

A RADIOCARBON DATE FROM EARLY DYNASTIC KISH AND THE STRATIGRAPHY AND CHRONOLOGY OF THE YWN SOUNDING AT TELL INGHARRA

By FEDERICO ZAINA¹

Between 1927 and 1930 a joint expedition by the University of Oxford and the Field Museum of Chicago to the site of Kish opened a series of soundings (ZY, Y, YW and YWN) on the mound of Tell Ingharra in order to investigate the earliest periods of the settlement. This paper presents a detailed analysis of the YWN sounding utilizing previously unpublished documentation and excavated objects, and offers a new interpretation of the evidence. In addition, a new radiocarbon date assigns the latest phase from the sounding to the ED IIIb to Akkadian transition and it can be compared usefully with existing dates from several central and north Mesopotamian sites.

Introduction

Between 1927 and 1930 a joint expedition by the University of Oxford and the Field Museum of Chicago to the site of Kish opened a series of soundings (ZY, Y, YW and YWN) on the mound of Tell Ingharra in order to investigate the earliest periods of the settlement (Watelin and Langdon 1934: 4). These excavations provided an uninterrupted chronological sequence spanning the entire third millennium B.C., together with evidence relating to the layout and function of a number of buildings. Along the north-western slope of the mound the excavators cut a large 2 metres deep sounding, named YWN (Fig. 1).² Although a general assessment of the stratigraphy and chronology of this sounding has been provided by Moorey (1966: 32–33; 1978: 114) and Gibson (1972: 90), this paper presents a detailed analysis of the unpublished documentation and excavated objects now housed in the Ashmolean Museum of the University of Oxford and the Field Museum of Chicago and offers a new interpretation of the evidence. In addition, a radiocarbon date from a stratified sample from Phase 2 of the sounding, belonging to the transition between the late Early Dynastic III and Akkadian periods, can be compared usefully with existing dates for the destruction of numerous sites in northern Mesopotamia and Syria usually attributed to the expansion of the Akkadian empire.

Archaeological Stratigraphy and Finds

As the YWN sounding lays towards the sloping edge of the mound, its northern end had suffered from heavy erosion. In addition, several later intrusions such as drains, burials and debris, perhaps from pits, had caused considerable damage to the uppermost layers (Gibson 1972: 90). Nonetheless, the reanalysis of the stratigraphical and architectural sequence of the sounding presented here has allowed the identification of two previously unrecorded building phases: one at the plain level (0 metre); the other about 1 metre below that.³ No architectural plans exist for

¹ The radiocarbon dating of the Kish bone sample was funded by a grant from the John Fell Fund, University of Oxford, for which I am very grateful. Special thanks go to Paul Collins (Ashmolean Museum, University of Oxford) for actively supporting this work by providing access to the Kish collections, arranging the radiocarbon dating, and for numerous suggestions on this paper. I am particularly grateful to Nicolò Marchetti (Alma Mater Studiorum - Università di Bologna) and to my PhD supervisors Frances Pinnock (Sapienza - Università di Roma) and Pascal Butterlin (Université Paris 1 - Panthéon Sorbonne) for their guidance and support. I also wish to acknowledge Gianni Marchesi (Alma Mater Studiorum - Università di Bologna) and Aage Westenholz (Københavns Universitet) for their fruitful

suggestions on the interpretation of the texts and Giacomo Benati (Alma Mater Studiorum - Università di Bologna) for several comments. William Parkinson (Field Museum of Chicago) gave me permission to publish some drawings of unpublished materials housed in their stores. Thanks are also due to Silvia Bernardoni (Studio KULLA, Bologna, for figures 1–3), and Claudia Cappuccino (Alma Mater Studiorum - Università di Bologna, for figures 4.1–8). The author is responsible for figures 4.9–13.

² Field Museum Chicago (Kish archive): Watelin's excavation report 1929–1930.

³ The excavators' plans of Tell Ingharra (Fig. 1) and the YWN sounding (Fig. 2) have been newly drawn on a 25 ×

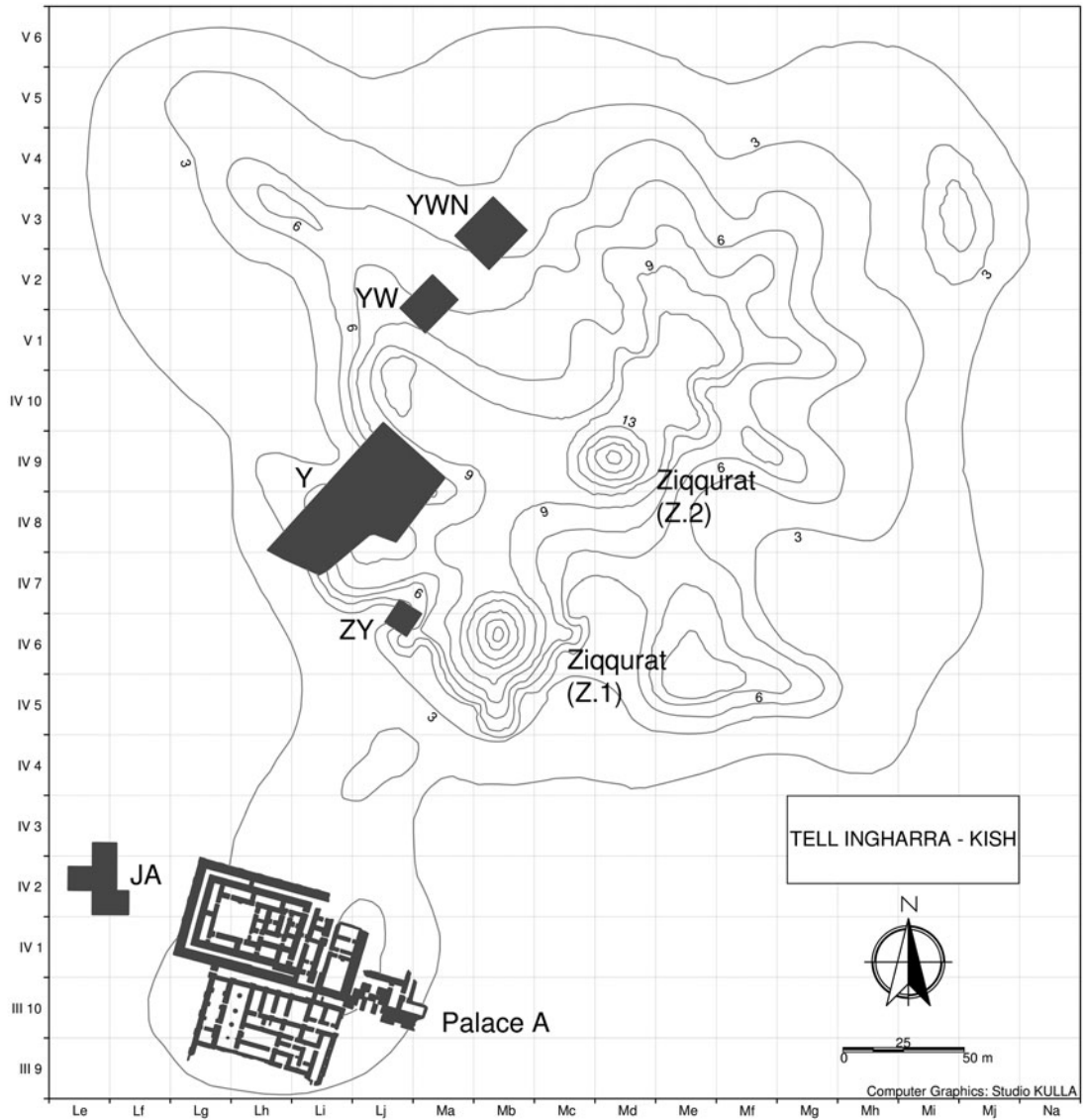


Fig. 1 Topographic map of Tell Ingharra (after Gibson 1972: 289, fig. 42).

either level, but it is possible to make a reconstruction of the lower one (Phase 1) by comparing the excavators' sketch plans with contemporary photographs (Watelin and Langdon 1934: pl. XXXII). Many artefacts were discovered on the floors of the buildings (especially that of Phase 2), including gold and silver objects, cylinder seals, and cuneiform tablets.⁴ Based on these finds, it is possible to suggest the function of the structures.

Phase 1

Floors of the earliest phase lay about 1 m below the plain level.⁵ A schematic reconstruction of the structures uncovered there can be undertaken (Fig. 2) using a rough sketch made by the field

25 m square grid with letters on the abscissa and numbers on the ordinate.

⁴ These details have been reconstructed from unpublished letters (in the Field Museum of Chicago)

and excavation record cards (in the Ashmolean Museum of Oxford).

⁵ Watelin's excavation report 1929–1930. As Gibson (1972: 89–90) pointed out, the elevation of the floors in the YW and

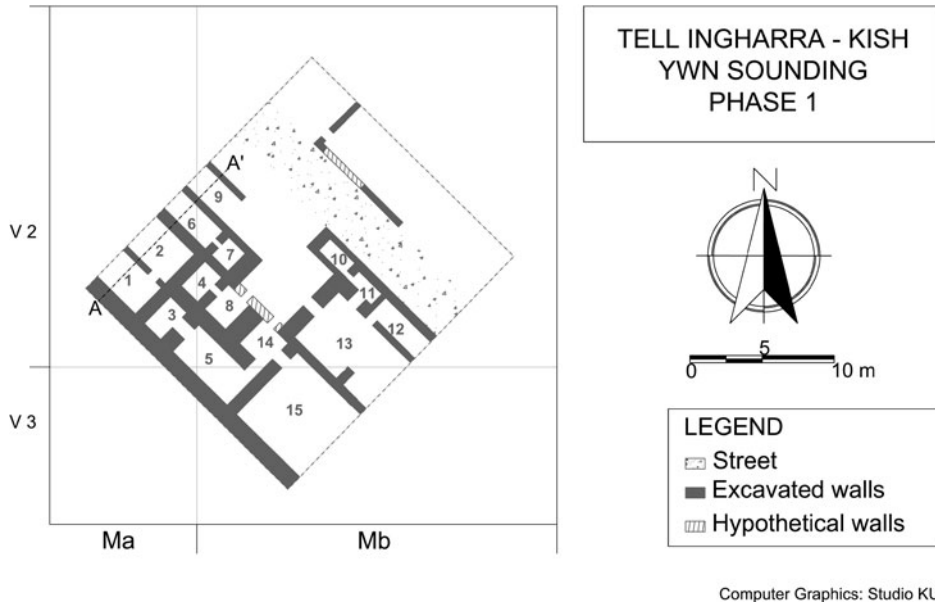


Fig. 2 YWN sounding. Plan of Phase 1.

director L.Ch. Watelin, together with photographs of the sounding taken at the time of excavation (Watelin and Langdon 1934: pl. XXXII).⁶ The new plan reveals a southern building, oriented north-west by south-west, with at least fifteen rooms of different sizes and shapes, separated from the poorly preserved remains of a northern unit by a rectilinear space some 4 m wide and tentatively interpreted as a street. The buildings were made of mud brick walls preserved to a height of approximately 2 metres and of variable thickness (from less than 50 centimetres to about 2 metres) with a coating of a whitish plaster. According to the excavation report, the floors and/or street were made of “organic debris” (Watelin and Langdon 1934: 48) which we will take to mean beaten earth flooring.⁷

While the limited excavations, the complex plan of the southern building, and the lack of information about the context of the associated finds do not permit a complete understanding of the function of the structures, some general conclusions can be reached. The number of rooms as well as the overall dimensions (about 300 square metres and only partially revealed) suggest a wealthy and extended household. Two large rooms to the south (13, 15) may have functioned as important public spaces, while the north-west sector consisted of smaller often interconnected rooms (1, 2, 3, 4, 6, 7). The architectural evidence can be partially integrated with the associated stratified finds. Indeed the presence of cylinder seals together with tools and containers may indicate small scale administrative as well as domestic activities.⁸

A guide to the dating of Phase 1 is provided by stratified diagnostic material: a small, handmade cylindrical strainer with irregular holes and a miniature vessel with vertical rim, slightly globular wall

YWN soundings must be raised 1 metre due to the difference in “plain level” between the C trenches (overlying the two soundings) and the Y sounding.

⁶ Field Museum Chicago (Kish Archives): Watelin to Langdon 12-01-1930; Watelin to Langdon 21-01-1930; Watelin to Langdon 21-04-1930; Watelin’s excavation report 1929-1930. See also Watelin and Langdon 1934: pl. XXXII.

⁷ This interpretation is based on a large number of references by the excavators to the YWN sounding and other areas of Tell Ingharra (such as the Y and YW

soundings) where the floors of several houses (also sealing intramural burials, for which see Algaze 1983-84: 169 ff.) are described as made of “organic debris”.

⁸ Four pottery vessels (excavation no. K 736 and museum nos. AN1930.238a, IM8778, FM229198, FM230846), a cylinder seal (museum no. IM10976) and a stamp seal (excavation no. KM398), some clay and stone figurines (excavation no. K726 and museum no. FM156942, FM228735, FM228113, FM231559) and several tools made of stone and bone (museum nos. IM9102, IM9104, IM9947 and FM228565).

and a pointed base.⁹ These shapes are widely attested from the Early Dynastic IIIa to the end of the Akkadian period in southern and central Mesopotamia, and are especially well known from neighbouring sites such as Abu Salabikh (Moon 1987: 62–63, figs. 300–01, 304) and Nippur (McMahon 2006: pl. 82.3). The rooms of Phase 1 were filled with a thick packing of clayish soil sealed by the pavements of Phase 2, suggesting that the rooms had been cleared and the building rebuilt with the same plan (Fig. 3).

Phase 2

In a letter to Stephen Langdon, Watelin records “... on a découvert un certain nombre des constructions sous le plain level...”.¹⁰ In the 1929–30 unpublished report, he revises his previous description saying that he found “la partie d’un monument qui s’étend encore sous un terrain non excavé...”.¹¹ In the final report, the excavators specify that this building was found in the topmost metre of the sounding (i.e. 0 metre) (Watelin and Langdon 1934: 48). Some burials were attributed to this layer, at least one containing diagnostic material such as the so-called “mother goddess jars” (also known as up-right handled jars) dating to Early Dynastic III.¹² The excavators report the same building techniques as in the earlier phase, that is, plano-convex mud brick walls coated with plaster together with beaten earth flooring (Watelin and Langdon 1934: 48). Based on the preserved walls of Phase 1, it is likely that the general plan of this building was maintained into Phase 2 (further changes are not visible) and that a new beaten earth floor was established at 0 m following the filling with clay soil and levelling of the earlier rooms (Fig. 3).

The artefacts from Phase 2 range from working tools (such as hooks, awls and spindle whorls), containers and administrative objects (cylinder seals and inscribed documents), to items of jewellery (such as pins, gold rings and silver earrings), and other élite goods (shell inlays and stone statuettes).¹³ These are indicators of a wealthy household with some administrative and other small scale manufacturing activities evident.

A number of cylinder seals and one seal impression were retrieved from Phase 2. Taken as a whole, the glyptic repertoire can be dated stylistically within the Early Dynastic III to Akkadian periods.¹⁴ The Early Dynastic III examples are represented by banquet scenes (Fig. 4.7), files of humans (Fig. 4.2) and a scene of rampant lions attacking an antelope (Fig. 4.6). Seals dating to the Akkadian period include a white limestone example carved with a scene of three pairs of fighting gods (Fig. 4.1) and another depicting a procession of sacrificial animals towards a standing deity together with an inscription (Fig. 4.8).¹⁵ Further examples may belong to a more archaic tradition (Figs. 4.3–5).

The pottery assemblage from Phase 2, is characterized by several diagnostic shapes such as a small handmade cylindrical stand/strainer with irregular holes (Fig. 4.11), comparable with the example

⁹ FM229198, FM230846. Three more pottery vessels (K736, KM410 and K1164bis), a cylinder seal (IM10976) and a stamp seal (KM398) were apparently not photographed or drawn.

¹⁰ Field Museum (Kish Archive): Watelin to Langdon 21–01–1930. For the actual elevation see above, n. 5.

¹¹ Field Museum (Kish Archive): Watelin’s excavation report 1929–1930.

¹² Field Museum (Kish Archive): Watelin to Langdon 21–01–1930; Watelin’s excavation report 1929–1930. It is not clear whether these burials were associated with the building or are later in date.

¹³ The assemblage of small finds from Phase 2 comprises many clay figurines (AN1930.215, FM220959, FM228739, FM229174, FM229175, FM229177, FM229180, FM229658 and FM231086) a spindle whorl (IM9197), and various tools of bone (AN1930.212 and KM305), clay (FM230948 and KM177), and metal (FM228570, KM304 and KM308). The rich body of administrative finds consists of seventeen cylinder seals (IM10951, IM10975, IM10983, IM10985, IM10990, IM14319, IM14355, AN1930.102, AN1930.103, AN1930.105,

AN1930.121, AN1930.123, AN1930.124, AN1930.126, AN1930.127, AN1930.137, KM0317); a seal impression (AN1930.408); eight cuneiform tablets (AN1930.406, AN1930.559a, AN1930.559b, AN1930.559c, AN1930.559d, AN1930.559e, AN1930.559f, AN1931.144a); and three kudurrus (AN1930.154, AN1930.178b AN1930.178d). A small bead and a ring made of gold (FM228646 and FM228116) were found together with a silver bead (IM9968). Four stone statuettes (IM19075, IM9101, K721 and FM156588) and four shell inlays (FM228107, FM228108, FM228114 and FM228564).

¹⁴ The cylinder seals discussed here are the most representative of those found in the building of Phase 2 in terms of style and chronology.

¹⁵ The inscription has been understood in different ways by Van Buren (1951: 47 ff.) and Buchanan (1966: 68). According to Gianni Marchesi (personal communication) the inscription of the seal in question reads, DINGIR-GU₂/se₁₁-da-um. For the term se₁₁-da-um, of unknown meaning, denoting a title or an occupation, see Steinkeller and Postgate 1992: 92.

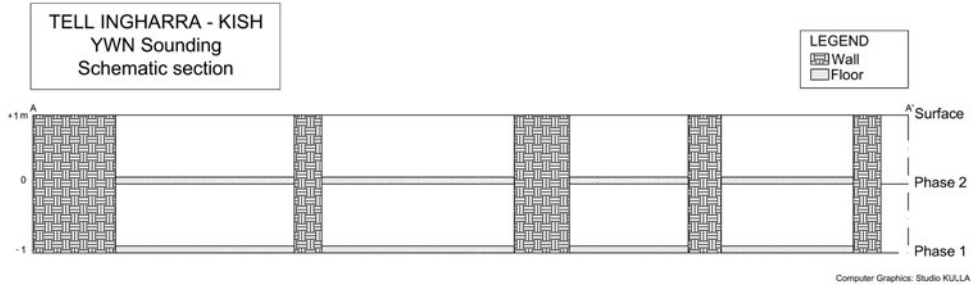


Fig. 3 YWN sounding. Schematic section of phase 1 and 2.

from Phase 1. A ceramic stand with a top dish and pouring lip (Fig. 4.12) may have been used in association with bowl shaped strainers. These types of ceramics are generally attested from the Early Dynastic IIIb to the Akkadian period in southern and central Mesopotamia (Moon 1987: 44–45, nos. 210–12). Similarly, a fragmentary jar handle with an applied anthropomorphic and geometric decoration (Fig. 4.13) attested in the Cemetery A at Kish (Mackay 1929: pl. II.4–6) as well as in other Early Dynastic IIIb central and southern Mesopotamia sites (Moon 1987: 151, 157–62), was found in this phase. Other shapes include a small jar with rounded body and a vertical rim (Fig. 4.10) and a miniature conical bowl (Fig. 4.9), both widely attested through the entire Early Dynastic period.

A further indicator of the chronological range of this phase comes from a group of inscribed clay tablets (Gelb 1970: 36–42, nos. 45–51) and stone inscriptions (Gelb *et al.* 1991: 64–66) dating from the Early Dynastic IIIa to the Akkadian period and reporting administrative activities such as lists of workmen, purchase of fields and distribution of barley.¹⁶ The majority was found at + 0.5 metres in a deposit covering the floors of Phase 2, while both the inscribed stones and one tablet were found on the floor itself.

A Radiocarbon Date and the Absolute Chronology of Early Dynastic Mesopotamia

The chronology of Early Dynastic Mesopotamia and the immediately succeeding period is based largely on internal comparison of diagnostic finds (such as pottery, glyptic or inscribed objects) that provides a relative framework. Attempts to tie the relative chronology to absolute dates have been dependent on few stratified radiocarbon samples from some major Mesopotamian sites such as Ur, Mari, Nippur and Abu Salabikh (Wright 1980). In order to help address this issue, thirteen samples of stratified bone, wood and shell objects from different areas of Kish, now housed in the Ashmolean Museum, were submitted to the Oxford Radiocarbon Accelerator Unit in the spring of 2013 for radiocarbon dating. All but one of the samples produced negative or unreliable results due to bitumen contamination on the wood and bone tools, lack of sufficient collagen for analysis on bones or the reservoir effect on shells.¹⁷ However, a bone awl from Phase 2 in the YWN sounding produced a date range in the second half of the third millennium B.C. (Fig. 5):

Museum number	Lab number	C14 yrs. B.P. (94.5%)	B.C. Range
AN 1930.212	OxA-28283	3905 ± 27	2471–2299

This result represents a useful addition to the existing dates for the absolute chronology of the late Early Dynastic-early Akkadian transition of southern and central Mesopotamia. Nevertheless, as noted by Wright (1980: 94), context is crucial in determining the chronological significance of each sample. In our case the sample comes from a well-defined macro-context, while no

¹⁶ A recent study of several cuneiform tablets from Kish, mostly contemporary with those from Phase 2, provides further support for the date here proposed (Westenholz 2014: 18–47).

¹⁷ For a general account of radiocarbon dating and associated issues see Bowman 1990.

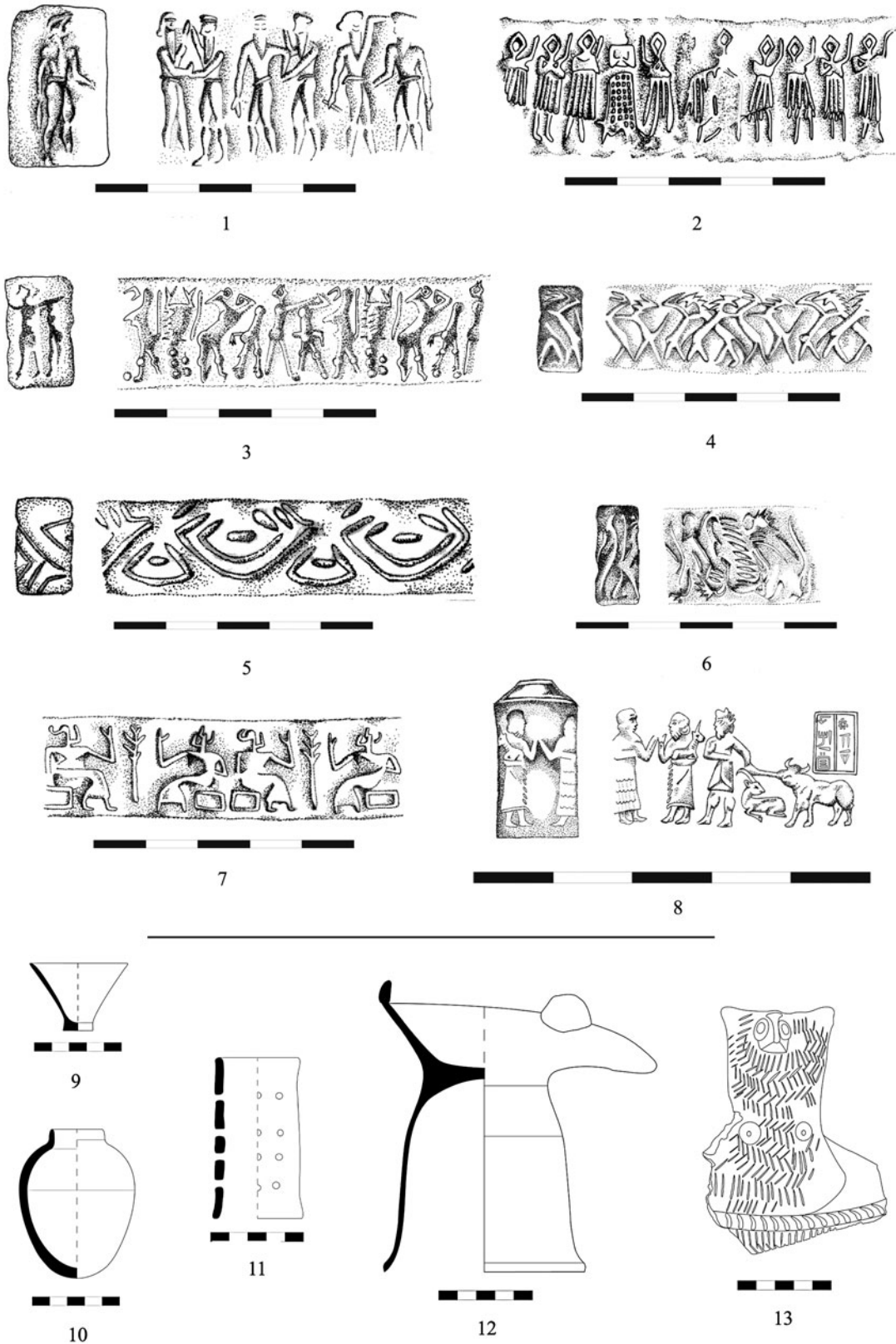


Fig. 4 Cylinder seals and the pottery assemblage from phase 2. 4.1–4.8 redrawn after Buchanan 1966; 4.9–4.11 courtesy Ashmolean Museum, University of Oxford; 4.12–13 courtesy The Field Museum, Chicago (FM 156326, FM 231050).

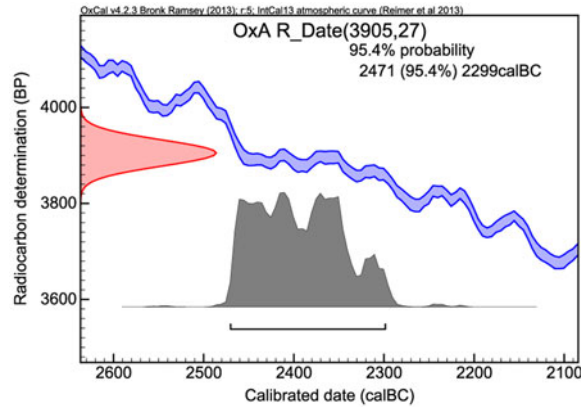


Fig. 5 C14 analysis revealed a chronological range between 2471 and 2299 B.C. (95.4%).

information is available for the micro-context.¹⁸ It is therefore essential to point out how this new datum will be of significance within a future framework of radiocarbon samples from controlled contexts.

Considering the importance of the historical period to which Phase 2 can be assigned, comparisons with the absolute chronologies from some major centers of central and northern Mesopotamia as well as Syria can be undertaken (Fig. 6). In central Mesopotamia, the only available parallels come from the site of Abu Salabikh.¹⁹ A sample of wood from area E, phase IC (Burleigh and Matthews 1982: 164; Postgate 1977: 275, n.2) provided a date range between 2576 and 2286 B.C., while the second sample, recovered from a slightly later phase (area A, phase II) (Burleigh and Matthews 1982: 164; Postgate 1977: 275, n.2), had a date range 2478 to 2196 B.C.²⁰ The latter result is of particular interest since it matches with the evidence from the YWN sounding sample.

More useful insights are possible when this datum is placed in the wider context of a synchronism of absolute chronologies of the third millennium B.C. combined with stratigraphical and historical data. This situates it very clearly into a period when a number of sites in north Mesopotamia, such as Ebla, Mari, Nagar and Nabada, apparently fell to the expanding power of the kings of Akkad (Postgate 1992: 41–42). In inland Syria, radiocarbon data from Royal Palace G at Ebla (IIB1) suggest that the destruction of the city should be dated to the second half of the twenty-fourth century B.C. (Calcagnile *et al.* 2013: 454). This dating is strengthened by the archaeological evidence from Ebla that demonstrates connections between that state and Old Kingdom Egypt (Scandone-Matthiae 1979). According to textual evidence, the fall of Mari should be placed about seven to ten years later than that of Ebla (Archi and Biga 2003). This datum is also supported by a number of radiocarbon dates that place the destruction of the Ville 2 at Mari to around 2335 ± 15 B.C. (Margueron 2007; Lebeau 2012: 310). For the region of the Jezirah, the absolute date from the YWN sounding at Kish corresponds to the EJZ3b period (Ristvet 2011: 322). In particular, it may be paralleled with period L at Tell Brak/Nagar and the fall of the city around 2340/35 ± 15 B.C., and perhaps also Tell Beydar/Nabada IIIb-IVa where the dates range between 2420 and 2270 ± 10 B.C. (Lebeau 2012: 306, 310).

¹⁸ For the definition of “macro-context” and “micro-context” in relation to radiocarbon analysis see Boaretto 2009: 278–79.

¹⁹ Further radiocarbon dates from potential Early Dynastic III to Akkadian contexts of central and southern Mesopotamia are available. Two charred samples from the Japanese excavations in area JP, level 2 at Kish (Matsumoto 1991: 283) yielded two probably uncalibrated dates ranging from the middle ED IIIb to the late Akkadian period (GaK-14258, 4120 ± 100 B.P. = 2170 B.C. and GaK-14263 4350 ± 90 B.P. = 2400 B.C.). However new calibrations using the OxCal online software 4.2 (c14.arch.ox.ac.uk) suggested

a wider chronological range (the first being 2916–2461 B.C., while the second 3345–2709 B.C.). It is impossible to correlate these dates with our result because area JP and the YWN sounding are too widely separated at Kish to be stratigraphically connected, and, in any case the dates from area JA are earlier than the one from the YWN sounding.

²⁰ The dates have been newly calibrated using the OxCal online software 4.2 (c14.arch.ox.ac.uk). The IntCal 13 calibrated date differ from those provided by Burleigh and Matthews (1982: 164) revealing a more incoherent pattern than the one described by Postgate (1977).

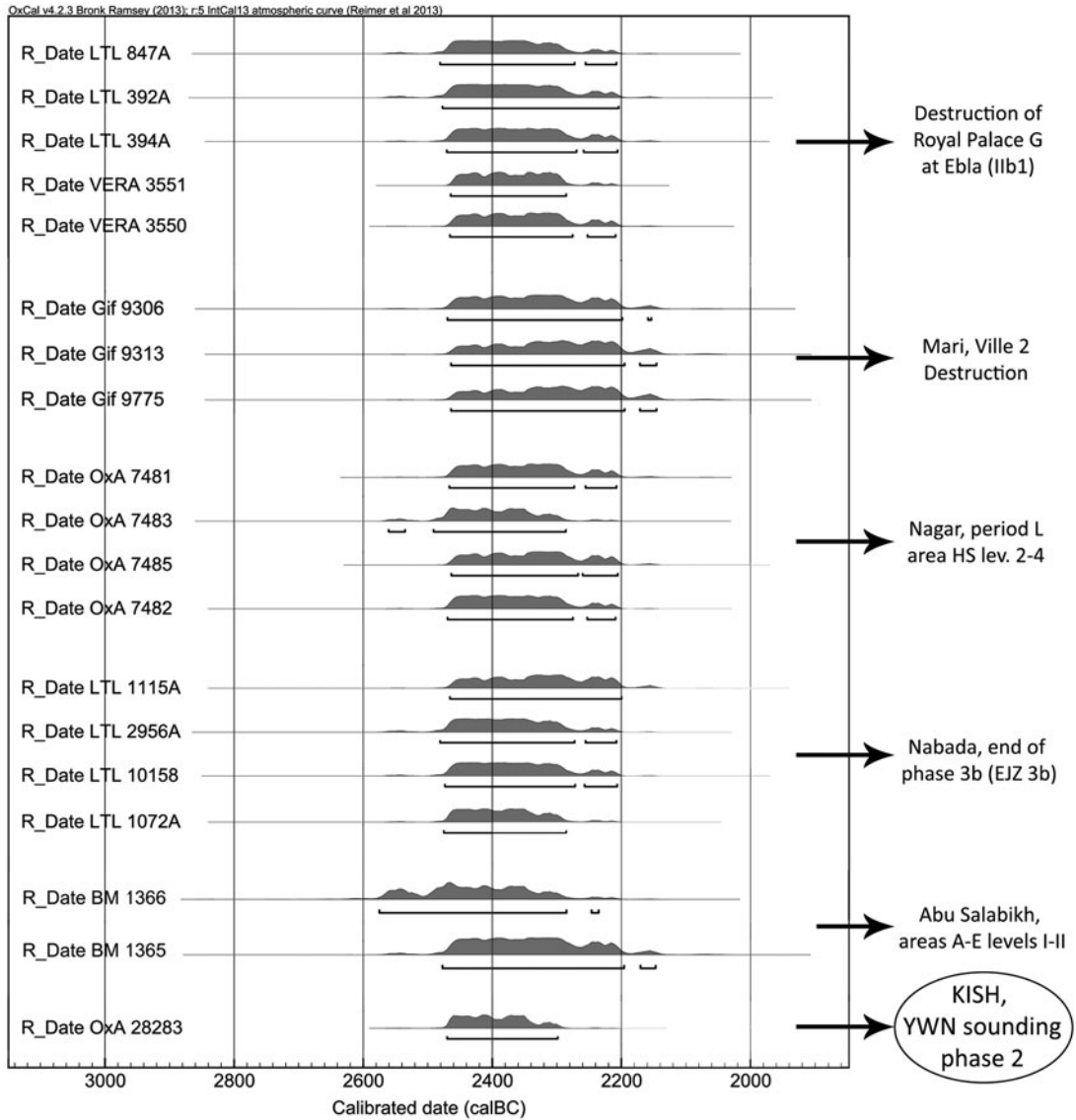


Fig. 6 Comparison of radiocarbon ranges for Ebla, Royal Palace G (Calcagnile et al. 2013: 455, fig. 27.4), Mari Ville 2 (Margueron 2007: P. Buterlin p.c.), Tell Brak/Nagar L, area HS 2–4 (Ristvet 2011: 303, table 1) and Tell Beydar/Nabada (ibid.: 303–304, table 1).

Conclusions

Through a combination of the analysis of stratified archaeological materials, textual evidence and radiocarbon dating, supported by archival records, it has been possible to shed light on the stratigraphy and chronology of the YWN sounding at Kish.²¹ This has revealed two structural phases consisting of an extensive building probably separated by a broad street from fragmentary remains of a smaller structure. This general layout seems to have been maintained across both phases, with the southern building comprising at least fifteen rooms extending over an area of more than 300 square metres. This large construction, probably to be dated between the late Early

²¹ This paper is part of doctoral research by the author on the reconstruction of the third millennium B.C. contexts at Kish defended in 2015.

Dynastic IIIa and early Early Dynastic IIIb, was mostly cleared of its contents, deliberately filled with soil, and rebuilt on the same plan during the late Early Dynastic IIIb into the Akkadian period (Phase 2). The rich artefacts, including cylinder seals, cuneiform tablets and a range of exotic materials, together with the scale of the building, suggest that it represents the residence of a wealthy household engaged in administrative and other domestic activities.

An absolute date provided by the C14 analysis of a stratified bone sample supports the relative chronological attribution of the levels in the YWN sounding. Based on the stratigraphic comparison and the analysis of the material culture, Phase 2 should correspond to Cemetery A at Kish as well as the contexts overlying the destruction of the “Plano-convex Building” and the buildings in the Y and YW soundings (Gibson 1972: 112; Zaina 2015: 179–180; Zaina forthcoming).²² In addition to this, the date range of 2471–2299 B.C. means that Phase 2 was probably contemporary with the series of destructions at several central and north Mesopotamian and Syrian sites most likely explained as a result of the expansion of the Akkadian empire (Lebeau 2012).

This paper has also highlighted that at a time when the political situation in Iraq makes it difficult to acquire newly excavated samples for C14 dating, the use of excavated material within museum collections continues to provide an important resource—the bone sample from Kish was excavated in the late 1920s and has been in museum storage in Oxford for more than eighty years. Clearly, however, the modern excavation of well stratified material for C14 analysis is essential to test further the validity of the chronology of the YWN sounding as well as its broader implications.

Bibliography

- Algaze, G. 1983–84. Private Houses and Graves at Ingharra. A Reconsideration. *Mesopotamia* 18–19: 135–95.
- Archi, A. and Biga, M. G. 2003. A Victory over Mari and the Fall of Ebla. *Journal of Cuneiform Studies* 55: 1–44.
- Boaretto, E. 2009. Dating Materials in Good Archaeological Contexts: the Next Challenge for Radiocarbon Analysis. *Radiocarbon* 51: 275–81.
- Bowman, S.G.E. 1990. *Radiocarbon Dating*. Interpreting the Past. London: British Museum Publications.
- Buchanan, B. 1966. *Catalogue of Ancient Near Eastern Seals in the Ashmolean Museum. Vol. I. Cylinder Seals*. Oxford and London: Clarendon Press.
- Burleigh, R. and Matthews, K. 1982. British Museum Radiocarbon Measurement XIII. *Radiocarbon* 24: 151–70.
- Calcagnile, L., Quarta, G. and D’Elia, M. 2013. Just at That Time. ¹⁴C Determination and Analysis from EB IVA Layers, in P. Matthiae and N. Marchetti (eds.), *Ebla and Its Landscape. Early State Formation in the Ancient Near East*, Walnut Creek: Left Coast Press: 450–58.
- Gelb, I.J. 1970. *Sargonic Texts in the Ashmolean Museum, Oxford*. Materials for the Assyrian Dictionary V. Chicago: The University of Chicago Press.
- Gelb, I.J., Steinkeller, P. and Whiting Jr., R.M. 1991. *Earliest Land Tenure System in the Near East: Ancient Kudurrus*. Oriental Institute Publication 104. Chicago: The University of Chicago Press.
- Gibson, McG. 1972. *The City and Area of Kish*, Coconut Grove: Field Research Projects.
- Lebeau, M. 2012. Dating the Destructions of Ebla, Mari and Nagar from Radiocarbon with References to Egypt, Combined with Stratigraphy and Historical Data, in H. Baker, K. Kaniuth and A. Otto (eds.), *Stories of Long Ago. Festschrift für Michael D. Roaf*. Alter Orient und Altes Testament 397. Münster: Ugarit Verlag: 301–23.
- Maeda, H. 1981. King of Kish in Pre-Sargonic Sumer. *Orient* 17: 1–17.
- Marchesi, G. and Marchetti, N. 2011. *Royal Statuary in Early Dynastic Mesopotamia*. Winona Lake: Eisenbrauns.
- Margueron, J.C. 2007. Mari et la chronologie. Acquisitions récentes et problèmes, in P. Matthiae and F. Pinnock (eds.), *From Relative Chronology to Absolute Chronology. The Second Millennium B.C. in Syria-Palestine*. Rome: Bardi Editore: 285–301.
- Matsumoto, K. 1991. Preliminary Report on the Excavations at Kish/Hursagkalama, 1988–1989. *Al Rafidān* XII: 261–97.
- McMahon, A. 2006. *Nippur V. The Early Dynastic to Akkadian Transition. The Area WF sounding at Nippur*. Oriental Institute Publication 129. Chicago: The University of Chicago Press.
- Moon, J. 1987. *Catalogue of Early Dynastic Pottery, Abu Salabikh Excavation Volume 3*. London: British School of Archaeology in Iraq.
- Moorey, P.R.S. 1966. A Reconsideration on the Excavations on Tell Ingharra (East Kish). *Iraq* 28: 18–51.

²² This destruction may be tentatively connected to the conquest of the city by En-šakuš-Ana, the ruler of Uruk around the end of ED IIIb (Maeda 1981: 5–7; Marchesi and Marchetti, 2011: 102).

- 1978. *Kish Excavations 1923–1933: with a microfiche catalogue of the objects in Oxford excavated by the Oxford-Field Museum, Chicago, Expedition to Kish in Iraq, 1923–1933*, Oxford: Clarendon Press.
- Postgate, J.N. 1977. Excavation at Abu Salabikh, 1976. *Iraq* 39: 269–99.
- 1992. *Ancient Mesopotamia. Society and Economy at the Dawn of History*, London/New York: Routledge
- Ristvet, L. 2011. Radiocarbon. In M. Lebeau (ed.) *ARCANE. Associated Regional Chronologies for the Ancient Near East and the Eastern Mediterranean, Vol. I: Jezirah*. Turnhout: Brepols: 301–26.
- Scandone-Matthiae, G.N. 1979. Vasi iscritti di Chefred e Pepi I nel Palazzo Reale G di Ebla. *Studi Eblaïti* 1: 33–43.
- Steinkeller, P. and Postgate, J.N. 1992. *Third-millennium Legal and Administrative Texts in the Iraq Museum, Baghdad*, Eisenbrauns: Winona Lake.
- Van Buren, E.D. 1951. An Enlargement on a Given Theme. *Orientalia* 20: 15–69.
- Watelin, L.Ch. and Langdon, S. 1934. *Excavations at Kish. The Herbert Weld and Field Museum of Natural History Expedition to Mesopotamia, Vol. IV*, Paris: Geuthner.
- Westenholz, A. 2014 *A Third-Millennium Miscellany of Cuneiform Texts*. Cornell University Studies in Assyriology and Sumerology 26. CDL Press: Bethesda.
- Wright, H.T. 1980. Problems of Absolute Chronology in Protohistoric Mesopotamia. *Paleorient* 6: 93–98.
- Zaina, F. 2015. Craft, Administration and Power in Early Dynastic Mesopotamian Public Buildings. Recovering the Plano-convex Building at Kish, Iraq. *Paleorient* 41.1, 177–197.
- forthcoming. Tell Ingharra-East Kish in the 3rd Millennium B.C.: Urban Development, Architecture and Functional Analysis, in *Proceedings of the 9th International Conference on the Archaeology of the Ancient Near East, Basel 14–17 June 2014*. Wiesbaden: Harroschwitz.

Federico Zaina

Sapienza - Università di Roma/Université de Paris 1 - Panthéon Sorbonne.

Via dei Volsci 122, 00185, Roma - Italy

zaina.federico@gmail.com

لتأريخ بواسطة الكربون المشع من سلالة كيش الأولى والطبقات الأرضية والتسلسل الزمني والمجس YWN Sounding في تل إنغارا.

بقلم: فيديريكو زينا

ما بين عام 1927 و 1930 قامت بعثة مشتركة بين جامعة أكسفورد ومتحف فيلد في تشيكاغو في موقع كيش بفتح عدد من المجسات (ZY, Y, YW and YWN) على تل إنغارا لتجري أولى المستوطنات هناك. يقدم البحث تحليل مفصل للمجس YWN مستخدماً لذلك توثيق و مواد مستخرجة لم تنشر سابقاً وتعرض تأويل جديد لهذه الأدلة. إضافة إلى ذلك يضع تاريخ جديد حدد بالكربون المشع آخر مرحلة اكتشفت من المجس الذي تم في فجر السلالات الثالث - ED IIIb إلى مرحلة الانتقال إلى الأكدي ويمكن مقارنته بشكل مفيد مع التواريخ الموجودة من عدد من مواقع الوسط وشمال بلاد ما بين النهرين.