

Searching for the potters behind the pots: re-examining the Tell Ahmar Neo-Assyrian ceramic assemblage

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DOI: <https://doi.org/10.62614/z2znyw18>

Abstract: Ceramic studies have been crucial to the development of archaeology. This paper is concerned with a re-examination of the pottery, and the potters, of Tell Ahmar (ancient Til Barsib), Syria. It focuses on the ceramics from the Australian excavations in the Middle City (Area C), especially the more than 250,000 items from the 7th-century BCE Neo-Assyrian Stratum 2. The Stratum 2 assemblage was readily grouped into seventeen ware types. The various wares reflect different production systems: some hand-made products were manufactured locally, possibly by individual households; other wares, characterised by high rates of uniformity, were probably produced by large-scale, centralised pottery industries; another ware group exhibits considerable investment in the application of different surface treatments, indicating specific uses. The Area C assemblage provides a rare opportunity to examine a large and relatively complete well-dated corpus. Observations and explanations relating to the technology of preparing, forming, decorating, and firing these ceramic vessels casts light on the circumstances of their manufacture and, in turn, on the potters behind the pots of the Neo-Assyrian Empire.

Keywords: Tell Ahmar, Neo-Assyrian pottery, pottery technology, Syria, pots and potters

Introduction

The 2023 Petrie Oration recognised a long-serving board member of the Australian Institute of Archaeology, Professor Ian Edwards. To honour Ian's contributions in the study of ancient pottery techniques and technology, the address re-examined the Neo-Assyrian ceramic assemblage from Tell Ahmar (Figure 1), and searched for the potters behind the pots. During a visit to Tell Ahmar in 1991, Ian collected clay samples for a series of firing experiments. These experiments are discussed in consideration of the technology of preparing, forming, decorating and firing of the Neo-Assyrian pottery.

The paper draws on two key secondary sources, *Life Writing in the History of Archaeology* and *Archaeological Ceramic Analysis*, to frame the following discussion. As Claire Lewis and Gabriel Moshenska note (2023: 1): 'life-writing is a literal translation of "biography", but in practice it represents a far broader category of texts and related forms. ... memory studies ... linguistics ... history and philosophy of science. *Life-writing* has played a vital role in the emergence and development of archaeology, from the memoirs of early-modern antiquarian travellers to the rise of "object biography" approaches in the late 20th century'. *Archaeological Ceramic Analysis*, as described in the Oxford Handbook edited by Alice Hunt (2017: 3): 'draws together topics and methodologies essential for the socio-cultural, mineralogical, and geochemical analysis of archaeological ceramics. Ceramic is one of the most complex and ubiquitous archaeo-materials in the archaeological record. ... For more than 100 years, archaeologists have used ceramic



Figure 1: A view of Tell Ahmar looking west.
Image: C.J. Davey 1984.

analysis to answer complex questions about economy, subsistence, technological innovation, social organisation, and dating'.

Pottery became an index artefact of the Neo-Assyrian imperial occupation and administration (Hunt 2015: 2, 206). Therefore, an understanding of pottery production (and the potters), is important for our understanding of the organisation of the Neo-Assyrian Empire (Duistermaat 2008).

The paper comprises four parts:

- Historical developments relevant to the analysis of the Tell Ahmar pottery
- Excavations at Tell Ahmar

- Re-examining the Neo-Assyrian Tell Ahmar ceramic assemblage
- Searching for the ‘potters behind the pots’

Historical developments

Flinders Petrie

Because this is the Petrie Oration, it seems only fitting to start with Sir William Matthew Flinders Petrie (1853–1942), the father of Egyptian Archaeology and a pioneer of systematic methodology in archaeology. In his words: ‘Once settle the pottery of the country, ... the key is in our hands for all future explorations. A single glance at a mound of ruins ... will show as much to anyone who knows the styles of the pottery, as weeks of work may reveal to a beginner’ (Petrie 1891: 40). And, in his first letter to Miss Ameilia Edwards in 1883, Petrie stated, ‘the true line lies in the noting and comparison of small details’ (Smith 1945: 5). Petrie was the first to use ‘seriation’ in Egyptology, by ordering the pottery from his excavations in Naqada, Hu and Abadiya into a chronological series. He called it ‘Sequence Dating’ (Drower 1985: 251–253).

Kathleen Kenyon

Another pioneer in Middle Eastern archaeology is Dame Kathleen Kenyon (1906–1978) (Davis 2008; Dever 1978). Kenyon made significant contributions in the field of stratigraphic excavation techniques, the so-called ‘Wheeler-Kenyon’ method of excavation, which she perfected at Jericho (Wagemakers 2020). She also introduced innovative approaches in ceramic methodology (*in situ* recording). Another important aspect of Kenyon’s archaeological career was her role as a teacher. She helped train a generation of archaeologists, including Australians (Wagemakers 2020).

Henk Franken

Hendricks (Henk) Jacobus Franken (1917–2005) from the Netherlands participated in Kenyon’s excavations at Jericho (from 1955 to 1958). In a paper on the impact of Kenyon’s excavations on Dutch Archaeology in the Near East, Bart Wagemakers mentions, Franken learned from Kenyon about the importance of pottery (2020). When Franken commenced his own excavations at Tell Deir ‘Alla in Jordan he applied Kenyon’s excavation methods and ceramic analysis (Franken and Kalsbeek 1969). Wagemakers describes this as: ‘A contextual approach to pottery, that was carried out by Franken and his students in collaboration with potter Jan Kalsbeek, defining a pottery tradition as a set of recurring traits in pottery production’ (2020: 87). This method, now known as the ‘Leiden School/Approach’, is still practiced in the Near East by former students of Franken. In her obituary on Franken, Eviline van der Steen noted: ‘Franken looked for the potter behind the pots, and on his digs, there was always a professional potter present, to analyse and interpret the production process’ (2005: 14).² Franken is also remembered for establishing the Department of Pottery Technology in Leiden, and the *Leiden Journal of Pottery Studies*.³

Basil Hennessy

In the context of Middle Eastern archaeology, John Basil Hennessy (1925–2013) represents an important Australian connection (Hennessy 2013). At the end of 1951, Hennessy joined the first season of renewed excavations at Jericho under the direction of Kathleen Kenyon where he too was exposed to the Wheeler-Kenyon excavation technique that he would employ and modify in his own excavations, notably at Pella (Walmsley 2012: 13). Kenyon described Hennessy as ‘one of the most promising’ students she had met (Barker 2014: 11). In remembering Hennessy, Alan Walmsley recalls: ‘Pella quickly grew into Australia’s premier archaeological project in Jordan’, and notes, ‘It took a large team to tackle the myriad of research topics Pella presented’ (2012: 14).

Ian Edwards

William Ian Edwards (Figure 2) was one of many to work with Hennessy at Pella. Ian’s PhD, titled ‘A Potter’s View of Bronze Age Pella (Jordan): A Study of Ceramic Technology’, investigated the residual evidence of the technology and techniques used in the production of the Bronze Age pottery from Pella (Edwards 1993). Trained as a professional potter, Ian lectured in studio pottery at Burwood Teachers College (now Deakin University) for many years. It was this practical experience that Ian brought to the study of Pella pottery. Ian established the Archaeology Research Unit at Deakin and formed close connections with Henk Franken in Leiden. Through these associations, he promoted the role of ceramicists in Australian archaeological projects working in the Middle East (Edwards 1983). Of importance to this paper is Ian’s visit to Tell Ahmar, Syria in 1991.



Figure 2: Ian Edwards with Andrew Jamieson, on his left, and Christopher Davey, at the 2023 Petrie Oration. Ian was awarded a Fellowship of the Australian Institute of Archaeology at the lecture. Image: courtesy Mohamed Alsamsam.

Excavations at Tell Ahmar⁴

The Australian excavations at Tell Ahmar in Syria, by a team from the University of Melbourne, were directed by Belgian archaeologist, Guy Bunnens, a student of Assyriologist Georges Dossin.⁵ This connection would not have escaped the attention of the Directorate General of Antiquities and Museums in Damascus when it came to the allocation of excavation permits. Other connections of note: Greg Wightman joined the Tell Ahmar project for one season in 1988, and Ian Edwards in 1991; they brought experience that they had acquired with working with Hennessy at Pella (Bourke and Descoedres 1995).

Before the Australian excavations at Tell Ahmar, a French team had worked at the site between 1929 to 1931 under the auspices of the Louvre (Thureau-Dangin 1929). It was directed by Françoise Thureau-Dangin, with the assistance of Maurice Dunand, Lucian Cavro and Georges Dossin.⁶

Location

Tell Ahmar is situated on the east bank of the Euphrates River (Figure 3), approximately 20 km below Carchemish (Bunnens 2022: 2–3). It commanded a position of prime importance in the middle and upper Euphrates River valley of northern Syria (Bunnens 2022: 3–5).

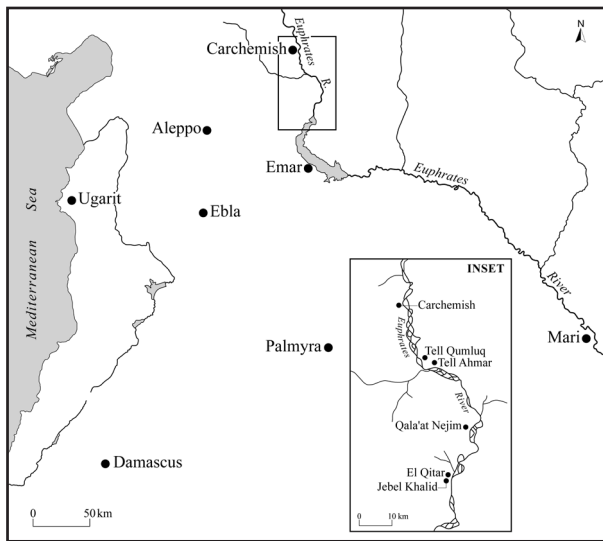


Figure 3: Map of Syria. Courtesy Chandra Jayasuriya.

The names of Tell Ahmar

Throughout history, Tell Ahmar has been known by several different names (Bunnens 2022: 1–2):

- Hittite (Luwian) name: Masuwari
- Aramean name: Til Barsip / Til Barib (or Tabursiba)
- Neo-Assyrian name: Kar Shalmaneser (Shalmaneser's gate/port)
- Modern Arabic name: Tell Ahmar ('red mound')

Tishreen Dam flood zone

Owing to the construction of the Tishreen Hydroelectric Dam, Tell Ahmar was one of twenty or so sites

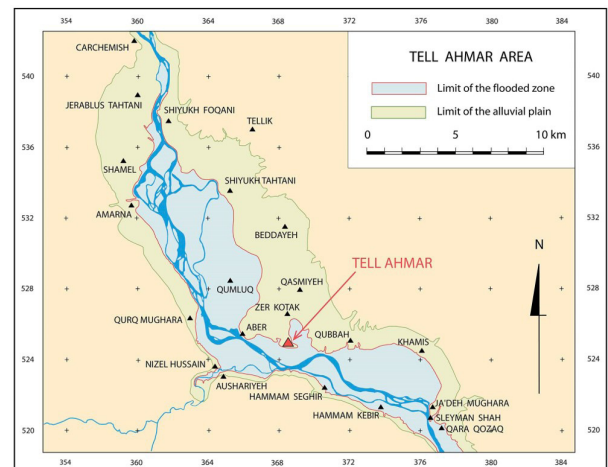


Figure 4: A map of the Tishreen flood zone. Image: courtesy Guy Bunnens.

threatened with destruction (Figure 4).⁷ In responding to an international call for assistance from the Syrian Directorate General of Antiquities and Museums, the University of Melbourne commenced salvage excavations at the site in 1988 (Bunnens 2022: 6–10).

Tell Ahmar was inhabited as early as the Neolithic period, but it is the remains of the Iron Age city that is generally considered the most important settlement at the site. On the site's history, Bunnens reports the city was largely Neo-Hittite up to its conquest by the Neo-Assyrian Empire in 856 BCE. At the time, Til Barsip was in the area of the Aramean-speaking Syro-Hittite state of Bit Adini. When it was captured by the Assyrians the city was renamed Kar Shalmaneser, after the Assyrian king Shalmaneser III. Following the Assyrian conquest, Tell Ahmar became a prominent provincial centre for the Empire's administration of the region due to its strategic location (Bunnens 2022: 2).

The site comprises three main parts (Figure 5). The first is the main tell or Acropolis, which rises above the surrounding region on the edge of a terrace overlooking the flood plain. The original height of the mound was 25 m, with approximate dimensions of 250 m by 150 m. The second component is the Middle City, which extends over several hundred metres (350 m) westwards from the Acropolis. The third part comprises the semi-circular Lower City, about 1200 m in diameter extending to the north of the Acropolis. Of this tripartite configuration it is important to note that the Middle City and Lower City at Tell Ahmar were built-up during the Neo-Assyrian period (Bunnens 2022: 115–134).

French excavations

As stated above, the French were first to excavate Tell Ahmar (Thureau-Dangin & Dunand 1936). On top of the tell they found a palace made of mud bricks. It was the residence of the king's representative: a provincial governor. The throne room, and other areas, were decorated with wall paintings in black, red and blue

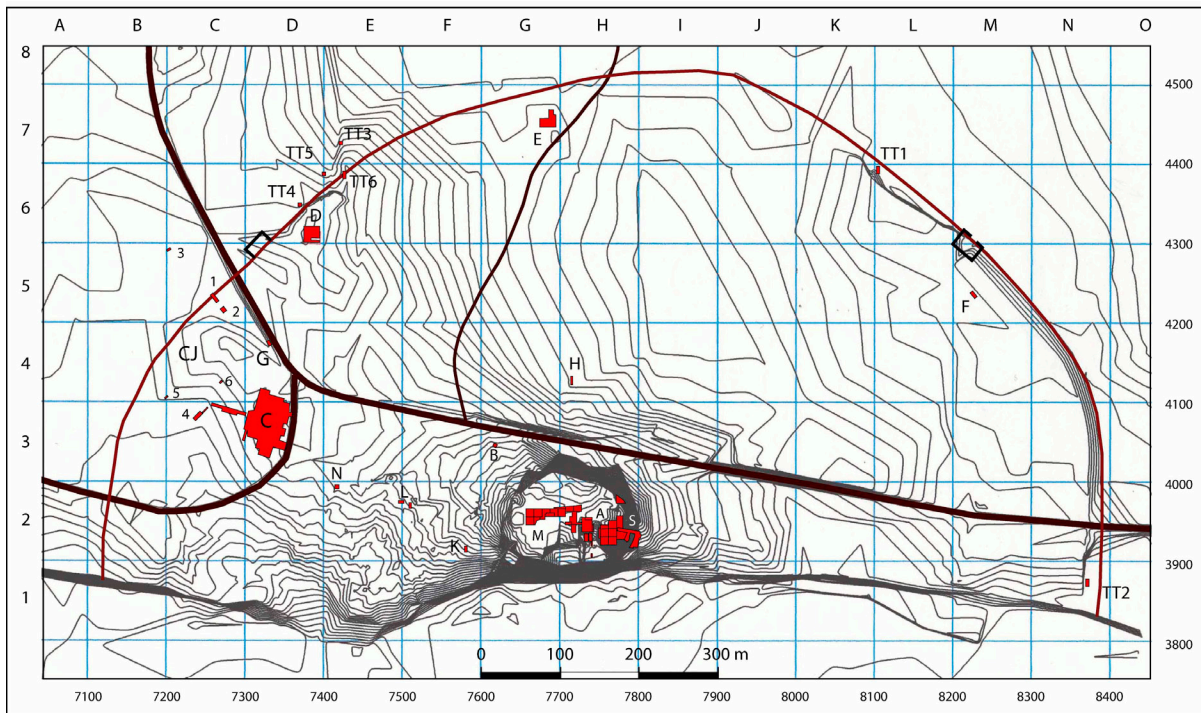


Figure 5: Plan of Tell Ahmar 2010. Courtesy Guy Bunnens

(Bunnens 2022: 118–125). The subjects glorify the king and served to magnify royal power. The paintings played the same role as carved reliefs of the palaces of Assyria, but at lower cost. They are some of the only surviving examples of Assyrian painting in existence (Thureau-Dangin 1930; Roobaert 1990). The French also explored the Lower City, in the vicinity of the city gate where two basalt lions marked the entrance to the town. A cuneiform inscription on one lion mentions the name of the site, Kar Shalmaneser (Thureau-Dangin 1930; Roobaert 1990; Bunnens 2022: 6–10).

Australian excavations

Because the French had concentrated their efforts on the main tell, the Australians decided to focus their attention on the Middle City and Lower City areas (Bunnens 2022: 6–10). Of particular significance are the excavations in Area C that covered an area approximately 3300 sq m (Bunnens 2022, 135–148). Just below the surface in the Middle City, a series of well-preserved buildings were found. Several mud brick buildings, with walls up to two metres in height, were identified in Area C. All structures were constructed around open courtyards, and in at least one instance (Building C2) Bunnens notes the architectural layout conforms to known Neo-Assyrian conventions (2022: 156). Although traces of industrial activities were found in Building C2, the function of the building as a residence is clearly indicated by features such as room 6 which are typical of Neo-Assyrian reception rooms. The courtyard of Building C2 featured a black and white chequerboard pattern pebble mosaic (Bunnens 2016; 2022: 144–45). Near the houses in Area C was found a burial vault made of baked bricks (Bunnens 2022: 145–48). Other than a terracotta bathtub

sarcophagus, the tomb was completely empty. A hole in the roof was possibly made by tomb robbers. Above the tomb were found fragments of a life-size basalt male statue with clasped hands; only the feet were missing (Roobaert 1996: 79–87; Bunnens 2022: 128–33). The beardless figure suggests a eunuch (texts record eunuchs often served as governors in Assyria (Inurta-bel-usur)). The figure was deliberately damaged in antiquity; the face had been erased and the chest punctured, indicating a ritual killing. The proximity to the tomb may therefore not be accidental.

Twenty cuneiform tablets were found in Building C1a (Dalley 1997; Bunnens 2022: 171–72). Most date to the second half of the reign of Ashurbanipal (based on the eponyms). One name, Hanni, appears several times in the tablets. It may be assumed Hanni is the owner of the house/s (and the archive) in Area C. The contents of the tablets reveal Hanni was a businessman: lending silver and buying slaves. Other tablets contain ration lists of various commodities (Bunnens 2022: 135–36, 171–72).

Twenty carved ivories were also found in Area C (Bunnens 1997: 435–50; 2022: 165–67). During the Assyrian period, ivory was used as decorative inlay in wooden furniture. The largest ivory is a plaque 32 cm long, which depicts a procession of figures carrying provisions – grapes, pomegranates, small birds and fish – for a banquet. The figures are led by a musician playing a flute. This ivory reflects Egyptian and Syro-Hittite stylistic features (Bunnens 1997; 2022: 165).

Neo-Assyrian Ceramic Assemblage

The greatest quantity of material to be found in Area C was pottery (Jamieson 1999a; 2000; 2012; 2013). The

No./Ware	Code	Man.	Fir.	Surface Treatment	% of Total
1. Common Ware	CW	W/M	OX	Plain & self-slipped	85.0
2. Coarse Ware	COW	H/M	PIT	Plain, wet-smoothed & incised	1.00
3. Cooking Pot Ware	CPW	H/M	PIT	Plain & wet-smoothed	2.50
4. Red Slip Ware	RSW	W/M	OX	Slipped & burnished	5.50
5. Palace Ware	PW	W/M	OX	Self-slipped & smoothed	1.00
6. Fine Ware	FW	W/M	OX	Self-slipped & smoothed	2.00
7. Grey Ware	GW	W/M	RED	Self-slipped & burnished	0.50
8. Tall Jar Ware	TJW	W/M	RED	Self-slipped	1.00
9. Glazed Ware	GLZW	W/M	OX	Glazed	0.05
10. Painted Ware	PATW	W/M	OX	Self-slipped & painted	0.15
11. Incised Ware	INCW	W/M	OX	Self-slipped & incised	0.15
12. Stamped Ware	STPW	W/M	OX	Self-slipped & stamped	0.15
13. Cypriot Ware	CYPW	W/M	OX	Slipped, smoothed & painted	0.15
14. Bi-Chrome Ware	BCW	W/M	OX	Self-slipped & painted	0.05
15. Phoenician Ware	PHOW	W/M	OX	Self-slipped & painted	0.05
16. Sheik Hamad Ware	TSHW	W/M	OX	Self-slipped & incised	0.05
17. Plain Crisp Ware	PCW	W/M	OX	Self-slipped	0.05

Table 1: Tell Ahmar Neo-Assyrian Area C Stratum 2 Ware Types.

excavations in Area C yielded close to 400,000 sherds (393,325). The pottery from the Neo-Assyrian Stratum 2 comprised over 250,000 individual items (255,825). Diagnostic features enable the Area C Stratum 2 pottery to be well dated to the 7th century BCE – and more specifically to the second half of the 7th century. The dating of the Area C pottery is corroborated by textual evidence and other finds. The Neo-Assyrian pottery can be readily grouped into 17 ware types (Table 1). In all instances the ware types that were identified at Tell Ahmar relate to known Neo-Assyrian fabrics documented at other Neo-Assyrian sites. They exhibit distinct features in terms of their 1) fabric and colour, 2) texture and inclusions, 3) fracture and firing, 4) manufacture technique, and 5) surface treatment. The assemblage was enriched by ceramic imports from Anatolia, Cyprus, Phoenicia, the Levant and northern Mesopotamia. The presence of some of these imports at Tell Ahmar probably relates to content of the vessels (Jamieson 2000).

It is apparent that the different technical attributes of Area C pottery reflect different systems of production. For example, Coarse Ware (COW) and Cooking Pot Ware (CPW) are both characterised by low firing temperatures, soft hardness and hand-made methods of construction. Other wares, Common Ware (CW), Tall Jar Ware (TJW), Stamped Ware (STMW), Tell Sheik Hamad Ware (TSHW) and Plain Crisp Ware (PCW) are: characterised by wheel-made fabrics, have high rates of uniformity, appear to be highly utilitarian and were probably produced by large-scale pottery industries. A third group of wares, Red Slip Ware (RSW), Palace Ware (PW), Fine Ware (FW), Grey Ware (GW), Painted Ware (PATW), Incised Ware (INCW), Glazed Ware (GLZW), Cypriot Ware (CYPW)

and Phoenician Ware (PHOW), although appearing relatively infrequently, are characterised by wheel-made, high fired products that exhibit considerable investment in the application of different surface treatments. Some of these wares appear to have had specific functional uses (Jamieson 2000; 2012).

Similar smaller samples of Iron Age pottery were recovered from several other areas in the Lower City at Tell Ahmar: D, E, F, & H (Jamieson 2000; 2012). Whilst the pottery from these different areas may not be identical to that of Area C, it does appear to conform broadly to the Neo-Assyrian period, indicating that the site reached its maximum extent during the 7th century BCE (Jamieson 2020).

The greatest and closest parallels of the Area C Tell Ahmar pottery are with the ceramics from the Assyrian heartland: Assur, Nineveh, Nimrud and Khorsabad (Anastasio 2010; Jamieson 2013). The pottery from Nimrud, one of the capital cities of Assyria, is possibly of greatest significance. The grit tempered Common Ware, Cooking Pot Ware, Red Slip Ware, Palace Ware, Fine Ware, Grey Ware, Glazed Ware, Stamped Ware and Painted Ware are all represented in the Neo-Assyrian assemblage at Nimrud (Lines 1954, Oates 1959). Within these wares many of the individual types find exact parallels with the pottery from Area C Tell Ahmar. The high number of similar wares and types, particularly within the Common Ware that display classic Assyrian forms, suggests that Tell Ahmar and the Neo-Assyrian heartland were closely connected at that time (Jamieson 2012; 2020).

Most of the vessels from Area C were made of Common Ware. These vessels display highly standardised fabric and

technological features, a consequence of mass production in state-organised manufactories, where potters were part of the Assyrian administrative system. Peter Pfälzner proposed that Assyrian imperial administration brought with it a specific ceramic tradition and its mode of production to the provinces (2007: 250). He named this type of pottery Middle Assyrian Administrative Pottery. According to Janoscha Kreppner, a characteristic feature of Assyrian Administrative Pottery is its manufacture in the so-called Middle Assyrian Standard Ware, displaying highly standardised fabric and technological features (2015: 222).

Searching for the Potters Behind the Pots

In searching for the potters behind the pots, there is a range of evidence to consider: epigraphic, archaeological, ethnographic, experimental and scientific.

Epigraphic: Neo-Assyrian Specialists – Prah̄hāru ('potter')

Epigraphic sources record that Mesopotamian craftsmen in all periods were organized into guilds or workshops. The Neo-Assyrian Text Corpus Project published *The Prosopography of the Neo-Assyrian Empire*, Volume 4, part 1, dealing with 'Neo-Assyrian Specialists: crafts, offices, and other professional designations' (Baker 2017: 80). Under the entry for potters, *prah̄hāru*, the texts mention: a potter, possibly a deportee; and a potter, the son of a potter, as well as potters from the Assyrian capitals: Nineveh, Assur, and Nimrud (Kalhu). From the names mentioned, we learn that potters are male, they are located at Assyrian centres, and in some instances their profession is hereditary. However, this does not exclude the involvement of women and children in daily work. Texts show that craft production could be organised in various ways. Some craftsmen worked in the service of the temple or the palace. Others received raw materials to produce certain fixed amounts of objects, while they probably could spend the rest of their time on private work.

Archaeological: Khirbet Qasrij, Iraq – pottery kiln

The archaeological evidence found at Khirbet Qasrij included a pottery kiln. Khirbet Qasrij, a modest regional site in northern Iraq, situated in the Mosul Dam flood zone, on the Tigris River, was excavated by John Curtis from the British Museum (Curtis 1989: 21; fig. 20a–d). The kiln was roughly oval in shape, with vitrified lining. The fire pit was largely subterranean. Sufficient remains of the kiln chamber survived to show it belonged to the type known as a double chamber updraught kiln. Scattered throughout the deposit in the fire pit were potsherds, pottery wasters, and some collapsed jars (Curtis 1989: 23–25). Combined, this evidence indicates the Common Ware (typical of Assyrian Administrative Pottery) was made and fired in the kiln. The Khirbet Qasrij pottery finds close parallels with the Late Assyrian (7th century BCE) pottery at Nimrud; however, Curtis notes some

types indicate the corpus may date to the post-Assyrian period (1989: 51–54).

Archaeological: Tell Sabi Abyad, Syria – pottery workshop

A pottery workshop was found at Tell Sabi Abyad, Syria, which yielded several finds related to pottery production: kilns, unfired sherds, wheels, wasters, and two work areas. Kim Duistermaat states, the organisation of the pottery production at Sabi Abyad was a professional operation, with one or two potters and several assistants (2008). They used efficient shaping techniques and professional tools and kilns, and were most probably involved full-time in pottery production. It is likely that the local administration paid them for their work in rations.

Ethnographic: pottery manufacture

The Australian investigations at Tell Ahmar were backed by a study of the modern community living at the site. According to Bunnens, this aimed to be an ethnoarchaeological study, noting, 'we need to study the traditional technologies to better understand the archaeological remains' (1990: 144). Kent Fowler in his chapter on 'Ethnography' in the *Oxford Handbook of Archaeological Ceramic Analysis* describes: 'The ethnographic present and the archaeological record are incommensurate, but compatible domains. ... In this case, both share potter's work as a medium through which we can understand societies' (2017: 470).

At Tell Ahmar it was possible to observe several local village potters (Jamieson 1999b). The village women produced a limited quantity of handmade pottery, mostly cooking pots and storage jars. The clay was collected from nearby sources. River sand and chaff were added as tempering agents. Pottery manufacture was by hand, tools were not used. After the pots were sun dried, they were bon fired in simple open pits using animal dung as fuel. The firing lasted several hours and the firing temperature was estimated to be around 500 to 550°C. In some cases, making pottery was a communal and intergenerational activity. The pots produced were for use within their immediate households.

By contrast, a different mode of production was observed in workshops located on the outskirts of Aleppo (Syria's second largest city) (Jamieson 1999b, 2004). Here the potters were male. Each workshop comprised several family members: fathers and their sons, sometimes brothers and cousins. The older men were responsible for manufacturing most vessels, while the younger members of the enterprise served as assistants and actively involved in the tasks of clay preparation and firing. The use of kick and electric wheels were observed. Clay was mechanically crushed and refined using sedimentation tanks. Wood, oil or gas fired downdraught brick kilns. Pots were mass produced in a select range of utilitarian shapes, including shallow bowls, jugs, and jars for sale at markets operated by middlemen.



Figure 6: Ian Edwards sieving clay samples to remove extraneous material.

Experimental: firing experiments of local Tell Ahmar clays

When Ian Edwards visited Tell Ahmar in 1991, it provided an opportunity to collect and fire local clay samples. The aim of these experiments was to evaluate the suitability of these clays for ceramic manufacture. All the samples collected and tested came from sources situated directly along the Euphrates River or from ancient riverbed deposits near Tell Ahmar (Jamieson 2002). Ten clay samples were collected for testing. A range of different coloured deposits could be visually distinguished in the mostly calcareous clays that contained varying proportions of iron compounds, calcium carbonates, quartz sand, organic material and alkalies. The dry samples were prepared by firstly grinding the samples into a powdery state. A sieve was used to remove extraneous material and large inclusions, Figure 6.

The ground clay was then mixed with water to produce a suitable condition that would allow for shaping into a series of flat test bars (briquettes), Figure 7. The amount of water varied with the different coloured clays. The bars were incised with a 10 cm scale to record shrinkage. Once dry, the samples were fired in a small kiln. Three firings were carried out to 650, 750 and 850°C. Most of the clays were suitable for pottery production; some samples disintegrated at higher temperatures. Those clays fired to 750 and 850°C most closely resembled the ancient pottery in colour and texture. The experiments confirmed the availability of clay suitable for manufacture at Tell Ahmar. On the subject of ‘Investigating ceramic manufacture’, Daszkiewicz and Maritan discuss the merits of ‘Experimental Firing’, noting that: ‘Firing experiments attempt to reproduce ancient firing technologies, in order to evaluate the influence that each parameter involved in the firing process has on the compositional, physical-mechanical and chemical properties of the fired products’ (Daszkiewicz & Maritan 2017: 488).

Scientific: PIXE analysis

As part of the program in the study of pottery from Tell Ahmar, ceramic samples were analysed with particle induced X-ray emission (PIXE) to identify the characteristic composition of selected sherds (Kieft et al 2002). On the use of PIXE and its application for ceramic analysis, Rizzutto and Tabacinks mention: ‘PIXE is widely used to determine the elemental composition of archaeological objects’ (Rizzutto and Tabacinks 2017: 382).

In addition to the PIXE analysis of the Tell Ahmar pottery, pieces from other nearby sites (Jebel Khalid, Tell el-Banat, Tell Aber) were also analysed. The samples were irradiated with a scanned 3 MeV proton beam using the University of Melbourne nuclear microprobe. The samples from Tell Ahmar included Common Ware and Palace Ware, as well as Grey Ware, Red Slip Ware and Fine Ware. The composition of all sherds measured by this method was similar. However, cluster analysis of the twelve most abundant elements revealed that the samples known to be from Tell Ahmar could be distinguished from those known to be from elsewhere. The natural variation in the samples was too large to discriminate the samples based on the concentration of one element. But a cluster analysis of all detected elements revealed that samples from Tell Ahmar could be discriminated from the samples found elsewhere to a high probability. Discrimination of the samples was mainly based on Manganese (Mn), Gallium (Ga), Strontium (Sr), Niobium (Nb) and Zirconium (Zr). The samples from Tell Ahmar contained a higher concentration of these elements than the samples known to originate from other places. The



Figure 7: Test bars of the different clay samples.

Site name	Glazed Fabrics	'Palace Ware'	Ivories	Reliefs/ Sculpture	Palace/ Residence	Temple/s	NA Texts
Central Assyria							
Ashur	X	Xd	X	(X)	X	X	X
Nimrud	X	Xd	X	X	X	X	X
Khorsabad	X	Xd	(X)	X	X	X	X
Nineveh	(X)	Xd	(X)	X	X	X	X
Balawat		Xd			X	X	
Ibrahim Bayis		Xd				X?	
Kar-Tukulti-Ninurta		Xd					X
Kh. Khatuniyeh	X	Xd					
Kh. Qasrij	X	Xd					
Kh. Shireena		Xd					
N-Jazira No. 113		Xd					
Rownak		X					
Tell Abu Dhahir		Xd					
Tell Baqaq2					X		X
Tell ed-Dem		Xd					
Tell el-Hawa		X				X?	X
Tell Rimah		Xd		X		X	X
Tell Shelgiyya		Xd					
Tell Taya	X	Xd					
Khabur Valley							
Girnavaz		X					X
Tell el-Hamidiya	X		X		(X)		
Tell Abu Hafur E		X					
Tell Rad Shaqrah		Xd					
Tell Fakhariyah		Xd		X			X
Tell Halaf	(X)	Xd					
Tell Boueid		Xd			X		
Tell Ajaja		(X)		X	X		
Tell Sheikh Hamad	X	Xd	X	X	(X)		X
Upper Euphrates							
Sultantepe	X	(X)			(X)		X
Tille Höyük	X	Xd			(X)		
Tell Ahmar	X	Xd	X	X	X	X	X
Tell Shiukh Fawqani	X	X					X
Middle Euphrates							
Yimniyeh		(X)			(X)		
Bijan		(X)					
Ju'ana		(X)					

X = recorded (X) = reported d = dimpled ? = questionable

Table 2: Features of the Material Culture of the Assyrian Elite (from Hausleiter 2008: 222).

petrographic findings support the identification of a Tell Ahmar ceramic region or tradition (Kieft et al 2002).

Archaeological: basalt tournette – part of potter’s wheel

Finally, a basalt tournette that was found on the surface of the site at Tell Ahmar is thought to be part of a potter’s wheel (Trokey 1990: 123–85). Few potter’s wheels have been preserved from the Late Assyrian period, which Roger Moorey believed indicated a technological transition from stone and ceramic to organic or wooden wheels (1994: 146). If the basalt tournette was part of the bearings of a potters’ wheel, it would support local pottery production at Tell Ahmar.

Material culture of the Assyrian elite

In a study on features of the material culture of the Assyrian elite, Arnulf Hausleiter identifies seven categories: glazed fabrics, palace ware, ivories, reliefs/sculptures, palaces/residences, temples and Neo-Assyrian texts, Table 2 (2008: 222). All these categories are represented at Tell Ahmar (Bunnens 2022). Significantly, Tell Ahmar is the only site with all seven categories outside the Assyrian heartland. As noted previously, at Tell Ahmar Glazed Ware and Palace Ware are rare and highly specialised products, Figure 8.

The ‘Palace Ware Problem’

Palace Ware is found throughout the Assyrian Empire (Hunt 2014; 2015; 2016; 2017). Bradley Parker claims that the term Palace Ware is misleading for several reasons. According to Parker, the analysis of the distribution of this type of ceramics in the Cizre region, and in the upper Tigris area, has shown that Palace Ware vessels do not occur only at the larger sites where it may be likely to encounter a palace or other institutions of centralised administration. Parker claims that Palace Ware vessels are evenly distributed in large central sites as well as smaller villages (Parker 2001).

Palace Ware is used to make small goblets and sharply carinated bowls. Both the eggshell thin ceramic bowls and goblets are thought to imitate metal prototypes (Ohtsu 1991: 131–53). The size and shape make them ideal drinking vessels. It has been suggested that the sharp shoulder carination of the bowls would have trapped any sediment or residue often found in wine (Stronach 1996: 175–95).

Ceramically, Palace Ware is characterised by the following attributes:

- delicate eggshell thin walls
- fine-grained, highly levigated fabric
- wheel thrown and pinched rather than cut from the hump
- thrown to its current thinness
- dimpled to facilitate handling while wet from the wheel
- high fired in an oxidising kiln



Figure 8: Palace Ware goblet from Area C.
Image: courtesy Guy Bunnens.

- made of clay with a low iron content
- highly specialised and difficult to manufacture

Dimples are the frequent, distinctive and identifiable decorative element on Palace Ware goblets. No other Neo-Assyrian ceramic ware is decorated with dimples, making them unique to the Palace Ware corpus.

In 1927, Petrie uncovered a cache of thin-walled pots during excavations in Palestine which reminded him of metal vessels from Assyria. Petrie believed the presence of these ceramics at Tel Jemmeh resulted from the occupation and administration of the city by the Neo-Assyrians during the 8th–7th centuries BCE (Petrie 1928; Ben-Shlomo 2016; Engstrom 2004; Na’aman & Thareani-Sussely 2006).

The term ‘Palace Ware’ was first used by Rawson in 1954 to refer to all the ceramics from the North-west palace at Nimrud (Rawson 1954). Archaeologists began to associate it with cultural constructs, particularly Neo-Assyrian power and prestige, reinforcing Petrie’s earlier belief that the presence of Palace Ware outside the Assyrian core was indicative of Neo-Assyrian imperial occupation or administration (Rawson 1954).

The ‘Palace Ware problem’ is a term coined by Alice Hunt, noting Palace Ware has been equated with imperial identity (Hunt 2015: 2). According to Hunt, archaeologists use Palace Ware as an ‘index artefact’ of Neo-Assyrian imperial occupation and administration. However, as Hunt points out, this connection has yet to be concretely established, noting, ‘The Palace Ware problem is compounded by limitations inherent in the material itself and the materials available for study and analysis, most of which were excavated 60–100 years ago and for which limited archaeological information is available’ (2015: 2).

Mode of production	Location	Frequency and income	The potters	Labour division	Technology	Variability	Scale	Distribution
Household production	Private household	Occasional or seasonal, no extra income	Mostly women	No	Simple, no wheel or kiln	Possibly high	Small quantities	Private household
Household industry	Private household	More regular or seasonal, small income through sale	Mostly women	No	Simple	Possibly high	Small surplus	Private household and others within the community
Individual workshop industry	Workshop with inner spatial divisions, isolated	Part time or full time, major family income	Mostly men	Yes	Wheels, kilns	Standardized or serial production, and special shapes	Medium to large	Markets and peddling, local and regional
Nucleated workshop industry	Several workshops in one location, workshops with inner spatial divisions	Full time, major income	Mostly men	Yes	Wheels, kilns, high technological investment	Standardized or serial production, and special shapes	Medium to large	Markets and middlemen, local and regional
Manufactory	Specialized manufactory, large scale	Full time, profit oriented	Large number of workers under a supervisor	Yes	Complex, often specialized in one product	Standardized production, high worker specialization	Mass production	Very wide distribution, supra-regional
Estate production	On the estate premises	Full time or part time, not for profit	Mostly men	Most probably yes	Wheels, kilns	Standardized and functional?	Medium to large	Estate
Military or official production	On military or state premises	When possible part time, not for profit	Mostly men	Yes	Efficient use of technology	Standardized and functional?	Medium to large	Military organization or state institution

Table 3: Modes of Production (from Duistermaat 2008: 341).

Hunt argues Palace Ware was not a traded or transported commodity (2015; 2016; 2017). Rather, she suggests it was given as honour-gifts by the king to members of the imperial administration and its allies in a material signifying their rank and role within the empire. Although Palace Ware bowls may have been reserved for the lower ranking members of the Empire, Hunt asserts that the conspicuous consumption of the form identified the consumer as a person of importance, power and prestige, and a loyal participant in the Neo-Assyrian imperial system. As a symbol, Palace Ware bowls represented loyalty to the Assyrian king and State. Hunt explains, Palace Ware goblets and cups were used in the Neo-Assyrian imperial practice of the conspicuous consumption of grape wine (Hunt 2015; Stronach 1996: 175–95). Therefore, the value and meaning of these vessels are derivative of the value and meaning of grape wine; a luxury good, reserved for the elect and elite.

In a relief from the palace at Nineveh depicting Assurbanipal feasting, or at least drinking, with his queen-consort Aššur-šarrat below grape vines, the queen is holding a vessel with a similar shape to Palace Ware carinated bowls designed for consumption of grape wine.⁸ As symbols, Palace Ware goblets and bowls represented wealth, privilege and access, and the consumption and possession of the vessels themselves indicated the relative status or individual power of the consumer. According to Hunt, despite its association with the Late Assyrian period in general and the Neo-Assyrian imperial administration specifically, it is important to note that Palace Ware was always a local phenomenon (2015). Hunt asserts that: ‘Although it is likely that Palace Ware from the Central Polity were transported across the imperial landscape as vessels, due to their social function as honour-gifts, Palace Ware in general was not a traded commodity’ (2015: 206). Based on extensive petrographic analysis, Hunt has concluded that these vessels were manufactured locally, possibly by ‘Central Polity’, or by ‘Central Polity’ trained, potters in the annexed provinces for local consumers.

Modes of Production

In a consideration of different modes of production (Table 3), Palace Ware falls into what is described as a ‘manufactory mode of production’, characterised by fulltime, complex, specialised mass production and very wide distribution. If we apply the criteria presented in Table 3 to other Neo-Assyrian ware types, it is possible to see that multiple modes of production are represented: household, household industry, workshop, manufactory, estate, etc. This suggests that there were multiple production modes involved in manufacture of the Tell Ahmar Neo-Assyrian pottery assemblage.

Conclusion

This search for the ‘potters behind the pots’ at Tell Ahmar, has revealed the following:

- There were different potters producing different pots during the Neo-Assyria period.
- Some were male, others were most likely female.
- Some were full time specialists, other’s part time.
- Some used relatively simple methods of manufacture and firing, others used more complex technologies and processes.
- Some produced highly standardised mass-produced wares, others less so.
- Some modes of production were local, others were centralised or foreign.

According to Nicholas Postgate, pottery is an integral component of the package of Assyrian occupation: remarking, ‘the development of standardized ceramic assemblages was not an intentional imposition of a centralized state administration but rather as a response by the potters to the growing demand for certain functional types often with specific volumetric requirements’ (2010: 27).

This re-examination of the Tell Ahmar Neo-Assyrian pottery assemblage is aligned with movements in imperial studies to replace global, top-down materialist models with theories of contingency, local agency, and bottom-

up processes (Düring & Stek 2018; Parker 2018). Such approaches bring to the foreground the reality that the development and lifecycles of empires in general, and the Neo-Assyrian Empire in particular, of which Tell Ahmar certainly played a key role, cannot be completely explained by the activities of the core.

Tell Ahmar lost its status as a regional centre with the fall of the Assyrian Empire at the end of the 7th century BCE. The completion of the Tishreen Dam in July 1999 caused the flooding of part of the village, while most of the modern houses that had not been flooded were abandoned. The villagers carried away everything they could, in particular doors, window frames and rood beams. During the civil war, troops fought for control of the area. The Acropolis was bulldozed and became a military installation. On these developments Bunnens remarked: ‘The geographical advantages that had made the prosperity of ancient Tell Ahmar caused the ruin of the modern village’ (Bunnens 2022: 192).

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Acknowledgements

The author gratefully acknowledges the following: Christopher Davey, Ian Edwards, Guy and Arlette Bunnens, Stephen Bourke, the Australian Research Council, members of the Tell Ahmar project and the people of Tell Ahmar.

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Endnotes

- 1 This is a revised version of the Petrie Oration presented by the author at the Australian Institute of Archaeology on 26 October 2023. The author would like to express his appreciation to Dr Christopher Davey, Director of the Australian Institute of Archaeology (AIA) for the invitation to give the 2023 Petrie Oration. Chris is a very generous colleague and has done a brilliant job running the AIA. The 2023 Petrie Oration was dedicated to Professor Ian Edwards, a long-time member of the AIA board. In fact, it was Ian's idea to establish the Petrie Oration.
- 2 On Franken, see also Vilders 2005; van As 2005; van As and Steiner 2005.
- 3 The first volume was published in 1983. The series ran for 26 years until its last volume was issued in 2010. Abraham van As succeeded Franken as the journal's editor. <https://ancientworldonline.blogspot.com/2019/10/newly-open-access-journal-leiden.html>
- 4 The following account on the excavations at Tell Ahmar draws heavily on the work of Guy Bunnens, Director of the renewed excavations at the site. The author would like to thank Profs. Guy Bunnens and Arlette Roobaert-Bunnens, for generously supporting and encouraging all aspects of the Tell Ahmar pottery analysis.
- 5 On Tell Ahmar, see most recently Bunnens 2022; for selected bibliography on the field work at Tell Ahmar, see 197–198.
- 6 Thureau-Dangin and Dunand 1936. Thureau-Dangin and Dossin founded the *Rencontres Assyriologique Internationale* (<https://iaassyriologie.com/rencontre/>).
- 7 On sites in the flood zone, see Del Olmo Lete and Montero Fenollos 1999. Roobaert and Bunnens 1999, 163–178.
- 8 Stronach 1996, 190–192. https://www.britishmuseum.org/collection/object/W_1856-0909-53

Addendum: The award of Honorary Fellow of the Australian Institute of Archaeology to Ian Edwards

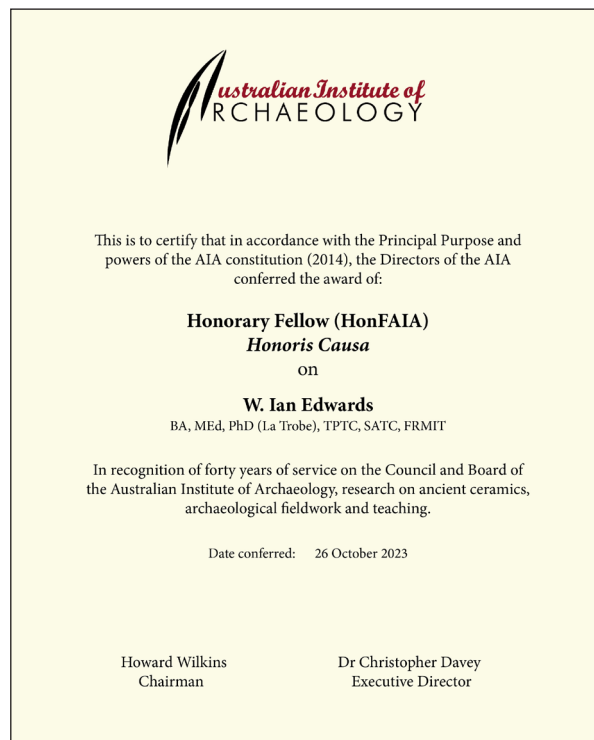
Ian Edwards joined the Council of the Australian Institute of Archaeology in 1983. He has remained on what is now the Board of the Institute until now, and served as the President for a period. He instigated the Petrie Oration and has always promoted practical archaeological policies.

Ian took up archaeology when Deakin University (previously Burwood Teachers College) awarded him a scholarship to apply his knowledge of ceramics to archaeological pottery. With ongoing support, Ian continued to dig annually with the University of Sydney at Telielat Ghassul and Pella for nearly twenty years. Other excavations that he worked on during this time included at Dakhla Oasis and Tell Ahmar.

Ian worked with Professor Henk Franken of Leiden University, embracing his approach to the technology of ancient ceramics and, completed a PhD in 1993 at La Trobe University entitled *A potter's view of bronze age Pella (Jordan): a study of ceramic technology*. At Deakin University he developed an archaeological materials research unit and fostered the research of several scholars. He contributed significantly to the establishment of the Egyptological Society of Victoria. Ian has encouraged many scholars, one such being Associate Professor Andrew Jamieson who enrolled in archaeology at the University of Melbourne after hearing Ian speak at the Royal Melbourne Institute of Technology.



Figure: 9 Ian Edwards and Stephen Bourke at Pella 1985 repairing a hot water service. Image: courtesy Stephen Bourke.



While preparing the 2023 Petrie Oration, the current director of the Pella project, Dr Stephen Bourke, sent Andrew the following recollections of Ian at Pella:

Ian is affectionately remembered at Pella as 'the great repairman'. Nothing that broke could resist his touch. Our cranky generator, hot water systems and kitchen cookers, among many other things, were kept going well past their use-life by Ian's magic [Figure 9]. His serious side was as ceramic technician, and he brought a small electric kiln to Pella in 1981, wherein he delighted in showing us the effects of reducing and oxidising firing, often joining grey and red sherds together to make his 'showmanship' point. He was employed in later seasons in the 90s as a draftsman, and a very fine one too. His knack for repair was on display one year (you will guess which) when a fragmentary but complete to profile large Chocolate on White jug was drawn complete and successfully, when Ian created an internal cardboard hive-like support for the bulbous exploded pot, allowing him to hold it one-handed and secure, while he drew it onto paper. The cardboard creation was quickly christened the 'Death Star'. Ian was always a jolly, positive and very practical team member, whether assisting in the field, or working in the house. Every time I have to replace a broken item, I rue the fact Ian isn't there, as I know he'd have fixed the offending item quick-smart.