The View from the North

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THE VIEW FROM THE NORTH

The emergence and spread of the Chaff-Faced Ware oikumenè *as seen from the caucasus (ca. 4600-3500 BCE)*

C. Marro

Abstract. *During the Neolithic (ca. 6200-5000 BCE), South Caucasian economies basically developed within a fairly secluded environment that afforded only limited relationships with Syrian or Mesopotamian communities. However, a change in interregional dynamics occurred in the course of the 5th millennium, which led to the progressive integration of the South Caucasus into a wider region that included western Iran, eastern Anatolia, the northern Levant, northern Syria and Upper Mesopotamia. This shift resulted in the development of a new interaction sphere that I have called the "Chaff-Faced Ware oikumenè". As indicated by its name, these interactions are perceptible through the development of similar crafting practices in ceramic production, but common trends in house building and funerary traditions are also noteworthy. Alongside these common trends, it is interesting to note that South Caucasian obsidian starts to be found on a few Mesopotamian sites, sometimes as far as the Persian Gulf. In the South Caucasus as in Upper Mesopotamia, the systematic use of chaff, and the resulting chaff-faced effect, appear in the first half of the 5th millennium BCE. However, while the development of Chaff-Faced Ware in Mesopotamia marks a clear concept change in ceramic crafting between the Ubaid and the post-Ubaid periods, the evidence from the South Caucasus is more ambiguous: the ceramic assemblages known from the Caucasian Early Chalcolithic are technologically diverse; moreover, unlike the pottery from the Ubaid world, they do not form a regionally coherent stylistic repertoire. In any case, the emergence of Chaff-Faced Ware in the Caucasus does not mark a sharp conceptual break with previous ceramic crafting practices, as it does in the Ubaid world. Hence, the increasing commonalities in ceramic productions that develop between the middle of the 5th and the mid-4th millennium BCE in the Caucasus and Syro-Mesopotamia alike give rise to a number of intriguing questions, all the more so as several "diagnostic" ceramic types used in Near-Eastern archaeology to identify "Post-Ubaid" or "Early Uruk" assemblages have been found in a gold or silver version in the Majkop kurgans of northern Caucasia. Following the reflections I first published in 2010 and 2012, this paper reviews the archaeological data recently collected in the Caucasus so as to give a better insight into the significance of the Chaff-Faced Ware oikumenè in an era marked by major transformations.*

Résumé. *Les économies du Caucase du Sud se sont développées durant le Néolithique (ca. 6200-5000 av. n.-è.) dans un environnement assez clos, relativement coupé des communautés syriennes ou mésopotamiennes. Mais au cours du V^e millénaire av. n.-è., le Sud caucasien s'intègre dans un ensemble plus vaste comprenant l'Iran occidental, l'Anatolie orientale, le Levant du nord, la Syrie du nord et la haute Mésopotamie, traduisant ainsi une forte inflexion des dynamiques interrégionales. Ce mouvement a conduit à la formation d'une nouvelle zone d'interactions que j'ai nommée la Chaff-Faced Ware oikumenè. Comme ce terme l'indique, ces interactions se reflètent dans l'ensemble de la région concernée par la mise en place de nouvelles pratiques potières, tandis que des innovations sont perceptibles dans le domaine architectural et funéraire. Parallèlement à ces évolutions, il est intéressant de noter que l'obsidienne caucasienne commence à apparaître sur certains sites mésopotamiens, parfois jusque dans le Golfe persique. Dans le Caucase du sud comme en haute Mésopotamie, l'utilisation systématique de la paille dans la fabrication des céramiques, avec comme corollaire la surface paillée des récipients, apparait dans la première moitié du V^e millénaire av. n.-è. Mais alors que le développement de la Chaff-Faced Ware (CFW) marque en Mésopotamie un net changement conceptuel dans les productions céramiques par rapport à celles de la période d'Obeid, les données issues du Caucase du sud sont plus ambiguës. Les assemblages de poterie du Chalcolithique ancien caucasien actuellement connus sont très divers sur le plan technologique ; par ailleurs, contrairement à la poterie obeidienne, ils ne forment pas un répertoire stylistique régional cohérent. Ainsi, l'apparition de la CFW dans le Caucase ne marque pas une rupture*

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conceptuelle forte avec les pratiques potières antérieures, comme c'est le cas dans le monde obeidien. De ce fait, les tendances convergentes constatées dans les productions céramiques du Caucase et de la Syro-Mésopotamie entre le milieu du V^e^ et le milieu du IV^e^ millénaire sont plutôt intrigantes, d'autant plus que certains récipients en terre cuite dits « diagnostiques », utilisés en archéologie mésopotamienne pour décrire les assemblages « Post-Ubaid » ou « Uruk ancien », ont été retrouvés dans le nord du Caucase dans une version métallique, en or ou en argent, déposés comme dons funéraires dans les kourganes de la période de Maïkop. Faisant suite aux réflexions publiées en 2010 et 2012, cet article passe en revue les données archéologiques récemment collectées dans le Caucase du Sud, afin d'approfondir les discussions sur le sens et la portée de la CFW oikumenè dans une période marquée par des transformations majeures.

Keywords. *Caucasus, Mesopotamia, Dalma, Ubaid,* oikumenè
Mots-clés. *Caucase, Mésopotamie, Dalma, Obeid, Chalcolithique,* oikoumênè

INTRODUCTION

Delineating the beginning or the end of a phenomenon, whether it be in time or space, requires some hindsight. A reflection on the end of the Ubaid world, which at the height of its widest expansion extended from South Mesopotamia to the northern Levant, including parts of the Zagros, may be enriched if we integrate the data produced outside what is usually considered as the "traditional" Ubaid cultural sphere: this is the aim of this paper, which will present an updated assessment of the data collected in the South Caucasus over the last ten years, with the view to casting some additional light on the wider historical context that led to the end of the Ubaid world.

The Ubaid world may be defined as one of the major Late Prehistoric cultural complexes of the ancient Near-East, whose hallmarks included a specific black-on-buff painted ceramic repertoire, tripartite mud-brick buildings, the use of group cemeteries and specific customs (e.g., skull deformation). According to most narratives, this complex originated ca. 6500-6200 BCE in South Mesopotamia and progressively extended towards the Fertile Crescent from ca. 5200 BCE. This view, however, is being challenged by a growing number of studies, which claim that the Ubaid complex was less homogeneous than once supposed. In this line of thought, a new narrative posits that the so-called Ubaid expansion may in fact result from the integration of local components into the Ubaid sphere, rather than being the simple outcome of migrations from, or exchanges with, the South (Campbell and Fletcher 2010: 76, Baldi 2016). This interpretation was developed after the data from the North Levant and southern Anatolia, in particular from the Halaf-Ubaid site of Domuztepe, were integrated in the debate. The introduction of Levantine and Anatolian data thus resulted in a change in focus, which *de facto* led to a change in analytical paradigms concerning the formation of the Ubaid phenomenon.

Just like its geographic extension, the chronological framework of the Ubaid complex is not as evident as it may seem. Beside the timing of its expansion, several questions arise concerning the mechanisms that underlay the wane of the Ubaid world in the course of the 5th millennium BCE, along which Mesopotamian societies evolved from Ubaid villages to hierarchical settlement patterns, followed, at the beginning of the 4th millennium, by the rise of the first Urukian cities. The outcome of this evolution is sometimes designated as the "Post-Ubaid" horizon, but the time and pace at which the Ubaid system started to unravel is still a matter of discussion.

In two previous articles (Marro 2010, 2012), I tried to describe the general context which presided over the disintegration of the Ubaid complex, by using the evidence from the South Caucasus and eastern Anatolia. According to the data that were then available, the incipient decline of this system could be dated ca. 4500 BCE. One of my aims was to define what the Post-Ubaid period meant in south-western Asia in general, both in cultural and structural terms. I concluded that the Post-Ubaid horizon involved regions that had not been originally considered as part of the "Ubaid world" and suggested the existence of a wide interaction sphere that I called the Chaff-Faced Ware (hereafter CFW) *oikumenè*, which not only encompassed the Syro-Mesopotamian lowlands, but also part of the Caucasian-Anatolian highlands. In my view, this sphere of interaction reflected the growing importance of the highlands in Late

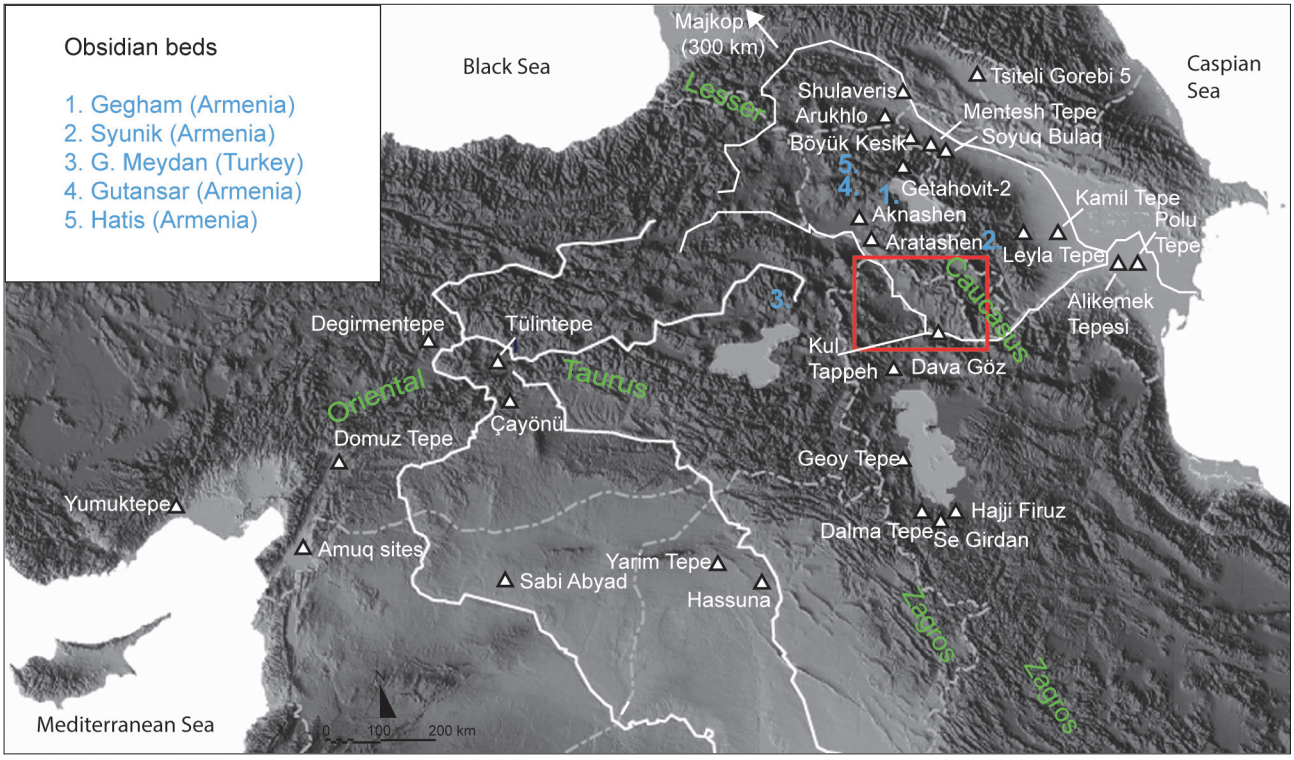

Fig. 1 – *Interregional map with the main archaeological sites cited in the text (map C. Marro; map background O. Barge).*

Prehistoric interregional dynamics, in particular in the formation of new economic networks.[1]

But my analysis was then hampered by the lack of information pertaining to the highlands before the mid-5th millennium BCE, in particular as concerns the Early Chalcolithic period, which hindered the comparative analysis of the Mesopotamian and Caucasian trajectories, and hence blurred the actual significance of this CFW *oikumenè*.

Thanks to the work recently carried out in the South Caucasus, in particular in Nakhchivan, the Early Chalcolithic gap has now been partially filled in, affording a deeper insight into the early developments conducive to the formation of the CFW interaction sphere. Moreover, the analysis of the Ubaid/Post-Ubaid transition may now also benefit from the data recently produced in western Iran by several Iranian scholars; these data have been analysed in a very informative article that has just been published by Steve Renette and Sirwan Mohammadi Ghasrian (Renette and Mohammadi Ghasrian 2020).

HISTORICAL BACKGROUND

Before proceeding to the description of the Nakhchivani evidence, a brief overview of the dynamics at play before the formation of the Caucasian Chalcolithic might be useful. For the significance of the CFW interaction sphere is of course most perceptible when the cultural evolution of the South Caucasus is examined over the *longue durée*.

A FEW WORDS ABOUT THE SOUTH CAUCASIAN NEOLITHIC

During the Caucasian Neolithic (ca. 6200-5000 BCE), South Caucasian societies basically developed within a fairly secluded environment that offered only limited contacts with Syrian or Mesopotamian communities. This is particularly visible in the obsidian distribution networks of the Syro-Mesopotamian sphere, whose raw material usually comes from eastern Anatolian obsidian sources (Barge et al. 2018). Even in north-western Iran, the obsidian found on Neolithic sites across the Urmiah basin mostly originates from eastern

1. The "highlands" referred to in this paper comprise the mountainous areas located north of the Oriental Taurus, as well as the Zagros (see fig. 1).

Fig. 2 – *Regional map of Nakhchivan with the main archaeological sites cited in the text (map C. Marro; map bagkground O. Barge).*

Anatolia, not from the South Caucasus (Barge et al. 2018: fig. 7), although the latter is easily accessible through the nearby Djolfa Pass (fig. 2). Sites located to the east of Lake Urmiah, however, tend to use the obsidian from Syunik and possibly the local outcrops from Mount Sahand (Eastern Azerbaijan province, Iran).[2]

In line with the evidence provided by obsidian circulation networks, the material assemblages typical of the South Caucasian Neolithic display few links with the contemporary cultures of northern Syria or Upper Mesopotamia. This is particularly evident in the ceramic repertoire: if Caucasian Neolithic assemblages are characterized by their relative

2. Paper given by Orange M., Le Bourdonnec F. X., Bakhshaliyev V. and Marro C., *Dynamics of obsidian consumption in Nakhchivan: a long-term perspective (6200-2300 BCE),* Lyon, 15th May 2019. International conference organised by Abedi A. and Marro C., *The Araxes River during Prehistory: Bridge or Border?*

heterogeneity,[3] it is clear that the ceramic assemblages brought to light in either the Kura or the Araxes valleys do not compare stylistically, technically or morphologically with their Syro-Mesopotamian counterparts.[4] Unlike Ubaid pottery for instance, Caucasian ceramics during the Neolithic are mostly plain; when decoration is attested, it usually appears as simple motifs in relief, in the shape of knobs or sticks; on rare occasions, more sophisticated motifs in relief depicting animals or human shapes may appear, as at Arukhlo (Alakbarov 2018). The rare examples of painted pottery, usually potsherds, that have been found in the Caucasus are clearly imports from Mesopotamia, as it is the case with the two Halaf jarlets found by the Soviet excavations at Kültepe I in the early Sixties.[5]

As concerns the technical aspect of Caucasian ceramics during the Neolithic, here again heterogeneity is the norm: Shomu-Shulaveris repertoires are described as grit-tempered (Chataigner et al. 2014), but the ceramics of Mentesh Tepe (Period I), which is also supposed to be a Shomu-Shulaveris site, are clearly chaff-tempered (Lyonnet 2017). This is also the case with Kültepe I in Nakhchivan (fig. 2), whose ceramic repertoire is both chaff-tempered and chaff-faced (Marro et al. 2019). Crafting techniques at Kültepe I include the use of slabs, as well as the paddle and anvil shaping technique. Generally speaking, Caucasian Neolithic ceramics are characterized by their poor craftsmanship, as if Caucasian potters did not really master the art of pottery-making; this is especially visible at Kültepe I, where most vessels display uneven surfaces (in spite of some burnishing) and crooked shapes. Poor craftsmanship is probably responsible for the low level of shape diversity among Caucasian repertoires, where most vessels are cylinder-shaped or barrel-shaped, albeit in different sizes. Here again the repertoire of Arukhlo appears as an exception, through the presence of collared jars and biconical vessels; but the craftsmanship seems to be just as poor.

In short, there is a world of difference between the technical mastery evinced by the Ubaid ceramics of the lowlands and the rather clumsy *terracotta* wares produced in the Caucasus during the 6th millennium BCE.

The heterogeneous character of the Caucasian Neolithic is in fact perceptible in many other fields of the material culture (Marro et al. 2019), but the important point here is that none of the material assemblages of known Caucasian sites compare in any significant way with their Mesopotamian counterparts during the 6th millennium BCE.[6]

The relative isolation of the Caucasus from the Syro-Mesopotamian sphere during the Neolithic ends in the following period, that is during the Chalcolithic, which roughly covers the 5000-3500 BCE time span. In the course of the 5th millennium BCE, a change in interregional dynamics led to the progressive integration of the South Caucasus into a wider region that included western Iran, eastern Anatolia, the northern Levant, northern Syria and Upper Mesopotamia. This shift resulted in the development of the Chaff-Faced Ware interaction sphere that I have called the CFW *oikumenè*. As described in the articles published in 2010 and 2012, these interactions are perceptible through the development of similar crafting practices in ceramic production (coil crafting techniques, massive chaff temper and scraped surfaces), but common trends in house building and funerary practices are also noteworthy. Alongside these common trends, it is interesting to note that South Caucasian obsidian starts to be found on a few Mesopotamian sites, sometimes as far as the Persian Gulf.

ON THE CAUCASIAN LATE CHALCOLITHIC: LEYLA TEPE, OVÇULAR TEPESI AND THE REST

In the article published in 2010, my purpose had been to demonstrate that the Leyla Tepe culture, a Caucasian version of the Amuq F complex, was not the outcome of migrations from Mesopotamia, but reflected the existence of an interaction sphere that encompassed both the highlands and the lowlands.[7]

3. The term "Shomu-Shulaveris culture", which is usually applied to South Caucasian Neolithic sites, is in fact deceptive, since it includes cultural assemblages that are fairly dissimilar. On this particular point, see Baudoin 2019, Marro et al. 2019.
4. The case of Aknashen, a site located in the Araxes basin in Armenia, appears as an exception to this rule, since all the pottery retrieved from the earliest levels of Aknashen (Hor. VI and VII) are imports from the Mesopotamian world. Part of this pottery has been identified as belonging to the Samarra repertoire, together with a few Halaf potsherds (Harutyunian 2014). It should be noted, however, that these ceramics only number about fifty sherds altogether (Harutyunian 2022: 94); moreover, the number of "Mesopotamian" potsherds sharply decreases in the following levels (Hor. V-II). The case of Aknashen is clearly a loner in the landscape of the Caucasian Neolithic, which might be interpreted as the outcome of limited migrations from the south. However the Aknashen case is interpreted, the Mesopotamian component sometimes perceptible in Caucasian Neolithic sites later dissolves into a kind of multiform local *faciès*, whose low degree of homogeneity points to limited exchanges even inside the Caucasus itself (Marro et al. 2019).
5. One may also mention the occasional black-on-cream painted vessels that have been found in the Mil Steppe (Helwing and Aliyev 2017), which display Hajji Firuz overtones.
6. Again, there might be an exception with the earliest occupation levels of Aknashen in Armenia (Hor. VI and Hor. VII), see footnote 4.
7. The Amuq F complex was first brought to light in the northern Levant (Braidwood and Braidwood 1960). The migration theory was put forward by Ideal Narimanov in 1985 (Narimanov 1985), and later endorsed by

My first argument was that the main technological features that characterized the Leyla Tepe ceramic repertoire, on which much of the migration hypothesis rested, were in fact at home in the South Caucasus before the Leyla Tepe culture had developed, as illustrated by the pottery from Ovçular Tepesi. My second argument was that the repertoire of Ovçular Tepesi, which can be dated to the 4400-3900 BCE time span, actually represented an earlier development of the Leyla Tepe ceramics, since this assemblage showed some morphological and stylistic overlap with the pottery of Böyük Kesik, a Leyla Tepe site located in the Kura basin.

To this line of argument, I would now like to add that the local roots of the Leyla Tepe culture are in fact also reflected in the evidence from Majkop, a North Caucasian cultural complex characterized by mobile settlements and gigantic tumuli, where several gold and silver vessels displaying Leyla Tepe (or Amuq F) morphological specificities were found together with typical Leyla Tepe *terracotta* vessels in a funerary context (Piotrovskii 2021: fig. 6). It seems unlikely that the precious vessels from Majkop should correspond to metal imitations of Mesopotamian prototypes made of clay. Quite on the contrary, considering the time and energy requested to produce one kilo of gold (Stöllner et al. 2021), and this is also true for silver, the original prototypes of the Leyla Tepe (or Amuq F) ceramic vessels should probably be sought in the metallic Majkop repertoire, whose vessels stand out as prestige-bestowing funerary gifts.

Whatever the link between metallic and ceramic vessels may be, my present attempt to explain the striking similarities between the Majkop, Leyla Tepe and Amuq F repertoires posits the existence of shared interests, probably in connection with the mastering of extractive metallurgy displayed by Caucasian communities as early as the second half of the 5th millennium BCE (Gailhard et al. 2017), which eventually led to the formation of an interaction sphere: the CFW *oikumenè*.

In Mesopotamian chronological terms, the Ovçular Tepesi horizon thus corresponds to LC1 and the beginning of LC2,[8] while the Leyla Tepe/Amuq F complex occurs in LC2 and LC3.

The demonstration initiated in 2010-2012, however, was so far halted by the absence of Caucasian data for the time period expanding between 5000 and 4400 BCE, which prevented further comparison with Syro-Mesopotamian typo-chronological sequences. Most importantly for the issue at stake, the critical time span marking the incipient wane of the Ubaid phenomenon, which may now be dated ca. 4600 BCE,[9] was left totally in the dark. A new light has recently been cast onto this period thanks to the excavation of a few sites, two of which are located in Nakhchivan in the Middle Araxes basin.

THE EARLY CHALCOLITHIC IN THE SOUTH CAUCASUS (CA. 5000-4600 BCE)

Just as in Mesopotamia, the South Caucasian material assemblages belonging to the 5000-4600 BCE time span may be defined as "Early Chalcolithic": they mark a clear break with those of the preceding Neolithic cultures, which progressively peter out from 5300 BCE onwards, in circumstances that are still to be elucidated. The data retrieved from Kültepe I suggest that Neolithic communities were still living in the Middle Araxes basin until ca. 5000 BCE, but this is seemingly not the case in the Mil steppe (Helwing and Aliyev 2017), or in the Kura region (Lyonnet and Guliyev 2012), where these communities disappeared around 5300-5200 BCE.

Less than half a dozen sites provide some information on the Early Chalcolithic period in the Caucasus: Tsiteli Gorebi-5 in Georgia, Getahovit-2 in Armenia (Chataigner et al. 2020), Mentesh Tepe (Period II, Lyonnet 2018), Uçan Ağıl and Nakhchivan Tepe in Azerbaijan. The available data point to inter-site material heterogeneity, in particular as concerns the ceramic repertoires, but the available information from Getahovit-2 and Mentesh Tepe (Period II) is fairly limited, while work at Tsiteli Gorebi-5 only started in 2019.[10] This paper will thus focus on Uçan Ağıl and Nakhchivan Tepe, two settlements located in Nakhchivan (fig. 2), which have been excavated respectively since 2015 and 2017. It should be pointed out here that these two contemporaneous sites, which are located some 7 km apart, belong to distinct cultural horizons.

B. Lyonnet (2007, 2009) and N. Museyibli (2007, 2014), among others. In a first article published in 2007 (Marro 2007), I myself supported the idea of seasonal migrations, but abandoned this hypothesis after studying the ceramic assemblage from Ovçular Tepesi (Marro 2010).

8. According to a revised version of the Santa Fe chronology, see Marro 2012: 14.

9. The progressive appearance of "Post-Ubaid" traits in Upper Mesopotamia, such as the emergence of Chaff-Faced Ware, has been dated back to ca. 4600 BCE thanks to the evidence obtained from sites like Tell Zeidan for instance (Stein and Fischer 2011: table 1), where 4600 BCE marks the beginning of LC1. It should be noted that according to recent data (Vignola et al. 2018), 4600 BCE also marks the beginning of LC1 at Arslantepe (Period VIII) in eastern Anatolia.

10. Paper given by Rova E. on November, 4th 2021: *Bridging the gap? The Tsiteli Gorebi sites in the Alazani valley*. Worlds in Transition International Network, Workshop #3 (*The Early 5th Millennium Occupation gap in the South Caucasus*), Paris 3rd-5th November 2021.

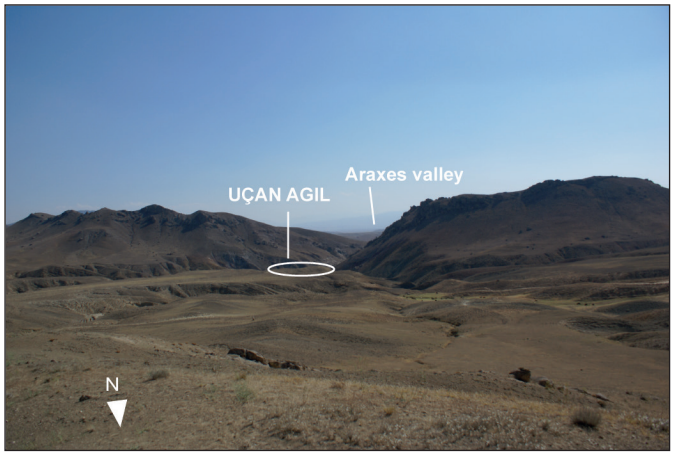

Fig. 3 – *View of Uçan Ağıl from the north (MBA C. Marro).*

THE CAMP SITE OF UÇAN AĞIL

Uçan Ağıl is a flat site located at 1200 m a.s.l in the Sirab piedmonts, at the confluence of two wadis (fig. 3). Three excavation squares have been opened so far, called *Chantiers 1*, *2* and *3*; they each measure between 50 and 100 m^2. The excavated areas mostly yielded occupation remains belonging to the 4850(?)-4350 BCE time span, but the site was also occupied during the 3rd millennium BCE.

Judging by its stratigraphic sequence and material assemblage, Uçan Ağıl was a mobile camp used by pastoral groups, probably on a seasonal basis, which were mostly involved in specialized caprine herding.

Remains belonging to the Chalcolithic period have been found in *Chantier 1* and *Chantier 2*, where at least three different occupation phases may be singled out. Since this is a mobile camp site, however, architectural remnants at Uçan Ağıl are scarce: occupation layers are usually perceptible through the presence of artefacts scattered in open air areas, as well as fireplaces and postholes. Apart from the significant evidence belonging to the Early Chalcolithic, it is difficult to recognize coherent architectural features from the postholes. Each occupation phase has been radiocarbon-dated thanks to the charcoal samples collected in or around the fireplaces: the earliest phase may be dated to the Early Chalcolithic period, while the two others correspond to an early and a later phase of LC1.[11]

Since the purpose of this paper is to trace back the origins of the Chaff-Faced Ware *oikumenè*, I will start my analysis by describing the Late Chalcolithic occupation phases and proceed from the point where my demonstration stopped in 2010. Two broad phases have been identified for the Late Chalcolithic period at Uçan Ağıl, but many sub-phases are in fact perceptible in the succession of trodden floors, as visible through the presence of horizontal ceramic scatters.

The Late Chalcolithic phases of Uçan Ağıl (ca. 4600-4350 BCE)

The later of the two Late Chalcolithic phases, which I will provisionally call UA-period LC1B, has been dated through a single reading to the 4450-4330 BCE time span. This phase roughly corresponds to Phase I and early Phase II of Late Chalcolithic Ovçular Tepesi (table 1). It is thus no coincidence that the ceramic assemblage of UA-period LC1B strongly recalls the Ovçular repertoire, as illustrated by the presence of jars with relief decoration (fig. 4: 7, 9-11), as well as a few mugs (fig. 4: 3). Interestingly enough, however, most of the relief-decorated jars of Uçan Ağıl bear finger-impressed decoration, which is rare at Ovçular, where incised stitches or combed impressions applied all around annular bands are the norm. Moreover, unlike the pottery from Ovçular Tepesi, where comb-scraping is ubiquitous, the ceramic from Uçan Ağıl is rarely comb-scraped as if this tool was not commonly used for pottery crafting on this site. Worthy of note is also the total absence of "mangaly": these crude, usually grit-tempered, trays are frequent at Ovçular Tepesi, but also on the other Late Chalcolithic camp sites we have so far excavated in the Sirab area (Zirinçlik and Şorsu). Lastly, one must mention a few painted sherds recalling the black-on-red pottery from Pisdeli (fig. 4: 2), which suggests that the pastoral groups stopping at Uçan Ağıl had some connection with Iran—but painted pottery at Uçan Ağıl remains rare on the whole, as is also the case at Ovçular.

The general impression is that the ceramic repertoire of Uçan Ağıl-period LC1B, which, apart from the painted pottery, is entirely chaff-tempered and chaff-faced, represents

11. The earliest phases brought to light in *Chantier 2* have been attributed to the Early Chalcolithic on the ground of absolute ^{14}C datings, and the presence of a number of painted potsherds that show clear ties with Dalma ware. The Early Chalcolithic levels from Uçan Ağıl thus fit into the 4850(?)-4600 BCE time span, which incidentally corresponds to the chronological framework established in the west Zagros region for the Dalma culture (Renette and Mohammadi Ghasrian 2020: 123). The Levels UA-LC1A and UA-LC1B of Uçan Ağıl, on the other hand, have been attributed to the Late Chalcolithic period since they correlate with the rise of the CFW *oikumenè*—a phenomenon they illustrate in their own way. To sum up, there is no "Middle Chalcolithic" in the chronological sequence I advocate for the Middle-Araxes basin; a framework that might be at odds with those proposed by some of my colleagues.

Table 1 – *Table with main ^{14}C dates from Uçan Ağıl (Chalcolithic period only).*

Sample ID	Sample	Radiocarbon Age (BP)	$\delta^{13}C$ (‰)	Dating (BCE) 2 sigmas	Period	Sample description
UA17 - 2083	LTL20600	6275 ± 45	-24.2 ± 0.3	5332-5204 5173-5068	Neo?	Charcoal from Hearth 2083
UA17 -2076-1	LTL20598	6087 ± 45	-20.2 ± 0.4	5208-4846	EC	Charcoal from Pit 2076
UA18 - 2163	LTL18738A	5851 ± 45	-16.4 ± 0.3	4831-4587	EC	Charcoal from Hearth 2163
UA17 - 2076-2	LTL-20599	5800+-45	-18.9 +- 0.4	4783-4540	EC	Charcoal from Pit 2076
UA17 - 1044	LTL20596	5838 ± 45	-16.5 ± 0.4	4796-4550	EC	Charcoal from burnt Patch 1044
UA19 - 2194	LTL19814A	5726 ± 45	-20.6 ± 0.2	4687-4464	LC	Charcoal from Pit 2194
UA15 - 2014	Poz-129047	5710 ± 40		4678-4453	LC	Bone from trodden Floor 2019
UA15 - 2019	LTL16009A	5713 ± 45	-23.4 ± 0.4	4690-4450	LC	Charcoal from trodden Floor 2019
UA17 - 2067	LTL17854A	5549 ± 45	-24.6 ± 0.3	4446-4330	LC	Charcoal from burnt filling layer 2067

Lecce: OxCal v3.5 - Atmospheric data from Reimer PJ, et al. (2013).
Poznan: OxCal v4.4.2 - Atmospheric data from Reimer et al. (2020).

a slightly earlier version of the Ovçular repertoire, with only marginal overlap.

The earlier Late Chalcolithic phase of Uçan Ağıl has been dated through three radiocarbon readings to the 4690-4450 BCE time span, with a median date around 4600-4550 BCE (table 1); this level has been provisionally identified as UA-period LC1A. In spite of this early dating, I consider the UA-period LC1A to be also part of the Late Chalcolithic, since the pottery repertoire, which is chaff-tempered and chaff-faced, shows more similarities than otherwise with the assemblage of Ovçular Tepesi. The presence of annular-based bowls and relief-decoration with finger impressions may be noted (fig. 5: 1, 3), alongside a minority of shapes that are unknown in the Ovçular Tepesi repertoire, such as drooping-lug jars and band-rim bowls (fig. 5: 5, 8). *Mangaly* are again conspicuous by their absence, while comb-scraped surfaces are rare. Otherwise, one may mention the presence of a few painted vessels, some of which clearly recall the Dalma painted ware typical of western Iran (fig. 5: 4, 6, fig. 6). On the whole, the pottery repertoire from UA-period LC1A appears as an earlier version of the UA-period LC1B assemblage; it recalls the ceramics of the early Late Chalcolithic levels of Kul Tappeh (period VIII), a site located at the Azerbaijani-Iranian border, which have been dated to the 4600-4350 BCE time span (Abedi et al. 2014: 55-56).

Unfortunately, apart from a poorly preserved fireplace brought to light in UA-period LC1B (Hearth 2077), no architectural remains have so far been found in the Late Chalcolithic phases of Uçan Ağıl.

The Early Chalcolithic phases of Uçan Ağıl (ca. 4850?- 4600 BCE)

The Early Chalcolithic occupation levels of Uçan Ağıl are located beneath the Late Chalcolithic ones without any perceptible gap. But of course, since camp sites tend to be occupied only during a few months each year, occupation layers are usually rather thin, while the absence of solid architecture makes it more difficult to study the evolution of the occupation sequence.

The Early Chalcolithic levels of Uçan Ağıl have been radiocarbon-dated to the 4850-4600 BCE time span, with two readings (LTL-20598 and LTL-20600) extending into the last quarter of the 6th millennium BCE (table 1). However, the time span given by LTL-20598 (5208-4846 BCE -2 sigmas), which was obtained from a piece of charcoal collected in Pit 2076, does not agree with another reading (LTL-20599) given by a piece of charcoal collected from the same pit, which fits into the 4783-4540 BCE bracket (two sigmas). It is possible that the high chronological time span indicated by LTL-20598 derives from an "old-wood" effect, but all in all, it is clear that some uncertainty prevails as concerns the beginning of the Early Chalcolithic levels of Uçan Ağıl, a problem that will hopefully be solved in the near future through the analysis of more organic samples.[12]

The Early Chalcolithic levels of Uçan Ağıl are marked by a pottery assemblage that is rather distinct, both morphologically and technologically, from those of the Late Chalcolithic period. Several of the vessels retrieved from these levels were

12. Owing to the limited number of radiocarbon dates, as well as to the finding spot of the samples, the recourse to Bayesian statistics at Uçan Ağıl is not possible yet.

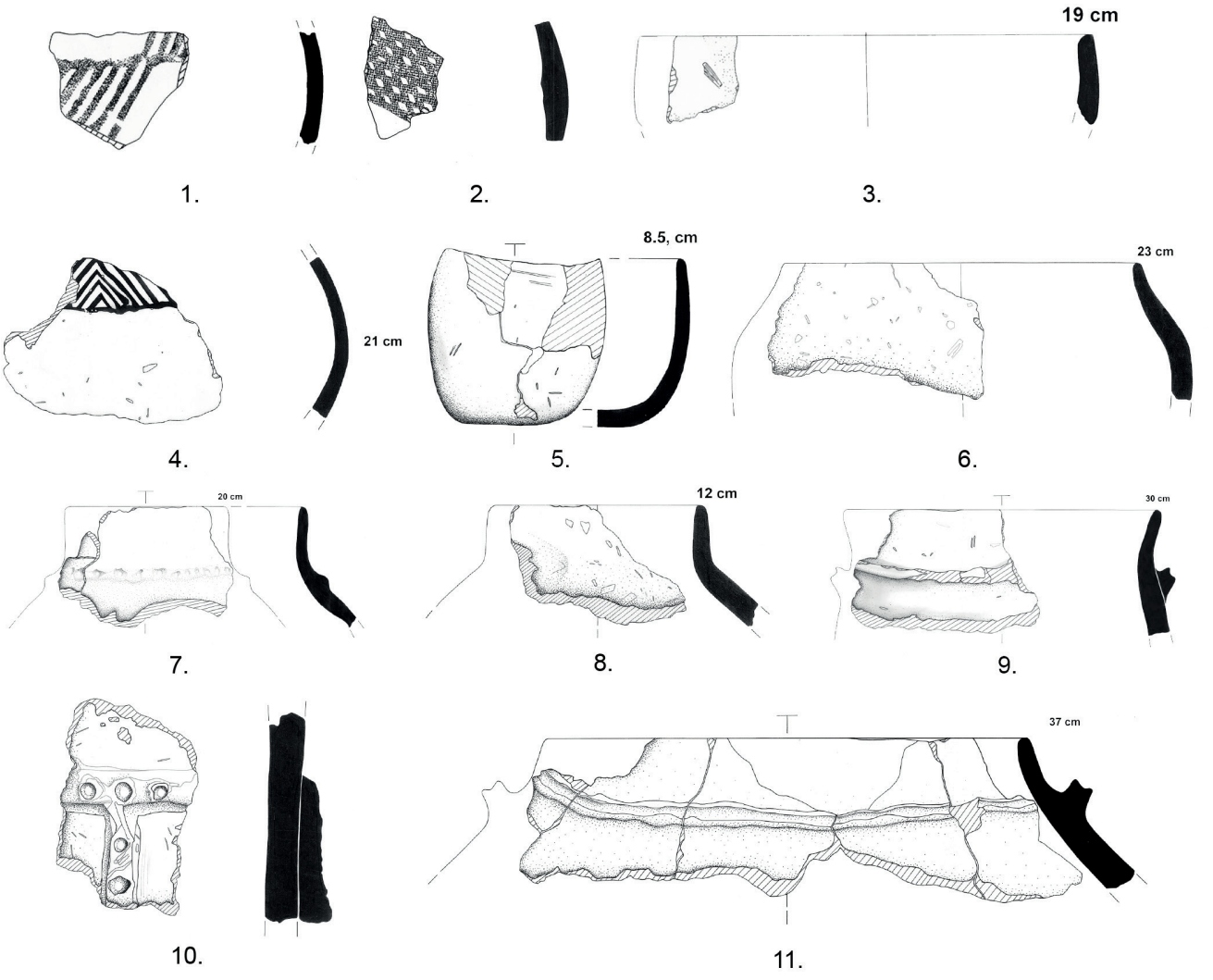

Fig. 4 – *Uçan Ağıl: Main ceramic trends, Late Chalcolithic period, level LC1B (ca. 4450-4350 BCE; drawing Tuğçe Tırış, except for 5.1, 5.2 and 5.3, which were drawn by K. Alhamed).* ***Pottery Catalogue:*** *A. Outer/inner surface colour; B. Break colour; C. Temper; D. Surface treatment; E. Decoration or comments.* ***1. Locus UA16-2024.*** *A. Red/red; B. Buff; C. Fine to medium vegetal temper; D. Red slip, shiny burnishing/red slip, chaff-faced effect on both sides; E. Brown-on-red painted decoration, applied after the burnishing.* ***2. Locus UA15-2003.*** *A. Buff/buff; B. Grey; C. Fine mixed temper; D. Burnished/not visible; E. Brown painted geometric motifs, applied after firing.* ***3. Locus UA15-2008.*** *A. Mottled buff and light drab/beige; B. Dark grey; C. Fine to medium vegetal temper, with a few coarse vegetal inclusions; D. Matte burnished/smoothed, chaff-faced effect on both sides; E. None.* ***4. Locus UA17-2064.*** *A. Mottled buff and red/buff; B. Buff; C. Fine vegetal temper with red, white, black and grey mineral grits; D. Matte burnished/smoothed; E. Brown painted geometric motifs, watery paint.* ***5. Locus UA18-1069.*** *A. Beige cream/beige grey; B. Greyish; C. Medium vegetal temper; D. Smoothed/plain; chaff-faced effect on both sides, with occasional seed impressions; E. Coil crafting, coils added on the top of each other (U-technique).* ***6. Locus UA17-2065.*** *A. Grey/grey; B. Black; C. Fine to medium vegetal temper; D. Matte burnished/matte burnished, chaff-faced effect on both sides; E. Black-burnished soot patch on the exterior.* ***7. Locus UA18-1072.*** *A. Beige/beige; B. Grey; C. Medium to coarse vegetal temper; D. Smoothed/smoothed; E. Annular coil in relief with finger impressions around the shoulder.* ***8. Locus UA17-2065.*** *A. Beige/beige; B. Beige; C. Fine vegetal temper; D. Smoothed/plain; E. None.* ***9. Locus UA17-2065.*** *A. Grey/grey; B. Dark grey; C. Medium to coarse vegetal temper; D. Plain (above annular coil), scraped (under annular coil)/smoothed; E. Annular coil in relief around the shoulder, grooved, coil crafting, coils added from the side.* ***10. Locus UA21-2306.*** *A. Drab/cream; B. Dark grey; C. Medium vegetal temper with a few medium to coarse grits; D. Smoothed/cream-slipped; E. Annular coil in relief with finger impressions.* ***11. Locus UA17-2065.*** *A. Grey with cream slip/beige; B. Dark grey patches (= core of each separate coil); C. Coarse vegetal temper; D. Watery cream slip/plain; E. Annular grooved coil in relief around the shoulder, coil crafting, coils added from the side.*

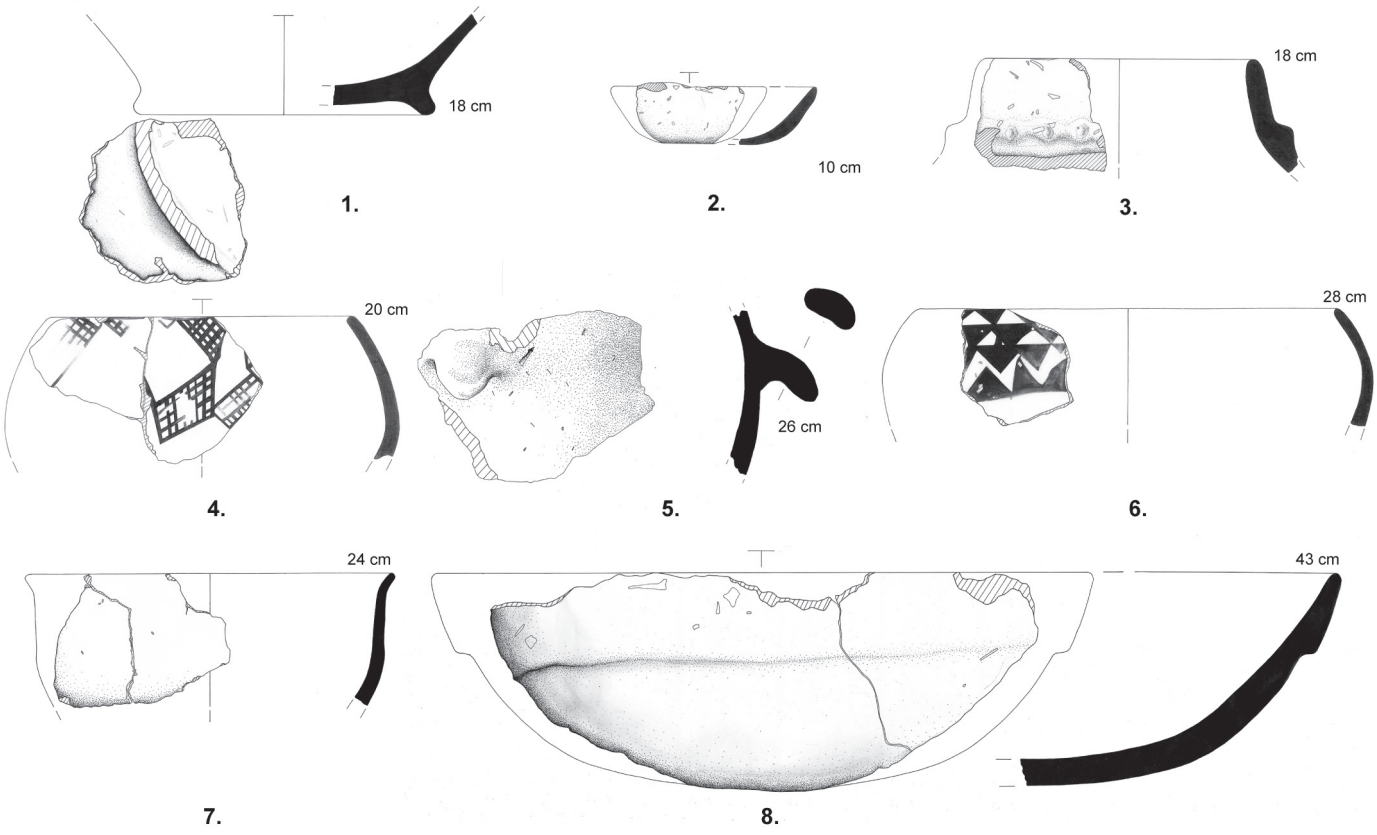

Fig. 5 – *Uçan Ağıl: Main ceramic trends, Late Chalcolithic period, level LC1A (ca. 4600-4450 BCE; drawing Tuğçe Tırış).* ***Pottery Catalogue:*** *A. Outer/inner surface colour; B. Break colour; C. Temper; D. Surface treatment; E. Decoration or comments.* ***1. Locus UA17-2085.*** *A. Grey/grey; B. Dark grey; C. Medium vegetal temper with some mica flakes; D. Smoothed, with traces of chaff/lightly burnished? E. None.* ***2. Locus UA17-2082.*** *A. Light drab/worn-out surface; B. Dark grey; C. Fine to medium vegetal temper; D. Cream slip?/cream slip?; E. None.* ***3. Locus UA16-2022.*** *A. Light buff/beige; B. Greyish core; C. Fine vegetal temper, chaff-faced effect on both sides; D. Light buff slip/smoothed; E. Annular coil in relief with finger impressions around the shoulder.* ***4. Locus UA21-2324.*** *A. Beige/beige; B. Buff; C. Fine to medium vegetal temper; D. Matte burnished/matte burnished, some traces of fine chaff on both sides; E. Brown-painted geometric motifs.* ***5. Locus UA16-2050.*** *A. Orange buff/beige; B. Greyish buff; C. Fine to medium vegetal temper; D. Smoothed/smoothed, chaff-faced; E. None.* ***6. Locus UA17-2082.*** *A. Buff/buff; B. Grey; C. Fine mixed-temper with white, red and pink grits; D. Matte burnished/matte burnished, some traces of fine chaff on both sides; E. Brown-painted geometric motifs on a buff surface with some red patches, probably a red wash.* ***7. Locus UA18-2098.*** *A. Beige/beige; B. Beige; C. Fine mineral temper; D. Lightly burnished/smoothed; E. None.* ***8. Locus UA16-2194.*** *A. Drab/mottled grey and dark grey; B. Black; C. Medium to coarse vegetal temper; D. Lightly smoothed/matte burnishe, chaff-faced effect on both sides; E. Vessel probably moulded with the help of another vessel.*

broken pots that had been thrown together into three open-air fireplaces (Hearths 2150, 2163 and 2117) that correspond to different phases of use for the same feature: they provide a unique opportunity to describe the main morphological and technological features of the Early Chalcolithic repertoire of Uçan Ağıl, an important point since this pottery is basically unknown elsewhere.

The most salient technological trait of the Early Chalcolithic pottery from Uçan Ağıl lies in the presence of basket impressions over the exterior surface of certain vessels (figs. 7, 8). The location of these impressions over the sides of several large bowls, as well as over the bottom of an incurved-rim pot, where they appear slightly off-centred (fig. 8), clearly suggest that baskets were used as moulds to shape the vessels.

Impressions of organic material on pottery are fairly common place during the Neolithic period in the wider region, where they are attested for example at Aknashen (Badalyan et al. 2010: fig. 9.2: 7), or Arukhlo (Bastert-Lamprichs 2017:

Fig. 6 – *Typical Dalma painted ware from Uçan Ağıl (Late Chalcolithic, level LC1A; MBA N. Gailhard).*

Fig. 7 – *Basket impressed band-rim bowl from Uçan Ağıl (Early Chalcolithic (ca. 4850?-4600 BCE; MBA N. Gailhard).*

fig. 4: 8), as well as in north-western Iran, as illustrated by a few examples from Hajji Firuz (Voigt 1983: pl. 25-g-h). But in the latter cases, we are faced with matt impressions, which were left by the material on which the vessels were left to dry—not by the device used for crafting the vessels *stricto sensu*. Moreover, the kind of plaiting implied in these two cases is completely different from the impressions left on the Chalcolithic examples. It should be noted that not all the vessels found at Uçan Ağıl were moulded with the help of baskets—this technique seemingly applies specifically to larger bowls or pots.

The Early Chalcolithic assemblage of Uçan Ağıl also stands out by the frequent use of a light burnishing, a rare trait on later Chalcolithic assemblages; as well as by the occasional use of a red wash or a red paint, which recalls the plain, red-painted surfaces of some western Iranian wares (Renette and Ghasrian 2021: *passim*). Otherwise, this assemblage displays the same basic characteristics as those of the Late Chalcolithic repertoires, mainly the systematic use of chaff, which produces the famous chaff-faced effect, dark cores, as well as smoothed or beige-slipped surfaces. Beside baskets as moulds, the crafting techniques used at Uçan Ağıl included the use of coils and slabs. As is the case with the Late Chalcolithic pottery of Ovçular Tepesi (Marro et al. 2014: fig. 13), coils tend to be added astride one another, in a U-fashion, not from the side, during the crafting process. Lastly, the occasional use of the comb to level up exterior surfaces should be pointed out: comb traces are not always visible to the naked eye, since most vessels are smoothed, burnished or slipped. But these traces sometimes appear beneath the surface treatment.

Turning now to stylistic features, it appears that no examples of relief decoration have so far been found in the Early Chalcolithic repertoire of Uçan Ağıl, where only a few painted decorated sherds are attested. Some of them clearly recall the Dalma painted ware at home in western Iran (fig. 5: 6, fig. 6); others seem to stem from a different tradition (fig. 9: 1-2), but it should be noted that both productions have been found on the nearby site of Nakhchivan Tepe (see below). Some of the shapes that characterize the Early Chalcolithic repertoire are also present in UA-period LC1A: this is the case of the band-rim bowls, for instance (fig. 5: 8, fig. 9: 4-6). Otherwise, large or narrow collared-jars, which are characteristic of the Late Chalcolithic assemblages of Ovçular Tepesi and Uçan Ağıl LC1A-B, are seemingly absent from earlier levels. Apart from the band-rim bowls, the most frequent shapes of the Early Chalcolithic repertoire are incurved-rim pots (fig. 8: 1, fig. 9: 1-3).

On the whole, the Early Chalcolithic assemblage of Uçan Ağıl seems quite different from the Late Chalcolithic repertoires, but a few links are nonetheless perceptible, while the use of chaff as the main source of temper must be emphasized.

To my knowledge, no ceramic assemblage comparable to the Early Chalcolithic repertoire of Uçan Ağıl has so far been described in the Caucasus or elsewhere, although at least one potsherd belonging to a band-rim bowl with basket impressions has been found on the site of Polu Tepe, in the Muğan

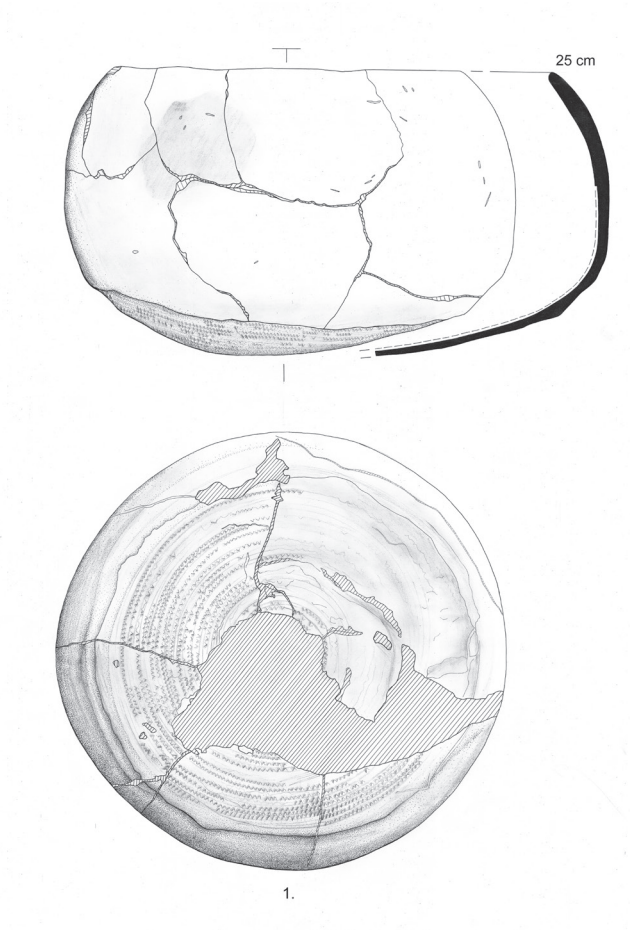

Fig. 8 – *Uçan Ağıl: incurved-rim pot moulded in a basket, Early Chalcolithic (ca. 4850?-4600 BCE; drawing Tuğçe Tırış).* ***Pottery Catalogue:*** *A. Outer/inner surface colour; B. Break colour; C. Temper; D. Surface treatment; E. Decoration or comments.* ***Locus UA18-2163.*** *A. Beige/beige; B. Buff; C. Fine to medium vegetal temper with occasional grits and minute animal shells; D. Smoothed /smoothed; E. Basket traces over the bottom, slightly off-centred.*

steppe.[13] Painted brown motifs in the shape of stacked chevrons decorate the inner side of this bowl. Together with the other painted vessels from Polu,[14] this potsherd recalls the pottery trend of both the Muğan steppe, as at Alikemek Tepesi, and the Mil steppe, as at Kamil Tepe (Helwing and Aliyev 2017: figs. 3, 4).

Unlike the Late Chalcolithic occupation levels, the Early Chalcolithic of Uçan Ağıl provide some information concerning the architecture in use on 5th millennium BCE camp sites: two series of standardised postholes were brought to light in the south-western side of *Chantier 2* (fig. 10). As shown by the presence of a posthole placed under Hearth 2163, this hearth, and hence the pottery it contained, appears to be later than the southern series of postholes, whose shape recalls some kind of animal pen (fig. 10: green dotted-line). But Hearth 2163 may be contemporary with the larger posthole series, which seemingly mark the location of a north-south oriented building (fig. 10: red dotted-line).

Thus, to conclude on the Chalcolithic material assemblages from Uçan Ağıl, it seems possible to trace back the Chaff-Faced Ware tradition typical of the Ovçular Tepesi culture up to ca. 4850 BCE, and possibly earlier.

A *caveat* must however be issued at this stage: the use of chaff alone can of course not be adopted as a single marker to identify pottery traditions, and hence Chaff-Faced Ware; other criteria such as crafting methods (moulding *versus* the use of coils etc..), shapes, decorative concepts and techniques, as well as the general level of craftsmanship, are essential traits when comparing one set of ceramics with another. If we turn to the pottery from Kültepe I, for instance, which also displays chaff-faced surfaces, with the systematic use of organic material from the beginning of the chrono-cultural sequence,[15] it is clear that the Neolithic crafting traditions of the latter do not compare with those of the Chalcolithic period at Uçan Ağıl or Ovçular Tepesi: judging by the crafting methods, the shape repertoires, or the general level of craftsmanship, we are clearly faced with different *chaînes opératoires*, even if some specific traits are shared by all these assemblages.

THE SITE OF NAKHCHIVAN TEPE

The site of Nakhchivan Tepe is a flat site located at ca. 850 m a.s.l. on the right bank of the Naxçivançay, some 10 km from the confluence with the Araxes river (fig. 11). It has been excavated by an Azerbaijani team under the auspices of the Azerbaijan National Academy of Sciences since 2017.

13. Note that two potsherds bearing basket impressions somewhat similar to the those of Uçan Ağıl are published in a plate from the publication of Hajji Firuz (Voigt 1983: pl. 25a-b). Potsherd (a) is described as "showing the impression of a coiled basket used as a mold".

14. The pottery from Polu Tepe is stored in the Azerbaijani National Academy of Sciences in Baku. I had the opportunity to examine this material in 2005 thanks to Dr. Tufan Akhundov, whom I would like to thank warmly here again.

15. It should be noted that in the earlier Neolithic levels of Kültepe I, the pottery was often tempered with wild grass (*poaceae*) or crushed bones, rather than pure chaff (Marro et al. 2019).

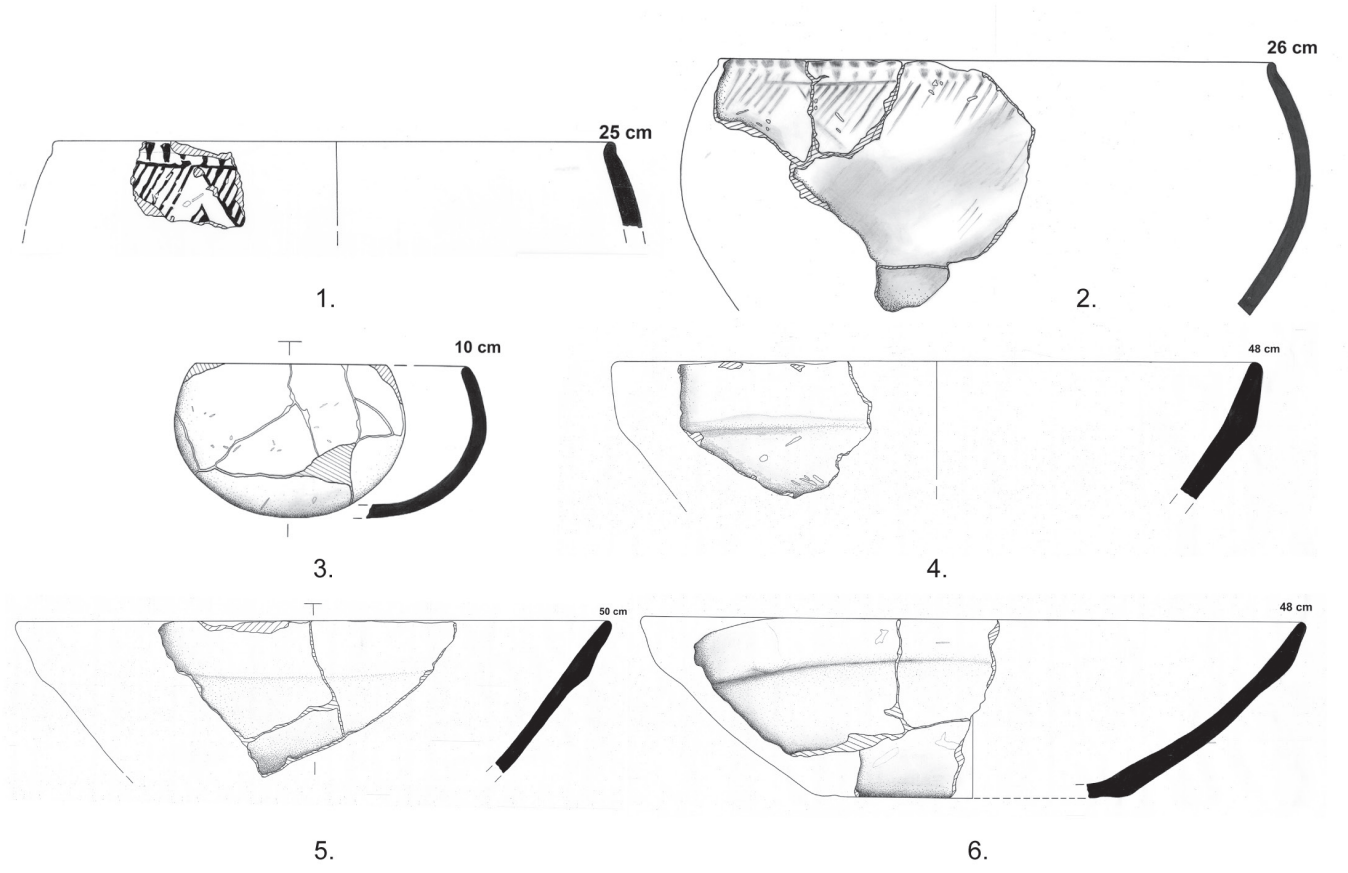

Fig. 9 – *Uçan Ağıl: Main ceramic trends, Early Chalcolithic period (ca. 4850?-4600 BCE; drawing Tuğçe Tırış).* ***Pottery Catalogue:*** *A. Outer/inner surface colour; B. Break colour; C. Temper; D. Surface treatment; E. Decoration or comments.* ***1. Locus UA18-2149.*** *A. Buff/buff; B. Buff; C. Fine to medium vegetal temper with some fine mineral inclusions; D. Matte burnished/smoothed; E. Brown-painted geometric motifs that sometimes appear in watery brown paint.* ***2. Locus UA18-2150.*** *A. Yellow ochre, with red paint or wash in some places/mottled light drab and red; B. Dark grey; C. Fine to medium vegetal temper; D. Brown paint on yellow ochre, patchy red-wash or red paint, lightly burnished/patchy red-wash or red paint, lightly burnished, chaff-faced effect on both sides; E. Geometric motifs appear in watery brown paint, irregular painted lines; level of craftmanship not very good. Line of brown paint along the upper part of the rim.* ***3. Locus UA18-2150.*** *A. Mottled black and drab/mottled black and dark grey; B. Black; C. Fine to medium vegetal temper; D. Burnished/lightly burnished; E. Occasional comb-scraping apparent under the exterior burnishing. Please note that the striped zones on the drawing correspond to missing potsherds, not to comb-scraped patches.* ***4. Locus UA18-2117.*** *A. Mottled drab and dark grey/Mottled light and dark drab; B. Black; C. Medium vegetal temper, with occasional mica flakes; D. Smoothed/smoothed; uneven surface; chaff-faced effect on both sides; E. None.* ***5. Locus UA18-2150.*** *A. Mottled brown and dark grey, with red paint in some places/red; B. Occasionally grey; C. Fine to medium vegetal temper, with occasional coarse chaff; D. Lightly burnished; red paint in some places; uneven surface/Lightly burnished; matt red paint overall the interior surface; uneven surface; chaff-faced effect on both sides E. None.* ***6. Locus UA18-2106.*** *A. Grey/grey; B. Grey; C. Fine to medium vegetal temper, with occasional mica flakes; D. Smoothed/lightly burnished; uneven surface; chaff-faced effect on both sides; E. The vessel's base was probably moulded, but coils have also been used, in particular for crafting the rim: the "band-rim" effect was emphasized by adding a coil to the rim.*

The occupation levels of Nakhchivan Tepe encompass two main cultural horizons, respectively attributed to the Late Neolithic and the Chalcolithic periods. As with Uçan Ağıl, I will proceed with the description of the chrono-stratigraphic sequence of Nakhchivan Tepe going backwards, starting from the latest level, which happens to be contemporaneous with UA-LC1A and part of UA-LC1B.

The Chalcolithic period of Nakhchivan Tepe may be divided into two main occupation phases. The earlier has been dated to the 5000-4600 BCE time span on the basis of two radiocarbon analyses made on charcoal (LTL17636A and LTL18625A), while the later has been attributed to the 4600-4400 BCE period thanks to one radiocarbon reading (LTL18624A; Bakhshaliyev 2020: table 2).

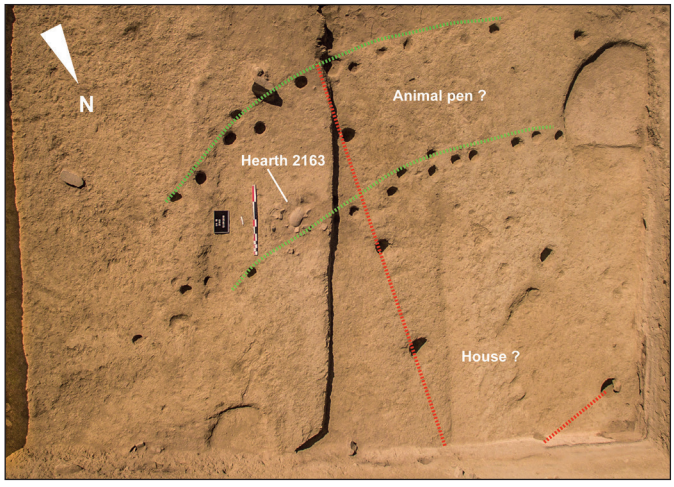

Fig. 10 – *Uçan Ağıl: Two series of postholes belonging to the Early Chalcolithic period occupation levels (*Chantier 2*; MBA N. Gailhard).*

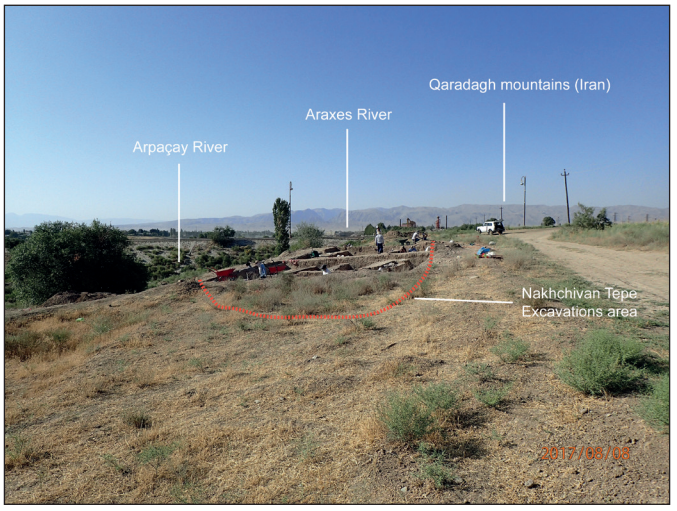

Fig. 11 – *View of Nakhchivan Tepe from the north (MBA C. Marro). The mountain range visible in the background is located in Iran.*

The Late Chalcolithic phase of Nakhchivan Tepe (4600-4400 BCE) is characterized by a succession of shallow occupation layers marked by elusive patches of ash. A couple of rectangular mud buildings have been described by the excavators (Kuliyeva and Bakhshaliyev 2018: fig. 2), but it must be noted that no mud walls are actually visible in the trench profiles.

These layers have yielded a substantial assemblage of decorated ceramics that shows marked similarities with the Dalma painted and the Dalma impressed repertoires at home in western Iran. Dalma impressed ware, also called "Dalma Surface-Manipulated Ware" (DSMW), has also been found in eastern Mesopotamia, where on the other hand, Dalma painted ware is reportedly absent (Henrickson and Vitali 1987: 43).[16]

This repertoire, which also includes a plain, chaff-tempered and chaff-faced component, has been divided into eight categories, comprising black-on-red painted ware, red-painted or red-washed ware (without painted motifs), impressed ware, comb-impressed ware, comb-scraped ware and ear-shaped or knob-shaped relief-decorated ware (Kuliyeva and Bakhshaliyev 2018: 34-35). The two groups with relief decoration are said to be a minority.

The Early Chalcolithic levels have yielded ceramics trends that are very similar to those of the Late Chalcolithic period, except that the black-on-red painted wares give way to a black-on-buff painted trend. Worthy of note is also a greater variety of impressed ceramics.

There seems to be some uncertainty about the absolute dating of the Early Chalcolithic period at Nakhchivan Tepe which had been attributed to the 5000-4500 BCE time span in the article published in 2018 (Kuliyeva and Bakhshaliyev 2018: 36-37). But part of this time span (5000-4800 BCE) is now considered by V. Bakhshaliyev as belonging to the Late Neolithic (Bakhshaliyev 2020: 18-19). Whatever its cultural affiliation, the first quarter of the 5th millennium BCE is characterized by circular, subterranean mud buildings dug into the virgin soil, which were found in Area B. No information on the architecture has been provided as concerns the 4800-4600 BCE levels, which are contemporary with the Early Chalcolithic occupation of Uçan Ağıl.

Late Neolithic occupation levels have been unearthed in Area A; they are illustrated by one circular, subterranean mud building half-dug into the virgin soil, which has been dated to the last quarter of the 6th millennium BCE through one radiocarbon date (LTL 19695A-[5209-4930 BCE]–2 sigmas). This reading was obtained from a piece of charcoal collected from a hearth located inside the building (Bakhshaliyev 2020: 19-20, table 2). As at Uçan Ağıl, the existence at Nakhchivan Tepe of occupation levels dating to the end of the 6th millennium should be considered with caution, since the evidence is still rather thin.

As in the later periods, the Late Neolithic pottery from Nakhchivan Tepe is mostly characterized by plain, chaff-tempered and chaff-faced pottery, together with different

16. Note however that a few pieces of Dalma painted ware have recently been found at Surezha in Iraqi Kurdistan (Stein and Fisher 2019: fig. 11).

kinds of DMSW, notably a trend with coarse finger impressions. All these pottery types appear in cream, buff and reddish ware (Bakhshaliyev 2020: fig. 8). A few black-on-red painted sherds are also attested, of a type seemingly different from the Late Chalcolithic black-on-red ware, but they are quite rare. According to Bakhshaliyev, painted pottery at Nakhchivan Tepe starts to appear in significant quantity only from the first half of the 5th millennium BCE onwards (Bakhshaliyev 2020: 20).

The permanence of different kinds of DSMW throughout the occupation sequence of Nakhchivan Tepe is noteworthy, since this peculiar ceramic trend has so far *not* been found on the nearby site of Kul Tappeh in Iran, although the early Late Chalcolithic occupation levels (4600-4400 BCE) of the latter may also be attributed to the Dalma horizon (Abedi et al. 2014: fig. 4; figs. 9-11).[17] These cultural material discrepancies are intriguing, but they recall a cultural pattern that had already been pinpointed by E. Henrickson and V. Vitali in the western Zagros, in particular in the regions of Mahidasht and Kangavar (Henrickson and Vitali 1987: 38-42).

For the time being, it is not possible to proceed to a detailed comparison between the pottery assemblages of Nakhchivan Tepe and those of Uçan Ağıl, since very little information is available about the crafting methods of the Dalma ware from Nakhchivan Tepe, whether it be its plain, painted, or surface-manipulated versions. The excavators claim to have found several ceramic kilns on the site (Bakhshaliyev 2020: fig. 7), suggesting that this ware was made locally, but the features they call "kilns" more closely resemble the kitchen work platforms made of several layers of ceramic potsherds that are usually found among mobile groups in Nakhchivan. One of these platforms was actually discovered at Uçan Ağıl in 2021,[18] while two others were brought to light in 2015 on the Late Chalcolithic camp site of Şorsu in the Sirab area; the latter two date to the Late Chalcolithic period.

But it is clear from both the radiocarbon datings and the diagnostic sherds found on each site that the occupation sequences of Nakhchivan Tepe and Uçan Ağıl are parallel: rare as they may be, the few Dalma painted potsherds found at Uçan Ağıl all have counterparts at Nakhchivan Tepe (compare fig. 5: 4-6, fig. 12: 1, 4).

Apart from their ceramic repertoires, interesting comparisons may be drawn between Nakhchivan Tepe and Uçan Ağıl as concerns the provenance of the obsidian attested on each site. If we turn to Uçan Ağıl, it appears that the obsidian collected from its Chalcolithic levels was tapped from only three different beds (Syunik Geghasar-Gegham and Güğürbaba-Meydan) with a clear predominance of the obsidian from Syunik (98%). This stands in sharp contrast with the obsidian assemblages of Nakhchivan Tepe, where the obsidian from six different beds are attested (Syunik, Geghasar-Gegham, Güğürbaba-Meydan, Gutansar, Hatis, Arteni) with an almost equal proportion of the Geghasar-Gegham and Syunik sources (fig. 1). These results are particularly significant since only about 40 obsidian artefacts have been analysed for Nakhchivan Tepe, as opposed to 825 pieces from Uçan Ağıl *Chantiers 1* and *2* (Marro et al. 2021: 27-28, fig. 6).

These contrasting procurement strategies have been interpreted as reflecting the different roles played by pastoral groups in the Araxes basIn: the community dwelling at Uçan Ağıl was a mobile group involved in specialized caprine herding,[19] who may have brought down the obsidian from Syunik to the communities living in the Araxes valley. The Nakhchivan Tepe community was also probably mobile,[20] but from its obsidian acquisition strategy, it appears that its circulation ambit was much wider than that of the Uçan Ağıl group. We may hypothesize that either the Nakhchivan Tepe community circulated through long distances to tap the different obsidian sources of the South Caucasus or eastern Anatolia, or that they simply collected the obsidian brought down by a number of pastoral groups from these sources, which are all located in the uplands.

Whatever the exact scenario, it appears that the Dalma group from Nakhchivan Tepe probably acted as some kind of go-between between different communities. Considering their cultural ambit, which encompasses the western Zagros, the Urmiah basin, north-eastern Mesopotamia and the Araxes valley, it seems even possible that the Dalma people[21] acted as intermediaries between the highlands and the lowlands.

17. Of course, one has to take into account the fact that the 5th millennium BCE occupation levels of Kul Tappeh have been excavated over a very restricted area (about 6 m^2).

18. Future radiocarbon analyses will hopefully give this platform an absolute dating, but a date in the first half of the 5th millennium BCE is probable.

19. Paper given by Berthon R. and Mashkour M., *Sharing taste and know-how: regional distribution of animal exploitation patterns and pastoral strategies in the southern Caucasus and north-western Iran from the Neolithic to the Early Bronze Age,* Lyon, 15th May 2019. International conference organised by Abedi A. and Marro C., *The Araxes River during Prehistory: Bridge or Border?*

20. Several clues in the stratigraphic sequence (thin occupation layers) and the architecture (circular, semi dug-out houses; succession of hearths inside these houses, work platforms made of potsherds...) suggest that the Nakhchivan Tepe community was not living in the same place all the year round.

21. The term "people" used in this paper should not be equated with "ethnos" or any kind of kin-based cultural entity. It is meant to be a neutral term, simply meaning "a group of individuals".

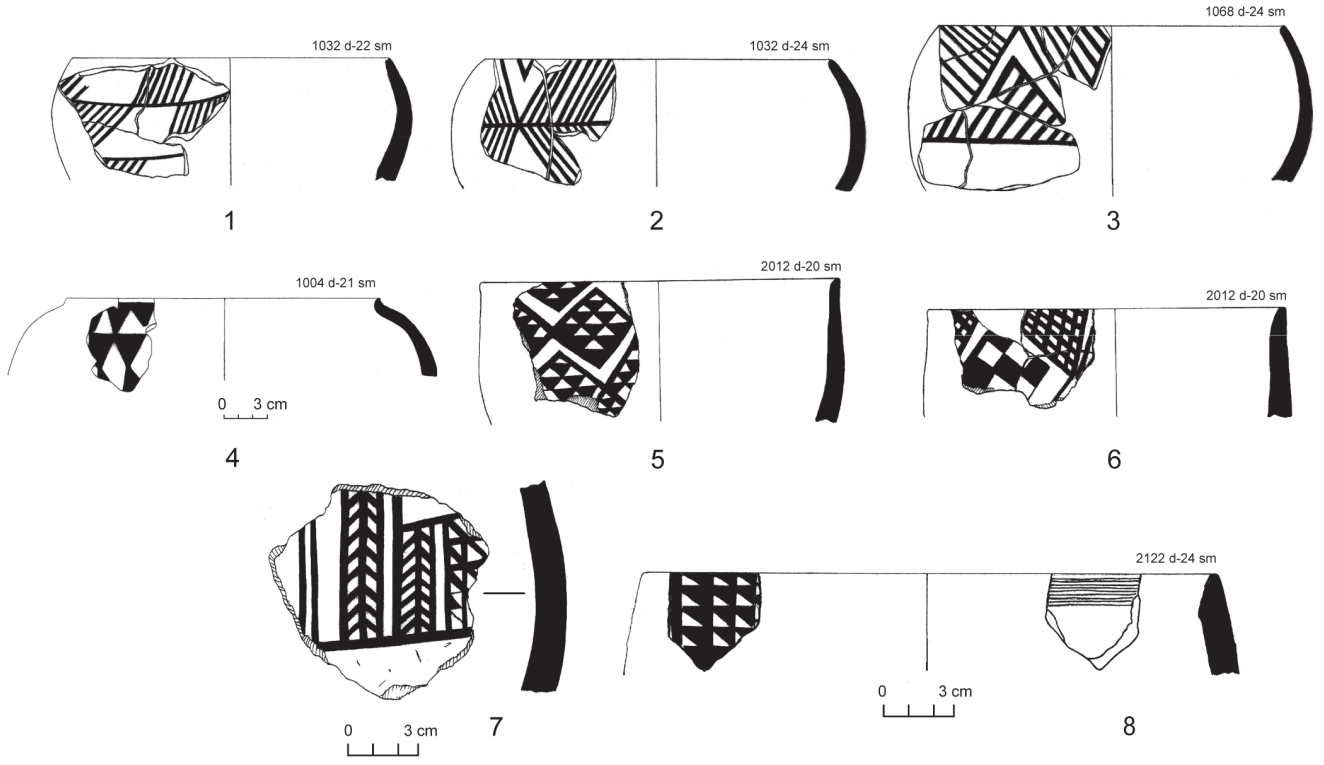

Fig. 12 – *Nakhchivan Tepe: examples of painted Dalma ceramics (courtesy of V. Bakhshaliyev).*

DISCUSSION

The evidence from Nakhchivan Tepe is particularly interesting because this is the first site in Nakhchivan, and more generally in the South Caucasus, that may be attributed beyond doubt to the Dalma ware horizon.

But it must be noted that the cultural material specificities that distinguish a "Dalma site" from other Early Chalcolithic settlements are actually not all that well-defined. The painted ceramic assemblage from Nakhchivan Tepe, for instance, has yielded a very diversified stylistic repertoire, which only partially overlaps with that of the eponymous site, itself located in the southern Urmiah region: many of the shapes and decorative patterns attested at Dalma Tepe (Hamlin 1975) are absent from Nakhchivan Tepe, and the reverse is also true. This observation is also valid for the Dalma painted collection of Dava Göz, a site located to the north of Lake Urmiah, whose ceramic repertoire displays more ties with the assemblage of Nakhchivan Tepe than with the pottery from Dalma itself.[22] This is seemingly not the case with the Dalma Surface-Manipulated Ware, however, whose specific trends are found at both Nakhchivan Tepe and Dalma Tepe[23]: all in all, there seems to be closer connections between the DSMW of Nakhchivan Tepe and Dalma Tepe, than between the painted repertoires of the same two sites.

To sum up, the Dalma horizon includes a number of painted pottery collections that partly vary in shape and decoration from one region to the next. These collections nonetheless share several characteristics, namely their black-on-buff or black-on-red motifs, that mark them out from other Early Chalcolithic painted potteries, in particular from the Ubaid repertoire. This is the reason why Renette and Mohammadi Ghasrian consider the Dalma horizon as related to, but clearly separate from, the Ubaid phenomenon (Renette and Mohammedi Ghasrian 2020: 126). Significant differences between the Dalma and the Ubaid painted repertoires have also been pointed out by J.S. Baldi (this volume) in a

22. I had the opportunity to briefly examine the painted pottery from Dava Göz in Iran in 2017, thanks to the kindness of Dr. Akbar Abedi, whom I would like to thank here warmly.

23. DSMW is also absent from Dava Göz (Abedi et al. 2017: 73), but there again, the limited size of the excavated trench (2 × 3 m) precludes definite conclusions.

technological analysis where he contrasts the crafting techniques used by Dalma potters (the paddle and anvil) with those of the Ubaid potters, who favour the use of coils. The number of Dalma painted sherds found at Uçan Ağıl is clearly too low for me to reach conclusive results, but a technological study should certainly be carried out at Nakhchivan Tepe to afford interregional comparisons.

If we turn back to the South Caucasus, the presence of a Dalma site in the Araxes valley, together with the painted pottery trickle attested at Uçan Ağıl from the Early Chalcolithic onwards,[24] show that the southern communities that had mostly kept out of the Caucasian sphere during the Neolithic eventually started to knock at the door. Indeed, Nakhchivan Tepe marks the first real introduction of painted pottery crafting communities into the plain or relief-decorated pottery sphere that had defined most of the South Caucasus until the end of the 6th millennium BCE.

It is remarkable that this move may be dated back to 5000 or even 5200 BCE, that is more or less at the time when the Ubaid sphere somehow expanded to include North Mesopotamia, the Upper-Euphrates region and the northern Levant. In other words, the presence of a Dalma site in the Araxes valley, but also the emergence of the Dalma complex across most of the northern and western Zagros, are fully coherent with the overall interregional dynamics that saw a general expansion of the Ubaid sphere, whose hallmark is painted ceramics.

This does not necessarily mean that the Dalma and other associated non-Ubaid painted wares (e.g. the Siahbid painted pottery in Iran—see Renette and Mohammadi Ghasrian 2020) should be interpreted as the result of acculturation processes, as if the highlands cultures were living under the cultural hegemony of the Ubaid world, with its potters thus imitating Ubaid potters. The development of painted pottery trends in the Caucasian and Iranian highlands could just as well reflect the interactions developing between highland and lowland communities, which eventually resulted in the formation of the CFW *oikumenè*. Before this *oikumenè* came into existence, the array of painted ceramic trends that developed between South Mesopotamia and the Zagros (to the east), or the Levant (to the west), could indeed simply correspond to a stronger expression of identity among increasingly interacting groups. In any case, the fact that most of these Chalcolithic painted pottery trends started to wane at the same time, that is from *circa* the middle of the 5th millennium onwards, certainly suggests that the emergence of this *oikumenè* resulted from multi-directional contacts and inter-dependent trajectories.

If we come back to the development of Chaff-Faced Ware, and its eventual hegemony across Upper Mesopotamia, north-western Iran and the northern Levant, it is clear that the earliest manifestations of these crafting techniques, which implied a much lesser work investment in ceramic making than the previous Ubaid painted trends, are to be found in the highlands, as illustrated by the assemblages of Uçan Ağıl (period UA-LC 1A) and Kul Tappeh (Period VIII). This fact does not explain, however, the mechanisms through which these changes took place; and even less why Mesopotamian, Levantine and some west Iranian communities came to abandon their centuries-old crafting practices.

The reasons that may cast light on the wide-ranging transformation of potting traditions from ca. 4600 BCE onwards are indeed difficult to ascertain, but a few hypotheses may nonetheless be put forward. It is most probable that the formation of the CFW *oikumenè* corresponds to a time period when highland cultures, in spite of their humble lifeways, were invested with some form of prestige, since ahead of Mesopotamian communities, they had mastered highly valued technological innovations such as extractive copper metallurgy (Gailhard et al. 2017). Even if the Majkop culture cannot be considered as a highland culture, the metal riches that accompanied the paramount chief buried in the gigantic tumulus of Oshad certainly reflect the ostentation typical of the Caucasian Late Chalcolithic elite, a behaviour that is not perceptible in the Majkop settlements themselves. Gigantic tumuli are symptomatic of what Alain Testart called "*les sociétés ostentatoires*" (Testart 2012: 436); at Majkop, ostentatious behaviour is also clearly conveyed by the display of precious metals. If the Majkop culture may not be considered as a highland culture *per se* (but of course this may change with future research), it is certainly connected with the Leyla Tepe complex at home in the South Caucasus (Lyonnet 2007: 137-144).

In short, it is most probable that the idea we associate with Chalcolithic highland societies is heavily biased, in particular since we know so little of their funerary practices. In point of fact, it should be noted that the rare Late Chalcolithic tumuli that have been excavated in the South Caucasus (Soyuq Bulaq: Lyonnet 2008) or in north-western Iran (Se Girdan: Muscarella 1969) have yielded objects of prestige—precious beads and some forms of sceptre—that confirm the not-so-humble side of the Amuq F/Leyla Tepe cultures.

24. Some Dalma-related painted ware has also been found in the sounding we opened in 2014 at Uzunoba, a site buried under thick alluvium on the right bank of the Naxçivançay.

Whatever the reasons that led Upper Mesopotamian and north Levantine communities to change their crafting practices, the fact that a furnace with traces of copper metallurgy was found at Değirmentepe in the Upper Euphrates valley (eastern Anatolia), a site which displays Ubaid-related traits (tripartite buildings) and artifacts (painted pottery) in an otherwise local setting (Marro 2012: 19), supports the idea that early copper metallurgy was central to the development of the interaction sphere that included the highlands and the lowlands.

CONCLUSIONS

In the South Caucasus, the western Zagros and north-western Iran, the systematic use of chaff, and hence the Chaff-Faced Ware effect, is attested at least from the very beginning of the 5th millennium BCE with the development of the Dalma culture. The earliest Caucasian chaff-faced repertoires have so far been evidenced in the Middle Araxes valley, as illustrated by the ceramic assemblages from Nakhchivan Tepe and Uçan Ağıl. Nakhchivan Tepe may be considered as a "Dalma site", which is not the case with Uçan Ağıl, but their ceramic assemblages both mark a break with the crafting practices of the previous local Neolithic cultures.

In spite of its heavy chaff temper, however, Dalma ware can hardly be considered as marking the beginning of the "Chaff-Faced Ware" era *stricto sensu*. For one thing, decoration is clearly central in the making of the Dalma pottery trend, as shown by the predominant proportion of painted or impressed ceramic productions in all Dalma assemblages. This stands in sharp contrast to the concept presiding over the making of CFW, where low work investment and rapidity are clearly the main concern: in most CFW assemblages, decorated ware represents but a small minority of the finds. In the present state of the art, there seems to be no direct relationship between the Dalma ceramic repertoire and those identified as the earliest "Chaff-Faced Ware" assemblages, among which we may cite Uçan Ağıl (Period UA-LC 1A), Kul Tappeh (Period VIII), and probably also Geoy Tepe (Period M) in the Urmiah region. Direct relationships between the Early Chalcolithic pottery of Uçan Ağıl (Period UA-EC) and the earliest "Chaff-Faced Ware" trends are not evident either, but clearly we know too little of the Uçan Ağıl cultural horizon, which so far has only been described in Nakhchivan, to reach definite conclusions.

The pivotal information found in Nakhchivan and north-western Iran makes it nonetheless possible to sketch a few scenarios: according to one of these scenarios, the Dalma communities may have acted as some kind of go-between between highland and lowland societies during the Early Chalcolithic, since the Dalma people were clearly in contact with pastoral groups, such as those living at Uçan Ağıl, with whom they probably exchanged different kinds of goods. Eastern Anatolian and Caucasian obsidian certainly numbered among these goods, but the circulation networks that have so far been traced back probably reflect wider and multi-directional exchange systems (Marro et al. 2021).

This scenario would mark the Dalma communities as one of the possible agents that sparked the rise of the Chaff-Faced Ware *oikumenè* across the lowlands and the highlands, since the web of exchanges perceptible in the Dalma material culture probably heralds, and possibly paved the way for, the emergence of new circulation dynamics, a phenomenon that eventually led to the disintegration of the Ubaid sphere.

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