurdil from Değirmentepe. However, it should be noted that Rothman’s spatial reconstruction only includes whole and reconstructed vessels. Figure 5 portrays the layout of the entire exposure of Tepe Gawra level XII with the locations of Coba bowls, painted serving vessels, and cooking vessels.

In a series of small storage bins located along what Rothman interprets as the entry road into the site,<sup>68</sup> one Coba bowl was found in a small room along with an associated storage jar, and numerous other artifacts. A minimum of five painted serving vessels were also found throughout the complex, however none in association with the Coba bowls. In the building to the west of the storage facility, shown in Figure 6, at least five Coba bowls were found. Most of these bowls were found near the entrance to the complex, with one located outside the immediate entrance and three in the room that connects the central hall to the exterior courtyard. Additionally, painted serving vessels were found in both of the central halls of the two excavated complexes in squares 6Q/S.

Rothman’s reinterpretation<sup>69</sup> focuses on the largest structure on the site, the “White Room,” which received its name because of its white plastered walls. It should be noted that the locations of artifacts in this structure are difficult to ascertain because the structure was destroyed by a fire which ended the occupation of Level XII.<sup>70</sup> Rothman suggests that some of the artifacts uncovered in the “White Room” building may have been originally situated in the second storey or on the roof of the building when it was destroyed.<sup>71</sup> Figure 7 shows the positions of numerous artifacts both in and around the “White Room;” however only one painted serving vessel and one plain ware bowl can be definitively deemed to have been discovered in situ in the “White Room” structure. No Coba bowls can be attributed to in situ finds in the “White Room” itself, however, two were found in mixed contexts in the “White Room,” and two more were found just outside the southeast entrance to the complex. Two more Coba bowls were discovered in the storage facilities immediately north of the “White Room” complex. From the mixed contexts in the “White Room” itself, a total of five more painted serving vessels were uncovered, as well as one large storage jar, one small jar, and another plain bowl.

65 Tobler 1950; Rothman 2002.

66 Rothman 2002.

67 Rothman 2002.

68 Rothman 2002.

69 Rothman 2002.

70 Rothman 2002, 75.

71 Rothman 2002.

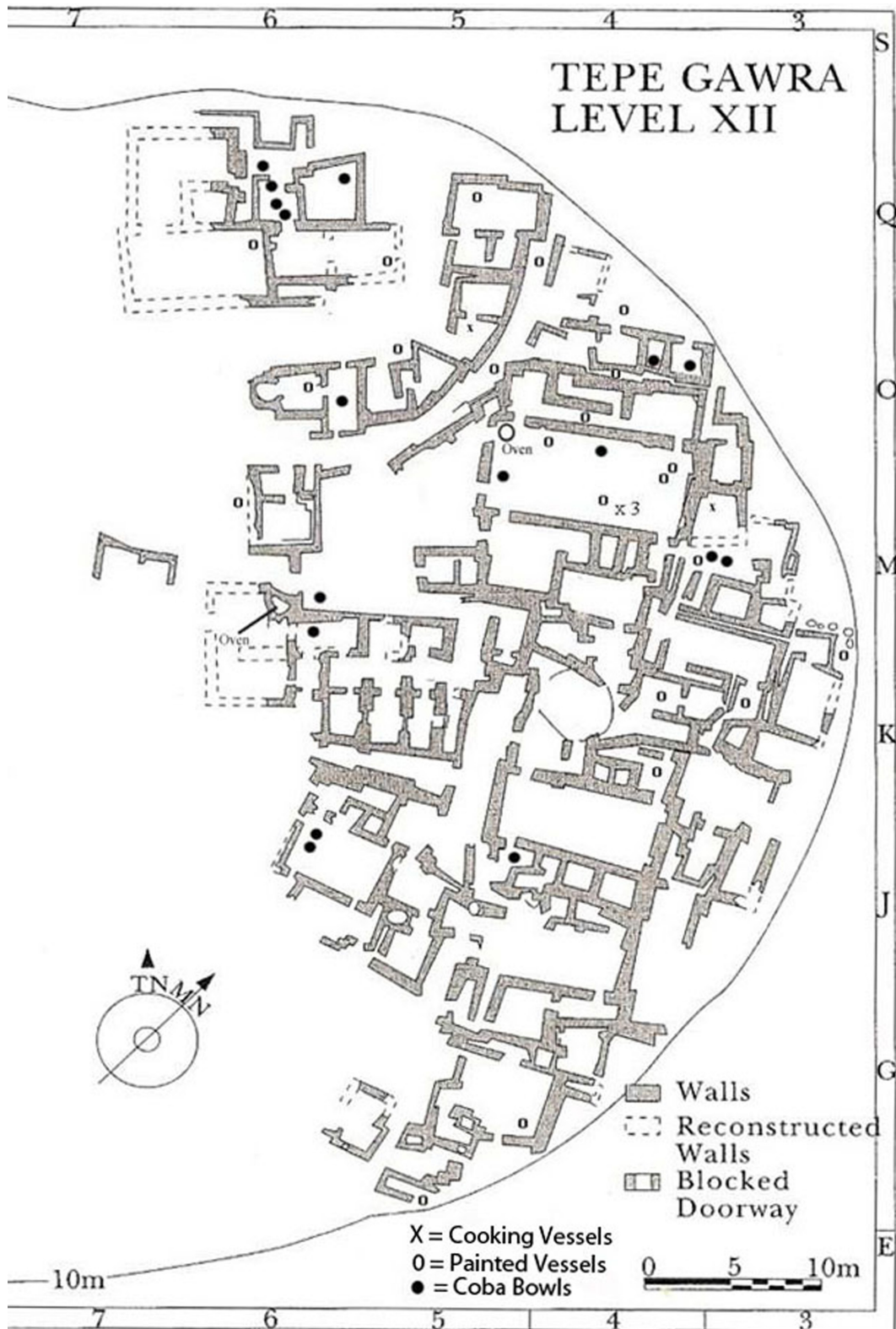


Fig. 5 | Map of Level XII at Tepe Gawra detailing the location of selected vessel forms. After Rothman 2002, 87, Fig. 5.13.

In the tripartite structure in Square 4K, one Coba bowl was uncovered in the room connecting the central hall of the building to the exterior courtyard. No whole painted vessels were uncovered from the central hall of this structure. In the multi-room structure

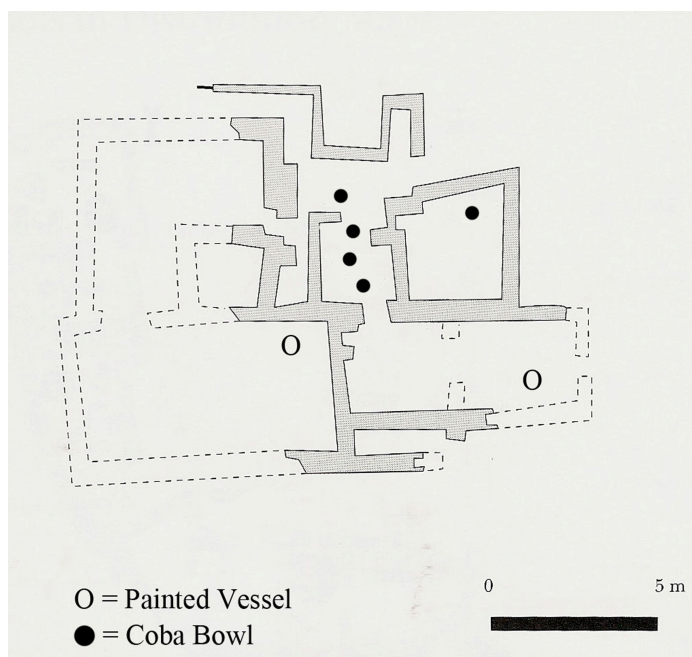


Fig. 6 | Location of selected artifacts in the tripartite structure in squares 6Q and 6S in Tepe Gawra level XII. After Rothman 2002, 78 Fig. 5.3.

found in Square 5/6K, 26 spindle whorls were recovered in the eastern portion of the largest room in the complex, leading Rothman to interpret the structure as a possible workshop.<sup>72</sup> In addition to the spindle whorls, two Coba bowls were uncovered near the western entrance to this room. In the multi-roomed structure in Square 5M, which Rothman describes as a storage facility,<sup>73</sup> one Coba bowl was uncovered from within the complex and one was discovered in the courtyard to the north of the complex which is shared with the “White Room” complex.

### 3.3 Kenan Tepe

Kenan Tepe (Fig. 8) is a multi-period mound located on the north bank of the Tigris River, approximately 15 km east of the modern town of Bismil in Diyarbakir Province, southeastern Turkey.<sup>74</sup> Excavations have revealed four phases of Ubaid occupation, with *Ubaid Phase 4* representing the Late Chalcolithic 1 occupation at the site. *Ubaid Phase 4* remains, including two hearths, parts of several walls, and three infant burials, were excavated in trench D6.<sup>75</sup> Although these remains were relatively ephemeral, sealed work surfaces and hearth constructions yielded large ceramic samples. Additionally, *Ubaid Phase 4* material remains were found associated with a large mud brick wall belonging to another structure, *Ubaid Structure 3*. *Ubaid Structure 3* dissects trench E2 approximately east to west, leaving one half of the trench in excellent outdoor contexts and the other half in indoor contexts.<sup>76</sup>

<sup>72</sup> Rothman 2002.

<sup>73</sup> Rothman 2002, 79.

<sup>74</sup> Parker et al. 2006.

<sup>75</sup> Parker et al. 2009.

<sup>76</sup> Parker et al. 2009.

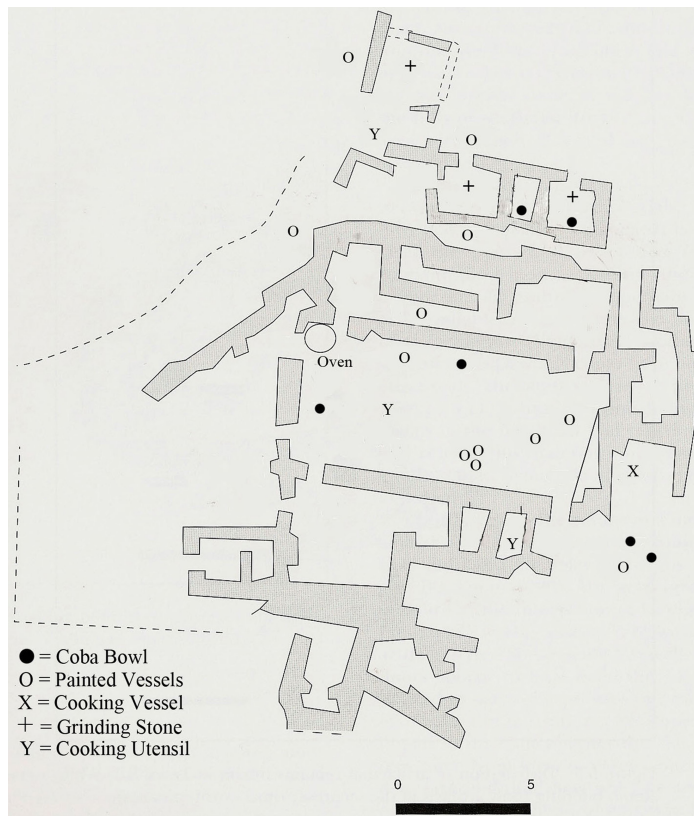


Fig. 7 | Location of selected artifacts in the “White Room” complex of Tepe Gawra Level XII. After Rothman 2002, 79 Fig. 5.4.

### 3.3.1 Spatial Analysis of Kenan Tepe Ubaid-Period Ceramics

An analysis of the Terminal Ubaid ceramic assemblages recovered from the interior rooms of the complex labeled, *Ubaid Structure 3* in Trench E2 (Fig. 9), its associated exterior work surfaces, and the Terminal Ubaid hearth constructions excavated in Trench D6 provide us a glimpse of the activities that occurred in and around the household during the Terminal Ubaid period. In order to make meaningful comparisons of artifact categories across varying spatial contexts the density of various categories of ceramics was calculated by dividing the number of sherds by the volume of excavated soil to estimate the total number of sherds per cubic meter of archaeological deposit.<sup>77</sup>

Previous studies have been able to identify several functional classes of artifacts with strong correlations to particular surface treatments.<sup>78</sup> The analysis of the density of particular surface treatments on ceramics is shown in Table 1. Burnishing is largely restricted to cooking vessels, which occur in two distinct forms, open bowls and squat globular jars. Scraping is predominantly found on shallow, open bowls, and all scraped sherds in the assemblage are assumed to have come from Coba bowls. Additionally, painted ceramics are primarily open bowls, although this surface treatment is not uncommon on storage vessels.

Scraped Coba bowls were recovered most frequently from the exterior work surfaces associated with *Ubaid Structure 3* in trench E2, however scraped sherds are still present in significant quantities on both the interior and fire installation surfaces. Burnished sherds were recovered very frequently from both the hearth surfaces in trench D6 and the exterior work surfaces in E2. Painted sherds are found more frequently on the exterior work surfaces of E2. The higher proportion of cooking vessels from the exterior surfaces of

77 Wright, Miller, and Redding 1980; Pollock 1999b.

78 Parker et al. 2009; Parker and Kennedy 2010.



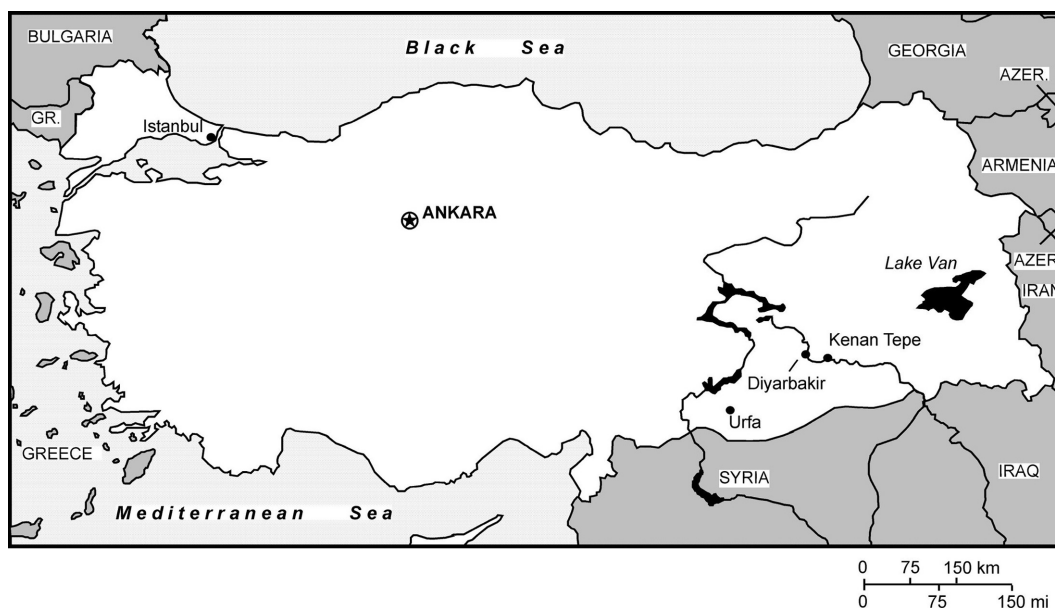


Fig. 8 | Location of Kenan Tepe in the Upper Tigris region of southeastern Turkey. Image courtesy of Dr. Bradley Parker.

Surface Treatment	Interior Sherd Count	Interior Density (sherds/m <sup>3</sup> )	Fire Installations Sherd Count	Fire Installations Density (sherds/m <sup>3</sup> )	Exterior Work Surface Sherd Count	Exterior Work Surface Density (sherds/m <sup>3</sup> )
Untreated	134	47.35	188	257.33	594	393.88
Burnished	31	10.95	45	61.64	112	74.17
Scraped	64	22.61	18	24.66	119	78.81
Slipped	125	44.17	62	84.93	404	267.55
Smoothed	59	20.85	25	34.25	276	182.78
Painted	74	26.15	38	52.05	277	183.44

Tab. 1 | Spatial distribution of surface treatments at Terminal Ubaid Kenan Tepe.

the house is paralleled in earlier Ubaid occupations at the site. During the Late Northern Ubaid period, the floors of *Ubaid Structure 4*, shown in Figure 10, contained relatively few sherds of cooking vessels, while the exterior surfaces associated with the collapsed house showed higher densities of cooking vessels. The fact that much higher proportions of coarse-fabric cooking vessels were discovered on exterior surfaces suggests that the final stages of food preparation likely occurred there. The lack of hearths or ovens inside Terminal *Ubaid Structure 3* or Late Northern *Ubaid Structure 4* supports this conclusion.

To provide more detail, this classification has been narrowed down solely to rim sherds. Previous studies have outlined three discrete functional classes of vessels based on a series of attributes including fabric composition, surface treatment, rim type, rim diameter, and the presence of sooting.<sup>79</sup> Using these attributes the corpus of rim sherds at Kenan Tepe was divided into Serving Vessels, Cooking Vessels and Storage Vessels. Serving Vessels include all open bowl and incurved rim bowl forms with a rim diameter under 45 cm. Cooking vessels are defined as all squat restricted neck jars and shallow

79 Parker and Kennedy 2010; see Rice 1987.

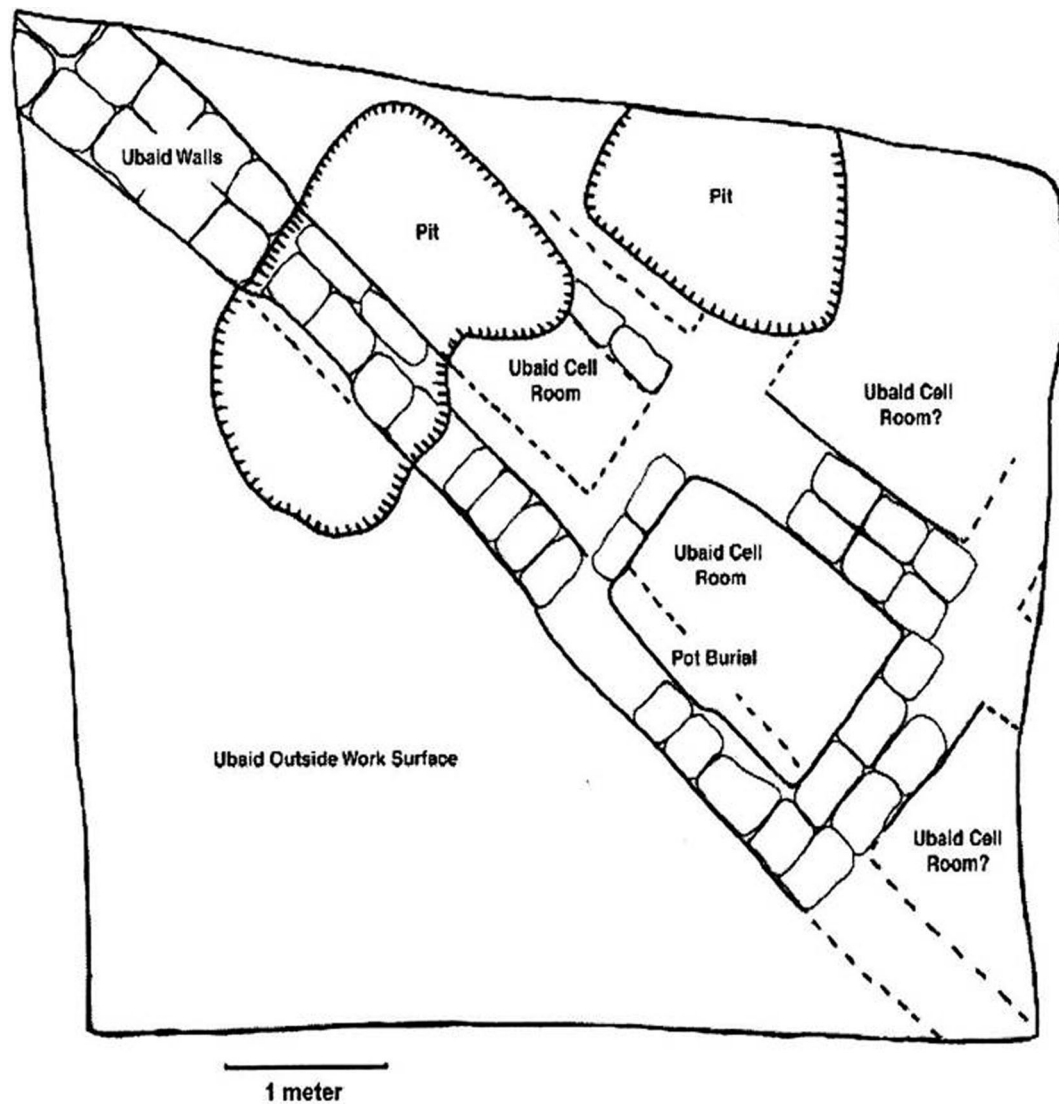


Fig. 9 | Plan of Terminal *Ubaid Structure 3* at Kenan Tepe. Image courtesy of Dr. Bradley Parker.

open bowls that are composed of a coarse to medium fabric with a heavy grit temper and a heavily smoothed or burnished exterior. These vessels also frequently display evidence of having been used over a fire in the form of exterior sooting or interior carbonization of food remains. Storage vessels were defined as any restricted orifice vessels, vertical bowls with a rim diameter of greater than 45 cm, and the distinct Straight Ledge Rim Jar, which refers to large open jars with a wide ledge rim around the open orifice of the vessel.

When analyzing these vessel classes across spatial contexts in Kenan Tepe's *Ubaid Phase 4* (Early Terminal Ubaid) and *Ubaid Phase 3* (Late Northern Ubaid), distinct trends in ceramic use emerge (Tab. 2). On the interior surfaces of Terminal *Ubaid Structure 3* and Late Northern *Ubaid Structure 4* serving vessels are more common than cooking or storage vessels. Additionally, cooking vessels are found in higher densities in the Terminal Ubaid fire installations from Trench D6 and the Late Northern Ubaid exterior surfaces, which included two separate exterior hearths. Storage vessels are found much more frequently in exterior contexts than inside Ubaid houses, meaning that the storage of food items most likely occurred in large vessel and granaries outside of the house. Additionally, the relatively high ceramic artifact densities from the exterior surfaces associated with Terminal *Ubaid Structure 3* suggest that this area functioned as a domestic production area.

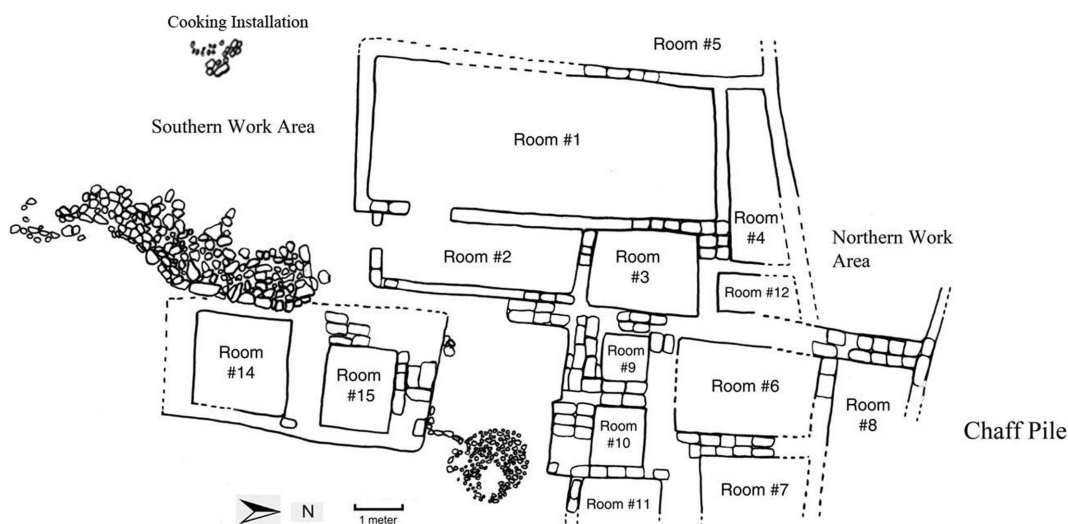


Fig. 10 | Plan of Late Northern *Ubaid Structure 4* and associated cell-plan storage facilities at Kenan Tepe. Image courtesy of Dr. Bradley Parker.

Surface	Serving Vessels Sherd Count	Sherd Density (sherds/m <sup>3</sup> )	Cooking Vessels Sherd Count	Sherd Density (sherds/m <sup>3</sup> )	Storage Vessels Sherd Count	Sherd Density (sherds/m <sup>3</sup> )
Terminal Ubaid <i>Structure 3</i> Interior Surface	74	26.15	7	2.47	5	1.77
Terminal Ubaid <i>Structure 3</i> Exterior Surface	200	132.45	17	11.26	37	24.50
Terminal Ubaid Fire Installations	34	46.58	12	16.44	23	24.50
Late Northern Ubaid <i>Structure 4</i> Interior Surface	61	29.51	9	4.35	13	6.29
Late Northern Ubaid <i>Structure 4</i> Exterior Surface	17	31.07	8	14.62	14	25.59

Tab. 2 | Spatial distribution of functional vessel classes at Ubaid Kenan Tepe.

The preliminary microartifact analysis of these surfaces supports this hypothesis. High concentrations of lithic debris, particularly obsidian, and faunal bones were recovered from these surfaces and support their use as primary activity areas for the inhabitants of Terminal Ubaid Kenan Tepe.<sup>80</sup> Therefore, the external activities areas analyzed most likely represent an area of multi-functionality in which a wide array of domestic tasks was conducted. In terms of the ceramic composition of the external surfaces, it may be that these are areas in which all functional vessel classes were used in storing, processing, producing, and consuming foodstuffs, or that these areas served as places for discard of broken vessels and other material debris.

80 Parker et al. 2009.

### 3.3.2 Preliminary Use-Alteration Analysis of Kenan Tepe Ubaid-Period Ceramics

In order to offer more detail on the use of ceramic vessels than that provided by ceramic densities and the spatial location of vessels, a preliminary study of ceramic use-alteration was conducted on sherds collected from the surfaces associated with *Ubaid Structure 3* and *Ubaid Structure 4*, following the methodology outlined by James Skibo.<sup>81</sup> It is important to note, however, that the following results represent a preliminary examination of the data, including only the presence of use-alteration traces on a particular sherd rather than the intensity of use-alteration. Additionally, the variety of use traces outlined by Skibo are lumped together in this analysis rather than taken individually to be able to identify particular patterns of use. Finally, these results do not include a temporal analysis, but instead take the ceramic assemblage as a whole.

In total 2,156 sherds were analyzed for ceramic use with 1,394 (64.66 per cent) showing some evidence of use traces in antiquity. Table 3 provides the breakdown of ceramic use by vessel surface treatment.<sup>82</sup> Nearly all of the surface treatments show proportions with use traces near the overall average except for three classes of surface treatment. Use traces are present on all 11 impressed sherds recorded. Incised and scraped sherds produced significantly less evidence of use traces with only 48.65 per cent of incised sherds and 53.88 per cent of scraped sherds showing some evidence of use alteration. Finally, 65.21 per cent of painted sherds showed some signs of use alteration, suggesting that these vessels were used as frequently as other vessel classes during the Ubaid period.

To provide more information concerning vessel use the sample was limited to rim sherds and divided into previously established use categories (Tab. 4). The results suggest that cooking vessels showed lower amounts of use traces than either storage or serving vessels. This result is somewhat surprising given their function and in light of the fact that 62.38 % of cooking vessel rim sherds bear evidence of sooting or carbonization.<sup>83</sup> However, it may be that cooking vessels often broke before physical use traces could manifest themselves on the vessel's surface or that Ubaid households used methods of cooking that required little mechanical abrasion, such as boiling with heated rocks.

The higher percentage of use traces on serving and storage vessels suggests that these vessels were used quite frequently in the past. However, Mills has effectively argued that this may be for different reasons.<sup>84</sup> She suggests that larger stationary vessels such as the vast majority of Ubaid storage vessels are more limited in the archaeological record at short-lived sites due to the vessels' long use-lives. At the same time serving vessels are more abundant in the archaeological record because they are broken frequently due to their use in daily commensal events. This may suggest that use-traces on storage vessels could be less representative of intensity of use and more related to their longevity, while the high percentage of use on serving vessels could be representative of their frequent use.

### 3.3.3 Zooarchaeological Analysis of Ubaid-Period Kenan Tepe

Beyond the ceramic data other lines of evidence provide important clues concerning Ubaid food preparation and consumption. Unlike the sites of Değirmentepe and Tepe Gawra, extensive zooarchaeological and archaeobotanical analyses are currently being

81 Skibo 1992.

82 The discrepancy between the total number of surface treatments and the total number of sherds is a result of eight sherds which displayed multiple surface treatments, most commonly a combination of incision or impression and painting.

83 Parker and Kennedy 2010.

84 Mills 1989.

Surface Treatment	Sherds with Use Traces	Total Sherd Count	Percentage
Untreated	96	155	61.94
Burnished	221	340	65.00
Incised	18	37	48.65
Scraped	118	219	53.88
Slipped	149	239	62.34
Smoothed	276	384	71.88
Painted	508	779	65.21
Impressed	11	11	100.00
<b>Total</b>	<b>1397</b>	<b>2164</b>	<b>64.56</b>

Tab. 3 | Use traces on Kenan Tepe Ubaid ceramics divided by surface treatment.

Vessel Function	Sherds with Use Traces	Total Sherd Count	Percentage
Serving Vessels	394	564	69.86
Cooking Vessels	43	76	56.58
Storage Vessels	174	231	75.32
<b>Total</b>	<b>611</b>	<b>871</b>	<b>70.15</b>

Tab. 4 | Use traces on functional vessel categories at Ubaid Kenan Tepe.

conducted on the remains from Kenan Tepe. Preliminary faunal analysis (Tab. 5) suggests a predominance of domesticated caprines (sheep/goat) with a lesser emphasis on domesticated cattle and pigs.<sup>85</sup> However, the meat yield per animal is estimated at roughly 15 kg per sheep or goat, 20 kg for domesticated pigs, and 250 kg for cattle<sup>86</sup> meaning that the meat provided by cattle may have provided a much more substantial percentage of the total consumed at Kenan Tepe despite the predominance of caprines in the assemblage. It is also possible these ratios are reflective of conscious choices in herd composition related to the utilization of secondary products such as cheese, butter, yogurt, or wool. At the Chalcolithic site of Yarikkaya in central Anatolia, Sauter, Puchinger and Schoop recovered animal-based milk fats from ceramic jars using gas chromatography, which they suggest supports the production of butter and other secondary milk products at this time.<sup>87</sup> However, without a completed analysis of the faunal remains or organic residue analysis on ceramic sherds, the use of secondary animal products at Terminal Ubaid period Kenan Tepe is purely speculative.

Also present in the assemblage are wild taxa such as red deer, turtle, fish, and freshwater mollusks, which point to the exploitation of fluvial resources and wild game. Although fish and other riverine resources were relatively limited in the preliminary study, future studies of microfauna extracted from samples of floors and from flotation samples will be aimed at clarifying the role of fishing in the community's subsistence practices. The importance of riverine resources is indirectly suggested by the presence of numerous

85 Parker et al. 2008.

86 Dahl and Hjort 1976; Barker 1981; Redding 1981; Gregg 1988.

87 Sauter, Puchinger, and Schoop 2003.

Genus/Species	Total Count	Percentage	Weight (g)	Percentage
<i>Bos taurus</i>	46	7.29	558	25.32
<i>Capra hircus</i>	2	0.32	11	0.50
<i>Capra</i> species	2	0.32	21	0.95
<i>Cervus elaphus</i>	3	0.48	235	10.66
<i>Ovis aries</i>	3	0.48	23	1.04
<i>Ovis/Capra</i>	140	22.19	522	23.68
<i>Sus</i> species	17	2.69	72	3.27
<i>Testudo</i> species	1	0.16	12	0.54
Fish	4	0.63	3	0.14
Small mammal*	108	17.12	229	10.39
Medium mammal*	15	2.38	91	4.13
Large mammal*	51	8.08	336	15.25
Indeterminate	239	37.88	91	4.13
<b>Total</b>	<b>631</b>	<b>100.00</b>	<b>2204</b>	<b>100.00</b>

Tab. 5 | Total list of species identified in the Ubaid faunal assemblage from Kenan Tepe. After Parker et al. 2008, 116, Tab. 2. \* indicates material that was not identifiable to genus or species but clearly belonged to the Class Mammalia. These fragments were grouped into three categories: small mammal (i. e. sheep or goat), medium mammal (i. e. pig), and large mammal (i. e. cattle); Parker et al. 2008, 115.

ground stone fishing-net weights recovered from multiple contexts at Kenan Tepe and the presence of a large freshwater mollusk shell midden located slightly down slope from *Ubaid Structure 4*.<sup>88</sup>

### 3.3.4 Archaeobotanical Analysis of Ubaid-Period Kenan Tepe

Archaeobotanical remains from Kenan Tepe have been recovered using a systematic selective flotation sampling method from a variety of contexts including hearths, exterior surfaces, floors, burials, ovens, and pits. The overall picture of the botanical remains is one in which *Triticum dicoccum* (emmer wheat) is the primary cereal staple for both the Terminal and Late Northern Ubaid periods. Other cereals found in significant quantities include *Triticum monococcum* (einkorn wheat) and barley. In addition to the cereals significant amounts of legumes were recovered, dominated by lentils but also including peas and bitter vetch.<sup>89</sup>

Botanical samples from Terminal Ubaid strata were largely sterile, with the exception of a large hearth excavated in trench D6, which yielded large amounts of cereals.<sup>90</sup> Late Northern *Ubaid Structure 4*, however, yielded large botanical samples owing to the good preservation caused by the conflagration that destroyed the structure and the subsequent collapse of the building. On the exterior work surface to the south, cereal grains were

<sup>88</sup> Parker and Dodd 2005; Parker et al. 2008; Bradley J. Parker, personal communication.

<sup>89</sup> Graham 2010.

<sup>90</sup> Graham 2010.

recovered. Additionally small amounts of processing debris and 157 partially germinated cereal embryos were recovered, pointing to the possibility that this area was utilized to process grains, a suggestion supported by the presence of grinding stones located on the surface. The presence of germinated cereal embryos could point to the preparation of malted grains for brewing. A small hearth along the western edge of the work surface contained moderate amounts of burnt wood, a few barley grains, and small amounts of processing debris and weed seeds.<sup>91</sup>

The exterior work surface to the north of *Structure 4* contained several grinding stones, processing debris of both wheat and barley, and highly fragmented unidentifiable cereal grains.<sup>92</sup> Further to the east, abutting the northern wall of the storage cells, excavators unearthed a surface covered by large amounts of compacted plant pseudomorphs, most likely wheat and/or barley chaff, as well as a finely made grass mat.<sup>93</sup> Botanical samples from the surface contained only processing debris, suggesting that this may have been an area of grain winnowing and fodder storage. This area also contained several small hearths which contained processing debris, charred wood, and dung fuel remains.<sup>94</sup>

Inside the structure itself botanical remains were recovered from two distinct layers, the roof collapse and the house floors. From the roof collapse large amounts of cereal grains and processing debris were recovered. From within the collapse several decomposed reed baskets and large ceramic storage jars were discovered, containing large amounts of cereal grains and flax seeds.<sup>95</sup> The floors of *Ubaid Structure 4* are virtually sterile containing only small amounts of unidentifiable cereal bits and the stray wheat or barley grain. A hearth located on the floor of the central hall (Room 1) was sterile except for a small amount of charred wood and glume bases. Since *Structure 4* was actively inhabited when it burned down, it is not surprising that the floors and hearths are sterile, as these surfaces would have likely been cleaned regularly. Based on the finds of charred dung combined with the mixture of chaff, field weeds, and relatively small amounts of wood charcoal, Graham suggests that Room 3 was used for the storage of dung fuel. In Room 4, a large amount barley grains was recovered as well as a smaller amount of wheat seeds, which supports the interpretation of the room as a storage area due to the presence of a large storage jar buried in the floor of the room.<sup>96</sup>

The cell structures associated with *Structure 4* (Rooms 6, 7, 10 and 12) have been interpreted as storage facilities based on the presence of grain pseudomorphs in several rooms and their small size. The botanical samples from these cells are all nearly sterile, containing only very small amounts of cereal processing debris. A small bin feature found in the northern part of cell room 12 includes substantial amounts of barley grains and no processing debris or weed seeds.<sup>97</sup>

In conclusion, the archaeobotanical remains at Kenan Tepe point to the predominance of emmer wheat as the primary cereal crop for human consumption with barley comprising a major component of animal feed.<sup>98</sup> The majority of cereal processing appears to have occurred outside the domestic structure with the presence of a winnowing floor and several grinding stones to the north and east of *Ubaid Structure 4*. Cereals were also being processed or stored for immediate consumption in baskets and ceramic

91 Graham 2010.

92 Graham 2010.

93 Parker and Dodd 2005.

94 Graham 2010.

95 Graham 2010.

96 Graham 2010.

97 Graham 2010.

98 Graham 2010. Graham points to the high concentration of domesticated barley seeds in the dung fuel stored in *Ubaid Structure 4* to suggest that barley was primarily used for animal feed. The dung contained a mix of common field weeds, domesticated cereal chaff and barley seeds which point to the intentional foddering of animal domesticates.

vessels on the roof of *Ubaid Structure 4*, including partially germinated seeds which may represent the first stage of malting grains for brewing beer. Long-term storage of processed cereals most likely occurred in the associated storage facilities.

## 4 Discussion

Based on the material from Değirmentepe and Tepe Gawra, Coba bowls are found most commonly in the room that connects the central hall to the associated exterior courtyards and directly outside of this entrance into the complex. Their storage in the areas of entrance and exit to the residential structure, as well as in associated storage facilities, supports the use of these vessels outside of the household, rather than being serving vessels used in the central hall. Painted wares most commonly occur in the central hall of the tripartite structure, which supports the assumption that these vessels are serving vessels utilized for food consumption inside the household. Finally, cooking vessels are more common on the associated exterior surfaces of Ubaid households, suggesting the utilization of cooking installations outside of the house for the production of household consumables.

The archaeobotanical data from Kenan Tepe supports the assumption that the vast majority of food processing occurred outside the house. The presence of a winnowing floor and grinding stones to the north of the house suggests that a large portion of initial grain processing occurred here. The presence of cleaned grain in reed baskets and large ceramic storage jars on the roof of the *Ubaid Structure 4* suggest that this area also functioned as a locus of food preparation. Graham has proposed two hypotheses to explain the presence of cleaned grain in storage containers on the roof of the house.<sup>99</sup> The first suggests that cereals were removed from long-term storage in the cells and placed in baskets on the roof for immediate consumption after completing the final stages of processing. The second hypothesis is that grain storage on the roof represents a stage in cereal processing in which grains are allowed to dry before being placed into long-term storage.

Cooking vessels at Kenan Tepe also show variation in their form and possibly function. By correlating sooting with vessel shape, previous studies have isolated two types of cooking vessels.<sup>100</sup> The first is a squat cooking pot with a low flaring collar. Patterns of sooting on these vessels suggest that this vessel was likely supported by andirons, or balanced by stones, over wood or dung fires. The size and shape of these vessels suggest that they were primarily used for heating or slow-cooking well-saturated foods such as soups, stews, or porridge.<sup>101</sup> The second shape identified as part of the Ubaid cooking assemblage is an open, coarse fabric, shallow bowl, which Parker and Kennedy suggest was possibly used for frying or baking foods that were not heavily saturated and/or that functioned as bread molds.<sup>102</sup>

In order to better understand the ways in which Coba bowls were utilized, it is important to return to an examination of labor shortages and alliance-based labor strategies to overcome these shortages. In the ration-container scenario, painted ceramics were used by elites for the consumption of foodstuffs during feasts, whereas the dependent laborers were fed using expediently produced Coba bowls. The alternative alliance-labor hypothesis proposes households used painted ceramics for their daily consumption of foodstuffs, whereas the same households utilized Coba bowls during collective work feasts organized to offset temporary labor shortages.

99 Graham 2010.

100 Parker and Kennedy 2010.

101 Bottero 2004, 52–53.

102 Parker and Kennedy 2010.



The preliminary use-alteration study suggests that painted vessels were used just as frequently as vessels with less elaborate surface treatments, indicating that these vessels were used in daily contexts of social life in Ubaid households. Scraped vessels, predominantly the Coba bowl, showed use traces on a lower percentage of vessels than vessels with other categories of surface treatment, implying that they were used less often than other vessel classes. These preliminary findings support the alliance-labor hypothesis in that scraped vessels were used infrequently. If Coba bowls were being used by a centralized authority to distribute rations to dependent laborers one would expect that these vessels would show signs of frequent use and subsequent storage. In addition to the general lack of evidence for social institutions capable of the maintenance of a dependent labor force from Terminal Ubaid sites in northern Mesopotamia, the data presented here suggest that Coba bowls and painted vessels were used by all members of Ubaid society, based on their recovery from all archaeological contexts represented at Kenan Tepe, as well as their presence across households at Değirmentepe and Tepe Gawra. If scraped bowls were used as part of a system to control labor by elite households, one would expect to find large concentrations of Coba bowls at the largest households at each site and the access to painted ceramics to be limited to or at least more common in elite households. This is not the case at any of the three sites discussed; instead painted ceramics and Coba bowls are found in relatively equal distributions in nearly all domestic structures.

Moreover, recent studies have shown that the use of painted ceramics as prestige items is accompanied by an elaboration and visual enlargement of decorative motifs as a result of their social prominence.<sup>103</sup> If Ubaid painted vessels were being used as prestige items during competitive feasting events as suggested by Helwing,<sup>104</sup> then we would expect to see an elaboration of decorative motifs to match the increased social importance of painted vessels. However, archaeologists have long acknowledged that decorative motifs become simpler during the Ubaid period and are gradually replaced with unpainted ceramic assemblages throughout greater Mesopotamia.<sup>105</sup>

## 5 Conclusion

Perhaps the most common theme of the papers and discussions of the workshop was the dialectical unity of the ritual and the mundane. Elaborate feasts are set apart from daily consumption by numerous markers, but these markers are only coherent in relationship to the daily practices of food consumption. John Robb has argued that feasts in the Italian Neolithic should be seen as a ritual sharing of communal labor meant to create inter-household or inter-settlement solidarity.<sup>106</sup> Through this lens, I suggest that it is possible to view daily meals as a symbolic sharing of labor in a ritualized act of household solidarity. In this sense the labor required to provide the materials for both the mundane acts of daily subsistence and the elaborate ritual feast should not fall out of view in our analyses. For example the steps required in a *chaîne opératoire* analysis for producing bread include plowing the fields, seeding, weeding, harvesting, winnowing, threshing, storage, grinding, making dough, kneading, firing the oven, and baking. These steps cannot be inextricably removed from the productive totality when discussing the consumption of bread, and multiple steps of this process potentially require more labor than may have been available to individual Ubaid households.

103 Mills 2007.

104 Helwing 2003.

105 Akkermans 1988; Nissen 1988; Hammade and Yamazaki 1995.

106 Robb 2007.

A more complete understanding of the ways in which labor flowed between households during the Terminal Ubaid period would provide researchers with a greater knowledge of the community dynamic and sociopolitical organization. The appearance of mass-produced ceramics could indicate that the importance of food exchange in within-group cooperation was expanding to the point that new social relations of production were required to facilitate that exchange. In this sense, Coba bowls are objects of consumption in a dual way. First, by providing for cooperative labor they are consumed in the process of production as a means of labor in what Marx would call productive consumption.<sup>107</sup> Second, they are objects of consumption in a commensal sense, in that foods would have been directly consumed from these vessels during or after the work event in what Marx would call individual consumption.<sup>108</sup>

I hope to have shown in this paper the ways in which an understanding of the organization of labor and the overlapping social relations of production combined with the analysis of food consumption and commensality can be applied to understand small-scale changes in the organization of labor during the Late Chalcolithic 1 period in northern Mesopotamia. By addressing the role of labor and its organization in pre-capitalist societies, archaeologists should be able to provide, in the long run, a much more nuanced view of the social reproduction of these societies.

107 Marx 1990.

108 Marx 1990.

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