The Early Bronze Age of the Southern Caucasus

Giulio Palumbi

Abstract and Keywords

The aim of this article is to highlight the social and cultural developments that took place in the Southern Caucasus during the Early Bronze Age. Between 3500 and 2500 BC ca., new pottery, architectural and metallurgical traditions, known collectively as Kura-Araxes, new settlement forms in the mountain regions and new funerary customs emerged. Examining these changes, the article draws a picture of the organization of the Early Bronze Age communities in the Southern Caucasus societies centering primarily on the household and horizontal kinship relationships. We argue that this model was radically different from those of the vertically organized societies of Southern Mesopotamia and Northern Caucasus. Finally, the paper focuses on the changing role of metals towards the mid-third millennium BC and that, by causing radical social transformations, also brought to an end the Kura-Araxes traditions.

Keywords: Caucasus, Anatolia, Mesopotamia, Iran, Early Bronze Age, Chalcolithic, Kura-Araxes, Uruk, Majkop, Kurgans
Introduction

Southern Caucasus (South Caucasus, Southern Caucasia or Transcaucasia) (fig. 1) comprises the territory of the modern states of Georgia, Azerbaijan, and Armenia as well as the southernmost stretches of the republic of Daghestan. Bounded by the Caspian Sea to the east and the Black Sea to the west, Southern Caucasus is characterized by an enormous geographic and environmental variability; the Greater Caucasus to the north and Lesser Caucasus to the south represent the main orographic backbones dominating a variegated landscape of highlands, plains, and river valleys (Connor and Kvavadze, 2014). The broad valleys of the two main rivers of the region, the Kura and Araxes, by running from west to east, work as natural routes of communication with the contiguous North-Eastern Anatolian highlands. As for the southern borders of the region, the complex system of the Lesser Caucasus range unfolds in direct continuity with the mountains, highlands, and plateaus of the adjacent East-Anatolia, North and North-Western Iran, in a strong geo-ecological continuum and that, especially in the Early Bronze Age, worked as a medium for human interactions that actively contributed to a convergence of the regions of mountains toward commonly shared social and cultural developments (Burney and Lang, 1971). In the frame of this mountainous environment, the Caucasus has been, since prehistory, a geopolitical crossroad between the East European plains and South-West Asia and for this reason has been exposed to different trajectories of social and cultural development.

In historic terms, the fourth millennium BC was a period of radical change in both these vast regions, with dramatic shifts toward different forms of social and cultural complexity. In particular, as discussed by Smith (Smith 2015), two very distinctive phenomena developed at the opposite ends of the Southern Caucasus around the mid-fourth millennium BC. In the far south, the Uruk phenomenon was the expression of the urban societies of...
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the Mesopotamian alluvium and owes its name to the largest of these centers: the city of Uruk. Characterized by settlements of large dimensions hosting monumental public architecture, this phenomenon was the result of the formation of early state societies founded on a centralized tributary economy (Pollock, 1999). Elites, whose role had a strong religious connotation, were the apex of a vertically structured bureaucracy that controlled economic transactions and redistributive activities of mainly staple products (Frangipane, 2010). The entrenchment of a centralized economy allowed a specialized reorganization of labor, and primary and craft production. While these changes are more clearly seen in certain sectors, such as wheel-made ceramics and intensive textile production, the large-scale reorganization of land in the Mesopotamian alluvium was aimed at facilitating extensive irrigated agriculture (Adams, 1981; Pollock, 1999) and specialized husbandry strategies (Zeder, 1988). As to the latter, the focus on sheep and goat that seems to characterize the Uruk phenomenon (Vila, 1998) probably mirrors the new role that secondary animal products, such as milk and wool, played in redistributive activities and in supplying the textile sector (Sherratt, 1981; McCorriston, 1997). Throughout the second half of the fourth millennium BC this vertically structured and highly specialized socioeconomic model exerted a profound influence over a vast area of the Near East and expanded as far as far as the Anatolian and Iranian highlands. This expansion responded to different political, territorial, and mercantile factors (Algaze, 1993; Butterlin, 2003) and took different forms ranging from the colonization by communities leaving the southern metropolises to processes of emulation and reorientation undertaken by the indigenous communities toward analogous trajectories of socioeconomic complexity (Frangipane, 2001).

North of the Southern Caucasus, in this same period, the Majkop phenomenon, which owes its name to one of the largest funerary tumuli discovered in the Northern Caucasus (Chernykh, 1992), represented a radically different trajectory of development from that of the Mesopotamian alluvium. The archaeological picture of the Northern Caucasus during the fourth millennium, expressed by the Majkop and the later Novosvobodnaya traditions was in complete contrast to Uruk. Light and possibly short-lived occupations leaving ephemeral architectural remains (Korenevskij, 2004; Lyonnet, 2007; Ivanova, 2013), as well as evidence of subsistence strategies focused on cattle (Kohl, 2007), suggesting that pastoralism and mobility were key elements in the lifestyle of these communities. In contrast with the temporary settlements, the funerary structures were large, sometimes even monumental, burial mounds (kurgans) which dotted the local landscape as permanently visible monuments. The burials in these kurgans contained impressive concentrations of metal items and precious artifacts such as gold, silver, and copper metal vessels; weapons and tools; and body ornaments such as golden diadems and appliqués and precious stone necklaces.

The spectacular display of metal and luxury objects, often proportional to the dimensions of the funerary tumuli, seems to have been a projection of the vertical social organization of these North Caucasian communities. In these groups, control over specialized metalwork production and unequal accumulation of metals and prestige goods were the principles structuring and identifying social rank and status. Caught between two distinct trajectories toward vertical social complexity—the “Uruk”—founded on primary economy, re-
distribution, and staple finance, and the “Majkop”—founded on specialized production, wealth finance, and accumulation of prestigious items (D’Altroy and Earle, 1985)—the communities of the Southern Caucasus emerged in the second half of the fourth millennium BC as centers of elaboration of an absolutely original social and cultural model that was radically different to the Mesopotamian and North Caucasian models. Perhaps it was also due to its specificities that the Southern Caucasian model had such an astonishing “appeal” over the cultures and communities spread over a vast area of the Near East.

The Early Bronze Age in the Southern Caucasus: questions of terminology

What is the Early Bronze Age in the Southern Caucasus? What does it stand for, and what kinds of transformations took place during this period in the region? According to the traditional terminology embedded in the evolutionary metallurgical narrative, the Early Bronze Age has to be placed after the Chalcolithic and before the Middle Bronze Age. However, in the Southern Caucasus, particularly rich in metal ores, experimentation with metals started as early as the Neolithic period, and copper smelting or copper-based alloys were already in use in the Chalcolithic period (Bobokhyan et al., 2014), thus stressing that the adoption of chronological phases exclusively based on metallurgical parameters can be highly misleading in this region.

If metallurgy alone cannot be used as a single criterion for defining the Early Bronze Age period in the Southern Caucasus, a broader approach needs to be adopted to distinguish the developments of the Early Bronze Age communities from those of the Chalcolithic and Middle Bronze Age. Therefore, what evidence may be useful for identifying the cultures and societies of the Early Bronze Age in the Southern Caucasus?
The Chalcolithic “premises”

The first step is to define the developments that took place during the Chalcolithic period in an attempt to identify continuities and discontinuities with the Early Bronze Age, even if it is still difficult to form a complete picture of the Chalcolithic period in the Southern Caucasus, especially as the span of time stretching between 5000 and 4500 BC is still poorly documented. However, a more complete picture is available for the later phases of the Chalcolithic dating to the first half of the fourth millennium BC (Lyonnet, 2007). The Late Chalcolithic evidence points to the existence of communities who, exploiting a broad range of resources from specific ecological niches, were able to develop forms of specialized subsistence and production. These specialized activities may be the underlying reason behind a diversification in the nature and functions of the sites (seasonal occupations, shelters, or caves) documented in both lowland and highland regions. Animal husbandry focused on caprines is, for instance, recorded at Ovchular Tepesi in Nakhichevan (Marro et al., 2011) and at the Areni cave in Armenia (Wilkinson et al., 2012) where wine was also intensively produced (Areshian et al., 2012) (fig. 2). Meanwhile, the mining of salt at Duzdağı in Nakhichevan (Marro et al., 2010) signals that important steps had developed in raw material extraction techniques. It is probable that progress in extractive techniques was both the cause and consequence of significant developments in metallurgy; the slags, prills, and crucibles at Mentesh Tepe and Leila Tepe in Azerbaijan and at Areni attest to the widespread use of copper-smelting techniques (Courcier, 2014; Bobokhyan et al., 2014). As for pottery production, the ceramics of the Chalcolithic period belong to a widespread horizon of chaff-tempered ceramics that are a distinctive technical marker in the Southern Caucasus. The fact that similar manufacturing traditions were also adopted in the fifth and fourth millennia BC in Eastern Anatolia, Northern Syria, Northern Mesopotamia, and Northern Iran, strengthened by some morphological analogies, has led several scholars to hypothesize intensified interactions among these regions (Lyonnet,
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2000; Marro, 2010). However, it must be pointed out that organic-tempered ceramics had already emerged during the Neolithic period in the Southern Caucasus (Badalyan et al., 2010a), suggesting that the Chalcolithic chaff-tempered ceramic horizon could have in fact represented a direct development of the Neolithic potting traditions. During the Late Chalcolithic, rectangular multicellular mud-brick buildings emerge as a largely diffused architectural model (Lyonnet et al., 2012), although circular architecture is also widely attested (Kiguradze and Sagona, 2003). Pit or jar burials, found under the floors or in close spatial connection with the domestic structures, were the most common burial traditions during this period (Poulmarc’h, 2014; Poulmarc’h and Le Mort, 2015). However, during the Late Chalcolithic, large funerary tumuli also appear in the Southern Caucasus and the kurgans from Kavtiskevi in Georgia (Makharadze, 2007), Akhnalitch in Armenia (Muradyan, 2014) and Soyuq Bulaq in Azerbaijan recall the contemporary Majkop traditions. This analogy is further strengthened by the fact that some kurgans at Soyuq Bulaq also contained bronze and precious-metal grave goods (such as a copper dagger, a stone scepter, silver rings, golden and lapis-lazuli beads) (Lyonnet et al., 2008). Data from these kurgans suggests that during the latter phases of the Chalcolithic period, control over metalwork production and long-distance trade may have encouraged the development of elites in the Southern Caucasus, along a trajectory not dissimilar to that of the Northern Caucasus. At the same time, some morphological traits of the chaff-tempered ceramics and the presence in Northern Mesopotamia of obsidians from the adjacent Lake Van (Khalidi and Gratuze, 2010) indicate that there was interaction between highland and lowland regions, while some lapis lazuli from Soyuq Boulaq also suggest that these communities were integrated into networks of exchange extending as far east as Afghanistan (Helwing, 2012; Ivanova, 2013). Generally speaking, although regional and local specificities should be taken into account, Late Chalcolithic developments in the Southern Caucasus seem to have been in line with trajectories of social and productive complexity in the Northern Caucasus and neighboring Near Eastern regions. However, something that radically diverged from these trajectories started to develop somewhere around the mid-fourth millennium BC.
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The mid-fourth millennium BC “transition” and the earliest attestations of the “Kura-Araxes” culture

| Absolute chronology and periodisations of the Early Bronze Age in the Southern Caucasus. |
|---|---|---|---|
| Late Chalcolithic | Early Bronze Age | Kura-Araxes Ceramic Periodisation (after Badalyan 2014) | Early Kurgans |
| BC 3900 | Coexistence/Transition Late Chalcolithic and Kura-Araxes |
| 3800 | Ceramic Style: Elar-Aragats |
| 3700 | Ceramic Styles: Karmut-Shengavit Shresh-Mohirablar Shida Karill Ayrum-Teghut |
| 3600 | Coexistence/Transition Kura-Araxes and Early Kurgans |
| 3500 | Coexistence/Transition |
| 3400 | Kura-Araxes I |
| 3300 | Kura-Araxes II |
| 3200 | |
| 3100 | |
| 3000 | |
| 2900 | |
| 2800 | |
| 2700 | |
| 2600 | |
| 2500 | |
| 2400 | |
| 2300 | |
| 2200 | |

The period stretching between 3600 and 3350 BC seems to have been a critical moment in the development of the Southern Caucasus, apparently a sort of “gray” cultural phase determined by the coexistence between different ceramic horizons and possibly also different types of communities; which, as Sagona (2014a) has suggested, means that this period does not represent a unitary, coherent, or clear-cut phase of development in the region (table 1).

Archaeological data shows that, on the one hand, communities rooted in the earlier Chalcolithic traditions were present between 3650 and 3400 BC, for instance Berikideebi level V in Inner Georgia and Soyuq Bulaq in Azerbaijan (Rova, 2014; Lyonnet et al., 2008) and in some cases as it is recorded at Areni and Godedzor in Armenia even as late as 3350 BC (Areshian et al., 2012; Chataigner et al., 2010; Palumbi and Chataigner, 2014). On the other hand, around 3500–3400 BC other communities had a radically different ceramic tradition from those of the Late Chalcolithic period. There is evidence of this new ceramic...
tradition as early as the mid-fourth millennium BC in different regions of the Southern Caucasus, from the western shores of the Caspian Sea (Velikent in Daghestan) to the plains of western Azerbaijan (the kurgans from Mentesh Tepe and Uzun Rama) to the Kura River valley (Berikldeebi level IV) as far as the Ararat plain (Avan and Norabats) (Kohl and Magomedov, 2014; Lyonnet, 2014; Poulmarc’h et al., 2014; Badalyan, 2014). Unfortunately, the present documented situation on the 3600–3350 BC time frame is still too fragmentary and only allows us to roughly hypothesize some of the factors at play in what will result in a process of radical cultural and social change. However, there is no doubt that this new ceramic tradition was radically different from those of the Chalcolithic period.

The widespread occurrence of the diagnostic traits of these ceramics was noticed by B. Kuf tin (1944) who labeled this tradition “Kura-Araxes” as, at that time, its geographic distribution was still mainly limited to an area within the catchment of the two main rivers of the Southern Caucasus (Kohl, 2007).

Since Kuf tin, the scale and definition of the archaeological picture of the region has advanced considerably, and it has become rapidly clear that the geographic extension of this ceramic horizon extended well beyond the Kura and Araxes basins. Despite this, the term “Kura-Araxes” has stuck and is still firmly grounded in the South Caucasian archaeological tradition. However, the term Kura-Araxes, from the label of a distinctive ceramic horizon, has become progressively entangled with the material culture associated with these ceramics, becoming a synonym for a widely shared cultural complex and, consequently, an identifying marker of these communities (the Kura-Araxes people).

However, throughout the long history of research, there has never been an univocal consensus on the cultural meanings and social values to be attached to this material cultural horizon. This heterogeneity is expressed by varied terminologies, such as Early Trans-Caucasian (Burney and Lang, 1971), Karaz, or Yanik, and different underlying concepts, such as those of cultural-historical community, cultural tradition, sociocultural phenomenon, and, outside the geographic borders of the Southern Caucasus, migrant or diasporic community, which all reflect different schools, regional points of view, and traditions of studies (for overviews on the Kura-Araxes culture see Sagona, 1984; Sagona, 2014b; Kohl, 2007; Ișıklı, 2011).

Despite the use of heterogeneous terminologies, the synergy of the last 20 years of research has allowed scholars to define with increasing precision the absolute temporal coordinates of this material cultural horizon, now firmly placed between 3500–3400 and 2500–2400 BC (Palumbi and Chataigner, 2014). On the basis of this absolute chronological framework (table 1), it is now growingly accepted that “Kura-Araxes” should be understood as a cultural “label” to be attached to the “Early Bronze Age” period in the Southern Caucasus (Smith et al., 2009). This is why the radical shift from Chalcolithic to Kura-Araxes ceramic traditions recorded in the fourth millennium BC is considered as a moment of change, marking a new time period in the Southern Caucasus: the Early Bronze Age.
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While there is no doubt that these “standard” terminologies can be useful heuristic devices to order human history and categorize data (Sagona, 2014a), these periodizations risk being purely descriptive if we do not go beyond terminologies, if we are satisfied with equating ceramic traditions with human history, and if we do not search for an explanatory value in them that aims to understand the phenomena of our inquiry (Murray, 1999). Thus, in order to understand the Early Bronze Age in the Southern Caucasus, it is vital to disentangle abstract periodizations from the archaeological data and carry out a more detailed analysis of the sociocultural transformations taking place in the Southern Caucasus from the second half of the fourth millennium BC onward and ask ourselves what the Kura-Araxes culture was: A widely shared ceramic tradition or the expression of a set of wide-encompassing changes that took place at different levels of the South Caucasian communities’ lives?

We still do not have a clear idea of the identity of the earliest producers/consumers of Kura-Araxes ceramics dating to 3500–3400 BC, nor do we understand what was behind these ceramic traditions. There is a general consensus that there were more breaks than continuities during the mid-fourth millennium BC between the Chalcolithic and Kura-Araxes traditions. However, there is also some evidence of hybridization and continuity linking these traditions bridging the first to the second half of the fourth millennium BC, definitely suggesting a more complex picture than that imposed by clear-cut periodization and terminologies. Hybridization is, for instance, visible in some fourth-millennium Chalcolithic chaff-tempered ceramics recalling Kura-Araxes functional and morphological traits. Such traits have been documented at Areni on some early fourth-millennium BC vessels featuring typical Kura-Araxes handles (B. Gasparyan pers. comm.).

Figure 3 Late Chalcolithic ceramics foreshadowing Kura-Araxes profiles. 1: Godedzor; 2: Arevik.

Similarly, at Godedzor three-handled jars are reminiscent of later Kura-Araxes types (fig. 3: 1); at Arevik (Armenia) (fig. 3: 2), and at Nachivchavebi (Georgia) double-handled jars feature Kura-Araxes profiles (Badalyan, 2014; Chikovani et al., 2010); and finally, at Berikldeebi level V, dating to the first half of the fourth millennium BC, grit-tempered jars with brown, highly burnished, surfaces recall Kura-Araxes manufacturing techniques (Rova, 2014). As to the evidence from Ovchular Tepesi, where Kura-Araxes ceramics have been found in levels dating to the last quarter of the fifth millennium BC (Marro et al., 2014), we await the results of radiocarbon dating of the contexts of provenance of these ceramics before confirming this data’s validity (Palumbi and Chataigner, 2014). Links between Chalcolithic and Kura-Araxes traditions can be detected also in the persistence of circular monocellular architecture throughout the second half of the fourth millennium BC, as recorded at Beerikldebi IV and Khizanaant Gora E in Shida Kartli (Djavakhishvili, 1998; Kikvidze, 1972), Norabats and Mokhra Blur in the Ararat plain, and at Kultepe-Nakhichevan (Areshian, 2007; Kushnareva, 1997). Finally, traits of continuity are represented by the funerary tradition of the kurgans, which appeared during the first half of the fourth millennium BC and that continued to be widely used during the second half of the fourth millennium BC (Lyonnet, 2014; Poulmarc’h et al., 2014). These elements of hybridization and continuity may suggest that some Chalcolithic communities, or eventually some of their components, may have represented the sociocultural milieu that incubated elements that later developed as part of the “Kura-Araxes” traditions.

The fact that the earliest attestations of Kura-Araxes ceramics are often coupled with light or flimsy architectural remains, as for instance at Treli, Gramakhevistavi, and Nachivchavebi in Georgia (Abramišvili, 1978; Abramišvili et al., 1980; Chikovani et al., 2010), portable hearths/andirons, and, finally, handled vessels may suggest that mobility was a characterizing trait of the daily life of these early “Kura-Araxes communities.”

The reasons why the Chalcolithic traditions definitely disappeared from the Southern Caucasus remain obscure, however, from ca. 3350 BC onward, the archaeological evidence clearly shows that the entire region was systematically populated by communities speaking a new “ceramic language” (the Kura-Araxes) that was radically different in structure, morphology, and expression from that “spoken” during the Chalcolithic period. It should be pointed out that these changes in the ceramic traditions did not involve the Southern Caucasus alone. According to the available data analogous changes were also recorded in neighboring regions of Eastern Anatolia (Sagona and Sagona, 2000) and North-Western Iran (Abedi and Omrani 2015).

Markers of change: The Kura-Araxes ceramics

In comparison to the chaff-tempered, crudely made, and hastily finished Chalcolithic ceramics, this new tradition shows clear differences starting from the composition of the pastes (usually grit or mixed tempered) and the chaîne opératoire. For instance, while the Chalcolithic vessels were constructed by vertically superimposing slabs of clay, the Kura-Araxes technique used slabs of clay with bevel joins that were alternatively added on the inside or the outside of the previous slab. While the presence of textile impressions on the
clay slabs is a recurring but still enigmatic feature of these manufacturing techniques (Heinsch and Vandiver 2006), the new Kura-Araxes slab-building technique may have allowed potters to fashion more complex shapes and regular profiles (Marro et al., 2014). Once completed, the clay-slab structure was reinforced by a “skin” of an additional layer of clay that was uniformly spread on the internal and external surfaces of the container (Iserlis, 2009), thus working as the “canvas” on which different types of labor-intensive surface treatments were applied (smoothing, burnishing, or polishing).

These time- and labor-consuming treatments gave a very distinctive appearance to the ceramic vessels that enhanced the aesthetic and possibly also tactile impact of the container. The lack of standardization and the high (often even intrasite) variability in the composition of the clays has led to identify the sphere of production of these ceramics as the household (Iserlis et al., 2015). In spite of the clays variability, this tradition features such a precise set of homogeneously shared manufacturing principles and technical gestures that one could suggest that potting production, intended as the material result of communities of practice, could have played an active role in the construction of a largely shared identity within and among the local households.

Although manufacturing principles remained basically stable, considerable diachronic and regional changes in morphologies, surface colors, and decorations can be observed. These changes have been often considered as periodization markers of the Kura-Araxes ceramic traditions (e.g., Kura-Araxes I, II, or III) however, beyond chronologies, these ceramic changes still await broader explanatory answers.

Figure 4 Kura-Araxes ceramics of the phase Kura-Araxes I (Elar-Aragats). 1, 2: Gegharot; 3, 4, 5: Elar.

As concerns the colors, while around the mid-fourth millennium BC these ceramics tend to be brown, buff, or gray (Palumbi, 2008; Sagona, 2014a) (fig. 4: 1, 2), it is only from ca. 3300 BC that they commonly feature a contrastive chromatic effect between black (exterior) and red (interior) surfaces (fig. 4: 3, 5). This distinctive bichromy was the result of the alternation between oxidizing and reducing atmospheres in the firing session and was an aesthetic marker of this tradition. I have already stressed that finds of red-black ceramics have been recorded earlier in the Eastern Anatolian regions, for example, at Sos Höyük nearby Erzurum, than in the Southern Caucasus (Palumbi, 2008). If this delayed appearance of red-black ceramics resulted from a transfer of technical knowledge from Anatolia to the Caucasus, perhaps this means that the Kura-Araxes potting “package” developed as a result of the acquisition of technical know-how from nearby regions, emphasizing the complexity of the dynamics at play in the formation of this tradition. However, in the later moments of this tradition, the red-black effect also faded away and black-gray colors became prominent. Perhaps, this was an intentional choice for a more apt chromatic background aimed at highlighting a skeuomorphic silvery sheen of the ceramic surfaces (Wilkinson, 2014), possibly a sign, as discussed later, of the growing social value that metals played during the third millennium BC.

Furthermore, the new Kura-Araxes ceramic language also diverged from the Chalcolithic in morphological terms. Necked jars with ovoid bodies (fig. 4: 1, 2, 5), large S-shaped bowls (fig. 4: 3), and circular lids (fig. 4: 4), all invariably fitted with handles, are among the most common shapes to appear from the earliest phases of the tradition. Handles were another characteristic feature; simple loop-handles at the beginning, yet by the end of the fourth millennium they acquired a typical globular shape, the so-called Nakhichevan handles (Lamb 1954), which, sometimes emphasized by crescent or horn-shaped decorations at the lower ends, are reminiscent of bulls or rams snouts. Indeed, such handles highlight how symbolism and functionality were strongly entwined in the Kura-Araxes potting traditions, and thus it is difficult to establish if the constant presence of handles on these vessels was a functional issue dictated by exigencies linked to transport or food processing and/or if they worked as markers of a shared ceramic identity. As to the morphology of the Kura-Araxes vessels, if form follows function, performed in the frame of codified practices of food processing and consumption, it has been recently suggested that the appearance of lids and the frequency of closed vessels in the Kura-Araxes repertoires may point to a shift in the alimentary practices focusing on boiling, stewing, or steaming of foods (Wilkinson, 2014). As to the proposition that there is a direct correlation between Kura-Araxes shapes and the storage or consumption of wine (Batiuk, 2013), further data is needed if this is to be confirmed.
Recently, a general outline of the development of the Kura-Araxes morphological repertoires throughout the Southern Caucasus has been proposed. According to Badalyan (2014) during its earlier phase (Kura-Araxes I, 3500–3000 BC) ceramic shapes seem to be more homogeneous and comparable among different areas, while in the later phase (Kura-Araxes II, 2900–2500 BC), the previous morphological homogeneity gives way to a process of fragmentation into a number of local ceramic “styles”: Shresh-Mokhra Blur (fig. 5: 1) and Karnut-Shengavit (fig. 5: 3) (respectively in the Ararat plain and in North-Western Armenia); Ayrum-Teghut (fig. 5: 2) (North-Eastern Armenia, South-Western Azerbaijan, and Kvemo Kartli/Southern Georgia); and, finally, Shida Kartli (Inner Georgia). These third-millennium BC local styles are defined by new and increasingly diversified vessels typologies.

There are, however, some common features that remain. Among them, in comparison with the smoother profiles of the early phase, the later Kura-Araxes II vessels were often characterized by carinated tripartite profiles sharply defining the “base-body-neck” parts of the containers (fig. 5), which could point to some changes in the steps of the chaîne opératoire. These third-millennium BC local ceramic styles also showed a development in ornamentations. Pottery seems to have been one of the privileged means of symbolic communication and figurative expression among the South Caucasian communities. However, although during the second half of the fourth-millennium BC decorations (relief or postfiring incised) tend to be rare, comprising mainly isolated motifs (single or double spirals, animals, and birds), decorations from the beginning of the third millennium BC not only resulted from a broader range of techniques (grooved, embossed, incised), but there is al-
so an “explosion” of ornamentations (Smith, 2015), both in terms of a growing complexity and an increasing incidence of decorative patterns on the vessels’ surfaces (fig. 5). Despite the variability of the local styles, it is, nonetheless, possible to identify a well-structured figurative discourse where, according to Sagona and Sagona (2009) animals (birds in particular) and double-spiral ornamentations may have been representations of experiences resulting from shamanistic rituals. The intense symbolic communication that took place through the Kura-Araxes ceramics stresses that their function went well beyond the practicalities of the everyday life. As Smith suggested (2015), ceramic vessels may have acted as a means of communication through which rituality and the symbolic world were embedded in the domestic sphere.

Kura-Araxes vessels’, by embodying techniques and aesthetics, functions and symbols expressed both common manufacturing and alimentary practices and worked as active mediums in the reproduction of social relationships and in the construction of a complex system of symbols and values that was part of the cultural identity of these communities. These are the reasons why the appearance of the Kura-Araxes ceramics should be considered a marker of change in the social and cultural developments of the Southern Caucasus. However, was the spread of this ceramic horizon just a “cultural umbrella,” as Rothman put it (2014), shared by communities that may have differed in social and economic terms, or was it the expression of a broader and more commonly shared set of changes?

Primary economy and the “sedentarization” of the mountains

If we are looking for changes, there is no doubt that a new territorial organization is visible in the Southern Caucasus starting from the second half of the fourth millennium BC. While the lowlands remained as populated as in previous periods, settlements recording a direct superimposition of Chalcolithic-Kura-Araxes levels are very rare there. There is, however, a clear change in the highlands and mountains with the appearance of stable occupations (Haroutunian, 2015).

During the Neolithic and Chalcolithic periods, the mountains had only been seasonally settled for pastures and exploited as suppliers of raw materials (obsidian and metal ores), but from ca. 3350 BC onward these regions were permanently settled. According to new data, environmental changes—warmer and more stable conditions (Connor and Kvavadze, 2014; Hovspeyan, 2015)—could have encouraged new forms of sedentary occupations in the highlands. However, even in the frame of more favorable conditions, it seems likely that the process of sedentarization on the mountains must have imposed severe constraints, requiring new strategies of adaptation in terms of land use and higher flexibility in resource-management strategies.

An abundance in charred cereal seeds and sickle blades at several mountain sites dating to as early as the late fourth millennium BC underlines the fact that farming, and in particular specialized cereal agriculture, must have been one of the pillars of these mountain communities’ subsistence strategies. Cereals were the main cultivated crop of the Early Bronze Age communities, and this stands in contrast with the more diversified alimentary
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strategies of the Chalcolithic and Neolithic (Hovsepyan, 2015). Meanwhile, the specialized cereal farming in the highlands required different methods and techniques to those traditionally practiced in the lowlands and there was a shifting wheat-barley ratio according to the altitude, with barley playing a major role in the higher regions (Hovsepyan, 2015).

Simultaneously, it seems likely that the process of sedentarization in the highlands did not only require changes and advancements in agricultural methods and techniques but also needed a new balance with the pastoral milieu that had been exploiting the highland pastures since the Chalcolithic period. As Sagona observed (2014a), in past studies a strong pastoral-nomadic connotation has been given to these communities (Kushnareva, 1997), but recent data shows a more complex and rather diversified site-specific picture than has been hypothesized so far.

At Gegharot for instance, during the Early Bronze Age, the majority of the reared species were cattle and caprines (Badalyan et al., 2008) with significant variation in husbandry strategies throughout the occupation. During the fourth-millennium BC cattle and caprines are balanced in ratio (almost 50 % each) with a diversified distribution of the species in the domestic units (Badalyan et al., 2010b), but in the later phases caprines reach as much as 66 percent, and the amount of cattle drops to 22 % and pig appears (Badalyan et al., 2015). Pigs, considered as proxy for sedentary occupations, are also present in the third-millennium BC levels at Shengavit, in the Ararat plain, where caprines prevail over cattle (Simonyan and Rothman, 2015), while in the same period at the nearby site of Mokhra Blur the cattle versus caprines ratio was definitely more balanced (Piro, 2009).

Unfortunately, more fine-grained faunal data is lacking thus far, though basically it seems to correspond to analogous strategies practiced in contemporary settlements from nearby regions. For instance, in the recently excavated site of Köhne Shahar, in North-Western Iran, remarkable for significant percentages of red deer—probably linked to craft activities—preliminary results show how the relationship between cattle and caprines varies according to the function of the analyzed contexts (Samei et al., 2013). At Sos Hoyuk, in North-Eastern Anatolia, faunal data show that while there is a considerable variation in the relationship between cattle and caprines during the fourth and third millennia BC (with a higher percentage of caprines in the fourth, and a growth in the role of cattle during the third millennium BC) (Piro, 2009; Howell-Meurs, 2001), husbandry strategies were not specialized but rather seem to minimize subsistence risks by exploiting a diversified range of animal species (Sagona and Zimansky, 2009). What is more, when caprine kill-off patterns have been analyzed, it seems that sheep and goat were mainly exploited for meat consumption and for a broad-range subsistence economy (Piro, 2008; Badalyan et al., 2015), while there is no evidence of any special focus on secondary products (wool, fibers, or milk).

It would therefore seem that the husbandry strategies of the South Caucasian communities in the Early Bronze Age were unaffected by the changes linked to the “secondary
products revolution” that characterized the development and expansion of the Uruk model in the Near East (Sherratt, 1981). Although the sporadic evidence of models of wheeled wagons in the early third millennium BC (Kohl, 2007; Sagona, 2013; Greenberg, 2014) suggests that some technological innovations were being adopted either from the Northern Caucasus or Southern Mesopotamia, it did not represent a structuring element of the ideological system of these communities that would happen during the second half of the third millennium BC.

Several authors agree on the fact that the animal economy of the Kura-Araxes communities was integrated into a wider and balanced “agro-pastoral” economic system (Sagona and Zimansky, 2009; Smith, 2015), thus implying that these communities were not exclusively dependent on the animal economy even if the latter represented a fundamental pillar of their subsistence strategies. The identification of the domesticated species in both highland and lowland sites suggest that, even if on a restricted territorial scale, herds and flocks needed seasonal movements of transhumance between lowlands and highlands (and vice versa), and it is in the framework of such activities that new wheeled vehicles may have been employed.

If transhumance between lowlands and highlands continued to be part of the seasonal practices carried out by the pastoral groups of Early Bronze Age communities, it is likely that—with the adoption of agricultural activities in the highlands—husbandry had to find a new territorial and organizational balance. It follows then that what can be considered the final process of “domestication” of the mountains in the Southern Caucasus was a complex issue with important social, economic, and symbolic implications.

Houses and settlements in the Early Bronze Age

Smith (2015) recently suggested that according to a renewed concept of the domestication of the land taking place in this period, we can find a common interpretative framework to analyze the two main contexts where the social and cultural order of the Kura-Araxes communities was expressed: the house and the tomb. It is difficult to find a clear sense of unity throughout the Southern Caucasus when dealing with architectural traditions, and village and house plans. What emerges is a strong sense of regionalism and variability (Kohl, 2007). The recently excavated sites of Gegharot (2100 m asl) on the eastern slopes of Mount Aragats (Armenia) and Chobareti (1600 m asl) in the region of Javakheti (Georgia) provide fresh data on the way the mountain communities organized their inhabited space.

At both sites, stone architecture was employed for the construction of terraced spaces hosting rectangular, single or double-room, domestic structures. At both sites the domestic units contained a large and often rich array of tools and materials, hinting at a wide range of activities carried out both inside and outside the houses, in and off the site. If, on the one hand, flint sickles, stone hoes, querns, and charred cereal seeds (Badalyan et al. 2008; Kakhiani et al., 2013) stress the fundamental role played by agriculture, on the other, spindle whorls and bone awls suggest that weaving was also a widespread activity.
Large and small ceramic vessels, for storing, cooking, and food processing; decorated fireplaces and andirons in the shape of ram’s head (Badalyan et al., 2008; Badalyan et al., 2015) or bearing decorations of birds (Kakhiani et al., 2013); and animal figurines (Kakhiani et al., 2013) complete the domestic inventory. Other sites, more and less recently excavated, such as Amiranis Gora and Tiselis Seri in Georgia (Chubinishvili, 1963; Gogochuri and Orjonikidze, 2010) confirm the same architectural picture as that seen at Chobareti and Gegharot. In the same period, different building materials and architectural plans were in use among the contemporary villages of the plains and river valleys. In the region of Shida Kartli (Inner Georgia) the mounds of Kvatskhelebi, Khizanaant Gora, and Tsikhia Gora on the valley of the Kura River feature a well-typified architecture radically differing from that of the mountain communities.

Figure 6 Variability in settlement layout and architectural plans in Southern Caucasus and N-W Iran in the Early Bronze Age. 1, 2: Kvatskhelebi (Shida Kartli, Georgia); 3, 4: Shengavit (Ararat plain, Armenia); 5: Khöhne Shahar (Ravaz, North-Western Iran); 6 Yanik Tepe (Urmia region, North-Western Iran).

In terms of building techniques, wattle-and-daub architecture is employed for dwellings built on quite standardized plans. Round and monocellular in the fourth millennium BC (Khizanaant Gora E and Beerikldeebi IV), in the third millennium BC the architectural plans shift to bipartite modules composed of a small rectangular vestibule attached to a quadrangular main room (fig. 6: 2), hosting at the center a large circular three-leaf shaped fireplace (Sagona, 1993). Level C1 at Kvatskhelebi (fig. 6: 1), dating to the very beginning of the third millennium BC, offers the most complete picture of a village of the Shida Kartli region (Djavakhishvili and Glonti, 1962). Covering a surface area of less than one hectare, it was composed of about 25 bipartite free-standing huts. Apart from a circular hut, tentatively interpreted as a shrine (Sagona, 1984), the remaining architectural evidence is very homogenous and points to a domestic function of the buildings. The buildings’ inventory of materials is equally homogeneous, found together with large quantities of vessels were the remains of charred cereal grains, flint sickle blades, weaving tools, and clay animal figurines.

Moving to the Ararat plain, in Armenia, the picture provided by the site of Shengavit is different again. In comparison with the settlements described, one important difference is its substantial size, which at one point during the third millennium BC reached as much as six hectares. A further major difference is a large imposing stone wall (fig. 6: 3) that during the late phases of occupation (ca. 2600 BC) surrounded a large part of the settlement (Simonyan and Rothman, 2015). While the functions of this wall are still under discussion (i.e., defense or retaining wall), there is no doubt that this impressive stone structure must have been the result of coordinated collective labor. In terms of architectural traditions, mud-brick was the main building material (throughout the entire Ararat plain) and a development of the domestic plans can be noted through the occupation. There is a shift from monocellular circular buildings to buildings composed of circular and rectangular modules (fig. 6: 4), forming a densely packed cluster of compounds (Bayburtyan, 2011; Sardaryan, 1967), and, during the latest phase, to rectangular buildings. To this latter phase belongs one recently excavated rectangular room equipped with a three-leaf shaped hearth, a platform, clay bins filled with charred cereal seeds, obsidian arrowheads, and a bull clay figurine. According to Simonyan and Rothman (2015), this structure should be interpreted as a shrine, yet, analogous furniture and comparable inventories were also found in other (presumably domestic) buildings at the site. Mud-brick was commonly employed in the lower Araxes River valley too, as seen at Kultepe-Nakichevan by the long sequence of circular buildings, associated in later levels to rectangular structures (like at Shengavit) (Kushnareva, 1997). Further south, mud-brick architecture is extensively documented at the site of Yanik Tepe, in the region of the Urmia Lake where circular structures (fig. 6: 6), equipped with benches and fire infrastructures, compose a dense and rather intricate system alternating residential units and open, possibly common, areas (Burney, 1961; Summers, 2013a) according to an agglutinative model that is not dissimilar from that at Köhne Shahar (fig. 6: 5) in North-Western Iran (Alizadeh et al., 2015). Finally at the site of Velikent, on the western shores of the Caspian Sea, semi-subterranean circular structures are recorded (Kohl, 2007; Kohl and Magomedov, 2014).
There is little doubt that the large variability of building materials in use during the Early Bronze Age in the villages of the Southern Caucasus reflected different settled environments and thus the local availability of raw materials. At the same time, the heterogeneity of the house plans, their variable dimensions (from less than 30 to more than 100 m²) and the way open and closed areas, communal and “private” spaces were organized in these villages are all traits that go well beyond ecological constraints and stress the existence of highly regionalized architectural and dwelling traditions. However, in spite of this largely diversified evidence, several similarities can be observed.

For instance, apart from a few exceptions (Shengavit), the dimensions of the settlements are usually fairly small and evidence of ranked territorial organization is missing thus far (Kohl, 2007; contra Areshian, 2005). Monumental architecture was not a characterizing feature of the Kura-Araxes settlements, and terracing works are the most common evidence for communal coordinated architectural planning. As concerns the latter, the “defense” wall at Shengavit is the only one of its type in the Southern Caucasus that can be compared with the large, circular enclosure/building from phase VA at Sos Höyük, which dates to the second half of the fourth millennium BC (Sagona and Sagona, 2000); to the enclosure wall at Köhne Shahar; and, possibly to the thick stone wall at Yanik Tepe. As for the monumental stone structure brought to light at Mokhra Blur and interpreted as a cultic building (Areshian, 2007), more data is needed to prove or disprove this hypothesis. Finally, buildings with clearly identifiable centralized or collective functions are missing and rare or difficult to identify as buildings hosting ceremonial activities (e.g., the “shrines” at Kvatskhelebi and Shengavit).

Settlements are predominantly “domestic villages” mainly composed of dwellings that, in spite of the large array of building materials and “morphological” solutions, seem, nonetheless, to have shared a set of important “structural” similarities. The constant presence of charred cereal grains, sickle blades, and querns suggests that storage, transformation, and consumption of agricultural produce normally took place inside the dwellings. At the same time, the large variety of tools, artifacts, and raw materials found in the interior indicate that a broad range of craft activities such as spinning, weaving, knapping, and possibly metallurgy, suggested by a crucible found at Gegharot, took place in and around the domestic structures.
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Figure 7 “Kura-Araxes” zoomorphic, anthropomorphic and three-leaf shaped fireplaces. 1: Kharnut; 2: Cinis; 3 Shengavit.


The Kura-Araxes house seems to have been an autonomous productive unit understood in the framework of a “self-contained” domestic economy (Smith, 2015). However, its role and functions were not merely related to production, they were more complex. From the end of the fourth millennium BC, fire-infrastructures become an essential element of the symbolisms attached to the domestic space. The symbolic centrality of fireplaces and andirons finds further expression in carefully incised decorations, in the construction of elaborate three-foil shaped hearths (fig. 7: 3), and finally in horseshoe-shaped andirons featuring zoomorphic (fig. 7: 1) or anthropomorphic (fig. 7: 2) projections (Smogorzewska, 2004). Bulls and rams were the animals most commonly represented on these fire-structures and this preference seems to mirror the main composition of the reared species (cattle and caprines) during this period.

Rather interestingly, this symbolic recurrence also applies to clay animal figurines commonly found in the domestic structures and sometimes in proximity to fireplaces. As other authors have already suggested (Sagona, 1998; Smogorzewska, 2004), it seems likely that these symbolic, possibly “totemic,” andirons were the foci of domestic rituals taking place in the household sphere. According to Simonyan and Rothman (2015), these rituals allowed household residents to reenact their mental maps to define both their sacred and secular views of the world and their socioeconomic organization. According to Smith (2015), zoomorphic fire structures and animal figurines could have symbolized the integration of the domestic animals in the household sphere by means of a metamorphosis that would have allowed the domesticated animal world to be symbolically “brought back” home in a process aimed at strengthening the relations between home and pastures. In this respect, the home may have emerged as the institution that, by symbolically integrating agricultural and pastoral activities, was in fact also mediating between sedentary and mobile components of the same household.
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This data points to a complex and polysemic function of the domestic structures where the “Kura-Araxes house” emerges as the space and the place where daily activities related to both primary and craft production coexisted, overlapped, and possibly mutually “interfered” through and with other ritual practices aimed at the symbolic reproduction of the social relationships and cultural order. However, the symbols attached to andirons and fireplaces do not only point to the animal world because the anthropomorphic decorations sculpted or engraved on them suggest that there probably was another sphere, more explicitly connected to the human world, that must have played an important role in the construction of the identity of the household community. Whose human faces were portrayed on the fire-structures? Finding a possible answer to this question requires that we shift our analysis to the second context of expression of the social and cultural identity of these communities: the funerary sphere.

Cemeteries and tombs in the Early Bronze Age

Once again, more breaks than continuities with the Chalcolithic characterize the funerary traditions dating to the second half of the fourth millennium BC. The first difference is spatial in nature because while the Chalcolithic burials were systematically located in the settlements, often under the floors of the houses (Poulmarc’h, 2014), from the end of the fourth millennium BC there is a progressive spatial separation of house and settlements from burials and cemeteries. It should be underlined that funerary evidence is quite varied, and some tombs have also been found within settlements, as for instance at Kiketi in Georgia, Horom and Gegharot in Armenia (Pkhakadze, 1963; Badalyan et al., 1993; Badalyan et al., 2008), but often the synchronism with the adjacent dwellings is difficult to verify.

In general, cemeteries are located at the exterior and at a variable distance from the settlements, as is the case of Chobareti (Kakhiani et al., 2013), Tisles Seri (Gogochuri and Orjoni kidze, 2010), Amiranis Gora (Chubinishvili, 1963), Aradetis Orgora and Natsargora in Georgia (Koridze and Palumbi, 2008; Puturidze and Rova, 2012), or Ket (Petrosyan, 1989) in Armenia; and there is also a number of cemeteries that do not seem to be linked to any nearby settlement, such as at Samshvilc (Mirtshkhulava, 1975) in Georgia, or the kurgans at Mentesh Tepe, and Uzun Rama in Azerbaijan (Poulmarc’h et al., 2014), and at Talin in Armenia (Avetisyan et al., 2010).

As Parker Pearson put it (1999: 141) “placing the dead is one of the most visible activities through which human societies map out and express their relationships to ancestors, land and the living,” and the changes visible in the funerary practices of the Early Bronze Age seem both to define a new conception of the inhabited space and possibly reflect a changing relation between the settlement and its surrounding land. It is clear that the dead were no longer put to rest under dwellings, and this may have reflected a change of the concept of the house itself. Ancestors, or the deceased members of the family, may still have been symbolically present in the houses in the form of anthropomorphic andirons and human figurines, thus suggesting that the house was also a place of symbolic reunification between the living and dead members of the same family. Meanwhile, the “real”
houses for the dead were moved outside the spaces of the living, and the Early Bronze Age cemeteries may have represented a projection of the inhabited space outside the settlements. The tombs, by containing members of the family, may have legitimized or naturalized the use or acquisition of the land thus further strengthening the symbolic relationships between household and territory. For these reasons, the funerary structures may have actively participated in the construction of a new social and political landscape in the Southern Caucasus, and it is possible that the widely diversified funerary architecture recorded in this period, with a tendency toward the enhanced visibility and endurance of the funerary structures, may have conveyed messages aimed at the construction of land property and common identity.

Figure 8  Variability in funerary architecture in the Southern Caucasus in the Early Bronze Age. 1: Kiketi; 2: Talin; 3: Elar (not to scale).

Tombs are characterized as much by architectural variability, diversification of shapes, and building materials as those recorded in the houses of the living. Recent works (Sagona, 2004; Poulmarc’h et al., 2014; Kalantaryan, 2007) have identified several typologies of tombs (among which there are pit burials, stone-cists [fig. 8: 3], stone-constructed, horse-shoe-shaped [fig. 8: 1], kurgans [fig. 8: 2], and catacombs) that only rarely seem to express regionalized burial traditions and that sometimes even coexist in the same burial ground. Despite this highly variegated picture, it is nevertheless possible to shift our line of reasoning from diversified “morphologies” of the funerary structures to a set of rather unitary “concepts” concealed behind the burial customs, and the first of these concepts is that of “collectivity.” During the Chalcolithic period, single inhumations were the most commonly attested tradition (Poulmarc’h, 2014) from the second half of the fourth and throughout the third millennium BC, while single inhumations continue, multiple burials
represent a rather common and widespread practice throughout the region, regardless of funerary structures’ shape or building materials.

The number of people buried in the same tomb is highly variable, and the coexistence of skeletons in anatomical connection and others that were not (presumably the skeletal remains of the former deceased that were rearranged) suggests a periodical reopening of the funerary structure according to variable intervals of time. It seems likely that collective tombs housed the remains of the same corporate “group,” possibly linked by ties of kinship such as nuclear or extended families. The recently excavated kurgans at Mentesh Tepe and Uzun Rama in Western Azerbaijan (Poulmarc’h et al., 2014), contain an impressive number of individuals (39 at Mentesh and around 80 at Uzun Rama) of both sexes and varying ages, and provide us with the scale and the horizontal extension of the relationships that could have defined membership to the same group in this period. It is possible that the Kura-Araxes burial tradition stressed the centrality of the groups as defined by horizontal social relations, no matter whether these relations were biologically determined or culturally ascribed through extended ties of kinship that were reproduced by means of descent, marriage, alliances, and affiliations.

This focus on the “horizontality” of social relations is coupled with a second concept to characterize funerary traditions in this period that Smith (2015) described as a reiterated “repetitiveness” expressed in the inventories of the funerary goods. The range of items found in the Kura-Araxes tombs typically includes ceramic vessels, spindle-whorls, flint and obsidian tools, limestone, carnelian, and rock-crystal necklaces. Metals are not rare, nor are they particularly common and are mainly limited to body ornaments, such as the typical double-spiral headed pins and hair spirals, bracelets, beads, or pendants, while daggers have been found sporadically. Even at Dzevzebi, the settlement of a possibly specialized metallurgical community, the tombs included the standardized funerary inventory and metal goods were absent (Stöllner et al., 2014). One exception is Tomb 2 at Kvatskhelebi, dating to the very end of the fourth millennium BC, containing a higher amount of metal body ornaments than usual, among which is a copper diadem (Glonti et al., 2008). However, it is clear that not even the rich metal inventory from this latter tomb compares with the abundant and often luxurious inventories of metals from the contemporary North Caucasian kurgans of the Novosvobonaya tradition, the Arslantepe “Royal” tomb in the Anatolian Upper Euphrates Valley (Frangipane et al., 2001), or, finally, with the newly discovered stone-cist tombs of Başur Höyük on the Upper Tigris Valley (Sağlamtümur and Özân 2013).

In the Kura-Araxes funerary representations, the strong sense of repetition and standardization in quantity and variety of the grave goods and the generalized lack of wealthy and prestige items all seem to emphasize a strongly egalitarian funerary ideology that is fully concordant with the emphasis on collectivity and horizontal social relations, a system of values that also seems to apply to metal artifacts.
Metals and metallurgy

What, then, was the role of metals in Kura-Araxes communities, and how did metallurgy develop in the period spanning the second half of the fourth and the first half of the third millenniums BC? As discussed at the beginning of this paper, the Kura-Araxes culture is often a synonym of the Early Bronze Age in the Southern Caucasus. Evidence for metallurgical activities, from kilns, metal slag, to a number of tools linked to metalwork production (tuyeres, crucibles, and molds) is widespread in the region in this period (Chernykh, 1992; Kavtaradze, 1999; Kushnareva, 1997; Courcier 2014). Most of the metal artifacts are made of an intentional arsenical-copper alloy that seems to be a direct development of that used in Chalcolithic metallurgy (Courcier, 2007). However, when compared to the latter, the Early Bronze Age metallurgy shows advancement in skill and know-how. For instance, the intentional modification of alloys to alter the physical and aesthetic properties of metals is a characteristic trait, in particular higher percentages of arsenic giving metal artifacts a shiny, silvery appearance, and are a constant feature in jewelry and body ornaments (Peterson 2003).

Meanwhile, a generalized trend in experimentation with other types of metals can be seen, with new alloys, such as copper-silver (Peterson 2003), copper-arsenic-lead (Courcier, 2014), copper-antimony (Stöllner and Gambashidze, 2014), and, finally, the sporadic appearance of tin-bronzes (Meliksetyan and Pernicka, 2010; Badalyan et al., 2015; Peterson, 2003). Elemental composition analyses of the metal artifacts point to the exploitation of local ores (Chernykh 1992; Meliksetyan and Pernicka, 2010; Courcier 2014), and the recent discoveries at the gold mine at Sakdrisi in Georgia provide extraordinary evidence on advances in mining techniques during this period. At Sakdrisi, a complex and efficient system of galleries dating to the beginning of the third millennium BC has been recorded. Extractive activities, together with milling and crushing to beneficiate the ore, were all carried out intensively at the mine and at the nearby site of Dzedvebi (Stöllner et al., 2010; Stöllner et al., 2014). Here, the presence of workshops—identifiable due to the abundant and widespread presence of millstones and anvils—indicates that Dzedvebi was occupied by a metallurgical community specializing in the extraction/production of gold. However, the extraordinary evidence from Dzedvebi may not be fully representative of the more “ordinary” and widespread copper metallurgy.

Tedesco (2006) pointed out that evidence for copper-based metallurgical production is so common at Kura-Araxes sites that it could have been carried out on a small scale and possibly at the household-based level of production. This model of “diffused” metalwork production also seems confirmed by quantitative data recording from the early third millennium BC a steady increase in the number of metal finds (Stöllner and Gambashidze, 2014).

Together with this quantitative growth we see a growing diversification and enlargement of repertoires in terms of the shapes of tools and artifacts (Courcier, 2014), suggesting that from this period metals started to play an increasing utilitarian role in the daily activities. Different kinds of axes and chisels could have been used for wood-working or wood-
carving, pick-axes for mining activities, sickles for harvesting, and needles and awls for textile production, while the sporadic daggers and spearheads suggest that warfare may also have played a part in the life of these communities.

New repertoires of jewelry and body ornaments also appear during this period, and the widespread distribution of bracelets, beads, pendants, hair-spirals, and double-spiral headed pins point to the existence of broadly shared ideas of fashion jewelry and costumes in the region. The recurrence of double spirals, in the shape of pins and pendants, analogous to those found on the ceramic decorations, point to the circulation of specific symbols cross-cutting different productive realms, thus suggesting a mutual interaction of activities orbiting around the same productive context (i.e., the household), and at the same time stressing that, as with the ceramics, in metal-production technology, symbolism and aesthetics were also tightly interrelated.

As such, metals and, in particular some specific metal items, may have worked as markers of individual prestige or personal identity, as, for instance, the beautiful necklace from Gegharot could testify (Badalyan et al., 2015) or the decorated “diadems” typical of the Shida Kartli region, such as those found at Kvatskhelebi (Glonti et al., 2008) and Gudabertqa (Mindiashvili, 2012), which were possibly meant to emphasize gender differences (Helwing, forthcoming). However, information concerning social status seems to point toward a preference for quality (special alloys or specific symbols or items) rather than quantity. Large concentrations of metal items, as is the case with the hoard at Djarshen near Yerevan (Areshian, 2007), are very rare. This suggests that between the second half of the fourth and first half of the third millennium BC, no matter how important metal was in daily life, it was not used as a wealth item and was not channeled or mobilized to finance the economy of these communities, which were certainly not dependent on the production, trade, and accumulation of metals for the construction of their social identity or political order (Kristiansen and Earle, 2015).

**Cultural forms, social structure, and expansive dynamics**

A constant duality between unity and diversity (Palumbi and Chataigner, 2014), regional and local, and eventually “form and structure” seems to underlie the cultural manifestations of the Early Bronze Age communities in the Southern Caucasus. In terms of our understanding of the so-called Kura-Araxes culture, local cultural variability appears to have been a regular feature: it is manifested in ceramic styles, village and house plans, building materials, and burial practices. Certainly, these different cultural “forms” were the result of diachronic developments, but they were also probably the result of a number of other variables: from environmental adaptation and economic vocation to the material expression of different coexisting forms of political, collective, and individual identities. These differences may have resulted from a plurality of regional traditions, expressing a multiplicity of Kura-Araxes “cultures” coexisting in different areas of the Southern Caucasus, Eastern Anatolia, and North-Western Iran between the second half of the fourth and the first half of the third millenniums BC.
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It is, however, possible to recognize a stable set of distinctive traits cross-cutting both chronological and spatial variables that seem to have worked as unifying principles expressing a common social and economic “structure” of the South Caucasian communities in the Early Bronze Age. This structure was radically different from those characterizing the “Uruk” and “Majkop” models founded on trajectories of vertical complexity. As discussed, the “Kura-Araxes” model was founded on small and territorially stable agro-pastoral communities where the household worked as an institution of primary importance. The household appears to have been the center or hub where subsistence and primary production, highly skilled and possibly specialized craftwork production (e.g., metallurgy and pottery), and also ritual practices were organized and in constant, possibly reciprocal, communication.

At the same time, we cannot exclude the possibility that self-sufficient households were bound together by other means, such as overarching institutions regulating, for instance, co-residence, labor coordination, and rights over land and local resources. It is possible that the complexity of the Kura-Araxes communities developed according to a model based on multiple levels of authority (Kienlin, 2012) framed by horizontal networks of relationships founded on kinship, group membership, descent or affiliation and that, as in the case of the “heterarchical” models, could have worked as multiple, flexible and contingent sources of power for political alliances, coalitions, and federations (Crumley, 1995). It is also possible that the social structure of the Kura-Araxes communities worked using dynamics of inclusive kinship aimed at extending relationships of affinity and maximizing the number of people to be transformed into relatives or group members (Schweitzer, 2000).

These principles may have been fundamental not only to enhance the stability of this social model and the endurance of the Kura-Araxes traditions but also as the essence behind its expansive dynamics. At the very end of the third millennium BC, the Kura-Araxes traditions broke their pristine geographic boundaries of the Caucasian, Eastern Anatolian, and North-Western Iranian highlands and spread across an impressively large area of the Near East following two main geographic axes. The first of these reached as far the Iranian plateau and the Zagros Mountains; while the second, after reaching at first the Anatolian Upper Euphrates Valley, around 2800 BC, went as far as the Southern Levant (Greenberg and Palumbi, 2014).

In the third millennium BC, the Kura-Araxes traditions, from a specific phenomenon of the highlands became a powerful cultural landmark capable of polarizing a large area of the Near East (Smith, 2005). An understanding of the dynamics underlying this “expansion” goes well beyond the scope of this paper, mainly because a thorough analysis of this phenomenon requires that we take into consideration a multiplicity of factors, actors, and conditions that have to be regionally and historically contextualized. Nevertheless, there is general agreement on the fact that this expansion must have implied different, possibly coexisting, forms of movement. From migrating communities, to the transfer/circulation of social models, cultural traditions, technical know-how, and possibly also raw materials, “expansion” may have resulted from the strenuous maintenance of traditional identities,
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as for instance in the Southern Levant (Paz, 2009; Greenberg et al., 2014), to the construction of new ones (Palumbi, 2012), in the frame of constant interaction between different societies and populations. For instance, it has been suggested (Summers 2013b; Wilkinson, 2014; Palumbi 2015; Palumbi, forthcoming) that there is a “systemic” connection between the collapse of the main Uruk-related political centers in the Anatolian and Iranian highlands, such as Arslantepe and Godin Tepe at the very end of the fourth millennium BC and the following “intrusion” of Kura-Araxes traditions recorded in these same regions.

Given this, the fact that this Kura-Araxes intrusion is materialized at Arslantepe VIB1 (Frangipane, 2014) and Godin Tepe IV: 2 (Rothman, 2011) through the occupation of pastoral groups practicing the same specialized (sheep and goat) husbandry strategies as those practiced in the Uruk period, led me to suggest that the early third-millennium BC Kura-Araxes pastoralists were the same pastoral groups as those generated by the Uruk-related centralized institutions. That is to say, the Kura-Araxes expansion, in some regions and at certain specific historical moments, may also have been the result of the cultural reorientation of local communities.

Why did local communities need to construct a new identity more clearly oriented toward the Kura-Araxes sphere? A possible answer may lie in the phase of instability that followed the Uruk collapse in the entire Near East, and during which a process of political reorganization aimed at establishing new alliances and interregional connections may have been required. It is possible that the “Kura-Araxes” social model, focused on the household and possibly “more personalized and community-centred” (Greenberg and Palumbi, 2014: 133) could have been perceived as an alternative to, or rejection of, the former Uruk political order focused on rigid institutions of centralized power (Greenberg and Palumbi, 2014; Wilkinson, 2014; Smith, 2015). In the early third millennium BC, the communities populating Eastern Anatolia, Southern Caucasus, and North-Western Iran may have represented a political counterpart structured on a flexible and fluid system of extended kinship-based relationships that, by working through inclusive dynamics of marriages and alliances, could have easily integrated neighboring communities into their social and political structure.

As concerns the expansion of Kura-Araxes–related traditions in the Levant, the so-called Khirbet Kerak horizon—macroscopically identifiable by red-black burnished ceramics and anthropomorphic andirons—has been associated by some authors (Greenberg et al., 2014; Wilkinson, 2014), with good reason, to specific forms of production, consumption, and rituality linked to the household sphere. This suggests that the household was the center from which “a specific social-moral system and alternative ritual economy” (Wilkinson, 2014: 224) constantly irradiated and through which social dynamics based on expansive integration (i.e., inclusive kinship and marriages) were acted out as the social “strategy” that allowed the “Kura-Araxes civilization” (Smith, 2015) to move into the Levantine region.
The End of the Early Bronze Age in the Southern Caucasus

Going back to Southern Caucasus, the apparent stability of the Kura-Araxes communities went through a crisis around the mid-third millennium BC, and by 2400 BC their traditions and system of values were replaced by that of the “Early Kurgans.” It is not yet clear if, between ca. 2600 and 2500 BC, another “gray” cultural phase of coexistence between Kura-Araxes and “Early Kurgans” traditions (table 1) took place in the region (Ro­va, 2014). However, by 2400 BC changes are consistently visible, starting with settlement patterns; the abandonment of the former Kura-Araxes villages and a shift toward less permanent occupations and higher mobility coupled with the construction of monumental fu­nerary tumuli (Edens, 1995).

These earthen kurgans—with their preserved wooden-log funerary chambers containing wheeled wagons (Djaparidze, 2003; Makharadze and Murvanidze, 2014; Lyonnet, 2014) and rich funerary inventories composed of skillfully crafted golden and silver artifacts, ar­senical copper, and tin-bronze objects (Chernykh, 1992; Carminati, 2014)—are paradigm­tic of the radical changes in the region. While the focus on land as a primary resource for agro-pastoral activities was a pillar of the socioeconomic organization of the Kura­Araxes communities, the symbolic presence of wheeled vehicles in the new kurgans em­phasizes the importance of mobility, which is not only the result of a new focus on a pas­toral economy but presumably also a fundamental prerequisite to connect with routes of communication and trade networks focused on metals (Lyonnet, 2014; Smith, 2015).

While some ceramic traits of the Early Kurgans’ traditions still recall Kura-Araxes tech­niques (highly polished black surfaces) and decorations (double and quadruple spirals), as is especially evident in the Martqopi horizon, there is no doubt that the phenomenon of the Early Kurgans was a radical change from the Kura-Araxes sociocultural order. While the latter may have been an alternative to the Mesopotamian model of economic and po­litical centralization, the Kura-Araxes order was completely supplanted by another model clearly rooted in the Northern Caucasian trajectories, for example the Majkop and Novosvobodnaya traditions. As seen in the latter, the rich-in-precious metals funerary in­ventories of the Early Trialeti, Martqopi, and Bedeni horizons in the Southern Caucasus were symptoms of the emergence of ranked societies organized according to completely different social structures and value systems to that of the Kura-Araxes. As has been sug­gested in the case of the European Bronze Age, these radical changes may have de­veloped out of changes in the political economy of these new societies, which were now fo­cused on the production and trade of prestige and metal goods and dependent on metals for the construction of their social identity and hierarchical order (Kristiansen and Earle, 2015). Metals and the new values that they acquired as prestige goods may have repre­sented a powerful factor of instability that triggered trajectories of vertical social differ­entiation and brought an end to the Kura-Araxes model, where differentiation emerged as the expression of a horizontally organized social structure.
The Early Bronze Age of the Southern Caucasus

If the Early Bronze Age in the Southern Caucasus is to be identified with the development of the Kura-Araxes cultural traditions and can be firmly placed in absolute chronological terms between the mid-fourth and the mid-third millennium BC, this chrono-cultural equivalence must also be interpreted as the phase that metaphorically witnessed the final “domestication” of metallurgical production.

This final “domestication” of metallurgy carried by the Kura-Araxes communities sees the employment of advanced extractive techniques, widely diffused metallurgical know-how, and an increase in metallurgical production, reflecting a growing use of metal tools in daily life. However, from the second half of the third millennium BC, the social function of metals radically changed as they acquired the status of prestige goods that were to finance the political economy of new, vertically organized societies founded on alternative concepts and forms of power. It was such societies—linked to specialized production, conspicuous consumption (Smith, 2015), trade, and accumulation of precious metals—that, by causing the end of the Kura-Araxes system, finally marked the beginning of a new phase of the Bronze Age, a phase in which metals came to play a fundamental economic and political role in shaping and structuring the South Caucasian societies.

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Giulio Palumbi
Permanent CNRS researcher at the Laboratoire Archéorient, Lyon.