

The central and northern Zagros during the Late Chalcolithic: An updated ceramic chronology based on recent fieldwork results in western Iran

Résumés

[English](#) [Français](#)

In the past two decades, Iranian archaeologists have conducted numerous surveys and stratigraphic soundings throughout the Zagros region of western Iran. Their published work is gradually filling in the major geographical and chronological gaps in our knowledge of the Late Chalcolithic period. At the same time, new research on this period in the Zagros Piedmont of Iraqi Kurdistan is rapidly producing large amounts of data. Unfortunately, scholarship between the two regions is divided by a national border and a linguistic barrier in publications, which still obstructs necessary communication. This article summarises the current state of knowledge on the Late Chalcolithic in the northern and central Zagros Mountains in order to bridge this artificial divide. Based on the results of Iranian archaeological projects, we propose an updated chronological framework for the Zagros that is in line with recent Mesopotamian and central Iranian models.

[Haut de page](#)

Entrées d'index

Mots-clés :

[Chalcolithique récent](#), [Zagros](#), [archéologie iranienne](#), [chronologie](#)

Keywords:

[Late Chalcolithic](#), [Zagros](#), [Iranian archaeology](#), [chronology](#)

[Haut de page](#)

Texte intégral

PDF 3,6M

Open Access Freemium

Info

[Partager par e-mail](#)

Acknowledgements

We wish to thank our colleagues for sharing unpublished information, off-prints of forthcoming publications, and general reflections on the Late Chalcolithic period. We especially thank Morteza Zamani Dadane, director of the Marivan Plain Survey project from the Kurdish Studies Institute at the University of Kurdistan. We also thank Khaled Abu Jayyab and Michael Lewis for their useful comments on previous iterations of this article. Productive feedback from three anonymous reviewers contributed greatly to the final version of this article.

Work on the unpublished Mahidasht survey dataset was conducted at the Royal Ontario Museum by S. Renette with the permission and support of L. Levine, director of the Mahidasht Survey Project 1975-78, and C. Reichel, Associate Curator at the ROM. New drawings of selected sherds from Pisdeli were made by S. Renette at the Penn Museum and printed here with permission of R. Zettler, Associate Curator-in-Charge of the Near Eastern Section.

1The Chalcolithic period, broadly understood to span the 5th-4th millennia BC in Southwest Asia, is defined by a long process that transformed dispersed, small village communities into a network of urban societies. At the beginning of this period, *ca.* 5000 BC, agriculture had become the dominant subsistence strategy together with village-based animal husbandry across Southwest Asia. Daily life would not reach beyond the village's territory and its immediate neighbours. By the end, *ca.* 3200 BC, specialised centres, some of which displayed urban characteristics, dominated landscapes with hierarchically structured settlements. Goods, peoples, and ideas spread through a vast network that stretched from the Eastern Mediterranean to Central Asia. Yet, while this process can be generally identified in every part of Southwest Asia, trajectories along this path were highly regionalised, reflecting not only geographical preferences for communication routes and the presence of desirable resources, but also local communities' choices to engage with or reject external cultural influences.

- 1 See also: Baldi J.S., Iamoni M., Peyronel L. and Sconzo P. (forthcoming). *Societies in contact: La (...)*

2Our understanding of different regions' developments is very uneven. Southern Mesopotamia had long been the focus of archaeological research in the 20th century, but due to the enormous overburden of millennia of occupation at the major urban sites, only a general outline of development during the Chalcolithic is possible for this pivotal region (Pollock 2001; Nissen 2002; Algaze 2008: 11-27; Butterlin 2018). The Middle and Upper Euphrates zones, as well as the Khabur region in present-day Syria and eastern Turkey have produced the most detailed datasets, allowing the identification of an indigenous path to social complexity, mainly expressed in the emergence of large, urban-sized centres (Oates *et al.* 2007; Stein 2012; Lawrence and Wilkinson 2015; Frangipane 2018; McMahon 2019). The Tigris region and the Zagros foothills to its east are much less documented, but sufficiently to synchronise this region's development with that of northern and southern Mesopotamia (Algaze 1993: 63-71; Rothman 2001, 2002). This is set to further improve with the resurgence in the past decade of fieldwork in Iraqi Kurdistan where multiple projects are actively exploring Chalcolithic settlements.¹

- 2 Petrie 2013a provides a detailed synthesis of the present state of knowledge, updating the still e (...)

3Our understanding of the parallel Chalcolithic developments in the Iranian highlands has progressed a great deal in recent years.² In a parallel, albeit separate, development as the Mesopotamian world, the Iranian highlands were home to regional cultural traditions based around villages at the beginning of the Late Chalcolithic that became increasingly integrated through interregional interaction. By the end of the 4th millennium BC, several urban societies emerged that were connected in the Proto-Elamite network (Helwing 2013a).

4In these recent studies of the Late Chalcolithic, the northern and central Zagros Mountains that form the interface between Mesopotamia and the Iranian highlands are generally ignored, with the notable exception of the site of Godin Tepe. Our knowledge of the Chalcolithic developments in this region is still largely based on a series of small soundings and surveys conducted from the 1950s to 1970s. In the 1980s, E. Henrickson, L. Levine, and T.C. Young Jr. made great efforts to synchronise these fieldwork results with the Mesopotamian and Iranian sequences through stylistic parallels and rudimentary radiocarbon dates. But while our knowledge of northern Mesopotamia and the central Iranian Plateau has changed drastically since then, the chronological framework for the Zagros region has not been updated (Voigt and Dyson 1992; Moghaddam and Javanmardzadeh 2013).

- 3 Many of the articles cited, especially those in Persian, have appeared in Iranian journals that do (...)

5It is now time for a new synthesis of the Zagros Chalcolithic based on recent results from soundings at sites throughout the region by Iranian teams (fig. 1).³ While there remains a serious lack of data, this study presents an updated chronological framework that integrates the Zagros Mountains with contemporary chronologies for Mesopotamia and the central Iranian Plateau. Since interregional interaction that connected the lowlands with the highlands was fundamental to Chalcolithic developments, it is imperative to reconstruct how Zagros communities engaged with the increased cultural communication that characterises the Late Chalcolithic. After all, these communities facilitated the movement of goods, peoples, and ideas through this mountainous borderland.

- 4 For an overview of criticisms of the Santa Fe framework, see especially Butterlin 2003: 214-220; 2 (...)

6In this article, we summarise the three, disconnected sequences that traditionally have defined the Zagros Chalcolithic—Pisdeli, Seh Gabi/Godin Tepe, Mahidasht (Tepe Siahbid, Chogha Maran)—before reviewing new evidence that fills in the regional gaps. Next, we propose an overarching relative chronology that allows correlation with the Late Chalcolithic (LC) structure as laid out by the workshop on Uruk Mesopotamia in Santa Fe in 1998, which established the general outlines of a now widely used heuristic framework for Greater Mesopotamia (Rothman 2001).⁴ However, the Zagros region should be analysed on its own terms as it gave rise to distinct cultural traditions that have more in common with each other than with neighbouring regions to the west and east. As new datasets become available with more detailed absolute chronologies, the differences in pace of cultural change will become sharper, but for now, the Late Chalcolithic phases allow at least a correlation on a general level. At the same time, the Zagros sequence also needs to be correlated with the central Iranian Plateau chronology, especially since cultural interaction between these two zones became stronger during the 4th millennium BC.

Previous studies of the Chalcolithic Zagros

- 5 The southern Zagros, ranging from Khuzestan to the Strait of Hormuz, was culturally distinct from (...)
- 6 It is important to note that the ¹⁴C dates used by Henrickson at the time were uncalibrated. While (...)

7Recent syntheses of the Late Chalcolithic in Iran have largely ignored the northern and central Zagros region.⁵ Earlier syntheses and chronological frameworks developed decades ago remain in use due to the lack of an updated alternative. F. Hole's synthesis of the *Village period*, encompassing the Neolithic and Early Chalcolithic (*ca.* 8000-4000 BC) stands as an essential study that traces the growth of regional, village-based societies characterised by distinct material culture assemblages with a range of painted pottery traditions (Hole 1987). Changes in these painted traditions formed the basis for the chronological framework developed by E. Henrickson, L. Levine, and T.C. Young Jr., based on their work in the Kangavar and Mahidasht plains of the central Zagros (Henrickson 1985; Levine and Young 1987). Henrickson developed a three-fold chronological division of the Zagros Chalcolithic—Early, Middle (I-II-III), Late—by correlating stratigraphic soundings and anchoring the resulting sequence as much as possible by the available ¹⁴C dates available to her at the time.⁶ Cessation of fieldwork in the Zagros after the Iranian Revolution of 1978 prevented further testing of this model so that it remains in use today with very little alteration. While the importance of Henrickson's work cannot be understated, her chronological framework was necessarily heavily biased toward the stratigraphic soundings excavated by the Royal Ontario Museum's mission at Godin Tepe and Seh Gabi in the Kangavar Plain, and Tepe Siahbid and Chogha Maran near Kermanshah. Attempts to integrate other areas of the Zagros, especially the Dalma and Pisdeli material excavated by the University of Pennsylvania

Hasanlu Project near Lake Urmia, as well as establishing a correlation with the better understood Mesopotamian sequence could only be done based on broad similarities in decorative motifs on pottery (Henrickson 1986). Most problematic are the absolute dates, which in the 1980s suffered from a much higher degree of inaccuracies than today. More recently, A. Moghaddam and A. Javanmardzadeh slightly updated the absolute chronology, but maintained the overall period division (Moghaddam and Javanmardzadeh 2013). However, both the Mesopotamian and the Iranian highland chronologies have been drastically overhauled and improved in the past two decades (Mesopotamia: Rothman 2001; Marro 2012; central Iranian Plateau: Fazeli *et al.* 2005, 2009, 2013; Helwing 2013b; Pollard *et al.* 2013). As a result, the framework developed by Henrickson is now largely out of step with the neighbouring chronologies, both in period terminology and absolute chronology.

- 7 See also: Renette *et al.* forthcoming, *supra* note 1.
- 8 See also: Carter R., Wengrow D., Shepperson M., Roberts K., Lewis M.P., Marsh A., Gonzales Carrete (...)
- 9 See also: Skuldbøl T.B.B. and Colantoni C. (forthcoming). Unravelling early urbanism and cultural (...)

8Correlating the Zagros region with Mesopotamia and the central Iranian Plateau is further complicated by the issue of the Uruk Expansion. Excavations at the site of Godin Tepe, located in the eastern end of the central Zagros, produced well-known evidence for long-distance interaction in the form of pottery and administrative tools that have their origins in Mesopotamia (Rothman and Badler 2011). However, this single data point in the Zagros has skewed interpretations of the eastward expansion of the Uruk interaction network. Explanations for the appearance of southern Mesopotamian material culture at Godin Tepe can be grouped into three approaches. G. Algaze's canonical study of the Uruk Expansion models Godin Tepe as an outpost for southern Mesopotamian traders to obtain raw materials from the Iranian highlands (Algaze 1993: 53-55). In this model, Algaze predicts additional outposts to be located on the major routes from Mesopotamia through the northern and central Zagros (Algaze 1993: 63-66). However, excavations by the Hasanlu Project along the northern route that passes via the southern shore of Lake Urmia failed to produce evidence for Uruk material (Voigt 1989). For the central Zagros, in the Mahidasht region, Henrickson argued for the existence of similar outposts detected by the Mahidasht Survey Project, but this interpretation was based solely on the presence of bevelled rim bowls (BRB), which occur on numerous sites without typical Uruk material culture and should therefore not be used as an indicator for Uruk sites in surveys (Henrickson 1994). In recent years, fieldwork in Iraqi Kurdistan has begun to identify the spread of Uruk material culture, especially at sites such as Girdi Qala (Vallet *et al.* 2017, 2019), Kani Shaie (Tomé *et al.* 2016),⁷ Gurga Chiya (Wengrow *et al.* 2016),⁸ and Bab-w-Kur (Skuldbøl and Colantoni 2018),⁹ but the interpretation of these results still awaits further analysis.

9An alternative explanation for Godin Tepe emphasises the role of Susa and the emerging Proto-Elamite network for the distribution of Uruk-related material culture onto the Iranian Plateau. This approach, first formulated by H. Weiss and T.C. Young Jr., and more recently by C. Petrie, accepts the absence of similar outposts between the Tigris and the Zagros (Weiss and Young 1975; Petrie 2014). Petrie especially considers the relative and absolute chronological aspect of the formation of the Proto-Elamite network that fits better with the evidence from Godin Tepe, rather than the spread of the Uruk network somewhat earlier.

10A third approach prioritises indigenous developments in the Kangavar Plain. Both M.S. Rothman and R. Matthews preferred to take a bottom-up approach and considered local elites at Godin Tepe as a driving factor in the adoption of southern Mesopotamian material culture within part of the settlement (Matthews 2013; Rothman 2013). A recent study of local *versus* non-local pottery based on the chemical composition of clays at Godin Tepe provides additional support for this emphasis on the local community since most vessels were made locally, while the few imported vessels came mainly from neighbouring areas in the Iranian highlands (Gopnik *et al.* 2016).

11Since the height of fieldwork in the Zagros in the 1970s, there have been no new extensive excavations of Chalcolithic sites. Nevertheless, soundings and surveys conducted by Iranian teams

in the past two decades have begun to fill in the gaps on the map so that we no longer need to rely exclusively on the key sequences of Godin Tepe/Seh Gabi, Tepe Siahbid/Chogha Maran, and Dalma/Pisdeli/Hasanlu. This article aims to update the chronological framework for the Zagros Chalcolithic, bringing it in line with the current chronologies of Mesopotamia and the Iranian highland. This remains largely a relative, ceramic chronology, but new ¹⁴C dates from soundings are beginning to provide much-needed anchor points.

Late Chalcolithic type sites in the Zagros

The northern Zagros: Pisdeli

- 10 In 1961, T.C. Young Jr. excavated additional soundings at Hajji Firuz, Dalma Tepe, and Pisdeli Tep (...)

12In 1957, the Hasanlu project excavated a small sounding (2 × 2 m) in an existing cut in the small mound of Pisdeli Tepe (*ca.* 1 ha) in order to obtain a collection of material from the Chalcolithic period in the Ushnu-Solduz plains (fig. 2; Dyson and Young 1960: 20).¹⁰ The painted tradition from this period is usually described as Ubaid-related and considered part of a widespread black-on-buff co-tradition with various local expressions (Dyson and Young 1960: 22; Henrickson 1985: 70; Helwing 2004: 15). A more detailed stylistic analysis by E. Henrickson confirmed that the Pisdeli painted wares are most closely related to material from Tepe Gawra XII-XIIA, which is now considered to be LC 1 (or previously Terminal Ubaid; Henrickson 1986: 121). However, these similarities of a few painted designs are based mainly on comparisons of line drawings. As already noted by Henrickson, Pisdeli painted ware is in reality very different from Ubaid traditions when taking into account fabrics and stylistic details (Henrickson 1985: 70).

Drawings by S. Renette

- 11 The description of Pisdeli ceramics is based primarily on Renette's observations of sherds stored (...)

13Chalcolithic pottery from Pisdeli is generally heavily chaff-tempered, burnished (or smoothed) and red-slipped with a dark grey core.¹¹ Unslipped buff to greyish buff wares made of the same chaff-tempered fabric also occur. Coarse fabric plain wares, both slipped and unslipped, are mainly attested in hemispherical bowls (large and deep; low; or small), straight-sided bowls with a flat rim, low trays, and everted rim jars, some of which have a short spout (fig. 2.10-14). In addition, straight-sided bowls with a pinched rim are thinner and made of a slightly finer fabric, though still heavily chaff-tempered and burnished or smoothed. A few sherds of chaff-faced ware (CFW), including a possible wide flower pot sherd, well-known from northern Mesopotamia, eastern Anatolia, and the southern Caucasus, are also attested, but they stand out in the overall assemblage (fig. 2.7-9).

- 12 The Penn Museum online collections contain colour photographs of a small group of sherds from Pisd (...)

14Pisdeli painted ware occurs in two variants. The most common is black-on-red, which is a painted version of the burnished, dark red-slipped ware (fig. 2.1-3).¹² The second painted ware is more widely associated with the Pisdeli tradition in archaeological scholarship and consists of black paint on a whitish slip, somewhat mistakenly called black-on-buff ware (fig. 2.4-6). Both black-on-red and black-on-buff wares occur mainly on small, hemispherical bowls and fine, straight-sided bowls, but also occasionally on high-necked jars with a simple rim. The decoration scheme is always the same: just below the exterior rim (the top of which is usually painted solid) is a frieze of geometric designs (hatched triangles and panels, dots, alternating solid triangles), below which there are four sloppily painted horizontal lines, with sometimes a wavy line at the bottom. On jars,

this scheme is basically the same: the high neck is either solidly painted or alternating solid panels, below which there are a few horizontal bands that frame a frieze of geometric designs.

15A single exception is a sherd of an open jar with a triangular rim (Dyson and Young 1960: pl. 3). This vessel has a dark grey, chaff-tempered fabric with a white slip. The rim is decorated with painted lines. Just below the low neck is a metope frieze with alternating hatched panels and stylised horned animals, beneath which there are a series of horizontal lines. This sherd fits better with the closely related Seh Gabi tradition of the eastern central Zagros.

- 13 There is growing evidence for higher degrees of continuity between Dalma and Pisdeli than previous (...)

16The Pisdeli painted wares are distinct from the preceding earlier Chalcolithic Dalma painted ware, which consisted mainly of solid zigzags covering the entire body of small, hemispherical bowls (Henrickson 1985: fig. 7; Tonoike 2009 for the most detailed description of the Dalma tradition). However, the plain wares show a lot more continuity and impressed wares possibly continued into the Pisdeli period as well, albeit less frequent. Considering the general similarities in decoration patterns with the late Ubaid tradition, it is possible that Pisdeli painted wares developed out of the Dalma tradition under influence of increasing contacts with the Tigris region. The black-on-red Pisdeli wares are very similar in appearance, albeit with different decoration schemes, to Dalma painted plum ware found to the north and east of the Ushnu-Solduz plains (Khosravi *et al.* 2013: fig. 5-6; Abedi *et al.* 2015: fig. 9).¹³

- 14 The sealing from Pisdeli (depicted in Voigt 1989: fig. 4) shows the impression of a circular stamp (...)
- 15 A distinct variant, sprig ware is restricted to the eastern Khabur and upper Tigris region. But ad (...)
- 16 Radiocarbon dates have been recalibrated for this study using OxCal 4.3. Dates given in the origin (...)

17The date of Pisdeli can now be securely established as covering much of the second half of the 5th millennium BC, contemporary at least with the LC 1 period in northern Mesopotamia, and possibly somewhat earlier, overlapping with the end of the Late Ubaid. This chronology was originally established based on stylistic similarities of both pottery and a couple of stamp seal impressions with Gawra XIII-XI (Henrickson 1985: 70; Voigt 1989; Voigt and Dyson 1992: 175).¹⁴ Black-on-red painted wares are also widely spread throughout northern Mesopotamia, including so-called sprig ware, during this period.¹⁵ The presence of a few sherds of chaff-faced ware and a mass-produced bowl (wide flower pot) support a date within the post-Ubaid horizon. Two radiocarbon dates from Pisdeli and two additional dates of this material culture from the nearby site of Hajji Firuz have a big range, but match the absolute chronology of the LC 1 to early LC 2 (Voigt and Dyson 1992: 178, table 2).¹⁶ The end of the Pisdeli period can at present not be determined. Surveys and excavations in the Ushnu-Solduz plains were not able to detect occupation datable to the 4th millennium BC, lacking chaff-faced ware, early Kura-Araxes wares, or Uruk types such as BRB, possibly reflecting a depopulation of the region (Voigt 1989: 287; Danti *et al.* 2004: 595).

The eastern central Zagros: Godin Tepe and Seh Gabi

18The Chalcolithic sequence of Godin Tepe and Seh Gabi has been discussed extensively elsewhere (Henrickson 1985; Levine and Young 1987; Rothman and Badler 2011). This sequence (Godin IX-VI) defines our understanding of the Late Chalcolithic east of the Kuh-i Sefid (eastern Luristan and western Hamadan provinces). Due to Godin Tepe's fame in Near Eastern archaeology, this sequence tends to be more familiar to those working outside of the Zagros region. However, due to its geographical location, the site is not representative of the entire central Zagros. Instead, this region's cultural alignment fluctuates between northwestern Iran via the eastern flanks of the northern Zagros and the central Iranian Plateau via the Hamadan route during the Chalcolithic and Bronze Age.

- 17 A range of red-slipped wares are characteristic of the Zagros Chalcolithic, but they can look quit (...)
- 18 Mohammadi Ghasrian's observation of unpublished survey and excavations in the eastern part of the (...)

19 During the early part of the Chalcolithic, this region was fully integrated within the Dalma cultural tradition from northwestern Iran (Henrickson 1985: 69-70; Levine and Young 1987: 21). Following the Dalma period, equivalent to the end of the Late Ubaid in northern Mesopotamia, the Seh Gabi period (Godin IX) is characterised by a distinct black-on-buff ware. This ware consists of an unslipped fine ware with thick, shiny black painted designs (Young and Levine 1974: 7; Henrickson 1985: 70; Levine and Young 1987: 29). While technologically and stylistically distinct, the Seh Gabi painted ware shares morphological features with the Pisdeli tradition. The most typical vessel is a fine-ware, hemispherical bowl with a frieze of geometric designs below the rim and a thick, painted band underneath. The geometric motifs consist of a different repertoire and horned animals are occasionally depicted in the Seh Gabi tradition, but the overall layout is very similar to Pisdeli painted ware. Furthermore, descriptions of the Seh Gabi plain wares emphasise the dominance of burnished, red-slipped vessels, which recall the Pisdeli plain wares (Young and Levine 1974: 6-7; Voigt and Dyson 1992: 160).¹⁷ A series of five radiocarbon dates from Seh Gabi place this period within the LC 1 to early LC 2 range (Henrickson 1985: 70; Voigt and Dyson 1992: 164). The following Godin VIII period was defined based on a handful of sherds from poorly preserved levels at Godin Tepe, and could not be identified at any other site in the region. Subsequent surveys in the past decades have equally struggled to identify Godin VIII and every single excavation with relevant material documents a transition from Seh Gabi directly into Godin VII (Young 1974: 25; Swiny 1975; Hole 1987: 50; Balmaki and Niknami 2012; Nazari Arshad and Beik Mohammadi 2017).¹⁸ Therefore, Godin VIII probably was never a separate period, but rather a transitional phase when new pottery shapes begin to appear while some black-on-buff painting continued.

20 Period Godin VII forms a break with the previous periods based on the disappearance of painted wares and an orientation toward the central Iranian Plateau. The distinct plain, chaff-tempered wares consist mainly of coarse ware (smoothed and unsmoothed) basins with finger-impressed lug handles; red-slipped ware goblets, trays, and open jars with moulded zigzag decoration on the outside of the rim; and buff fine wares (sometimes white-slipped) for hemispherical bowls, shallow bowls, and sinuous-walled goblets (Levine and Young 1987: fig. 16). The best parallels for this material, as well as associated stamp seals, are found to the east, especially at Tepe Ghabristan I (Voigt and Dyson 1992: 161; Madjidzadeh 2008: fig. 8-9; see also Moghimi and Davoudi 2020 for ceramic and glyptic evidence from the nearby site at Ālou).

21 Period Godin VI developed from the period VII tradition, but with a strong increase in buff (medium-) fine wares and the appearance of new vessel shapes, such as inverted rim bowls and pedestaled bowls. In addition, a newly painted ware is introduced, although uncommon, that has direct parallels within the Sialk III tradition, reflecting the intensified integration of this eastern zone of the Zagros with the central Iranian Plateau. By Godin VI:2, the first influences from the Mesopotamian world become visible in the ceramic record with the gradual introduction of BRB, as well as other selected vessel types that were widespread in Late Chalcolithic Mesopotamia (*e.g.*, bowls with an interior bevel; jars with a straight or cannon spout; see Badler 2002: 81; Young 2004; Rothman and Badler 2011: 90). While these vessel types do have parallels within southern Mesopotamia, they are widely shared across Greater Mesopotamia by the second half of the 4th millennium BC and do not represent the typical Uruk assemblage. Furthermore, a growing influence of southern Mesopotamian ceramic traditions has also been observed in the central Iranian Plateau where, by the end of the Sialk III tradition the local communities integrated foreign vessel types such as BRB, spouted vessels, and nose-lugged jars within their local assemblages (Fazeli *et al.* 2013; Helwing 2013a: 95; Helwing 2013b). In other words, the initial appearance of BRB and a few other ceramic types of Mesopotamian origins at Godin Tepe continues the site's close connection with the central Iranian Plateau and widely shared increased communication with the Mesopotamian world.

- 19 The extensive literature on Godin Tepe VI:1 is based largely on preliminary reports and should not (...)

22 Finally, by the end of the Late Chalcolithic (Godin VI:1), Godin Tepe became part of the initial spread of the Proto-Elamite network out of southwestern Iran, which would eventually encompass the entire central Iranian Plateau, with the introduction of new ceramic and glyptic types, which have their best parallels within LC 5 (Rothman and Badler 2011; Rothman 2013; Petrie 2014), as well as a distinct architectural form. 19 Godin Tepe and the eastern central Zagros, however, would reorient themselves again toward northwestern Iran with the southward spread of the Kura-Araxes culture in the Early Bronze Age.

23 The absolute chronology for Godin VII-VI remains contested due to inconsistencies and a clear late bias in many of the radiocarbon dates from Godin Tepe (Voigt and Dyson 1992: 164). Those dates suggest a range of *ca.* 3700-3300 cal. BC for phase VII, which is almost certainly too low since it does not match the secure dates for the contemporary Sialk III:1-5 period and it leaves very little time for the long Godin VI phase (Fazeli *et al.* 2005, 2009, 2013; Pollard *et al.* 2013). A reassessment of radiocarbon dates from VI:1 produced a broad range of *ca.* 3500-3050 cal. BC, but no dates for the earlier phases VI:3 and VI:2 are available (Rothman and Badler 2011: 84-85). New dates from recent fieldwork at other sites with comparable material now allow us to refine this chronology.

The western central Zagros: Chogha Maran and Tepe Siahbid

24 The western central Zagros, best documented in Kermanshah province, underwent a separate development that reflects contact with the Zagros Piedmont and the central Tigris region. This is not surprising considering its geographical location and natural communication routes via mountain passes that open to the Diyala/Sirwan region. Perhaps for this reason, the western central Zagros did not adopt the Dalma material culture, but instead developed its own black-on-buff and red-on-buff ware (Siahbid phase) that is closer related to the late Ubaid tradition of central Mesopotamia (Henrickson 1986: 122). For example, typical vessel shapes of the Siahbid tradition include conical bowls with simple or pinched rims and flaring-neck jars that recall typical Ubaid vessel shapes, while the painted motifs often have good parallels in central Mesopotamia (Henrickson 1985: 73, fig. 14; Levine and Young 1987: 33, fig. 12; Voigt and Dyson 1992: 158). But unlike in the lowlands, the Siahbid painted ware tradition seems to have lasted into the second half of the 5th millennium BC. However, the absolute chronology of the Chalcolithic in the western central Zagros is poorly documented with only two radiocarbon dates for the early Siahbid phase that provide a range of *ca.* 4880-4490 cal. BC (Henrickson 1985: 73; Voigt and Dyson 1992: table 2). This suggests that the late Siahbid phase might have lasted into LC 1, but this is not presently supported by radiocarbon dates or parallels in material culture.

- 20 Voigt also reports that red, white and black ware sherds were present in late Pisdeli levels (Voig (...))

25 In the second half of the 5th millennium, the Siahbid ceramic tradition developed into the subsequent Maran phase (fig. 3). This phase is characterised by a distinct painted pottery that nevertheless shows stylistic affinities with the Pisdeli/Seh Gabi ceramic horizon, which might reflect an intensification of interaction among northern Zagros communities. While black-on-buff ware continued in use to some extent, the new dominant type, so-called red, white and black ware, consists of a red fabric covered with a thin, white wash and black painted designs (fig. 3.1-8 and 21-22). Both the vessel shapes (hemispherical bowls with a pinched rim) and the decoration scheme (a frieze below the rim with horizontal lines or a thick band underneath) are similar to those of the Pisdeli and Seh Gabi traditions. 20 In addition, a rare black-on-red ware also appears in this period that could be related to the most common Pisdeli painted vessels (fig. 3.9-11). Unfortunately, there are no radiocarbon dates available for the Maran phase.

26The 4th millennium occupation of the western central Zagros remains elusive in the present available data, since both Chogha Maran and Tepe Siahbid were not occupied during this time. However, survey data has shown that during the 4th millennium BC, at least some of the Godin VII-VI plain wares spread westward and even a few painted Godin VI sherds have been documented from Deh Savar (Levine and Young 1987: 39). In addition, BRB are well-documented at many sites in the western central Zagros, sometimes at high quantities and with possible additional Mesopotamian-style ceramics (*e.g.*, pinched rim cups with a string-cut base) that might reflect the spread of the Uruk network into this region (Henrickson 1994; Renette 2018). Still, at present, there is insufficient data to assess the material culture of the western central Zagros during the 4th millennium BC.

Recent fieldwork results from the Zagros region

- 21 The ability to upload articles on scholarly, commercial file-sharing websites, and the increased o (...)

27In the past two decades, Iranian teams have continued to document archaeological sites in the Zagros Mountains. Archaeological projects have usually been small-scale, consisting either of a small sounding to document stratigraphic sequences or low-intensity survey work. While in the past, results from such projects often remained unpublished or at best available exclusively in Persian publications that were difficult to access for non-Iranians, a younger generation of archaeologists within Iran have made great efforts to make their work available to the wider scholarly community.²¹ Still, the lack of synthesis studies and the need to delve into numerous excavation reports from geographically widely dispersed sites to reach a broad understanding of regional developments have continued to form an obstacle that all too few archaeologists working in neighbouring Iraq have been willing to overcome. Here, we summarise the main new data points for the Chalcolithic period in the central and northern Zagros region in the hope that these important results can be integrated in the ongoing debates on the Late Chalcolithic of Greater Mesopotamia.

- 22 For example, recent surveys in Sarfirouzabad (Niknami and Askarpour 2015), the Mehran Plain (Javan (...))
- 23 For recent discussions connecting northwestern Iran to the southern Caucasus during the Late Chalc (...)

28These new results fill in the gap between Lake Urmia and the northern central Zagros (Kurdistan and Western Azerbaijan provinces), as well as the route connecting the central Zagros with the central Iranian Plateau via Hamadan (fig. 1). The central Zagros (Kermanshah, Luristan, and Ilam provinces) is currently not as well represented, but similar studies are certainly forthcoming.²² Work to the north of Lake Urmia has probably been the most intensive in the past years, with sites such as Dava Göz (Abedi 2017) and Kul Tepe (Abedi *et al.* 2014, 2015) elucidating the Chalcolithic development of the region from Pisdeli ware to CFW and the eventual emergence of the long-lasting and widespread Kura-Araxes culture. However, for unknown reasons, the northern and southern plains around Lake Urmia were culturally distinct throughout the Chalcolithic and Bronze Age. One explanation is their respective geographical position. The northern plains are naturally connected to the southern Caucasus and eastern Anatolia,²³ while the southern plains are part of the routes between northern Mesopotamia and the central Iranian Plateau.

Upper Little Zab basin

29This basin, which stretches from the Ushnu-Solduz plains to Marivan along the eastern side of the *chaîne magistrale* that encompasses the modern-day border between Iraq and Iran, is connected to the Zagros Piedmont and the Tigris region via only a few passes (Hajji Omran, Keleshin, Peshdar Plain). Until fairly recently, this region was *terra incognita* on archaeological maps, but now Iranian survey and excavation projects have begun to fill in this gap. Two sites, in particular, provide evidence for the Chalcolithic period: Lavin Tepe near Piranshahr in the north and Tepe Namashir near Baneh in the south. These sites show that the Dalma cultural tradition, including both painted and impressed wares, spread into this region, but not further south or west. The Pisdeli period is present at both sites, but rather poorly represented. Only a few black-on-buff sherds from these sites can be attributed to the Pisdeli tradition, while no black-on-red pottery has been reported (Nobari *et al.* 2012: fig. 7.2; Saed Mucheshi *et al.* 2017: fig. 12.16). These sherds probably date to the early part of the Pisdeli period, which is supported by the presence of late Ubaid painted conical bowls (Saed Mucheshi *et al.* 2017: fig. 11.2, 12.11). At Tepe Namashir, there was continued occupation at least into LC 1, although it is not clear whether there was a stratigraphical break from the previous period. The ceramic assemblage of level III at the site shows both burnished, red-slipped ware on typical Pisdeli shapes (Saed Mucheshi *et al.* 2017: fig. 8) and buff wares on typical LC 1 shapes familiar from the Zagros Piedmont and Tigris region (Saed Mucheshi *et al.* 2017: fig. 9-10).

30For the later part of the Late Chalcolithic, the Lavin Tepe project reported BRB at four sites in the area (Nobari *et al.* 2012: 103). A recently published report of a 2007 survey in the Sardasht district of the Little Zab basin documented an additional six sites with Late Chalcolithic sherds. Material collected on the surface at the site of Tepe Badamyar Rabat is almost identical to that from LC 3-4 sites in the Trans-Tigridian region, demonstrating that, in contrast to the southern Lake Urmia area, during the 4th millennium BC this area was culturally integrated with the Zagros Piedmont zone (Abedi *et al.* 2019).

Marivan – Sanandaj – Mahidasht

31Further south, a series of small valleys in an otherwise rugged, mountainous landscape connect the northern Zagros to Kermanshah to the south and the Shahrizor and Tanjaro plains of Sulaymaniyah in the west. On the Iraqi side of the border in Penjwen, excavations at Gird-i Rostam have recently produced good evidence for LC 1 occupation (Potts *et al.* 2019). The plain wares at this site were often burnished, which fits well with widespread Zagros Plain wares of this period (Potts *et al.* 2019: 114). The site also produced a few painted sherds, one of which fits well within the Pisdeli/Seh Gabi black-on-buff tradition with a band of geometric motifs above a painted band or horizontal lines on a small hemispherical bowl (Potts *et al.* 2019: 119). The motif of alternating upward- and downfacing triangles has a long history from at least the late Ubaid and Pisdeli periods (Dyson and Young 1960: fig. 2.3) to the Godin VI period (Levine and Young 1987: fig. 17.6), as do dots as filling motif (Dyson and Young 1960: fig. 2.2; Levine and Young 1987: fig. 10:50.1 and 11.8; Zamani Dadane *et al.* 2019a: fig. 5.5).

32A little further southeast, near Sanandaj, the material culture of Tepe Gryashan is much more representative of the Zagros region with many black-on-buff painted sherds of the Pisdeli/Seh Gabi tradition (Mohammadi Ghasrian *et al.* 2019: fig. 3) and red-slipped plain wares that frequently have finger-impressed surface treatment (Zarei *et al.* 2017: fig. 14; Mohammadi Ghasrian *et al.* 2019: fig. 11). Mixed in with this typical northern Zagros LC 1 tradition are several wide flower pots, which are chaff-tempered, straight-sided bowls with scraped bases, typical of the northern Mesopotamian LC 1-2 (Mohammadi Ghasrian *et al.* 2019: fig. 8). Gryashan seems to have remained occupied at least through the end of LC 2 as evidenced by the presence of red-slipped plain ware more similar to Godin VII and the presence of chaff-tempered vessel types with comparanda in the plain wares of Godin VII-VI as well as the LC 1-2 assemblage at Kani Shaie (Mohammadi Ghasrian *et al.* 2019: fig. 9 and 11; Rothman and Badler 2011: fig. 4.45; Renette *et al.* forthcoming: fig. 8-9 [see note 1]).

33At Qaleh Naneh, a few sherds suggest occupation during LC 1-2: a vat with a grooved rim is paralleled in LC 2 levels at Kani Shaie and Logardan in southern Iraqi Kurdistan (Vallet *et al.* 2017: fig. 18.7; Saed Mucheshi *et al.* 2018: fig. 9.4; Renette *et al.* forthcoming: fig. 9.12 [see note 1]), while two sherds of black-on-red painted ware have parallels in the Mahidasht and beyond (Henrickson 1985: 74, fig. 20; Saed Mucheshi *et al.* 2018: fig. 10). The site continued to be occupied at least until the middle of the 4th millennium BC based on the presence of BRB, hammerhead bowls, and a distinct grey ware, all of which have parallels in LC 3-4 contexts in Iraqi Kurdistan (Saed Mucheshi *et al.* 2018: fig. 8-9). BRB were also found at the nearby sites Tepe Rasha and at Sarghal'eh together with other possible LC 3-4 ceramic types (Saed Mucheshi *et al.* 2012: fig. 6-8; Zamani Dadane *et al.* 2019b: fig. 8).

34Similar sherd material has been retrieved from several sites in the Mahidasht/Kermanshah region during the 1975-1978 Mahidasht Survey Project, led by L. Levine. In her summary of the Late Chalcolithic material from this survey, Henrickson identified Godin VI related ceramics (Henrickson 1994). However, sherd drawings from the original survey records suggest a stronger western orientation, similar to the material found around Marivan and the Trans-Tigridian region, with only broad connections to the Godin VII-VI assemblages (fig. 4). Almost none of the characteristic Godin VII shapes are present in the archive's drawings, but final analysis of the complete survey collection remains to be done (Young and Levine 1974: fig. 13; Levine and Young 1987: fig. 16).

Drawings by S. Renette based on original drawings in the Mahidasht Survey Project archive at the Royal Ontario Museum

Eastern Zagros

- 24 Additional sites in the region have been explored archaeologically, especially in the context of s (...)

35The region to the east of the Zagros Mountains that leads toward the central Iranian Plateau (eastern Kurdistan province and Zanjan province) has been equally poorly documented archaeologically. Other than an informal survey by S. Swiny in 1971, virtually nothing was known about most of the pre- and early history of this region (Swiny 1975). Now, five sites fill the gap to some extent for the Chalcolithic period.²⁴ Two sites, Tepe Taze-Kand and Tepe Cholanghi, are located immediately to the east of Godin Tepe and Seh Gabi in the vicinity of Hamadan, while Tepe Gourab is located just to the south near Malayer. The date for these sites is difficult to determine precisely based on available publications. Tepe Taze-Kand has a few painted sherds together with red-slipped wares and finger-impressed surface treatment that fit well within the Seh Gabi tradition (Balmaki 2017). Tepe Cholanghi lacks painted sherds, while there are new ceramic shapes that appear in this assemblage that fit with a date in the 4th millennium BC, but no BRB (Balmaki 2013: 24). A single sherd with traces of paint is reminiscent of Godin VI painted ware (Young and Levine 1974: fig. 14.20; Levine and Young 1987: fig. 17.14-16; Balmaki 2013: fig. 3.33). At Tepe Gourab, a step trench recovered Seh Gabi related painted sherds together with red-slipped pottery that fits well within the LC 1-2 range (Hemati Azandaryani *et al.* 2020: 272-276). In sum, these sites probably were inhabited in the period stretching from the late Seh Gabi period (Godin IX) to Godin VI:3.

36Further north, Tepe Kalanan (Saed Mucheshi *et al.* 2011) and Tepe Gheshlagh (Motarjem and Sharifi 2014; Sharifi and Motarjem 2018) illustrate the local variations on the wider Chalcolithic themes. Both sites were occupied during the Godin VII period based on the presence of typical red-slipped ware with moulded application under the rim (Sharifi and Motarjem 2018: fig. 15) and coarse ware basins with finger-impressed lugs (Saed Mucheshi *et al.* 2011: fig. 9; Motarjem and Sharifi 2014: fig. 17b) that have direct parallels in the Godin Tepe sequence (Levine and Young 1987: fig. 16). In addition, the local assemblages from these two sites include vessel decorations that are unparalleled at Godin Tepe: *appliqué* stylised goat horns (Saed Mucheshi *et al.* 2011: fig. 18; Sharifi and Motarjem 2018: fig. 11), red-slipped ware with a single M (perhaps a stylised

mountain?) painted in white near the base of the vessel (Sharifi and Motarjem 2018: fig. 10), and greyish buff ware with incised zigzags (Saed Mucheshi *et al.* 2011: fig. 18-19; Sharifi and Motarjem 2018: fig. 14). A set of radiocarbon dates from Tepe Kalanan and thermoluminescence dates from Tepe Gheshlagh both provide a secure absolute date between 4000-3750 cal. BC, equivalent to late LC 2-3.

Toward a synthesis of the Chalcolithic of the northern and central Zagros region

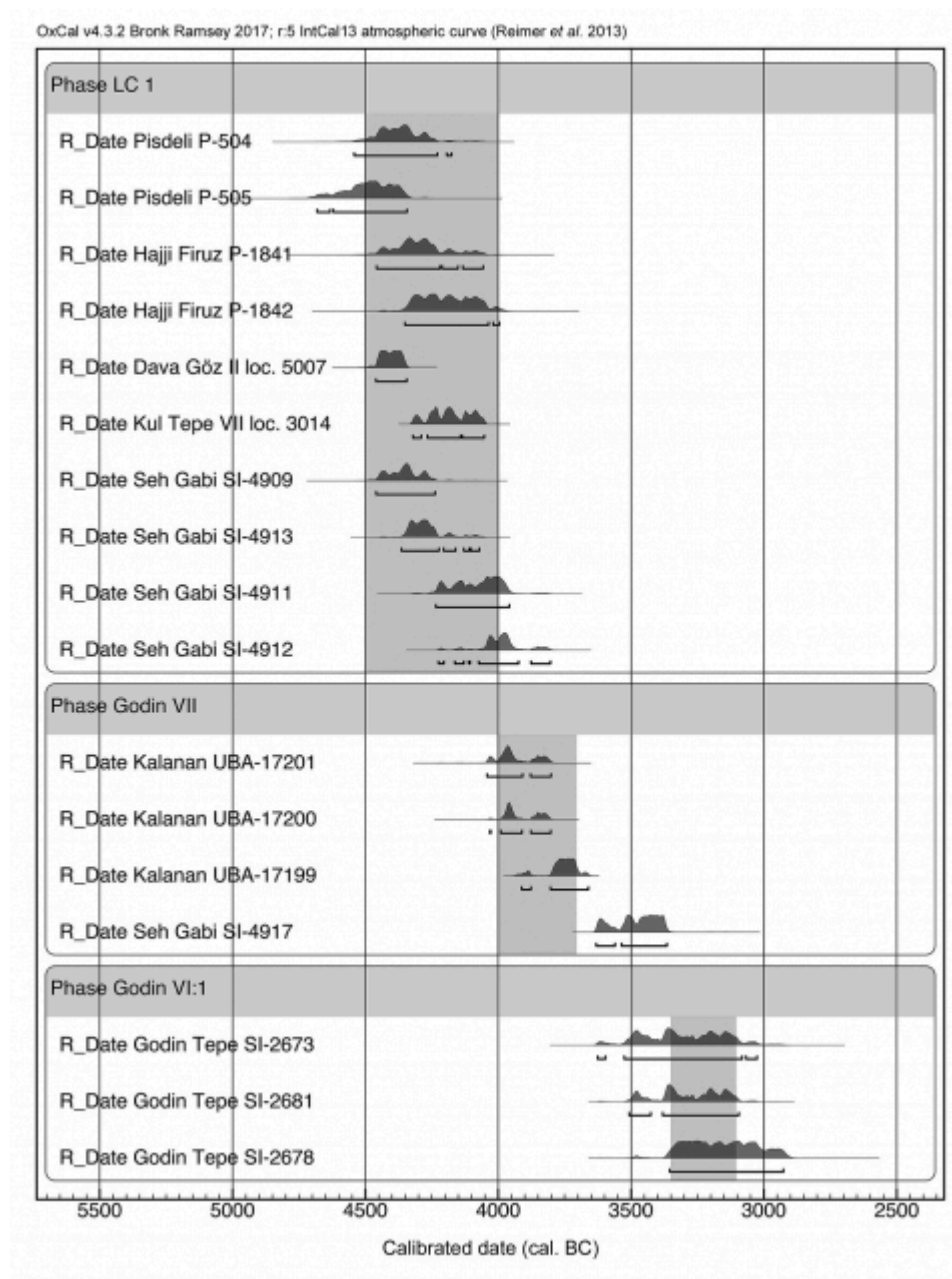
37Given the lack of long-term, extensive excavations and detailed surveys in the Zagros region during the past four decades, writing a synthesis of the Chalcolithic period necessarily needs to focus on ceramic development and chronology. Such a ceramic chronology, anchored by absolute dates, allows the correlation of the Zagros region with Chalcolithic developments in neighbouring regions. Here, we outline an updated chronological framework, highlighting remaining gaps in our knowledge, and we reevaluate how the Zagros Chalcolithic traditions correlate with developments in neighbouring Mesopotamia and the Iranian highlands. Previous syntheses could only rely on three geographically remote and distinct stratigraphic sequences (Pisdeli, Seh Gabi/Godin Tepe, Tepe Siahbid/Chogha Maran), which amplified their differences. With new data from regions in-between, this synthesis considers the Chalcolithic of the northern and central Zagros to be largely a unified process, based on continuous interaction between dispersed communities, that is expressed in different ways at the local level.

38Since Henrickson first developed the three-fold division of the Zagros Chalcolithic (Early, Middle, Late; Henrickson 1985), the terminologies and absolute dates for Mesopotamia and the central Iranian Plateau have changed drastically resulting in problematic discrepancies. Adapting the Zagros chronological framework to these neighbouring regions is a difficult task, not only because of the ongoing lack of detailed datasets. While the Santa Fe scheme for Greater Mesopotamia divides a long Late Chalcolithic (*ca.* 4600-3100 BC) into five subperiods (LC 1-5) following the Ubaid period (Early Chalcolithic) of the early 5th millennium BC, the now current chronological scheme for the central Iranian Plateau utilises a very long Transitional Chalcolithic (*ca.* 5200-4300 BC) followed by short Early, Middle, and Late Chalcolithic periods of 300 years each (table 1). Given such diverging chronological schemes, it is impossible to tie the Zagros sequence to both simultaneously in a single framework, while developing a third independent scheme is undesirable if the goal is to facilitate closer integration of archaeological datasets between these regions in recognition of the high degree of interaction during the Chalcolithic. Still, without the availability of a robust absolute chronology based on multiple stratigraphically anchored sequences, the Zagros sequence needs to be correlated using similarities in ceramic developments.

39The Zagros region underwent cultural influences from both directions, often fluctuating in the degree of influence from west or east and with differences from valley to valley, while largely maintaining its own distinct cultural traditions. For example, given Godin Tepe's position at the eastern end of the Zagros on a major route leading to the eastern highlands, this site's sequence relates very closely to the central Iranian Plateau in the 4th millennium BC, while the Marivan and Mahidasht regions experienced more influences from the Mesopotamian world. Overall, we argue that the majority of the northern and central Zagros aligns more closely with the Mesopotamian sequence based on the stylistic similarities with the Ubaid and LC 1 painted traditions of northern Mesopotamia, the subsequent spread of CFW-related materials through much of the western Zagros, and the lack of distinct pottery types (*e.g.*, monochrome painted ware) that characterise the Late Chalcolithic of the central Iranian Plateau (*ca.* 3700-3300 BC, equivalent to Godin VI) throughout the majority of the Zagros with only the exception of the eastern zone (east of the Kuh-i Sefid). We maintain the division of the Zagros Chalcolithic based on ceramic traditions as laid out originally by Henrickson, but using new evidence we update the absolute chronology (fig. 5), align

the development with the Santa Fe LC scheme, and argue for a stronger cultural integration of Zagros communities than previously assumed.

Fig. 5 – Calibrated radiocarbon determinations



Combining selected dates from Seh Gabi, Pisdeli and Hajji Firuz (Voigt and Dyson 1992: table 2), and Godin Tepe (Rothman and Badler 2011: table 4.2) with new dates from Dava Göz (Abedi 2017: fig. 17), Kul Tepe (Abedi *et al.* 2014: 54-56), and Tepe Kalanan (Saed Mucheshi *et al.* 2011: table 1).

Early Chalcolithic (ca. 5000-4600 BC)

- 25 See also: Zamani Dadane M., Mohammadi Ghasrian S. and Renette S. (forthcoming). Neolithic to Early (...)

40While not within the scope of this paper, it is nevertheless necessary to address the earlier parts of the Chalcolithic briefly. Henrickson chose to begin the Chalcolithic with the appearance of so-called J ware, which is closely related to late Halaf painted ceramics and should be considered contemporary with the Halaf-Ubaid Transitional period in northern Mesopotamia (Henrickson 1985: 69).²⁵ We refer to this chronological horizon spanning the final centuries of the

6th millennium BC as the Late Neolithic, which is more in line with current terminologies (Nieuwenhuyse *et al.* 2013).

41In Henrickson's framework, next came the Middle Chalcolithic with the introduction of the Dalma ceramic tradition. In order to align the Zagros chronology with both Mesopotamia and the central Iranian Plateau, as well as to reflect similar cultural developments in the Zagros as its neighbours, we here rename this period the Early Chalcolithic (previously Middle Chalcolithic 1), roughly dated to 5000-4600 BC.

42During the Early Chalcolithic, the Dalma tradition, consisting of a relatively uniform assemblage of painted, impressed, and plain wares, spread across a region from Lake Urmia to the eastern central Zagros (Kangavar and Nehavand valleys) along the eastern flanks of the Zagros. Data from Lavin Tepe and Tepe Namashir demonstrate that this tradition also spread through the upper Little Zab basin (along the border with present-day Iraq) just north of the Marivan region.

43The western central Zagros (Kermanshah and Marivan regions) was oriented toward Mesopotamia during this period. Communities in this zone developed a distinct local variant of the black-on-buff painted ware closely related to the late Ubaid tradition, in addition to a red-on-buff version, forming the Siahbid tradition (Levine and Young 1987: fig. 12 and 15). At the same time, Dalma impressed ware was widely adopted in this western zone and the plain wares were probably very similar throughout the entire Zagros region.

Late Chalcolithic 1 (*ca.* 4600-4200 BC)

44In Henrickson's framework, this was the Middle Chalcolithic 2 period, which encompasses the Pisdeli tradition in the north, the Seh Gabi tradition in the eastern central Zagros, and the late Siahbid and Maran traditions in the western central Zagros. The date of the beginning of this period is uncertain. There is good evidence for influence from the late Ubaid in northern Mesopotamia on the development of Pisdeli painted ware, but overall the Pisdeli material finds its best parallels in Gawra XII-XI that span LC 1 and perhaps into early LC 2 (Henrickson 1986: 121). As with the transition from late Ubaid to LC in northern Mesopotamia, the development from Dalma to Pisdeli happened gradually, while in the western Zagros CFW and mass-produced bowls also began to be produced.

- 26 At Chogha Maran, the Early Bronze Age Maran red-slipped ware vessels were originally confused with (...)

45LC 1 in the northern and central Zagros is characterised by red-slipped, chaff-tempered plain wares and painted vessels that share a general decorative scheme, even if the technical execution of this pottery differs from area to area. Red-slipped plain wares, which were heavy to medium chaff-tempered and usually burnished or smoothed, had already developed during the Dalma period and became uniformly adopted throughout the northern and central Zagros at the latest by LC 1. Future studies will need to investigate whether there are local variations in fabrics, technological production, or vessel shapes, but insufficient plain wares have been published to address this question at this time. This red-slipped tradition remained in use throughout the Late Chalcolithic and even into the Early Bronze Age.²⁶

46At Pisdeli and Seh Gabi, there is also evidence for social developments associated with the wider Chalcolithic world. Stamp seals and impressions were found that have good parallels at both Tepe Gawra in northern Mesopotamia and Tepe Sialk on the central Iranian Plateau (Voigt and Dyson 1992: 161). The Ushnu-Solduz region, where Pisdeli is located, was undoubtedly integrated in the exchange network that connected northern Mesopotamia with northern Iran and Central Asia at this time, as evidenced most obviously by the presence of lapis lazuli from northern Afghanistan at sites like Tepe Gawra. Further to the east on this route, a pot sherd with the impression of a stamp seal has been recovered during survey work in the Abharroud Basin in eastern Zanjan province (Alibaigi *et al.* 2011).

47Unlike most of the Zagros, the western zone around Marivan and the upper Little Zab basin increasingly began to adopt influences from the Trans-Tigridian region. Evidence from Tepe Namashir and possibly Gird-i Rostam shows that burnished, red-slipped Zagros plain wares were in use, while painted wares seem less common than in the rest of the Zagros. At the same time, vessel shapes identical to those from the Zagros Piedmont and Tigris region were adopted, aligning this region more with the northern Mesopotamian LC tradition where painted ware also phased out of use early in LC 1. Much of the LC 1-2 ceramic assemblages from Tepe Namashir, Tepe Gryashan, and Gird-i Rostam is virtually indistinguishable from those from Kani Shaie in Iraqi Kurdistan. This Mesopotamian tradition does otherwise not spread into the Zagros, except for occasional sherds at Pisdeli and in the western Kermanshah region where they stand out within the local assemblages.

Early Late Chalcolithic 2 (ca. 4200-4000 BC)

48Previously labeled as Middle Chalcolithic 3, this period is very likely the last phase when Zagros Chalcolithic painted traditions were dominant. Even though the absolute chronology is uncertain, there is good evidence to suggest that these painted traditions went out of use some time during the early part of LC 2, which can be considered a transitional phase. Therefore, we have opted to divide the LC 2 into an early and later part that reflects better the current Zagros phasing. However, as more radiocarbon dates in association with stratigraphically anchored assemblages become available, the transition from the painted traditions of LC 1 to the chaff-tempered Godin VII tradition might need to be pushed further back even more.

Late Chalcolithic 2-3 (ca. 4000-3700 BC)

49The period subdivisions for the 4th millennium BC cannot be anchored with absolute chronology. The periodisation laid out here is therefore to a large extent speculative, but based on radiocarbon dates for the Godin VII period and the CFW tradition in northwestern Iran, in addition to perceived relative lengths of occupation at Godin Tepe VII-VI:3-1.

- 27 Personal observation by S. Mohammadi Ghasrian.
- 28 For the ¹⁴C chronology of the central Iranian Plateau, see Fazeli *et al.* 2013: 112-113.

50Available absolute dates for Godin VII material culture from Tepe Kalanan and Tepe Gheshlagh date between 4000-3700 cal. BC. Slightly further east, unpublished material from Soha Chai, which has good parallels within the Godin VII tradition, produced even earlier radiocarbon dates.²⁷ Similarly, Ghabristan I ceramics show close affinities with the Godin VII material culture from levels that are radiocarbon dated to ca. 4200-4000 BC (Voigt and Dyson 1992: 161; Madjidzadeh 2008).²⁸ Given such early dates, the Zanjan-Qazvin region is a good candidate to identify as the origins for typical vessel types of the Godin VII tradition that subsequently spread both into the central Iranian Plateau and the central Zagros. The adoption of this material culture might not have happened everywhere simultaneously with a growing lag as one moves west through successive Zagros intermontane valleys.

51The transition to Godin VI:3 is certainly gradual since the difference between the two periods is based mainly on the frequency of plain ware vessel shapes, in addition to the disappearance of a few distinct Godin VII shapes and the introduction of small amounts of painted pottery (see LC 4). Only at Tepe Gheshlagh is there one sherd that could fit with the Godin VI painted ware (Sharifi and Motarjem 2018: fig. 13), but thermoluminescence dates from the site give too wide a range to situate this within LC 3 and instead it could reflect continued occupation into LC4.

52In the western central Zagros, the Mahidasht survey project identified chaff-tempered plain wares of the Godin VII-VI period and possibly material related to Sargarab ware in southwestern Iran, which indicates that the region remained inhabited into the 4th millennium BC despite the current

lack of direct evidence for the LC 2-3 period from excavations. Small bits of information come from a rescue excavation near Taq-e Bustan in Kermanshah where a graveyard and some architectural remains were discovered associated with Late Chalcolithic pottery (Alibaigi *et al.* 2017; Mirghaderi and Hozhabri 2017). Assigning a precise date to this material is difficult, but the absence of BRB suggests a possible early date in late LC 2-3.

53Further to the north, the narrow zone encompassing the Little Zab basin and the Marivan area became fully integrated within the Zagros Piedmont tradition. Typical LC 2-3 pottery was identified at Tepe Gryashan and Qaleh Naneh near Marivan and at Tepe Badamyar Rabat in the Little Zab basin. CFW sherds have also been documented in the Marivan survey project at a few sites, which at least demonstrates that this typical LC chaff-tempered ware was spreading into the western part of the northern Zagros (Zamani Dadaneh *et al.* 2019a: fig. 6).

54In northwestern Iran, the chronology of the development of CFW is now better documented thanks to studies of old excavations at Geoy Tepe and new work at sites such as Dava Göz and Kul Tepe (Burton-Brown 1951; Marro 2010 [for the southern Caucasus]; Abedi 2017; Abedi *et al.* 2014, 2015). These have produced solid radiocarbon dates placing the beginning of this tradition already *ca.* 4200 BC and lasting until *ca.* 3700 BC when the Kura-Araxes culture spread southward from the Caucasus. Unfortunately, south of Lake Urmia, there is no data available for this period. Survey in the Ushnu-Solduz region was not able to detect any occupation after the Pisdeli period (perhaps mid-LC 2) until the end of the 4th millennium BC (Voigt 1989: 287; Danti *et al.* 2004: 595).

Late Chalcolithic 4 (*ca.* 3700-3400 BC)

55The main reason at present to divide LC 4 from the preceding phase is the change at Godin Tepe with the introduction of painted wares that are closely related to the central Iranian Plateau. These painted wares generally did not spread further west, although occasional sherds do show up throughout the western central Zagros, especially in the Kermanshah region. However, when taking the Godin VI painted ware, which makes up only a small percentage of the Godin Tepe assemblage, out of consideration, the central Zagros region is remarkably homogeneous with a shared chaff-tempered tradition that is related, yet distinct, to the LC 3-4 ceramic tradition of the Trans-Tigridian region and Khuzistan, consisting of buff wares, coarse wares, and smoothed red-slipped wares that are technologically distinct from earlier red-slipped wares. The orientation of external influences in the eastern zone of the region toward the central Iranian Plateau, where Mesopotamian influence was also growing during this period, and the western zone toward Mesopotamia and southwestern Iran is a factor of geographical proximity and natural communication routes.

56The Marivan and Little Zab zone had already been largely integrated in the Mesopotamian Late Chalcolithic tradition, which is perhaps most clear from the early occurrence of BRB at sites such as Qaleh Naneh, with a sequence spanning LC 2-4, Tepe Rasha, Sarghal'eh, and Tepe Badamyar Rabat. However, the lack of distinct Uruk types at these sites, such as conical cups with a string-cut base, nose-lugs, impressed bands, and undercut band rim jars as well as “local” LC 4 ceramic types known from Kani Shaie, Logardan, Girdi Qala, Gurga Chiya, and Bab-w-Kur just across the border in Iraqi Kurdistan, could suggest that these sites were abandoned by LC 4. Alternatively, the spread of Uruk ceramic types might not have reached into the Zagros Mountains valleys at all, although limited unpublished data from the Mahidasht survey project suggests otherwise (Henrickson 1994). At the same time in northwestern Iran, around Lake Urmia (except for the Ushnu-Solduz plains on its southern shore) the Kura-Araxes culture spread and displaced the CFW tradition around the middle of the 4th millennium BC (Abedi *et al.* 2015).

Late Chalcolithic 5 (*ca.* 3400-3200/3100 BC)

57By the final centuries of the Late Chalcolithic, the spread of the Uruk network reached the Iranian Plateau. The site of Godin Tepe is frequently used as evidence for southern Mesopotamian presence also in the Zagros Mountains, but again, this site, which is located at the eastern edge of

the Zagros, is not necessarily representative. Rather, Godin Tepe and the Hamadan region had become culturally affiliated with the central Iranian Plateau where southern Mesopotamian pottery types were also introduced.

- 29 Hole 2007 provides the most up-to-date review of survey data in the central Zagros, especially in (...)

58The Mahidasht survey in the Kermanshah region identified at least four large sites with higher-than-usual amounts of BRB in addition to conical, pinched-rim cups (Henrickson 1994; Renette 2018: 315-326). But until excavations explore sites such as these in greater detail, Godin Tepe remains the only site with clear evidence for the intrusion of an external cultural tradition (Rothman and Badler 2011). So far, none of the sites throughout the northern and central Zagros either through survey or small-scale excavation have produced Uruk pottery, which is still the main feature to identify LC 5 occupation in surface survey assemblages.²⁹

Discussion

59Summarising these developments, we can identify three major phases of the Chalcolithic period: Ubaid/Dalma (Early Chalcolithic); LC 1-2 black-on-buff and black-on-red with red-slipped, burnished plain ware; and LC 2-5 chaff-tempered plain wares. First, during the Early Chalcolithic, the Ubaid horizon spread throughout Mesopotamia, which also influenced the otherwise indigenous Siahbid painted ceramic tradition in the Mahidasht/Kermanshah region. At the same time, the northern Zagros and the eastern flanks of the central Zagros adopted the completely distinct Dalma tradition.

60By the mid-5th millennium BC, both of these cultures were gradually replaced. However, while Mesopotamian communities largely abandoned painted ceramics during LC 1-2 in favour of chaff-tempered plain wares, Zagros communities shared a potting practice characterised by red-slipped, often burnished, plain wares and a new painted tradition consisting of simple black designs on a buff to white background. While similar in design, the technological execution differed strongly from region to region. In the eastern part of the central Zagros, pale buff vessels were decorated with black, shiny, almost vitrified paint (Seh Gabi). In the western Mahidasht/Kermanshah region, vessels with a reddish fabric were given a thin white wash before applying black painted designs (Maran red, white, and black ware). The northern end of the Zagros, around Lake Urmia, applied black painted designs either on buff vessels, often with a white slip, or on dark red-slipped vessels (Pisdeli). This black-on-red variant had a very different distribution, spanning from the eastern Khabur region to the western edge of the central Iranian Plateau, probably reflecting the emergence of an exchange network that connected northern Mesopotamia with Central Asia through northern Iran.

61By 4000 BC (LC 2), these painted traditions had gone out of use and were replaced by chaff-tempered plain wares, in parallel with the Mesopotamian world. The northwestern zone of the Zagros, encompassing the Little Zab basin and the Marivan region, were strongly influenced by the Trans-Tigridian region to the west. The central Zagros, on the other hand, adopted its own variant assemblage of chaff-tempered wares similar to Sargarab ware (Wright 2013: 52-57), while influence from the northern central Iranian Plateau, with chaff-tempered, red-slipped wares quickly reached the Hamadan region and Godin Tepe, and continued a gradual spread through the central Zagros. Throughout the 4th millennium BC, Mesopotamian influence (mainly BRB) and Iranian Plateau influence (Godin VI painted ware) increased steadily, but the Zagros region appears to never have become fully integrated within the growing Uruk network.

- 30 Admittedly, new fieldwork could still produce such evidence. For example, K. Abdi claims the possi (...)
- 31 Schmidt *et al.* 1989: pl. 83d; Emberling *et al.* 2002; Renette 2018: 158. In addition, a recent scie (...)

62With new data points from the western Zagros we can now revisit the elephant in the room of the southern Mesopotamian-derived material culture at Godin Tepe by the end of the Late Chalcolithic. Evidence from the Mahidasht and Marivan regions reveals a striking absence of typical Uruk ceramic types, which invalidates the model of the Uruk Expansion via the Diyala and through the central Zagros.³⁰ The Mahidasht survey did identify possible local centres, but surface collections from those sites do not contain large amounts of Uruk or Proto-Elamite material, except for BRB, which probably had become integrated within the local assemblages. Considering that the Godin VI:1 material has close ceramic, glyptic, and architectural parallels at Susa (Acr. I 17:x) and Proto-Elamite sites throughout the Iranian Plateau, Godin Tepe more likely represents the initial spread of the Proto-Elamite network out of southwestern Iran, via Khorramabad where Proto-Elamite material was found at Kunji cave and at nearby Mir Vali.³¹ This further illustrates that throughout the Late Chalcolithic, Godin Tepe, located at the eastern edge of the Zagros, was connected more closely to the Iranian Plateau than the rest of the central Zagros.

Conclusion

63Lack of data on the Late Chalcolithic from the northern and central Zagros Mountains have resulted in an exclusion of this region from wider discussions of the major developments during the 5th-4th millennia BC. Only the important discovery of southern Mesopotamian-related ceramics at the site of Godin Tepe became a commonly referenced data point for the Zagros. The resulting assumptions were that either there are multiple outposts similar to Godin Tepe spread along the natural routes through the central Zagros or that Zagros communities were largely excluded from the Late Chalcolithic world.

64In recent years, Iranian archaeologists have collected important new data through surveys and small-scale excavations. However, the results from their fieldwork have not yet been included in wider Near Eastern scholarship. Synthesising these results reveals that the communities inhabiting the Zagros Mountains followed similar trends of the Chalcolithic as their Mesopotamian neighbours, while developing their own traditions in response to interregional developments. Strikingly, but perhaps not surprising considering the fragmented landscape, technological and stylistic ceramic practices were often highly localised in the Zagros while at the same time reflecting a continuous interaction sphere that resulted in shared decorative schemes, choices in potting practices (temper, surface treatment), and similar vessel shapes. With limited data available in the past, local variation in ceramic assemblages skewed archaeological interpretation toward a model of separate cultural traditions. Filling the map with new fieldwork results highlights commonalities between Zagros communities. This allows the emergence of a new understanding of the Chalcolithic period in the Zagros Mountains as an internally varied, yet unified cultural zone that existed in parallel to Mesopotamia and the central Iranian Plateau.

65The local variation of the Zagros Chalcolithic reflects the dramatic, mountainous landscape that severely restricts communication. Not surprisingly, the northwestern zone of the Little Zab basin and the Marivan region more rapidly integrated northern Mesopotamian influences facilitated by a few important passages through the *chaîne magistrale*. The western Mahidasht/Kermanshah zone frequently adopted influences from central Mesopotamia and southwestern Iran, while the eastern zone around Godin Tepe and Hamadan were naturally connected to the central Iranian Plateau and northwestern Iran. The fragmented landscape and the continuous influx of external influences were strong enough to prevent a real cultural unification of the mountain peoples of the Zagros during the Chalcolithic. Nevertheless, despite these challenges, these communities maintained a loose shared identity, distinct from their more unified neighbours.

66As work in the Zagros continues, new research will be able to move beyond issues of ceramic zones and chronology. It has become increasingly clear that interregional interaction was a major factor in the emergence of complex societies in the ancient Middle East. The Zagros Mountains served as an interface for the exchange of goods, ideas, and peoples between Mesopotamia and the Iranian Plateau. Mapping different influences in material culture will eventually allow the identification of the formation of trade routes, as well as the emergence of ethnic identities and

local polities as communities developed a need to claim ownership over their land in response to increased contact with the outside world.

[Haut de page](#)

Bibliographie

Des DOI sont automatiquement ajoutés aux références par Bilbo, l'outil d'annotation bibliographique d'OpenEdition.

Les utilisateurs des institutions qui sont abonnées à un des programmes freemium d'OpenEdition peuvent télécharger les références bibliographiques pour lesquelles Bilbo a trouvé un DOI.

Cette bibliographie est disponible grâce à la souscription de votre institution à un des programmes freemium d'OpenEdition. Elle contient toutes les références automatiquement générées par Bilbo en utilisant Crossref.

Format

APA

MLA

Chicago

Goff, C. L. (1971). Lūristān before the Iron Age. *Iran*. JSTOR. <https://doi.org/10.2307/4300443>

Goff, C. L. "Lūristān before the Iron Age". *Iran*, vol. 9, JSTOR, 1971, p. 131. *Crossref*, doi:10.2307/4300443.

Goff, Clare L. "Lūristān before the Iron Age". *Iran*. JSTOR, 1971, JSTOR, 1971. <https://doi.org/10.2307/4300443>.

Abdi K.

2002 – *Strategies of herding: Pastoralism in the Middle Chalcolithic period of the west central Zagros Mountains*. Unpublished PhD thesis. Ann Arbor: University of Michigan.

Abedi A.

2017 – Iranian Azerbaijan pathway from the Zagros to the Caucasus, Anatolia and Northern Mesopotamia: Dava Göz, a new Neolithic and Chalcolithic site in NW Iran. *Mediterranean Archaeology and Archaeometry* 17,1: 69-87.

Abedi A., Heidari R., Salimi S. and Eskandari N.

2019 – New Uruk finds in NW Iran: Hasanlu VIII-VII and no Kura-Araxes culture evidence in southern parts of Lake Urmia. *Documenta Praehistorica* 46: 414-423.

Abedi A., Shahidi H.K., Chataigner C., Niknami K., Eskandari N., Kazempour M., Piromohammadi A., Hosseinzadeh J. and Ebrahimi G.

2014 – Excavation at Kul Tepe (Hadishahr), north-western Iran, 2010: First preliminary report. *Ancient Near Eastern Studies* 51: 33-165.

Abedi A., Omrani B. and Karimifar A.

2015 – Fifth and fourth millennium BC in north-western Iran: Dalma and Pisdeli revisited. *Documenta Praehistorica* 42: 321-338.

Abu Jayyab A.K.

2019 – *Nomads in Late Chalcolithic Northern Mesopotamia: Mobility and social change in the 5th and 4th millennium BC*. Unpublished PhD thesis. Toronto: University of Toronto.

Alden J.R.

2013 – The Kur River basin in the *Proto-Elamite* era – Surface survey, settlement patterns, and the appearance of full-time transhumant pastoral nomadism. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 207-232. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

Algaze G.

1993 – *The Uruk world system: The dynamics of expansion of early Mesopotamian civilization*. Chicago: University of Chicago Press.

2008 – *Ancient Mesopotamia at the dawn of civilization: The evolution of an urban landscape*. Chicago: University of Chicago Press.

Alibaigi S., Fathai F., Amini Khah N., Saeid Pour Y., Taherabadi M., Nosrati M. and Somieh Z.
2017 – Delimiting and rescue excavation in the Parthian cemetery of Taq-e Bostan. *In: Choubak H. (ed.), 15th annual symposium on Iranian archaeology*: 444-452. Tehran: Nourbakhsh Press (in Persian)

Alibaigi S., Khosravi S. and Aali A.

2012 – Early villages and prehistoric sites in the Abharroud basin, northwest of the Iranian central plateau. *Documenta Praehistorica* 39: 459-472.

Alibaigi S., Niknami K.A., Khosravi S., Charmchian M. and Hemmati M.

2011 – An impressed pottery sherd: A Chalcolithic newfound site in the southern highland of Abharroud River basin. *Iranian Journal of Archaeological Studies* 1,1: 44-54.

Badler V.R.

2002 – A chronology of Uruk artifacts from Godin Tepe in central western Iran and implications for the interrelationships between the local and foreign cultures. *In: Postgate J.N. (ed.), Artefacts of complexity: Tracking the Uruk in the Near East*: 79-110. Warminster: Aris and Phillips (Iraq Archaeological Reports 5).

Balmaki B.

2013 – Relative chronology of Hamedan Plain since the fifth millennium up to the mid-third millennium B.C. *In: Hozhabri A. (ed.), A collection of archaeological and historical articles on Hamedan: Commemorating the 100th anniversary of the first season of excavations in Hamedan*: 17-31. Tehran: Iranian Center for Archaeological Research (in Persian).

2017 – The Dalma culture in the Hamedan Plain: Stratigraphic excavation at Tappeh Taze-Kand. *Pazhohesh-ha-ye Bastanshenasi Iran* 7,12: 63-82 (in Persian).

Balmaki B. and Niknami K.A.

2012 – Survey of new discovered Chalcolithic sites in northern hillside of Alvand Mountains (eastern central Zagros Mountains). *Researcher* 4,10: 23-28.

Boroujeni R.S., Zarghani S.H. and Zeidi M.

2016 – Discovery of long term occupation in the Saimarreh River valley, western Iran (report on the archaeological survey). *In: Stucky R.A., Kaelin O. and Mathys H.-P. (eds.), Proceedings of the 9th ICAANE, Basel, 9th-13th June 2014*. Vol. 3: 379-391. Wiesbaden: Harrassowitz Verlag.

Burton-Brown T.

1951 – *Excavations in Azerbaijan 1948*. London: John Murray.

Butterlin P.

2003 – *Les temps proto-urbains de Mésopotamie. Contacts et acculturation à l'époque d'Uruk au Moyen-Orient*. Paris: CNRS Éditions.

2009 – *À propos de Tepe Gawra. Le monde proto-urbain de Mésopotamie*. Turnhout: Brepols (Subartu 23).

2018 – *Architecture et société au Proche-Orient ancien. Les bâtisseurs de mémoire en Mésopotamie (7000-3000 av. J.-C.)*. Paris: Éditions Picard.

Dahl J.L., Petrie C.A. and Potts D.T.

2013 – Chronological parameters of the earliest writing system in Iran. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 353-378. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

Danti M.D., Voigt M.M. and Dyson R.H. Jr.

2004 – The search for the Late Chalcolithic/Early Bronze Age transition in the Ushnu-Solduz Valley, Iran. In: Sagona A. (ed.), *A view from the highlands: Archaeological studies in honour of Charles Burney*: 583-616. Leuven: Peeters (Ancient Near Eastern Studies Suppl. 12).

Desset F.

2014 – An architectural pattern in late fourth-millennium BC western Iran: A new link between Susa, Tal-i Malyan, and Godin Tepe. *Iran* 52,1: 1-18.

Dittman R.

1986 – Susa in the Proto-Elamite period and annotations on the painted pottery of Proto-Elamite Khuzestan. In: Finkbeiner U. and Röhlig W. (eds.), *Ĝamdat Nasr: Period or regional style?*: 171-198. Wiesbaden: Ludwig Reichert Verlag (Tübinger Atlas des Vorderen Orients B 62).

Dyson R.H. Jr. and Young T.C. Jr.

1960 – The Solduz Valley, Iran: Pisdeli Tepe. *Antiquity* 34,113: 19-28.

Emberling G., Robb J., Speth J.D. and Wright H.T.

2002 – Kunji Cave: Early Bronze Age burials in Luristan. *Iranica Antiqua* 37: 47-104.

Fazeli H., Beshkani A., Markosian A., Ilkani H. and Young R.

2009 – The Neolithic to Chalcolithic transition in the Qazvin Plain, Iran: chronology and subsistence strategies. *AMIT* 41: 1-21.

Fazeli H., Valipour H.R. and Azizi Kharanaghi M.H.

2013 – The Late Chalcolithic and Early Bronze age in the Qazvin and Tehran plains: A chronological perspective. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 107-129. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

Fazeli H., Wong E.H. and Potts D.T.

2005 – The Qazvin Plain revisited: A reappraisal of the chronology of northwestern central plateau, Iran in the 6th to the 4th millennium BC. *Ancient Near Eastern Studies* 42: 3-82.

Frangipane M.

2018 – Different trajectories in state formation in Greater Mesopotamia: A view from Arslantepe (Turkey). *Journal of Archaeological Research* 26: 3-63.

Format

APA

MLA

Chicago

Goff, C. L. (1971). Lūristān before the Iron Age. *Iran*. JSTOR. <https://doi.org/10.2307/4300443>

Goff, C. L. "Lūristān before the Iron Age". *Iran*, vol. 9, JSTOR, 1971, p. 131. *Crossref*, doi:10.2307/4300443.

Goff, Clare L. "Lūristān before the Iron Age". *Iran*. JSTOR, 1971, JSTOR, 1971. <https://doi.org/10.2307/4300443>.

Cette référence bibliographique est disponible grâce à la souscription de votre institution à un des programmes freemium d'OpenEdition.

Elle a été automatiquement générée par Bilbo en utilisant Crossref.

Goff C.L.

1971 – Lūristān before the Iron Age. *Iran* 9: 131-152.

Gopnik H., Reichel C., Minc L. and Elendari R.

2016 – A view from the east: The Godin VI Oval and the Uruk sphere. *Journal of Archaeological Science: Reports* 7: 835-848.

Helwing B.

2004 – The Late Chalcolithic period in the northern Zagros: A reappraisal of the current status of research. In: Azarnoush M. (ed.), *Proceedings of the international symposium on Iranian archaeology: Northwestern region*: 11-23. Tehran: Iranian Center for Archaeological Research.

2013a – Some thoughts on the mode of culture change in the fourth-millennium BC Iranian highlands. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 93-106. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

2013b – The Chalcolithic of northern Iran. In: Potts D.T. (ed.), *The Oxford handbook of ancient Iran*: 79-92. Oxford: Oxford University Press.

Hemati Azandaryani E., Khaksar A. and Tajari P.A.

2020 – A study and analysis of Chalcolithic period in Malayer Plain based on stratigraphic excavation in Tape Gourab. *Journal of Archaeological Studies* 12,1: 263-283 (in Persian).

Henrickson E.F.

1985 – An updated chronology of the Early and Middle Chalcolithic of the central Zagros highlands, western Iran. *Iran* 23,1: 63-108.

1986 – Ceramic evidence for cultural interaction between Chalcolithic Mesopotamia and western Iran. In: Kingery W.D. and Lense E. (eds.), *Technology and style*: 87-132. Columbus: American Ceramic Society (Ceramics and Civilization 2).

1994 – The outer limits: Settlement and economic strategies in the central Zagros highlands during the Uruk era. In: Stein G. and Rothman M.S. (eds.), *Chiefdoms and early states in the Near East: The organizational dynamics of complexity*: 85-102. Madison: Prehistory Press (Monographs in World Archaeology 18).

Hole F.

1987 – Archaeology of the Village period. In: Hole F. (ed.), *The archaeology of western Iran: Settlement and society from Prehistory to the Islamic conquest*: 29-78. Washington (D.C.): Smithsonian Institution Press.

2007 – Cycles of settlement in the Khorramabad Valley in Luristan, Iran. In: Stone E.C. (ed.), *Settlement and society: Essays dedicated to Robert McCormick Adams*: 63-82. Los Angeles: Cotsen Institute of Archaeology (Ideas, Debates, and Perspectives Series 3).

Javanmardzadeh A., Fazeli H. and Darabi H.

2013 – The Archaeological Project of the Mehran Plain: Survey of the Village period settlements. *Journal of Archaeological Studies* 5,1: 11-30 (in Persian).

Khosravi S., Alibaigi S. and Aali A.

2013 – The Abharrūd Basin in the Chalcolithic period: Revision of the Dālmā settlements at the north-western borders of the Iranian central plateau. *AMIT* 45: 99-111.

Lawrence D. and Wilkinson T.J.

2015 – Hubs and upstarts: Pathways to urbanism in the northern Fertile Crescent. *Antiquity* 89,344: 328-344.

Le Brun A. and Vallat F.

1978 – L'origine de l'écriture à Suse. *Cahiers de la Délégation archéologique française en Iran* 8: 11-59.

Levine L.D. and Young T.C. Jr.

1987 – A summary of the ceramic assemblages of the central western Zagros from the Middle Neolithic to the late third millennium B.C. In: Huot J.-L. (ed.), *Préhistoire de la Mésopotamie. La Mésopotamie préhistorique et l'exploration récente du Djebel Hamrin*: 15-53. Paris: Éditions du CNRS.

Madjidzadeh Y.

2008 – *Excavations at Tepe Ghabristan, Iran*. Rome: Istituto Italiano per l'Africa e l'Oriente (IsIAO Reports and Memoirs 7).

Manhoubi S.

2012 – The archaeology of the Mahidasht region. In: Hassanzadeh Y. and Miri S. (eds.), *Majmou'eh-ye Maqalat-e hashtad-sal-e bastan-shenasi-ye Iran*: 361-376. Tehran: Pazineh Press (in Persian).

Marro C.

2010 – Where did late Chalcolithic chaff-faced ware originate? Cultural dynamics in Anatolia and Transcaucasia at the dawn of urban civilization (ca. 4500-3500 BC). *Paléorient* 36,2: 35-55.

2012 – *After the Ubaid: Interpreting change from the Caucasus to Mesopotamia at the dawn of urban civilization (4500-3500 BC)*. Istanbul: Institut français d'Études anatoliennes Georges-Dumézil (Varia Anatolica 27).

Matthews R.

2013 – The power of writing: Administrative activity at Godin Tepe, central Zagros, in the later fourth millennium BC. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 337-352. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

McMahon A.

2019 – Early urbanism in Northern Mesopotamia. *Journal of Archaeological Research*. DOI: 10.1007/s10814-019-09136-7.

Mirghaderi M.A. and Hozhabri A.

2017 – Western park of Taq-e Bostan: New find in the western of the central Zagros, Kermanshah. *Motaleat-e Parseh* 1: 21-33 (in Persian).

Moghaddam A.

2013 – The Later Village (Chalcolithic) period in Khuzestan. In: Potts D.T. (ed.), *The Oxford handbook of ancient Iran*: 105-119. Oxford: Oxford University Press.

Moghaddam A. and Javanmardzadeh A.

2013 – The Chalcolithic in the central Zagros. In: Potts D.T. (ed.), *The Oxford handbook of ancient Iran*: 93-104. Oxford: Oxford University Press.

Moghimi N. and Davoudi H.

2020 – Evidence of administrative technology during the fourth millennium BC in the Qazvin Plain, Iran. *Parseh Journal of Archaeological Studies* 12,1: 221-241 (in Persian).

Mohammadi Ghasrian S., Zamani Dadaneh M., Colantoni C. and Skuldbøl T.B.B.

2019 – Tepe Gryashan: Late Chalcolithic pottery from the region of Sanandaj, western Iran. *Ash-sharq* 3,2: 38-53.

Motarjem A. and Sharifi M.

2014 – Cultural development of Chalcolithic era in the east of central Zagros based on archaeological excavations at Tepe Gheshlagh. *Iranian Journal of Archaeological Studies* 4: 49-65.

Nazari Arshad R. and Beik Mohammadi K.

2017 – Investigating the cultural evolutions in western hinterlands of Alvand from Chalcolithic period to the end of Iron Age (based on an archaeological survey in Tuyserkan intermountain plain). *Journal of Archaeological Studies* 8,2: 209-227 (in Persian).

Nekouei P., Fazeli H. and Javanmardzadeh A.

2015 – Chronological comparisons of early urbanization period Pottery of the Mehran Plain: Ceramic analysis of pottery from Chogha Ahowan. *Journal of Archaeological Studies* 6,2: 167-184 (in Persian).

Nieuwenhuyse O.P., Bernbeck R., Akkermans P.M.M.G. and Rogash J. (eds.)

2013 – *Interpreting the Late Neolithic of Upper Mesopotamia*. Turnhout: Brepols (Papers on Archeology of the Leiden Museum of Antiquities 9).

Niknami K.A. and Askarpour V.

2015 – Pattern analysis of Chalcolithic settlements in the valley of Sarfirouzabad, Kermanshah, Iran. *Archaeologia e Calcolatori* 26: 131-147.

Niknami K.A., Mirghaderi M.A. and Garavand M.

2017 – Botkhane Cave: New evidence from nomadic and semi-sedentary communities in the central Zagros during the Late Chalcolithic period and the Bronze Age: Kuhdasht, Luristan, Iran. *Nomadic Peoples* 21,2: 302-325.

Nissen H.J.

2002 – Uruk: Key site of the period and key site of the problem. In: Postgate J.N. (ed.), *Artefacts of complexity: Tracking the Uruk in the Near East*: 1-16. Warminster: Aris and Phillips (Iraq Archaeological Reports 5).

Nobari A.H., Binandeh A., Neyestani J. and Nasab H.V.

2012 – Excavation at Lavin Tepe in northwest Iran. *Ancient Near Eastern Studies* 49: 95-117.

Oates J., McMahon A., Karsgaard P., Al-Quntar S. and Ur J.

2007 – Early Mesopotamian urbanism: A new view from the north. *Antiquity* 81,313: 585-600.

Petrie C.A. (ed.)

2013a – *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

2013b – The Chalcolithic in southern Iran. In: Potts D.T. (ed.), *The Oxford handbook of ancient Iran*: 120-158. Oxford: Oxford University Press.

2014 – Iran and Uruk Mesopotamia: Chronologies and connections in the fourth millennium BC.

In: McMahon A. and Crawford H. (eds.), *Preludes to urbanism: The Late Chalcolithic of Mesopotamia*: 137-155. Cambridge: McDonald Institute for Archaeological Research (McDonald Institute Monographs).

Petrie C.A., Sardari A., Ballantyne R., Berberian M., Lancelotti C., Mashkour M., McCall B., Potts D.T. and Weeks L.

2013 – Mamasani in the fourth millennium BC. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 171-194. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

Pittman H.

2001 – Mesopotamian intraregional relations reflected through Glyptic evidence in Late Chalcolithic 1-5 periods. *In: Rothman M.S. (ed.), Uruk Mesopotamia and its neighbors: Cross-cultural interactions in the era of state formation: 403-444.* Santa Fe: School of American Research Press and Oxford: James Currey.

2011 – The seals of Godin VI. *In: Gopnik H. and Rothman M.S. (eds.), On the high road: The history of Godin Tepe, Iran: 113-115.* Costa Mesa: Mazda Publishers.

2013 – Imagery in administrative context: Susiana and the west in the fourth millennium BC. *In: Petrie C.A. (ed.), Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC: 293-336.* Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

Pollard A.M., Fazeli H., Davoudi H., Sarlak S., Helwing B. and Anaraki F.S.

2013 – A new radiocarbon chronology for the north central plateau of Iran from the Late Neolithic to the Iron Age. *AMIT* 45: 27-50.

Pollock S.

2001 – The Uruk period in Southern Mesopotamia. *In: Rothman M.S. (ed.), Uruk Mesopotamia and its neighbors: Cross-cultural interactions in the era of state formation: 181-232* Santa Fe: School of American Research Press and Oxford: James Currey.

Potts D.T., Radner K., Squitieri A., Ameen A., Rohde J., Yawar P., Herr J.-J., Salih H., Petchey F., Hogg A., Gratuze B., Raheem K.R. and Potts H.B.

2019 – Gird-i Rostam 2018: Preliminary report on the first season of excavations by the joint Kurdish-German-American team. *JEOL* 47: 91-127.

Renette S.

2018 – *Along the mountain passes: Tracing indigenous developments of social complexity in the Zagros region during the Early Bronze Age (ca. 3500-2000 BCE).* Unpublished PhD thesis. Philadelphia: University of Pennsylvania.

Rezaei M. and Seresti R.A.

2018 – Analysis of transitional process from Chalcolithic to Bronze Age in Balageriveh, Lorestan, Iran. *International Journal of Humanities* 25,1: 1-18.

Rothman M.S. (ed.)

2001 – *Uruk Mesopotamia and its neighbors: Cross-cultural interactions in the era of state formation.* Santa Fe: School of American Research Press and Oxford: James Currey.

2002 – *Tepe Gawra: The evolution of a small prehistoric center in northern Iraq.* Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology (University Museum Monograph 112).

2013 – Interpreting the role of Godin Tepe in the “Uruk expansion”. *In: Petrie C.A. (ed.), Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC: 75-92.* Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

Rothman M.S. and Badler V.R.

2011 – Contact and development in Godin Period VI. *In: Gopnik H. and Rothman M.S. (eds.), On the high road: The history of Godin Tepe, Iran: 67-137.* Costa Mesa: Mazda Publishers.

Saed Mucheshi A., Azarshab A. and Ghaffari Z.

2012 – Tepe Sarghal'eh: evidences of Uruk pottery in Kurdistan province and its relation to Mesopotamian developments. *Payam-e Bastanshenas* 18: 37-49 (in Persian).

- Saed Mucheshi A., Niknami K., Mashkour M., Fazeli H. and Firozmandi B.
2011 – Relative and absolute chronology of Tepe Kalanan in Bijar: A Middle Chalcolithic period site in western Iran. *Name-ye Bastanshenasi* 1: 31-56 (in Persian).
- Saed Mucheshi A., Mohammadi Ghasrian S. and Azizi E.
2018 – Tappeh Qaleh Naneh in Marivan: An archaeological site in western Iran. *Bastanshenakht* 5: 7-20 (in Persian).
- Saed Mucheshi A., Zamani Dadaneh M., Ghasemi M. and Karimi Z.
2017 – Stratigraphy at Tepe Namashir of the Baneh region, western Iran. *Pazhohesh-ha-ye Bastanshenasi Iran* 7,12: 43-62 (in Persian).
- Sagona A.
2014 – Rethinking the Kura-Araxes genesis. *Paléorient* 40,2: 23-46.
- 2018 – *The archaeology of the Caucasus: From earliest settlements to the Iron Age*. Cambridge: Cambridge University Press.
- Sardari A.
2013 – Northern Fars in the fourth millennium BC: Cultural developments during the *Lapui* phase. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 195-206. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).
- Schmidt E.F., Van Loon M.N. and Curvers H.H.
1989 – *The Holmes expeditions to Luristan*. Chicago: Oriental Institute of the University of Chicago (Oriental Institute Publications 108).
- Sharifi M. and Motarjem A.
2018 – The process of cultural change in the Chalcolithic period in the highlands of Western Iran at Tepe Gheshlagh. *Documenta Praehistorica* 45: 86-99.
- Skuldbøl T.B.B. and Colantoni C.
2018 – The path to urbanism: Exploring the anatomy and development of early urbanism in Northern Mesopotamia. Five years of investigations by the Danish Archaeological Expedition to Iraq. *Ash-sharq* 2,1: 1-12.
- Stein G.J.
2012 – The development of indigenous social complexity in Late Chalcolithic Upper Mesopotamia in the 5th-4th millennia BC – An initial assessment. *Origini* 34: 125-151.
- Swiny S.
1975 – Survey in north-west Iran, 1971. *East and West* 25,1-2: 77-97.
- Tomé A., Cabral R. and Renette S.
2016 – The Kani Shaie Archaeological Project. In: Kopanias K. and MacGinnis J. (eds.), *The archaeology of the Kurdistan Region of Iraq and adjacent regions*: 427-434. Oxford: Archaeopress.
- Tonoike Y.
2009 – *Beyond style: Petrographic analysis of Dalma ceramics from two regions in Iran*. Unpublished PhD thesis. New Haven: Yale University.
- Vallet R., Baldi J.S., Naccaro H., Rasheed K., Saber S.A. and Hamarasheed S.J.
2017 – New evidence on Uruk expansion in the central Mesopotamian Zagros Piedmont. *Paléorient* 43,1: 61-87.
- Vallet R., Baldi J.S., Zingarello M., Sauvage M., Naccaro H., Paladre C., Bridey F., Padovani C., Rasheed K., Raeuf K. and Halkawt Q.

2019 – The emergence of cultural identities and territorial policies in the *longue durée*: A view from the Zagros Piedmont. *Paléorient* 45,2: 163-189.

Voigt M.M.

1976 – *Hajji Firuz Tepe: An economic reconstruction of a sixth millennium community in western Iran*. Unpublished PhD thesis. Philadelphia: University of Pennsylvania.

1989 – Northwest Iran in the fourth millennium B.C. *Paléorient* 15,1: 286-287.

Voigt M.M. and Dyson R.H. Jr.

1992 – The chronology of Iran, ca. 8000-2000 B.C. In: Ehrich R.W. (ed.), *Chronologies in Old World archaeology*: 122-178. Chicago: Chicago University Press.

Weeks L.R., Petrie C.A. and Potts D.T.

2010 – *Ubaid-related-related?* The “black-on-buff” ceramic traditions of highland southwest Iran. In: Carter R.A. and Philip G. (eds.), *Beyond the Ubaid: Transformation and integration in the late prehistoric societies of the Middle East*: 245-278. Chicago: Oriental Institute of the University of Chicago (Studies in Ancient Oriental Civilization 63).

Weiss H. and Young T.C. Jr.

1975 – The Merchants of Susa: Godin V and plateau-lowland relations in the late fourth millennium B.C. *Iran* 13,1: 1-17.

Wengrow D., Carter R., Brereton G., Shepperson M., Hamarashi S.J., Saber S.A., Bevan A., Fuller D., Himmelman H., Sosnowska H. and Gonzalez Carretero L.

2016 – Gurga Chiya and Tepe Marani: New excavations in the Shahrizor Plain, Iraqi Kurdistan. *Iraq* 78: 253-284.

Wright H.T.

2013 – A bridge between worlds: South-western Iran during the fourth millennium BC. In: Petrie C.A. (ed.), *Ancient Iran and its neighbours: Local developments and long-range interactions in the fourth millennium BC*: 51-74. Oxford: Oxbow Books (British Institute of Persian Studies Archaeological Monograph Series 3).

Young T.C. Jr.

1974 – An archaeological survey in Kangavar valley. In: Bagherzadeh F. (ed.), *Proceedings of the 3rd annual symposium on archaeological research in Iran*: 23-30. Tehran: Iranian Center for Archaeological Research.

2004 – The Kangavar Survey – Periods VI to IV. In: Sagona A. (ed.), *A view from the highlands: Archaeological studies in honour of Charles Burney*: 645-660. Leuven: Peeters (Ancient Near Eastern Studies Suppl. 12).

Young T.C. Jr. and Levine L.D.

1974 – *Excavations of the Godin Project: Second progress report*. Toronto: Royal Ontario Museum (Occasional Paper 26).

Zamani Dadane M., Mohammadi Ghasrian S., Colantoni C. and Skuldbøl T.B.B.

2019a – The Marivan Plain Archaeological Project: Western Iran and its neighbours in the Chalcolithic period. *Antiquity* 93,372: e34.

Zamani Dadane M., Mohammadi Ghasrian S. and Skuldbøl T.B.B.

2019b – Investigating Late Chalcolithic period settlement on the Marivan Plain, western Iran. First insights from the Marivan Plain Survey project. *Ash-sharq* 3,1: 33-46.

Zarei M.E., Mohammadi Ghasrian S. and Abdolapur M.

2017 – An archaeological survey of Tappeh Gryashan of Sanandaj. *Pazhohesh-ha-ye Bastanshenasi Iran* 7,12: 9-24 (in Persian).

Notes

1 See also: Baldi J.S., Iamoni M., Peyronel L. and Sconzo P. (forthcoming). *Societies in contact: Late Chalcolithic and Uruk Mesopotamian communities at the dawn of the urban world*. Turnhout: Brepols (Subartu); Renette S., Abu Jayyab K., Gibbon E., Lewis M., Abdulkarim Qader Z., Cabral R. and Tomé A.G. (forthcoming). Late Chalcolithic ceramic development in southern Iraqi Kurdistan: The stratigraphic sounding at Kani Shaie. *Iraq*.

2 Petrie 2013a provides a detailed synthesis of the present state of knowledge, updating the still excellent Hole 1987. See also brief summaries for separate regions: Manhoubi 2012; Helwing 2013b; Moghaddam 2013; Moghaddam and Javanmardzadeh 2013; Petrie 2013b. Earlier syntheses are now somewhat outdated, but still provide essential information for the Zagros region: Henrickson 1985; Hole 1987; Voigt and Dyson 1992.

3 Many of the articles cited, especially those in Persian, have appeared in Iranian journals that do not usually circulate in European or North American research libraries. However, most of these articles are accessible online either through the journals' websites or through the scholars' pages on freely accessible academic networking websites.

4 For an overview of criticisms of the Santa Fe framework, see especially Butterlin 2003: 214-220; 2018: 244-246 and sources therein. Most importantly, major analyses of ceramic assemblages in the northern Mesopotamia, eastern Anatolia, and southern Caucasus in the past two decades have been able to better define the first half of the sequence (LC 1-3; Butterlin 2009; Marro 2012). While disagreements remain regarding the precise alignment of different stratigraphic sequences and distant regions, the general LC 1-5 division has been widely adopted for the Mesopotamian world.

5 The southern Zagros, ranging from Khuzestan to the Strait of Hormuz, was culturally distinct from the northern and central Zagros during the Chalcolithic. This southern zone is frequently discussed in relation to the Susa/Anshan axis that encompasses much of the region (Weeks *et al.* 2010; Alden 2013; Petrie 2013b; Petrie *et al.* 2013; Sardari 2013).

6 It is important to note that the ^{14}C dates used by Henrickson at the time were uncalibrated. While this allowed cross-regional comparison, which was the main purpose, they do not provide an accurate absolute chronological framework.

7 See also: Renette *et al.* forthcoming, *supra* note 1.

8 See also: Carter R., Wengrow D., Shepperson M., Roberts K., Lewis M.P., Marsh A., Gonzales Carretero L., Sosnowska H., D'Amico A., Sagan W. and Lockyear K. (forthcoming). The later prehistory of the Shahrizor Plain, Iraqi Kurdistan: Further investigations at Gurga Chiya and Tepe Marani. *Iraq* 82.

9 See also: Skuldbøl T.B.B. and Colantoni C. (forthcoming). Unravelling early urbanism and cultural encounters in Late Chalcolithic northeastern Iraq. In: Baldi J.S., Iamoni M., Peyronel L. and Sconzo P. (forthcoming). *Societies in contact: Late Chalcolithic and Uruk Mesopotamian communities at the dawn of the urban world*. Turnhout: Brepols (Subartu).

10 In 1961, T.C. Young Jr. excavated additional soundings at Hajji Firuz, Dalma Tepe, and Pisdeli Tepe, but no additional information on this work at Pisdeli is presently available (Voigt 1976: 64).

11 The description of Pisdeli ceramics is based primarily on Renette's observations of sherds stored at the Penn Museum (January 2020).

12 The Penn Museum online collections contain colour photographs of a small group of sherds from Pisdeli (including those drawn in fig. 2). URL: http://www.penn.museum/collections/search.php?term=pisdeli&submit_term=Submit+Query.

13 There is growing evidence for higher degrees of continuity between Dalma and Pisdeli than previously considered. Not only do red-slipped burnished wares continue, impressed wares continue into the Pisdeli period as well, although probably less frequent than before. When comparing a subset of painted wares from both periods, they appear much more distinct than when comparing the assemblages as a whole.

14 The sealing from Pisdeli (depicted in Voigt 1989: fig. 4) shows the impression of a circular stamp seal with a human figure with upraised arms and a triangular torso. This figure and the use of circular stamp seals have exact parallels at Tepe Gawra in Level XII (Rothman 2002: pl. 27.436, 28.472, 29.506).

15 A distinct variant, sprig ware is restricted to the eastern Khabur and upper Tigris region. But additional black-on-red wares that appear almost identical to Pisdeli vessels were also widespread in northern Mesopotamian during LC 1 (Abu Juyab 2019: 187-192).

16 Radiocarbon dates have been recalibrated for this study using OxCal 4.3. Dates given in the original studies from the 1980s are uncalibrated or calibrated using a now outdated curve.

17 A range of red-slipped wares are characteristic of the Zagros Chalcolithic, but they can look quite different from each other upon closer examination. Whether the Seh Gabi and Pisdeli red-slipped wares are similar remains to be determined.

18 Mohammadi Ghasrian's observation of unpublished survey and excavations in the eastern part of the central Zagros confirms that Godin VIII does not form a distinct period, but rather represents a transition from the Seh Gabi tradition to Godin VII by the end of the 5th millennium BC with a rapid decrease in the use of painted pottery and an increase of chaff tempered wares that define the Godin VII period.

19 The extensive literature on Godin Tepe VI:1 is based largely on preliminary reports and should not be considered final. R. Elendari is currently processing the original field records as part of her dissertation in preparation of a final publication of the stratigraphy, architecture, ceramics, and objects. While Godin VI:1 possibly represents a relatively long phase (up to a couple of centuries), the intrusive southern Mesopotamian-derived component of the ceramic assemblage was restricted mainly to the earlier floors of this phase (R. Elendari pers. comm.).

Godin VI:1 finds its closest parallels within the Susa Acropole I 17:x horizon (Le Brun and Vallat 1978: 31; Dittman 1986: 186; Pittman 2013: 325-328), which represents the transition from Uruk to Proto-Elamite. The absolute chronology of Godin VI:1 remains problematic for several reasons (imprecision of the collected dates, stratigraphy, plateau in the calibration curve), but C. Petrie has demonstrated recently that this occupation was generally contemporary with the Middle Banesh phase in Fars Province, which is equivalent to the Proto-Elamite period (Dahl *et al.* 2013: 363; Petrie 2014).

Glyptic evidence, which underwent more rapid and drastic changes in this transition, offers the most reliable evidence to relate Godin VI:1 to the Proto-Elamite expansion (Pittman 2001: 438; 2011; 2013: 328-329). While the Godin VI:1 ceramics fit well with an LC 5 date, predating the changes leading to the classic Proto-Elamite assemblages, the lack of conical cups with string-cut base (often with pouring lip), Uruk type cooking pots, and general lack of parallels with the lower Diyala LC assemblage (Badler 2002: 87; Rothman and Badler 2011: 91) are in stark contrast with Uruk assemblages from the Trans-Tigridian region, Iraqi Kurdistan, and even Susa period II (Acropole I 18-17:A), which possibly reflects the transitional phase of Susa Acropole I 17:x. In addition, F. Desset recently identified a distinct architectural pattern of a room with two entrances besides a hearth centrally located against the long wall, which occurs at several Proto-Elamite sites, but has so far not yet been identified at Uruk sites in Mesopotamia (Desset 2014). In addition,

V. Badler's presentation of brick sizes from Godin VI:1 shows a lack of comparanda with Uruk sites, possibly showing use of local architectural practices (Badler 2002: 84).

Admittedly, the few numerical tablets from Godin Tepe fit well with the Uruk period, but H. Pittman has observed that changes in administrative technology occurred first in the glyptic art and only slightly later in the use of tablets, counting systems, and eventually writing (Pittman 2013: 322). Furthermore, the earliest phase of Proto-Elamite recording systems was restricted to Khuzestan (Susa and Tal-e Ghazir) and the central Iranian Plateau, which are connected via the Khorramabad-Godin Tepe route along the eastern Zagros (Dahl *et al.* 2013: 375).

20 Voigt also reports that red, white and black ware sherds were present in late Pisdeli levels (Voigt and Dyson 1992: 158).

21 The ability to upload articles on scholarly, commercial file-sharing websites, and the increased opportunities for participation in international conferences, has immensely increased the ability for non-Western scholars to share their research and establish social connections with colleagues across the world. The impact of this development in the 2010s on Iranian archaeology cannot be underestimated.

22 For example, recent surveys in Sarfirozabad (Niknami and Askarpour 2015), the Mehran Plain (Javanmardzadeh *et al.* 2013; Nekouei *et al.* 2015), Balageriveh (Rezaei and Seresti 2018), the Saimarreh Basin (Boroujeni *et al.* 2016), and the Kuhdasht (Niknami *et al.* 2017) have documented the settlement distribution during the Chalcolithic and other periods.

23 For recent discussions connecting northwestern Iran to the southern Caucasus during the Late Chalcolithic, *e.g.*, Sagona 2014, 2018: 132-212.

24 Additional sites in the region have been explored archaeologically, especially in the context of salvage excavations during dam construction (*e.g.*, Golabar), but the results are at the time of writing still largely unpublished. A survey around Hamadan has recorded additional Chalcolithic sites (Balmaki and Niknami 2012). A research survey in the Abharroud Basin further to the east has also documented multiple sites of the Chalcolithic period (Alibaigi *et al.* 2012).

25 See also: Zamani Dadane M., Mohammadi Ghasrian S. and Renette S. (forthcoming). Neolithic to Early Chalcolithic settlements on the Marivan Plain, western Iran. *AMIT*.

26 At Chogha Maran, the Early Bronze Age Maran red-slipped ware vessels were originally confused with their Chalcolithic predecessors (Levine and Young 1987: 48-50; Renette 2018: 306-311).

27 Personal observation by S. Mohammadi Ghasrian.

28 For the ¹⁴C chronology of the central Iranian Plateau, see Fazeli *et al.* 2013: 112-113.

29 Hole 2007 provides the most up-to-date review of survey data in the central Zagros, especially in the Khorramabad region.

30 Admittedly, new fieldwork could still produce such evidence. For example, K. Abdi claims the possible presence of an Uruk enclave at Chogha Gavaneh in Islamabad (west of the Mahidasht). However, his discovery of a "trash deposit with typical Uruk pottery" remains ambiguous (*e.g.*, only BRB?) and currently lacks published support of drawings and photographs (Abdi 2002: 179). Still, the term "Uruk" was used very loosely in past work in the Zagros, often describing ceramic surface collections that only contain BRB and general connections to the LC sequence of Deh Luran and Susa. However, with an increased understanding of Uruk material culture and the adoption of BRB in local assemblages, the label "Uruk" for sites in the central Zagros needs to be rejected. For example, E. Henrickson's discussion of late LC material in the Mahidasht survey mainly uses BRB to identify Uruk sites (Henrickson 1994). Most importantly, C. Goff collected material throughout the western Zagros, but her plates of Uruk pottery clearly show local assemblages with good parallels within the Godin VII-VI tradition as well as the Sargarab ware

from the Deh Luran, and only a few BRB (Goff 1971: fig. 5-7). Typical Uruk types, such as nose-lug jars, band rim jars, rim swellings, and conical cups with string-cut bases are largely absent.

31 Schmidt *et al.* 1989: pl. 83d; Emberling *et al.* 2002; Renette 2018: 158. In addition, a recent scientific analysis of a subset of ceramic sherds from Godin Tepe identified very few imports. The single sherd with a clay signature more similar to the Mesopotamian lowlands could be traced to the Susiana region (Gopnik *et al.* 2016), further confirming the close relationship between Susa and Godin Tepe.

[Haut de page](#)

Pour citer cet article

Référence papier

Steve Renette et Sirvan Mohammadi Ghasrian, « The central and northern Zagros during the Late Chalcolithic: An updated ceramic chronology based on recent fieldwork results in western Iran », *Paléorient*, 46 1-2 | 2020, 109-132.

Référence électronique

Steve Renette et Sirvan Mohammadi Ghasrian, « The central and northern Zagros during the Late Chalcolithic: An updated ceramic chronology based on recent fieldwork results in western Iran », *Paléorient* [En ligne], 46 1-2 | 2020, mis en ligne le 01 décembre 2021, consulté le 04 novembre 2024. URL : <http://journals.openedition.org/paleorient/366> ; DOI : <https://doi.org/10.4000/paleorient.366>

[Haut de page](#)

Cet article est cité par

- Rol, Nolwen. Bernbeck, Reinhard. Wolff-Heger, Lisa. Akbari, Hassan. Hessari, Morteza. Pollock, Susan. Schäfer, Daniel. (2022) Chalcolithic Painted Pottery of the Sialk III Period: Quantifying Stylistic Continuities and Changes on the Northern Central Plateau. *Iran*. DOI: [10.1080/05786967.2022.2101937](https://doi.org/10.1080/05786967.2022.2101937)
- Renette, Steve. Jayyab, Khaled Abu. Gibbon, Elizabeth. Lewis, Michael P. Abdulkarim Qadir, Zana. Cabral, Ricardo. Tomé, André G.. (2021) LATE CHALCOLITHIC CERAMIC DEVELOPMENT IN SOUTHERN IRAQI KURDISTAN: THE STRATIGRAPHIC SOUNDING AT KANI SHAIE. *Iraq*, 83. DOI: [10.1017/irq.2021.1](https://doi.org/10.1017/irq.2021.1)
- Saed Mucheshi, Amir. Esna-Ashari, Amir. Sharifi, Mahnaz. Motarjem, Abbas. Glascock, Michael D.. (2023) Sources of Late Chalcolithic obsidian artefacts from Tepe Gheshlagh, Kurdistan province, western Iran. *Journal of Archaeological Science: Reports*, 47. DOI: [10.1016/j.jasrep.2022.103702](https://doi.org/10.1016/j.jasrep.2022.103702)
- Bahrani-poor, Hanan. (2023) NEW RADIOCARBON DATES FOR THE MIDDLE CHALCOLITHIC PERIOD OF THE CENTRAL ZAGROS, IRAN. *Radiocarbon*, 65. DOI: [10.1017/RDC.2023.41](https://doi.org/10.1017/RDC.2023.41)
- Marro, Catherine. (2022) The View from the North. *Paléorient*. DOI: [10.4000/paleorient.1675](https://doi.org/10.4000/paleorient.1675)
- Baldi, Johnny Samuele. (2022) Between an End and a New Beginning. *Paléorient*. DOI: [10.4000/paleorient.1539](https://doi.org/10.4000/paleorient.1539)
- Renette, S. Lewis, M P. Wencel, M M. Farahani, A. Tomé, A. (2023) ESTABLISHING AN ABSOLUTE CHRONOLOGICAL FRAMEWORK FOR THE LATE CHALCOLITHIC TO EARLY BRONZE AGE IN IRAQI KURDISTAN: RADIOCARBON DATES FROM KANI SHAIE. *Radiocarbon*, 65. DOI: [10.1017/RDC.2022.72](https://doi.org/10.1017/RDC.2022.72)

Droits d’auteur



Le texte seul est utilisable sous licence [CC BY 4.0](#). Les autres éléments (illustrations, fichiers annexes importés) sont « Tous droits réservés », sauf mention contraire.