

NEOLITHIC POTTERY FROM THE NEAR EAST

PRODUCTION, DISTRIBUTION AND USE

Third International Workshop on Ceramics from the Late Neolithic Near East 7-9 March, 2019 – Antalya

PROCEEDINGS

Editors RANA ÖZBAL – MÜCELLA ERDALKIRAN – YUKIKO TONOIKE







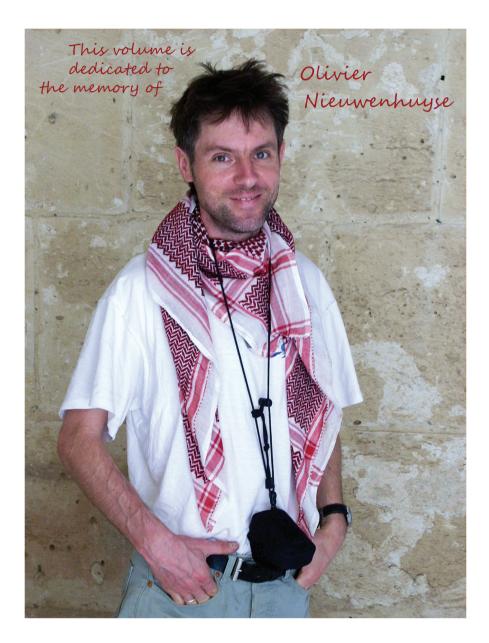
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Front cover: Sixth millennium painted pottery, by Halil Tekin, fig. 20.3.

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ABBREVIATIONS LIST

| AAS | Annales Archéologiques Arabes Syriennes |
|-------------|---------------------------------------------------------------------------------------|
| AASOR | Annual of the American Schools of Oriental Research |
| ADAJ | Annual of the Department of Antiquities of Jordan |
| AJA | American Journal of Archaeology |
| AmerAnt | American Antiquity |
| AnAr | Anadolu Araştırmaları |
| AnatAntiq | Anatolia Antiqua |
| AnatSt | Anatolian Studies |
| AÜDTCFD | Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi |
| Anmed | News Bulletin on Archaeology from Mediterranean Anatolia |
| AnnLiv | Annals of Archaeology and Anthropology (Liverpool) |
| APAD | Anadolu Prehistorya Araştırmaları Dergisi (Journal of Anatolian Prehistoric Research) |
| AST | Araştırma Sonuçları Toplantısı |
| BAR-IS | British Archaeological Reports-International Series |
| BASOR | Bulletin of the American Schools of Oriental Research |
| BIAA | British Institute at Ankara |
| BMMA | Bulletin of the Metropolitan Museum of Art, New York |
| BMusBeyr | Bulletin du Musée de Beyrouth |
| CAJ | Cambridge Archaeological Journal |
| BASOR | Bulletin of the American Schools of Oriental Research |
| CAJ | Cambridge Archaeological Journal |
| CurrAnthr | Current Anthropology |
| IEJ | Israel Exploration Journal |
| IstMitt | Istanbuler Mitteilungen |
| JAS | Journal of Archaeological Science |
| JAMT | Journal of Archaeological Method and Theory |
| JFA | Journal of Field Archaeology |
| JMA | Journal of Mediterranean Archaeology |
| JNES | Journal of Near Eastern Studies |
| KST | Kazı Sonuçları Toplantısı |
| MAC | Museu d'Arqueologia de Catalunya |
| MélBeyrouth | Mélanges de l'Université Saint Joseph, Beyrouth |
| | |

| OJA | Oxford Journal of Archaeology |
|-------------|-----------------------------------------------------------|
| OREA | Oriental and European Archaeology |
| PALMA | Papers on Archaeology of the Leiden Museum of Antiquities |
| PEQ | Palestine Exploration Quarterly |
| PPS | Proceedings of the Prehistoric Society |
| RANarb | Revue archéologique de Narbonnaise |
| TAS | Tematik Arkeoloji Serisi |
| TÜBA-AR | Turkish Academy of Sciences Journal of Archaeology |
| TürkArkDerg | Türk Arkeoloji Dergisi |
| UMUT | University Museum, the University of Tokyo |
| WorldArch | World Archaeology |

Chapter 14

POTTING ON THE EDGE OF THE PAINTED TRADITIONS: CERAMIC REGIONALISM AND THE ROLE OF CRAFT PRODUCTION DURING THE NEOLITHIC OF THE CENTRAL LEVANT

KAMAL BADRESHANYAND GRAHAM PHILIP*

Abstract: This paper presents the results of a large-scale analytical program undertaken on Neolithic ceramics from the Homs region, the Beqaa, and Northern Lebanese Coast. Like other parts of the Northern Levant, a burnished ware tradition is found across these regions from the very introduction of ceramics to the area. Through the 6th and 5th millennia BCE, however, two distinct provinces form. To the south, in Lebanon and the Homs area, burnished wares continue to be produced, whereas to the north and east painted traditions take hold. What first appears a seemingly simple matter of local preference endures, and these areas are set on differing trajectories, resulting in the development during the Bronze Age of a fairly rigid stylistic and technological boundary between what have traditionally been termed 'Syrian' styles to the north and 'Palestinian' styles to the south. This study integrates an archaeometric approach with traditional macroscale studies to track the development of ceramic technologies, modes of production and decorative traditions in the Late Neolithic of the Central Levant. The resulting data provides deeper insight into key influences on the development of later ceramic traditions of the region which in turn enhances our understanding of the formation, maintenance and remodelling of distinct regional assemblages and their meaning in the pre-classical Levant.

Introduction

Research on the Neolithic of the Central Levant remains underdeveloped impeding the contextualization of the specific processes shaping the introduction of pottery technology in the area. Yet, some new insights have been gained there and across the Northern Levant more broadly through recent work,¹ which demonstrates that the dissemination and adoption of ceramic technology was sudden, rather than gradual, beginning sometime around 7000 BCE.² In addition, this work has shown these well-made vessels were traded over long distances, pointing to socio-symbolic, rather than purely functional roles for early pottery. The majority of ceramics at this early date belong to the Dark-Faced Burnish Ware (DFBW) tradition, and a broad unity in ceramic style and technology is established

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¹ Nieuwenhuyse and Campbell 2017; Nieuwenhuyse 2009; Nieuwenhuyse et al. 2010, 2012; Badreshany 2013, 2016; Balossi Restelli 2006, 2017.

² Campbell 2017.

across the Northern Levant (albeit with degrees of local variation observable). At a later stage, during the 6th millennium BCE, two clear ceramic provinces develop with painted Halaf style wares taking hold in the Northern Levant, and burnished traditions carrying on in the central Levant, with the Northern Begaa and Homs areas acting as a transitional zone between these provinces.3 This paper will establish that the relevance of these findings transcends their Neolithic context for at least two reasons. First, the stylistic and technological preferences established during the Neolithic show a clear relationship to practices documented in the Early Bronze Age.⁴ Second, new research focused on the seemingly quotidian ceramics of the Early Bronze Age from these areas (e.g. storage / transport jars, platter bowls, jugs / juglets and goblets) make apparent their intended role in mediating social relationships, branding, and the political economies of the time.⁵ Thus, a repeating pattern among the communities of these periods can be discerned where ceramics are conceptualized, in the main, as socially significant objects - a pattern established from their very introduction in the Neolithic. Both these aspects evidence some geographically determined relationships (fig. 14.1)

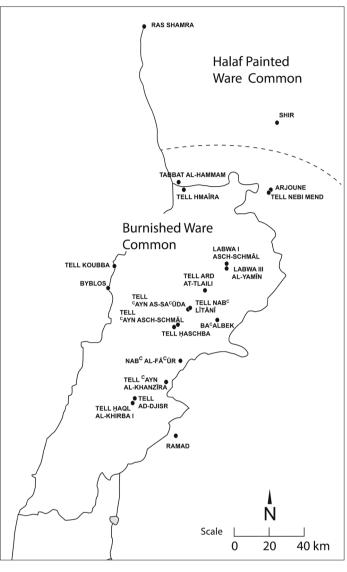


FIG. 14.1. Map showing location of sites mentioned in text. The dotted line represents approximately the transition between the DFBW and Halaf Painted Ware Core areas.

between Neolithic and Bronze Age communities within these two provinces in terms of ceramic technology, concepts of style, modes of production, and the social role of ceramics which sets them off on different developmental trajectories and perhaps reflects distinct forms of habitus and identity.

The timeline, mechanics, impetus, and meaning of the development of distinct regional ceramic assemblages, however, remains unclear. What is clear, is that from the very introduction of pottery technology to the area, Central Levantine potters operated largely outside of the painted traditions more common in neighboring regions to the North, preferring instead burnish and slip

³ Badreshany 2016; Parr 2003.

⁴ Badreshany et al. 2020; Jean 2020; Kennedy et al. 2020.

⁵ Badreshany et al. 2020; Kennedy et al. 2020; Greenberg 2011, 238-39.

for decoration.⁶ Scholars attach varying degrees of social significance to these specialist wares, especially the painted ceramics of this era, defining, based on their presence, the existence of 'cultures' at one extreme and, perhaps, loose interaction spheres at the other (e.g. Halaf and Ubaid). What significance, social or other, the contrast between the 'painted' and 'burnished' ceramic traditions carries has never been comprehensively addressed. Scholars are prevented from developing a greater understanding, in part, by a lack of stratified evidence from the Central Levant (see below), and inpart because traditional disciplinary boundaries mean that relatively few specialists are familiar with the material from both North Mesopotamia and the Levant. Engaging with these issues is critical to understanding this period, because, as Carter and Philip⁷ suggested in addressing the later Ubaid phenomenon, defining socio-cultural or other archaeologically meaningful units using material culture data, requires moving beyond simple stylistic distributions to examining assemblages in terms of the range of social practices that they would have facilitated.

To this end, this paper, through investigating the early development of these provinces, aims to shed new light on our understanding of the role of ceramics in the Neolithic of the Levant and considers the possibility that the later development during the Early Bronze Age of an 'Inland Syrian' ceramic province, distinct from a second broad grouping that covers the Mediterranean coastal zone and the southern Levant, and perhaps some perceptions of the general role and status of ceramic materials in society, are rooted in the Neolithic. To accomplish these aims, a case study will be presented focused on the Central Levant and mapping technological and stylistic trajectories involving burnished and painted traditions over the long durée. Given the relative typological simplicity of some of the early Neolithic forms, here we adopt an approach investigating the whole of their chaînes opératoires, integrating technological and decorative data with straightforward typological comparisons. It is our view that this approach is more likely to lead to the development of meaningful and comparable categories of information because previous research on the areas being examined here⁸ has shown that raw material choice and treatment tend to vary less than stylistic preferences, thus providing the dataset necessary to establish longstanding and deep-seated geographical and temporal links in craft traditions. This paper, thus, will provide new insights into the development and meaning of ceramic regions through the integration of macroscale data and petrographic evidence from the survey "Settlement and Landscape Development in the Homs Region" (SHR), the excavations by Peter Parr at Tell Nebi Mend, and from sites in the Beqaa Valley, and the Lebanese coast.

The First 2000 Years of Pottery in the Central Levant: Movement on the Road Less Taken

Nieuwenhuyse and Campbell⁹ summarize the range of problems, including terminology and chronology, that continue to hamper the development of robust interpretive frameworks concerning the adoption and development of pottery technology during the Neolithic. These issues are especially acute in the Central Levant. Only five sites in the area's core have produced ceramic material associated with ¹⁴C dates. Tell Nebi Mend (EPN, see table 14.1),¹⁰ Arjoune (LPN),¹¹ Labwa (EPN),¹² Ard at-Tlali

⁶ Carter and Philip 2010, 12.

⁷ Carter and Philip 2010, 12.

⁸ Badreshany 2013, 354; 2016; Mathias and Parr 2015.

⁹ Nieuwenhuyse and Campbell 2017.

¹⁰ Mathias and Parr 2015, 46-47, 66.

¹¹ Parr 2003.

¹² Kirkbride 1969; Haïdar-Boustani et al. 2014; Haïdar-Boustani 2013.

(LPN)¹³ in the Beqaa, and Tell Koubba (EPN / LPN transition)¹⁴ on the coast. Of these, Nebi Mend and Arjoune, as the focus of extensive longterm excavations, have produced the most data, but their Neolithic occupations belong to different periods. The other sites represent smallerscale excavation of the period. The little material that is available from secure contexts is scattered over as much as 2,000 years, in temporal

| Period Name | Sub-Period and Stage | Approximate Date BCE (Based on Calibrated ¹⁴ C Dates) |
|----------------------------|-------------------------|---------------------------------------------------------------------|
| Early Pottery Neolithic | EPN 1 EPN 2 | 7000 / 6800 - 6500 6500 - 6000 / 5800 |
| Late Pottery Neolithic | LPN | 6000 / 5800 - 5300 |

TABLE 14.1. Relative chronology with approximate absolute dates. Published $^{14}\mathrm{C}$ dates calibrated using OxCal version 4.2 and the INTCAL13 standard (Reimer et al. 2013). The $^{14}\mathrm{C}$ date ranges given throughout the text are calibrated to 2σ or 95.4% probability.

terms. The Neolithic of the Lebanese and Syrian coasts are also represented by the two major sites of Byblos¹⁵ and Ras-Shamra¹⁶ where continuous occupation for the whole of the pottery Neolithic is often assumed. We suggest this is far from certain as the excavation and recording at these sites have proved to be frustratingly problematic and provide little opportunity to extract chronological nuance from the resulting data. Gaps may exist within the excavated sequences, or more broadly in settlement at either site, or even in the use of pottery itself.

The consequence of a lack of robust datasets in the Central Levant and the imprecise work at key sites of Byblos and Ras Shamra has, in our view, conditioned a priori assumptions leading to interpretations about the adoption and development of pottery based on linear evolutionary and functionalist models, positing multiple, near-simultaneous, loci of invention, increasing technological and stylistic complexity over time, and tying the development and use of pottery to expanding food storage and preparation needs brought on by the Neolithic revolution.¹⁷ Functionalist notions are, no doubt, conditioned by the overwhelmingly utilitarian role pottery would come to fulfil in later periods.

We now understand that the appearance and spread of pottery was relatively sudden and likely driven mostly by the desire to communicate through commensality and the exchange of items of material culture in the first instance (around 7000 BCE). The development and adoption of ceramic technology across the Near East through the rest of the pottery Neolithic, as Nieuwenhuyse points out¹⁸ was 'much more a process than an event' following more complex and, as yet, largely undefined trajectories. There is also a growing awareness¹⁹ of continuity between pre-pottery and pottery Neolithic contexts at a number of sites, which strongly suggests the limited impact that the arrival of pottery had on existing lifeways and indicates that ceramics should be viewed, not as the key to group definition, but as one element in a wider matrix that included the exchange of raw materials, finished goods, and of course knowledge - including that of technical processes.²⁰ Ceramics likely enabled new culinary practices, but like these other objects, DFBW and Halaf painted wares were valued, in the

¹³ Kirkbride 1969.

¹⁴ Badreshany et al. 2020; Badreshany 2016, 6.

¹⁵ Dunand 1973.

¹⁶ Contenson 1992.

¹⁷ e.g. Rice 2005, 9; Arnold 1985, 129-35; Redman 1978; Garfinkel 1999.

¹⁸ Nieuwenhuyse and Campbell 2017, 168.

¹⁹ Badreshany 2016, 8; Tsuneki et al. 2017; Nieuwenhuyse and Campbell 2017; Le Mière 2017.

²⁰ Banning 2018, 112-13.

main, for their ability to display status and manipulate social relationships.²¹ There is evidence from across the Levant²² for the adoption of, presumably functional, coarse ware ceramics, in many areas hundreds of years after the appearance of the initial visually conspicuous vessels. At what point these forms appear, whether they overlap with the earliest forms, and how they develop remains unclear across much of the region, but especially the Central Levant.

The above draws attention to another important point about the impact of the particularly broad periodization adopted for the pre-Bronze age Levant, namely the problematic nature of many of our periods, the very definition of which was highly dependent upon the vagaries of early excavation projects.²³ For example, in the chronology presented in this paper, the Pottery Neolithic lasts roughly 2000 years with only three subdivisions. The broad periodization gives rise to two problems. The first is the tendency for scholars to lump together within a single broad period quite a diverse range of traditions, including some that may relate to societies which had quite distinct characteristics. Scholars also assume contemporaneity. A clear example of this is the utilization of term DFBW, which acts as a catchall to describe broadly related burnished ware traditions. Scholars (including the authors of this work) have used the term to refer to a wide variety of ceramic wares and types and DFBW, has in fact been used to describe vessels that are neither dark nor highly burnished and in some cases cord impressed,²⁴ alongside vessels that are both very dark and highly burnished. The consequence has been the obscuring of nuanced local developments within this long-lived and very loose 'burnish-ware' tradition, the existence of which has been highlighted by the contributions to a recent edited volume on the emergence of pottery in West Asia²⁵ The contributions in that volume present a great deal of nuance in local DFBW traditions of the time, albeit linked by some general concepts (e.g., burnishing and 'mineral temper'). A second issue with broad periodization is that it gives an impression that there was a continual and consistent uptake of pottery technology throughout the space-time unit to which it is applied, and implies, a linear increase in technology and scale.

However, we might wonder whether, given the paucity of stratigraphic Neolithic datasets relative to those for later periods, and the resulting poor chronological resolution, our presumptions of linearity and consistency in the adoption of pottery might not be masking a more complex pattern - one of periods of enthusiasm for pottery punctuated by phases of waning interest in ceramic technology among communities across the Levant during the Neolithic. For example, during the Neolithic, Tell Koubba I and II, two sites separated by 500 meters, reveal ceramic and ¹⁴C evidence that indicates some overlap in settlement, yet the sites yield two very distinct assemblages. At Koubba I, the assemblage is dated on stylistic grounds to the early to mid-7th millennium BCE and at Koubba II the forms found would be dated to mid-6th millennium.²⁶ The evidence from these two sites supports the notion of multiple events in the adoption and decline of pottery. Likewise, the data from these sites agrees with observations from other commentators across the Levant²⁷ that show technological and stylistic developments generally do not proceed in a strictly linear fashion.

²¹ Le Mière 2017; Nieuwenhuyse and Campbell 2017.

²² Badreshany 2013, 2016; Niewenhuyse 2009; Nieuwenhuyse et al. 2010; Nieuwenhuyse et al. 2012.

²³ Campbell and Fletcher 2010.

²⁴ e.g. Mathias 2015; Badreshany 2016.

²⁵ Tsuneki et al. 2017.

²⁶ Badreshany et al. 2020.

²⁷ Nieuwenhuyse et al. 2010; Nieuwenhuyse et al. 2012; See contributions in Tsuneki et al. 2017.

With these considerations in mind, we will summarize our current understanding of the trajectory of ceramic development in the Central Levant. The periodization presented in table 14.1 follows that presented by Badreshany,²⁸ originally adapted from one proposed by Marfoe.²⁹

The earliest ceramics in the Central Levant arrive in the area sometime around 7000-6800 BCE,³⁰ though evidence indicates they are not commonly found on the Lebanese Coast until sometime after 6500 BCE. In an early stage (7000-6500 BCE), ceramics are relatively rare and belong almost exclusively to the DFBW tradition found in the Northern Levant during this time. The ceramics are well made attesting to products of a well-established rather than an incipient tradition, fitting a pattern found across the Northern Levant.³¹ The earliest ceramics in the Central Levant are basalt temperediii and utilize an exceptionally well-sorted and uniform fabric. Basalt, along with calcite is among the most common tempering material used for ceramics of this period across the Near East.³² Typology is quite simple and mostly represented by hemispherical bowls (fig. 14.2, 2-3, 7-9, 11). Jars (fig. 14.2, 10) and holemouth jars, (fig. 14.2, 6) are also found, though to a lesser extent. Ledge handles (fig. 14.2, 5, 11-13) are common. The uniformity in clay use, tempering and typology are in contrast to a wide range of colors found, though dominant shades tend towards dark brown to black and deep red. Some localized traditions can be identified, however, and the Central Levant is part of a stylistic region extending to southern Syria, where cord-impressions and faint incising are found on a large majority of the early pottery vessels. The occurrence of cord-impressed wares is attested, but quite limited on the Lebanese coast.33

While, the temper used in the earliest DFBWs of the Central Levant are consistent with basalt sources in the Akkar and Homs area, they cannot have been produced locally in the Beqaa or on the Lebanese coast, and, therefore, were likely imported to these areas from areas at least 60-100 km to the north.³⁴ A similar situation is noted at Shir, in the Orontes Valley, where basalt temper is used for the DFBW, yet the site is located some distance from basalt sources.³⁵ The distances over which these vessels were traded indicate they were sought-after, supporting the ideas presented earlier that these vessels were valued for enacting social relations.

Beginning around 6500 BCE, pottery becomes widespread and more numerous throughout the Central Levant, as is the case throughout the Levant more generally. Though ceramics are becoming more common, they are still rare, relative to quantities found associated with Bronze Age sites. Indeed, the available evidence does not provide confirmation that the uptake of ceramics is total across the region. Strong evidence for ceramic traditions covering these periods has not been found in the southern Beqaa and parts of the Homs area, for example, suggesting they could be largely aceramic until at least the beginning of the 6th millennium.³⁶ During this second phase, the character of some of the ceramics change as the earliest locally made coarse and plain ware vessels begin to appear in a more diverse range of forms, such as holemouth jars, signaling the adaptation of ceramic technology

³¹ see Tsuneki et al. 2017; Nieuwenhuyse and Campbell 2017.

³⁵ Nieuwenhuyse 2009; Nieuwenhuyse et al. 2012.

²⁸ Badreshany 2016.

²⁹ Marfoe 1995, 1998.

³⁰ Mathias 2015; Badreshany 2013, 2016.

³² Nieuwenhuyse et al and Campbell 2017, 181; Le Mière 2017.

³³ Mathias 2015, 97.

³⁴ Badreshany 2013, 2016.

³⁶ Badreshany 2016; Philip and Bradbury 2016.

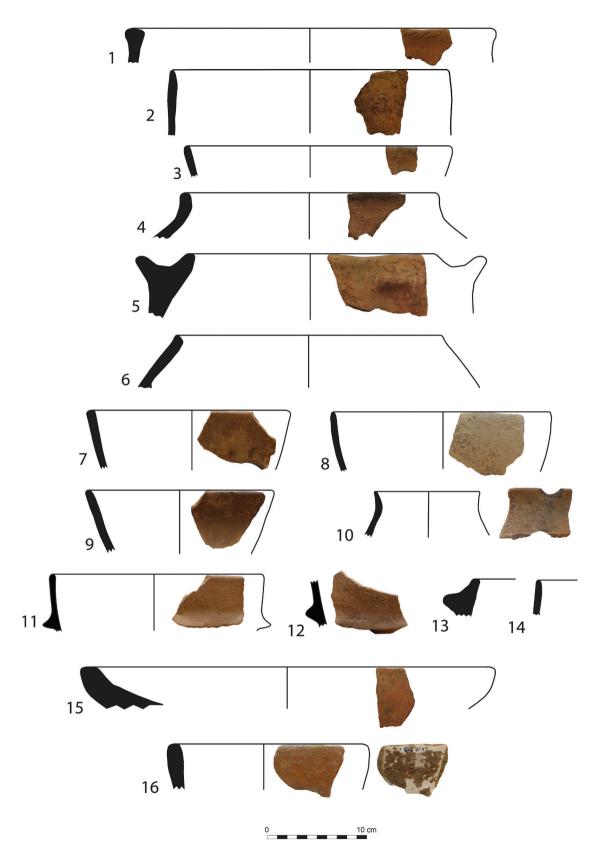


FIG. 14.2. EPN types from the site of Tell Koubba I on the Lebanese coast (see Badreshany 2016 and Mathias 2015 for a greater range of types).

for multiple roles related to food storage and preparation. In the Central Levant, these vessels are constructed using a range of materials but, most commonly, locally available clays. In fact, differences in material preferences between the Lebanese coast (calcareous fossiliferous marls/calcite), Homs area (basalt/calcareous marl mix) and between and even within parts the Begaa (calcite/limestone/ vegetal material) are discernible, indicating that ceramic production is now adapted to local affordances. Even from this early date, some of the identified preferences for locally available materials will endure in later periods, beyond the Neolithic.³⁷ The potting traditions of the Central and Northern Levant are beginning to diverge, however, as DFBW still makes up the majority of the pottery in the Beqaa and Homs area and on the Lebanese coast, while in more northerly regions of the Levant coarse and plain wares become the dominant pottery classes, appearing in some cases only after the initial wave of burnished ware ceramics disappear from the archaeological record.³⁸ The evidence indicates a regional dichotomy in the adoption and use of ceramics already at this early stage. We suggest that in the Central Levant ceramics still largely retain their place as high-status objects playing a role in the mediation of social relationships, with the use of this technology for functional roles, perhaps related to day to day food preparation or storage also occurring. The evidence from a number of sites in the Northern Levant shows the dominance of larger thick-walled ceramics tempered with organic material, generally interpreted as indicating a primarily functional dimension, and the near disappearance of burnished and other specialist forms throughout the region. It is only around the close of the 7th Millennium BCE that specialist vessels intended for conspicuous consumption re-emerge in the Northern Levant, in the form of painted pottery,³⁹ after a hiatus of perhaps 300-500 years.

Another development separating the potting traditions of the Northern and Central Levant as the 7th millennium BCE draws to a close, is the appearance of forms on the northern Lebanese coast at Byblos, and very recently at Koubba, that are either a product of or influenced by the so-called 'Yar-

mukian' traditions of the southern Levant.⁴⁰ The appearance of ceramic styles clearly influenced by traditions common to the south alongside those more common to the north, shows, from an early stage, the tendency of the Central Levant to be a zone of overlap with potential to act as a stylistic and technological bridge between the Northern and the Southern parts of the region. Yarmukian style pottery is absent in the Beqaa in the 7th millennium,⁴¹ but other styles associated with areas further to the south in Palestine will become common throughout the region during the 6th millennium. A recent technical analysis of Yarmoukian ceramics from Palestine⁴² has suggested that this ceramic assemblage may have been associated with food-ways and storage

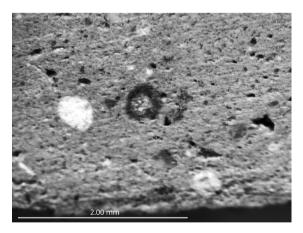


FIG. 14.3. Polished section of LPN sherd showing reaction rim on calcite grain, suggesting higher firing temperatures (between 800-900°C) for this period relative to the EPN.

- ⁴⁰ Garfinkel 2014, 1441; Dunand 1973.
- ⁴¹ Marfoe 1998.
- ⁴² Vieugué et al. 2016.

³⁷ Badreshany 2013.

³⁸ Nieuwenhuyse et al. 2012; Nieuwenhuyse and Campbell 2017.

³⁹ Campbell 2007, 128.

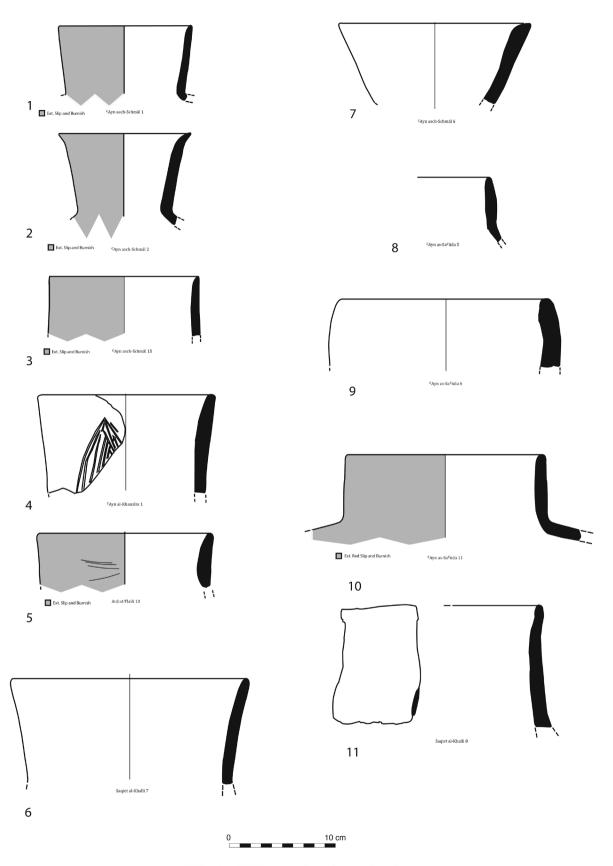


FIG. 14.4. LPN Jar types from the Beqa'a Valley.

practices that differed somewhat from those of contemporary North Syria. This approach may offer one way to think about regional ceramic practices.

Beginning roughly 6000-5800 BCE ceramics become widespread throughout much of the Levant and the current petrographic evidence indicates that, for the first time, the majority of ceramics in the Central Levant are locally made. The firing process has become longer and temperatures are higher, according to evidence from the petrographic analysis of these vessels, which shows the presence of reaction rims (fig. 14.3), indicating the alteration of calcite to wollastonite, which generally takes place between 800-900°C.⁴³ The firing program has also changed and produces a range of colors, such as bright red, on a greater range of forms. Thin walls and flaring rims becoming common, the vessels are more regular and symmetrical with smoother curves and sculpted contours (fig. 14.4).

The Central Levantine traditions continue to develop in a divergent manner relative to those of both the Northern and Southern Levant but retain stylistic and technological links with both regions to varying degrees. These links intensify in some areas indicating, if not the direct exchange of materials, a connectedness between the Central and other parts of the Levant in terms of craft production. For example, Wadi Rabah type Bow rim jars appear along sided some Halaf painted wares in parts of the Beqaa,44 but the lack of excavation makes it difficult to assess whether these vessels are contemporary or if their occurrence might be separated by a few hundred years. Painted vessels appear occasionally throughout the area and in stratified assemblages at sites like Ard al-Tlali and Arjoune (fig. 14.5) (4% of total assemblage at Arjoune), though the DFBW tradition dominates and con-



FIG. 14.5. Halaf type painted ware from Arjoune.

tinues exclusively in the Central Levant. Thus, the ceramic data further evidences that the Central Levant acts as a kind of cross-roads absorbing (or importing) technologies and styles from both areas to some degree but retaining its own character.

Importantly, beginning in 6th millennium BCE, there is evidence for a greater degree of integration between the various regions of the Central Levant, particularly among the different parts of the Beqaa and the Lebanese Coast. A stylistic and technological cohesion develops as potters on either side of the Lebanese Mountains begin to draw on the same resources for potting, forming the basis for traditions that will continue for millennia. A clear preference for calcite tempered vessels and calcareous fossiliferous marls emerges on the coast and in the Beqaa. While near Homs, where these materials rarely occur, potters favor basalt-derived materials, calcareous marls and often a mixture of the two. Quartz dominant fabrics emerge in the Homs area, where they appear to be used mainly to produce the local Halaf-like painted ceramics (fig. 14.5), probably influenced by the more northerly Halaf production. The quartz-rich fabrics utilized during this time are petrographically

⁴³ Badreshany 2013, 382.

⁴⁴ Copeland and Wescombe 1966; Badreshany 2016.

indistinguishable (but geochemically distinct) from those utilized for the later Bronze Age buff ware traditions in the Homs area,⁴⁵ indicating some technological links, even if indirect.

The current evidence suggests that during a period spanning roughly 5800-5300 BCE, as of yet undetermined centrifugal forces, perhaps linked to the local availability of potting resources in combination with other more enigmatic social factors, leads to the formation of a distinct stylistic and technological zone in the Central Levant. The ceramics of the area dating to this time, though admittedly remaining under-researched, are stylistically, decoratively, and technologically distinct, but still readily comparable with other materials originating in the Central Levant as well as those from further field. After this time, though exactly when remains a bit unclear, readily contextualizing the ceramics of the area within regional assemblages become more difficult. Additionally, the DFBW tradition seems to end, perhaps as early as 5300 BCE or as late as 5000 BCE, though burnished pottery continues in limited quantities at Arjoune in the 5th millennium BCE.⁴⁶ With this development, at the beginning of the 5th millennium, for the first time since the introduction of ceramics to the area, the Central Levant is left without a readily identifiable category of specialist pottery intended for conspicuous consumption, paralleling the situation at the end of the 7th millennium in the Northern Levant. Similarly, the only stratified assemblages from the area dating to the early 5th millennium BCE (Byblos and Arjoune) show that these ceramics are varied and typologically simplistic, suggesting functional roles and domestic or dispersed modes of production. The ceramics of this time are no longer readily identifiable or comparable with other assemblages and outwardly appear less sophisticated. Unlike the relatively short period of coarse ware dominated ceramic assemblages in the Northern Levant, this period lasts more than a millennium in the Central Levant. Chaff-tempered wares of the 4th millennium; the 'Fabric D' from Tel Nebi Mend,⁴⁷ clearly link the Homs area with parts of the northern Levant. Regionally comparable assemblages, however, only reemerge in the Lebanon possibly during the later 4th millennium and definitely by the EB II (ca 3100/3000 BCE). By this time, areas in modern Lebanon and the Homs region, having a linked ceramic tradition for much of the Neolithic, are now vastly divergent. The Lebanese areas are linked to combed ware traditions, ultimately of unknown origins, found further to the south⁴⁸ while the Homs area connects with the ceramic styles of the Orontes Valley in particular and inland western Syria more generally during the EB IV period; during EB II-III it remains relatively insular, although showing some connections with North Lebanon and the Akkar Plain.⁴⁹ The transition between these two areas is abrupt, and taken along with a range of other categories of settlement data and material culture evidence, suggest differing socio-political and/or ideological forms of expression with divergent developmental trajectories.

Though separated by more than a millennium, the similarities described above between the late 7th millennium BCE northern and early 5th millennium BCE Central Levantine assemblages suggest the gradual (though not necessarily linear) loss of the perception of pottery vessels as high-status objects the more common they become and the more they are adapted for an increasing range of quotidian uses.

⁴⁵ Kennedy et al. 2020.

⁴⁶ Campbell et al. 2003.

⁴⁷ Mathias 2000.

⁴⁸ Badreshany et al 2020; Jean 2020.

⁴⁹ Kennedy 2015, 266; 2020, 32.

Pottery continues on in the northern Levant, with painted wares taking hold in the 6th millennium BCE. The petrographic evidence from the 6th millennium⁵⁰ shows that the DFBW and painted Halaf categories are the product of the very careful selection and manipulation of materials and firing environments. In contrast to the coarser pottery of the time, for which the evidence indicates dispersed modes of production and the exploitation of a wide resource base, the petrographic uniformity of the finer specialist wares could be interpreted as pointing to production via centralized modes and specialist potters drawing upon geographically limited clay resources sources across the landscape.

Concluding Remarks

The stylistic and technological contrast and gradual polarization between the occurrence of painted fine ware traditions to the North and burnished traditions of the Central Levant indicates the development of two largely disconnected systems in the 6th millennium BCE. The painted sphere was geographically larger by comparison and encompassed areas where vast tracts of similar clay and other resources for potting could be found,⁵¹ creating a situation conducive to the horizontal transmission⁵² of knowledge and the continuation and expansion of the technological system. On the other hand, the Central Levant, an area of particular geographic diversity, is composed of varied clay resources that, by comparison, are limited in extent. The geographical considerations, taken together with the petrographic data, seemingly indicate that the DFBW tradition of the 6th millennium BCE developed into an isolated technological system (as defined by Roux)⁵³ where knowledge was vertically transmitted. In such a context, the knowhow and technology to produce fine-ware perhaps never properly entrenched within these areas and eventually disappeared after this time. In contrast, the painted traditions of the North, where knowledge networks were more widely established and developed, continue into the 5th millennium BCE.

In the Central Levant, the coarse ware traditions of the 6th millennium, drawing on a wide variety of resources generally continue, as is further evidenced by a broad continuity of forms, though difficult to trace through the 5th and 4th millennia.

Regardless of what caused the disappearance of symbolically significant pottery from the assemblages, the implications for ceramic production during the Chalcolithic of the Central Levant is the development of an assemblage composed entirely of functional, simple forms, adapted for multiple purposes. Assemblages attributable to this time appear here and there throughout the area at for example Byblos⁵⁴ and Sidon,⁵⁵ among others, but there is no evidence, as of yet, for the continuous use ceramics spanning the whole of the Chalcolithic. Likewise, the ceramics of this time are difficult to clearly parallel with other regionally occurring assemblages,⁵⁶ indicating insularity. We can suggest here that sought-after classes of fine-ware pottery, such as DFBW, serve to unify conceptual stylistic templates throughout regional assemblages, especially if widely traded, and that their disappearance

⁵⁵ Doumet-Serhal 2006.

⁵⁰ Kennedy et al. 2020; Badreshany 2013.

⁵¹ Ponikarov 1967.

⁵² Horizontal and vertical transmission as defined by Hosfield 2009.

⁵³ Roux 2008, 99.

⁵⁴ Dunand 1973.

⁵⁶ See Badreshany 2013.

from the central Levant at the end of the 6th millennium contributes to the development of localized concepts of style.

In this work, we track the first 2000 years of ceramic development in the central Levant, an area and time that has received comparatively little attention from scholars. We show that with time, a unified DFBW tradition found across the Northern Levant develops into distinct regional assemblages and ceramic provinces, with painted wares taking hold in the Northern Levant while burnishing continues on in the Central Levant. Within these provinces, preferences also develop for the utilization of locally available materials. It is perhaps, in part, the development of specialized knowledge needed for exploiting local materials that leads to the establishment of separate communities of potters, each rooted within a relatively small 'community of practice.' The focus on local materials requiring distinct technological strategies would serve to hamper the flow of knowledge between these two groups. Considering, in addition, changes to the social role or relevance of ceramic materials and changing tastes these factors could contribute to what we perceive as two separate ceramic provinces. Eventually, the Homs area, once firmly part of the burnished ware core area and largely lying outside of painted traditions gravitates towards the painted ware province mirroring the divide between the combed ware tradition of the littoral and Palestine and orange and buff fabrics used in 3rd millennium BCE ceramic production in western Syria. The eventual transition makes sense as clays and other materials locally available near Homs align more closely to those found further to the north, than to those found in the Lebanese mountains, facilitating the inclusion of the Homs area into the northern ceramic provinces. Scholars consider the variation in these traditions as the manifestation of different forms of social and ideological expression. In the Early Bronze Age, pottery plays a role in exchange but also in the political economy reinforcing tributary relationships. Perceptions of its symbolic potential and utilizations during the Early Bronze age, we suggest, are rooted in the Neolithic.

For broader Near Eastern treatment see contributions in the recent edited volume by Tsuneki et al. 2017.

All dates presented are Calibrated ¹⁴C dates based on Reimer et al. 2013 unless otherwise indicated.

Typological and petrographic information is summarised from Badreshany 2016, 2013 and Kennedy et al. 2020.

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Bibliography

- Arnold, D.E. 1985. *Ceramic Theory and Cultural Process*, edited by C. Renfrew and J. Sabloff. New Studies in Archaeology. Cambridge: Cambridge University Press.
- Badreshany, K.P. 2013. "Urbanization in the Levant: An Archaeometric Approach to Understanding the Social and Economic Impact of Settlement Nucleation in the Biqā^c Valley." Ph.D. diss., The University of Chicago.
- Badreshany, K. 2016. "Lebanon's Earliest Potting Traditions in Regional Context." Berytus 59:5-42.
- Badreshany, K., G. Philip, and M. Kennedy. 2020 "The Development of Integrated Regional Economies in the Early Bronze Age Levant: New Evidence from "Combed Ware" Jars." *Levant* 52:160-196, DOI: 10.1080/00758914.2019.1641009
- Balossi Restelli, F. 2006. The Development of 'Cultural Regions' in the Neolithic of the Near East. The 'Dark Faced Burnished Ware Horizon'. BAR-IS 1482. Oxford: Archaeopress.
- Balossi Restelli, F. 2017. "Yumuktepe Early Ceramic Productions: Dark versus Light Coloured Wares and the Construction of Social Identity." In *The Emergence of Pottery in West Asia*, edited by A. Tsuneki, O. Nieuwenhuyse, and S. Campbell, 83-96. Oxford / Philadelphia: Oxbow.
- Banning, E.B. 2018. "It's a Small World: Work Family Life and Community in the Late Neolithic." In *The Social Archaeology of the Levant: From Prehistory to the Present*, edited by A. Yasur-Landau, E.H. Cline, and Y.M. Rowan, 98-121. Cambridge: Cambridge University Press.
- Campbell, S. 2007. "Rethinking Halaf Chronologies." Paléorient 33.1:103-36.
- Campbell, S. 2017. "Absolute Dating and the Early Pottery of South-west Asia." In *The Emergence of Pottery in West Asia*, edited by A. Tsuneki, O. Nieuwenhuyse, and S. Campbell, 133-53. Oxford / Philadelphia: Oxbow.
- Campbell, S., V.T. Mathias, and C.S. Philips. 2003. "The Prehistoric Pottery." In *Excavations at Arjoune, Syria*, edited by P.J. Parr, 31-70. BAR-IS 1134. Oxford: Archaeopress.
- Campbell, S. and A. Fletcher. 2010. "Questioning the Halaf-Ubaid Transition." In Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East. Papers from The Ubaid Expansion? Cultural Meaning, Identity and the Lead-up to Urbanism, International Workshop held at Grey College, University of Durham, 20-22 April 2006, edited by R.A. Carter and G. Philip, 69-83. SAOC 63. Chicago / Illinois: The Oriental Institute of the University of Chicago.
- Carter, R.A., and G. Philip. 2010. "Deconstructing the Ubaid." In Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East. Papers from The Ubaid Expansion? Cultural Meaning, Identity and the Lead-up to Urbanism, International Workshop held at Grey College, University of Durham, 20-22 April 2006, edited by R.A. Carter and G. Philip, 1-22. SAOC 63. Chicago / Illinois: The Oriental Institute of the University of Chicago.
- Contenson, H. de. 1992. *Préhistoire de Ras Shamra: Les sondages stratigraphiques de 1955 à 1976.* Ras Shamra-Ougarit 8.1-2. 2 vols. Paris: Éditions Recherche sur les Civilisations.
- Copeland, L., and P. Wescombe. 1966. "Inventory of Stone-age Sites in Lebanon: Part II." MélBeyrouth 42.1:1-173.
- Doumet-Serhal, C. 2006. *The Early Bronze Age in Sidon: "College Site" Excavations (1998–2000–2001)*. Bibliothèque Archéologique et Historique T. 178. Beyrouth: Institut Français Du Proche-Orient.
- Dunand, M. 1973. Fouilles de Byblos, 5. L'architecture, les tombes, le matériel domestique, des origines néolithiques à l'avènement urbain. Etudes et documents d'archéologie 6. 2 vols. Paris: Librairie d'Amérique et d'Orient, Adrien Maisonneuve.
- Garfinkel, Y. 1999. Neolithic and Chalcolithic Pottery of the Southern Levant. Qedem 39. Jerusalem: Institute of Archaeology, Hebrew University of Jerusalem.
- Garfinkel, Y. 2014. "The Levant in the Pottery Neolithic and Chalcolithic Periods." In *The Cambridge World Prehistory*. Vol. 3, *Western and Central Asia, Europe and the Mediterranean*, edited by C. Renfrew and P.G. Bahn, 1439-461. Cambridge: Cambridge University Press.

- Greenberg, R. 2011. "Travelling in (World) Time: Transformation, Commoditization, and the Beginnings of Urbanism in the Southern Levant." In Interweaving Worlds: Systemic Interactions in Eurasia, 7th to the 1st Millennia BC. Papers from a Conference in Memory of Professor Andrew Sherratt. What Would a Bronze Age World System Look Like? World Systems Approaches to Europe and Western Asia 4th to 1st millennia BC, edited by T.C. Wilkinson, S. Sherratt, and J. Bennet, 231-42. Oxford / Philadelphia: Oxbow.
- Haïdar-Boustani, M. 2013. "The Neolithic of Lebanon: A Statement of Current Knowledge." In Stone Tools in Transition: From Hunter-Gatherers to Farming Societies in the Near East, Papers presented to the 7th Conference on PPN Chipped and Ground Stone Industries of the Fertile Crescent, edited by F. Borrell, J.J. Ibáñez, and M. Molist, 207-18. Bellaterra: Universitat Autônoma de Barcelona, Servei de Publicacions.
- Haïdar-Boustani, M., J.J. Ibáñez, A.M. Arranz, B. Gratuze, M. Himi, L. Khalidi, and L. Teira. 2014. "Nouveaux travaux archéologiques à Tell Labwé Sud (Béqa' Nord) Campagne 2011." Bulletin d'Archéologie et d'Architecture Libanaises 15:5-28.
- Hosfield, R. 2009. "Modes of Transmission and Material Culture Patterns in Craft Skills." In *Pattern and Process in Cultural Evolution*, edited by S. Shennan, 45-60. Origins of Human Behavior and Culture 2. Berkeley: University of California.
- Jean, M. 2020. "Pottery Production at Tell Arqa (Lebanon) during the Third Millennium BCE: Preliminary Results from Petrographic Analysis." *Levant* 52:136-59. DOI: 10.1080/00758914.2018.1454239
- Kennedy, M.A. 2015. The Late Third Millennium BCE in the Upper Orontes Valley, Syria: Ceramics, Chronology and Cultural Connections. Ancient Near Eastern Studies Suppl. 46. Leuven: Peeters.
- Kennedy, M.A., K. Badreshany, and G. Philip. 2020. "Drinking on the Periphery: The Tell Nebi Mend Goblets in their Regional and Archaeometric Context." *Levant* 52:2013-135, DOI: 10.1080/00758914.2018.1442076
- Kirkbride, D. 1969. "Early Byblos and the Beqa'a." MélBeyrouth 45:45-60.
- Le Mière, M. 2017. "The Earliest Pottery of West Asia: Questions Concerning Causes and Consequences." In *The Emergence of Pottery in West Asia*, edited by A. Tsuneki, O. Nieuwenhuyse, and S. Campbell, 9-17. Oxford / Philadelphia: Oxbow.
- Marfoe, L. 1995. Kāmid el-Lōz, 13. The Prehistoric and Early Historic Context of the Site. Saarbrücker Beiträge zur Altertumskunde 41. Bonn: Dr. Rudolf Habelt.
- Marfoe, L. 1998. Kamid el-Löz, 14. Settlement History of the Biqā^c up to the Iron Age. Saarbrücker Beiträge zur Altertumskunde 41. Bonn: Dr. Rudolf Habelt.
- Mathias, V. 2000. "The Early Bronze Age Pottery of Tell Nebi Mend in its Regional Setting." In Ceramics and Change in the Early Bronze Age of the Southern Levant, edited by G. Philip and D. Baird, 411-27. Sheffield: Sheffield Academic Press.
- Mathias, V. 2015. "The Pottery." In *Excavations at Tell Nebi Mend*, Syria. Vol. 1, edited by P.J. Parr, 75-262. Levant Suppl. Series 16. Oxford: Oxbow.
- Mathias, V., and P.J. Parr. 2015. "Stratigraphy and Chronology." In *Excavations at Tell Nebi Mend, Syria*. Vol. 1, edited by P.J. Parr, 38-69. Levant Suppl. Series 16. Oxford: Oxbow.
- Nieuwenhuyse, O.P. 2009. "The Late Neolithic Ceramics from Shir: A First Assessment." Zeitschrift für Orient-Archäologie 2:310-56.
- Nieuwenhuyse, O.P., P.M.M.G. Akkermans, and J. van der Plicht. 2010. "Not so Coarse, nor always Plain the Earliest Pottery of Syria." *Antiquity* 84:71-85.
- Nieuwenhuyse, O.P., K. Bartl, K. Berghuijs, and G. Vogelsang-Eastwood. 2012. "The Cord-Impressed Pottery from the Late Neolithic Northern Levant: Case-study Shir (Syria)." *Paléorient* 38.1-2:65-77.
- Nieuwenhuyse, O.P., and S. Campbell. 2017. "Synthesis: The Emergence of Pottery in West Asia." In *The Emergence* of Pottery in West Asia, edited by A. Tsuneki, O. Nieuwenhuyse, and S. Campbell, 167-92. Oxford / Philadelphia: Oxbow.
- Parr, P.J., ed. 2003. Excavations at Arjoune, Syria. BAR-IS 1134. Oxford: Archaeopress.
- Philip, G., and J. Bradbury. 2016. "Settlement in the Upper Orontes Valley from the Neolithic to the Islamic Period: An Instance of Punctuated Equilibrium." In Le fleuve rebelle, Géographie historique du moyen Oronte d'Ebla à l'époque médiévale, Actes du colloque international tenu les 13 et 14 décembre 2012 à Nanterre (MAE) et à Paris (INHA), edited by D. Parayre, 377-95. Syria Suppl. 4. Beyrouth: Institute Français Du Proche-Orient.
- Ponikarov, V.P., ed. 1967. The Geology of Syria. Explanatory Notes on the Geological Map of Syria. Scale 1:500000. Part 1: Stratigraphy, Igneous Rocks and Tectonics. Damascus: Syrian Arab Republic, Ministry of Industry, Department of Geological and Mineral Research.

- Redman, C.L. 1978. The Rise of Civilization. From Early Farmers to Urban Society in the Ancient Near East. San Francisco: W.H. Freeman & Co.
- Reimer, P.J., E. Bard, A. Bayliss, J.W. Beck, P.G. Blackwell, C. Bronk Ramsey, C.E. Buck, H. Cheng, R.L. Edwards, M. Friedrich, P.M. Grootes, T.P. Guilderson, H. Haflidason, I. Hajdas, C. Hatté, T.J. Heaton, D.L. Hoffmann, A.G. Hogg, K.A. Hungen, K.F. Kaiser, B. Kromer, S.W. Manning, M. Niu, R.W. Reimer, D.A. Richards, E.M. Scott, J.R. Southon, R.A. Staff, C.S.M. Turney, and J. van der Plicht. 2013. "IntCall3 and Marine13 Radiocarbon Age Calibration Curves 0-50,000 Years cal BP." *Radiocarbon* 55.4:1869-887.
- Rice, P.M. 2005. Pottery Analysis: A Sourcebook. Chicago: University of Chicago Press.
- Roux, V. 2008. "Evolutionary Trajectories of Technological Traits and Cultural Transmission: A Qualitative Approach to the Emergence and Disappearance of the Ceramic Wheel-Fashioning Technique in the Southern Levant" In *Cultural Transmission and Material Culture*, edited by M.T. Stark, B.J. Bowser, and L. Horne, 82-104. Tucson: University of Arizona Press.
- Tsuneki, A., O. Nieuwenhuyse, and S. Campbell, eds. 2017. *The Emergence of Pottery in West Asia*. Oxford / Philadelphia: Oxbow.
- Vieugué, J., Y. Garfinkel, O. Barzilai, and E.C.M. van den Brink. 2016. "Pottery Function and Culinary Practices of Yarmukian Societies in the Late 7th Millennium cal. BC: First Results." *Paléorient* 42.2:97-115.





