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# POTTER'S MARKS ON LEILATEPE CULTURE POTTERY: EASTERN ANATOLIAN CHALCOLITHIC TRADITIONS IN THE CAUCASUS

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## ABSTRACT

The paper deals with the spread of marked ceramics in the Eastern Anatolian tradition in the Caucasus at the beginning of the fourth millennium B.C. Late Chalcolithic elements found on several ceramics of the Leilatepe culture in the South Caucasian region are analyzed and compared to marks on ceramics from Arslantepe and the Maikop culture. Archaeological finds of the Leilatepe culture were first discovered in the mid-1980s during excavations by Narimanov in the Karabakh region of Azerbaijan, where monuments of this culture have been revealed in the Caucasus. The lower layer of the Berikldeebi site in Eastern Georgia also belongs to the Leilatepe culture. Extensive excavations have continued at the Leilatepe, Berikldeebi, Beyuk Kesik I, and Poylu II sites as well as the Soyugbulag kurgans. This study looks at the Northern Caucasian Maikop archaeological culture was formed as a result of migration of the Leilatepe culture tribes to the North. Common peculiarities for both cultures are red-pink, round-based pots bearing marks and some specific features of funeral customs. From this view point, the early Maikop sites are more typical Late Chalcolithic Leilatepe type than the early Bronze. One of the distinctive features of Leilatepe culture pottery is the recurrent presence of incised signs or "potter's marks" on the shoulder and rarely near the attachment of the base. Such signs had been impressed on the category of pottery falling into the category of "high quality ceramics" made of untempered clay or with plant tempered clay before firing. They are geometric figures composed of straight lines, fingertips and straight lines that accompany them. In some cases fingertips are recalling an image of human face.

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**KEYWORDS:** Eastern Anatolian Chalcolithic, Arslantepe, Leilatepe culture, Maikop culture, potter's marks ceramics.

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## 1. INTRODUCTION

The Leilatepe culture was discovered during archaeological excavations by Narimanov in the mid-1980s in the Karabakh region of Azerbaijan (Narimanov, 1985), where. Most monuments of this culture have been revealed in the Caucasus. Architecture of the Leilatepe culture is not of a single style. Thus identical remains of mud-brick constructions with architecture drawn from Northern Mesopotamia have been revealed at both the Leilatepe and Berikldeebi sites in Eastern Georgia. Extensive excavations of this culture have been carried out at the Leilatepe, Berikldeebi, Beyuk Kesik I, and Poylu II sites and at the Soyugbulag kurgans (Aliyev and Narimanov, 2001; Museibli, 2007; Museibli, 2012). In 2012 excavations relating to this culture began in the freshly revealed Galayeri site. Constructions at the Galayeri site are built out of clay with layers seven to eight cm thick. These layers are separated two and a half to three cm of grey fixing mortar. The clay layers have no fixed lengths and run along most walls. Structures consisting of clay layers are typical for all levels unearthed at Galayeri; no mud-brick walls have been detected. The closest analogues of the Galayeri clay constructions have found at Arslantepe VII in Temple C (Frangipane, 2009). In general, almost all findings at Galayeri have Eastern Anatolian Chalcolithic characteristics. Grave monuments of the Leilatepe culture consist of child burials in pots, earth kurgans, and kurgan-type graves outside the settlements. The child jar burials were found within the enclosure of some Soyugbulag kurgans and in the areas between the kurgans. Except for casual exceptions all graves of the Leilatepe culture are oriented on a north-west--south-west alignment. Such orientation is typical for the graves of Northern Mesopotamia (Tepe Gawra) and the Maikop culture of the Northern Caucasus. The Northern Caucasian Maikop culture was formed as a result of the migration of the Leilatepe tribes to the north. Common peculiarities for both cultures are red-pink colour themes, round-based pots bearing marks, and other specific features of funeral customs. From this view point, the early Maikop sites are more typical Late Chalcolithic Leilatepe than early Bronze. The origin of the Leilatepe culture continues to be the subject of scientific discussions. Narimanov (1985, 1987), who discovered this culture, relates its roots to the North Ubaid and Ubaid-Uruk monuments (Narimanov 1985,1987). Other researchers have related the origin of the Leilatepe culture to the Mesopotamian Uruk culture, especially to its final phase; these cultures may also have been synchronous (Lyonnet et al., 2008; Munchayev and Amirov, 2009). Assuming synchronism as a basis of the chronological frame-

work (the late fifth-early fourth millennia BC), we initially agreed with Narimanov's opinion and later refined the connection to the late Ubaid and Ubaid-Uruk phases (Museibli 2007, 2011). According to Korenevskiy, the early stage of Leilatepe culture coincides with the late Ubaid; on the whole, it is synchronous to the late Ubaid and early Uruk cultures (Korenevskiy, 2008). Helwing (2009), on the other hand, considers how that the Northern Ubaid culture did not spread from Lake Urmia to the north, including Azerbaijan. The closest analogues to the marks on the ceramics of the Leilatepe culture in the Caucasus are from the Maikop culture sites of the Northern Caucasus (Nechitaylo,1978; Korenevskiy, 1999). Numerous parallels to these signs can be found in Western Asia, such as at Amuq F in the Valley of the Upper Euphrates and at Arslantepe VII (Frangipane, 2002; Trufelli, 1994). Excavations of Leilatepe sites show how marked Chalcolithic ceramics displaying traditions spread simultaneously throughout Eastern Anatolia, Northern Mesopotamia, and the Southern Caucasus. Very likely, these cultural traditions were adapted in the patterns of the Maikop culture and continued to spread in the Caucasus.

## 2. DISCUSSION

The rich, advanced ceramic products of the Leilatepe archaeological culture offer the opportunity to study an important aspect of the Late Chalcolithic period in the Southern Caucasus. The ceramic tradition of the Leilatepe culture society was a developed and independent handicraft. The culture, both as a whole, and with particular regard to its ceramic production, is linked to Eastern Anatolian- Northern Mesopotamian Late Chalcolithic traditions originating from post-Ubaid developments. Meanwhile, the Maikop culture of the Northern Caucasus emerged from the Leilatepe culture. The spread of these cultures stage covers occurred during the first half of the fourth millennium B.C. in Western Asia and the Caucasus. Pottery is the main diagnostic material of the Neolithic, Chalcolithic, and Bronze Ages. In this sense, the Leilatepe culture is not an exception. The unique ceramic wares of this culture indicate an influential role in the development of the potter's wheel, and they differs radically from the pottery of preceding archaeological cultures in the South Caucasus and of the Leilatepe culture's contemporary neighbor's, with whom they did not have genetic ties. The tradition of ceramic production in the Leilatepe culture in the Late Chalcolithic period in Southeastern Anatolia and Northern Mesopotamia and, once developed spread to the South Caucasus. One of the, distinguishing features of these ceramics from those found at Eastern Anatolian Chalcolithic

sites (Arslantepe VII, Amuq F) and in Northern Mesopotamia (Tell Brak), ceramics is the presence of different signs or potter's marks impressed on the surface of the pots before firing (Aliyev and Narimanov, 2001; Braidwood 1960; Korenevskiy, 1999, 2008; Museibli, 2007; Trufelli, 1994). Namely, these "potter's marks" are a diagnostic cultural elements that distinguishes the Leilatepe ceramics from those of coeval cultures of the first half of the fourth millennium B.C. It should be noted, however, that on the pottery of TW 15--16 at Tell Brak does have analogous signs to those of Arslantepe. Oates (2002) relates these layers and their pottery signs to the Northern Middle Uruk, of 3500 B.C., which can be considered a local Late Chalcolithic horizon. Such signs are generally uncommon at early Uruk sites of Southern Mesopotamia and at Middle-Late Uruk settlements throughout Greater Mesopotamia. The presence of these signs at Tell Brak is most likely the result of interaction with Eastern Anatolian communities. Another site where these signs occur during the Late Chalcolithic period is Tell Khazna in Northern Mesopotamia, but they are very rarely and consist only of cross lines (Munchayev, Merpert and Amirov et al., 2004). Altogether, the tradition of marking pottery in Eastern Anatolia was not widely spread in Northern Mesopotamia. At Arslantepe VII, only wheel-made ceramics were incised or 'signed' with marks (D'Anna and Guarino, 2012; Trufelli, 1994). In the Maikop culture, only "high quality ceramics" of this category were marked (Korenevskiy, 1999). However, in the Leilatepe culture, potter's marks were placed on both wheel-made pottery and handmade chaff- and sand-tempered wares. These marks are identical to the marks on the pottery of the Anatolian Chalcolithic and Maikop cultures (fig. XII - XV). Marked pottery relating to the Leilatepe culture has been found at the Leilatepe (Aliyev and Narimanov, 2001), Beyuk Kesik I (Museibli, 2007), Poylu II (Museibli, 2008), Tekhut (Torosjan, 1976), Beyuk Kesik III and Galayeri settlements. A single mark been was also recorded at the Berikldeebi site (Korenevskiy, 1999). Clearly, such ceramic marks have not been studied thoroughly enough, particularly because, only one mark was noted at Berikldeebi, and not by the authors of the excavation but by Korenevsky.

As a rule, the pottery of the Leilatepe culture, as well as Western Asian Chalcolithic and early Maikop pottery, fall in into the category of "high quality ceramics" (non-tempered or vegetal tempered clay of wheel manufacture) and have no decoration. Simple ornamented pottery in red, brown and black colors can be has been found, that is connected to the traditions of the early Ubaid culture. Rims of "coarse ceramics" (mineral inclusions and hand-formed) were

decorated with impressed fingertips and incisions. These are the only examples in the Leilatepe culture of pottery decorated on purpose with incisions, as potter's marks are rarely found on "coarse ceramics". Marks have been detected on 13 types of pottery fragments found at the Leilatepe site (fig. 1, fig. 2: 1-4). Only two (fig. 1: 7; fig. 2: 2) were published by the excavators (Aliyev and Narimanov, 2001). Marks on the other 11 fragments were revealed by the Baku Archaeological Fund.

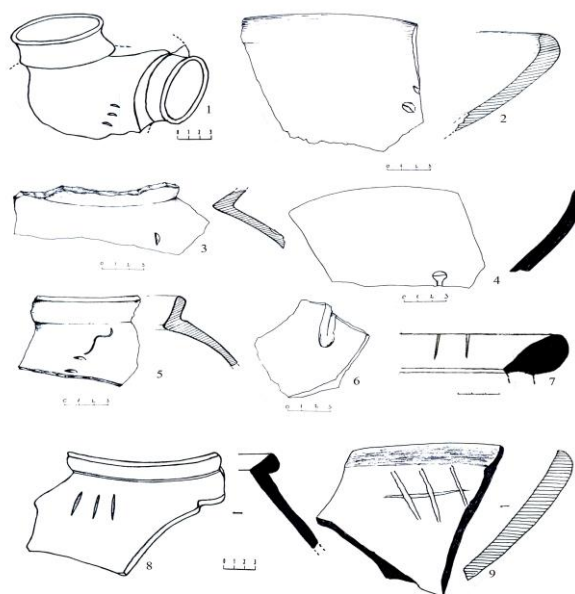


Figure 1. The Leilatepe settlement

Marks of the Leilatepe settlement mainly consist of eye-shaped signs (fingertips) and, single or parallel lines. A few fragments portrayed partial triangles or arched lines. Other interesting findings at Leilatepe include the same eye-shaped signs found at Tell Brak and Arslantepe (fig. 1: 1).

The repertoire of marks found at Beyuk Kesik I is richer than that of Leilatepe in number, variety, and typological diversity. A total of 38 marked shards were found. In some cases, eye-shaped signs arranged with one or more parallel or crossed lines were detected (fig. 3 - 5). At Poylu II, like at Leilatepe, signs are neither so rich nor so frequent, where three of the marks with crisscrossing lines were found on 10 fragments (fig. 6).

Beyuk Kesik III was not excavated; only surface material was collected, and one fragment was recorded with an eye-shaped mark (fig. 2:5). Signs have also been identified on four pieces of pottery fragments from the Tekhut settlement (fig. 2: 6-9), consisting of eye-shaped signs and parallel lines (Torosjan, 1976).

Signs of the Leilatepe culture are abundant in Galayeri, where 53 marked pottery fragments have been found.

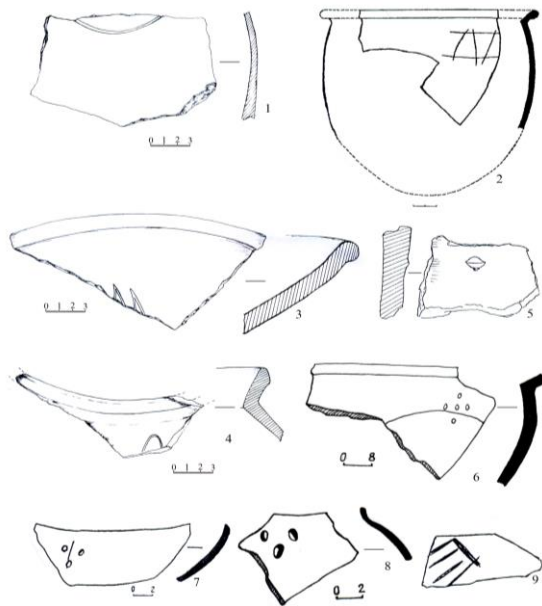


Figure 2. Potter marks from Leilatepe (1-4), Beyuk Kesik III (5), Tekhut (6-9)

The typology of signs there is also richer than other sites, with eye-shaped marks and, parallel or crossed lines in their numerous combinations (fig.7 - 11). Among the Leilatepe culture sites, Galayeri is most similar to Arslantepe VII. Signs are generally found on all "high-quality ceramics" of the Leilatepe culture. They were designed on the shoulders of vegetal-tempered fine clay pots, on the walls of high-stemmed bowls, and near the bottom of high quality jars. These signs are eye and wheat-shaped with straight, parallel, crossed, or arched lines. These elements are rarely found separately and usually formed from combined incision. Potter's marks on Leilatepe ceramics can be divided into groups (fig. 14, 15).

Group 1 includes eye-shaped fingertips, which were impressed either as a single signs or a few together. They maintain a certain regularity in their order, creating an imaginary square, a triangle, a cross, or other figures. For example, in the lower part of a jug detected at Beyuk Kesik (fig. 3: 8), four eye-shaped symbols form an imaginary square (Museibli 2007, fig. 21: 9). On two fragments found at Beyuk Kesik, the "eyes" form a triangle (fig. 3: 1-2). On the shoulder of a pot discovered at Galayeri, five eye-shaped signs form a cross-shaped figure. A fragment discovered at Poylu II features the unsystematic and sparse impressions of a few eye-shaped signs. In the Leilatepe, Beyuk Kesik, and Galayeri settlements, pottery fragments have been found with which present vertical and horizontal lines of eye-shaped symbols, while have been found.

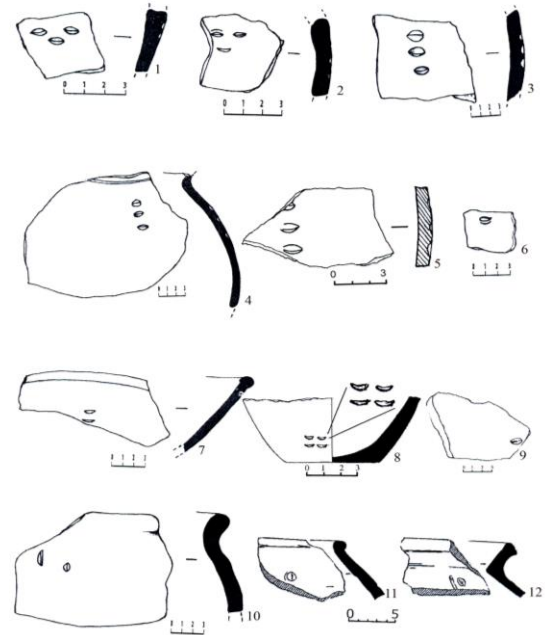


Figure 3. Sherds from Beyuk Kesik

fragment of a thick-walled vessel with one "eye" sign was recorded in Selakhan. A pottery fragment from Tekhut has a sign consisting of five cross-shaped eye fingertips, just like the one found in Galayeri. Another fragment from this site depicts three "eyes" forming a triangle, similar to the Beyuk Kesik signs (Torosjan, 1976, fig. VI:1,8). Eye-shaped fingertips and single line incisions are also consistent with findings at Arslantepe VII and Tell Cudeyda in the Amuq F phase (Braidwood and, Braidwood, 1960; Trufelli 1994).

Group 2 includes compositions of eye-shaped fingertips accompanied by single incised lines. Such signs have been found at Beyuk Kesik and Galayeri. On the shoulder of jar-type pottery discovered at Beyuk Kesik, beside an eye, or wheat-shaped sign is a straight line. A similar depiction was presented on another fragment (fig. 4: 4), and on the shoulder of a large storage pot, a broad straight line was incised below the eye-shaped fingertips (fig. 4: 9).

Group 3 is comprised of eye-shaped fingertips combined with vertical lines. Such a sign has been found both at Leilatepe and Beyuk Kesik (fig. 1: 4; fig. 4: 9) and relatively frequent at Galayeri, where two such signs were arranged beside one another on a shard. Another "eye" was impressed on a vertical line on the shoulder of a jar (fig. 9: 9). On two fragments found at Galayeri, two eye-shaped fingertips were arranged on either sides of a slightly oblique line (fig. 10: 1-2). The closest analogues of these marks are from Arslantepe VII (Trufelli 1994).

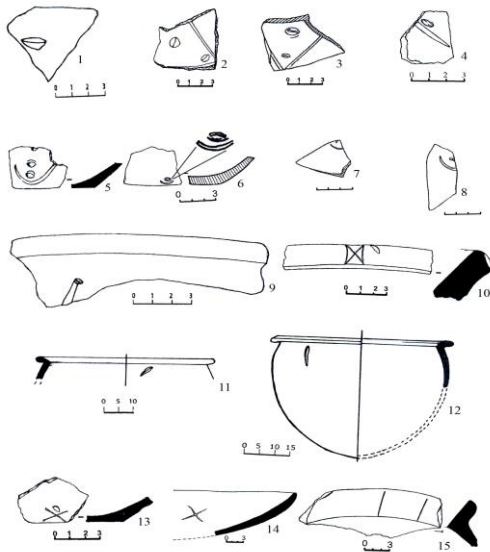


Figure 4. Beyuk Kesik

At Tekhut, a straight line, arranged with eye-shaped fingertips on the left, right, and below was found on a bowl (fig. 2:7); (Torosjan 1976, fig. 7: 6). Close parallels of the signs discovered at Galayeri and Tekhut appear at Arslantepe VII and Bolsheteginski from the Maikop culture (Trufelli, 1994; Korenevskiy, 1999, fig. 2: 4).

Group 4 includes signs arranged as eye-shaped fingertips in the middle of parallel lines. This kind of sign is known because of a single case in the Southern Caucasus (fig. 10: 3), where it was applied on a fragment found at Galayeri comprised of two parallel lines and two eye-shaped fingertips between them. Its analogue is known from Arslantepe VII (Trufelli, 1994).

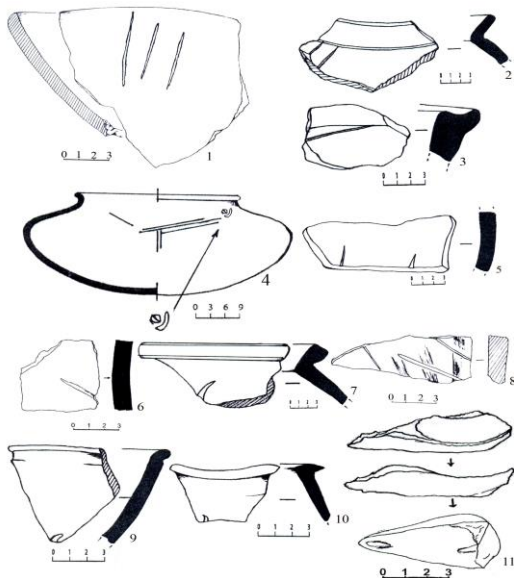


Figure 5. Sherds from Beyuk Kesik

Group 5 includes signs of arched lines with eye-shaped fingertips beside them. This kind of sign was revealed at Beyuk Kesik (fig. 4:5-8) and Poylu (fig. 6: 7). Two signs were detected at Beyuk Kesik close to the flat bottom of a large jug. One of the signs is a bow-shaped line with three eye-shaped fingertips opposite and the second is a bow-shaped line with a parallel eye-shaped fingertip. On other fragments a bow-shaped line was beside the eye-shaped fingertips (Museibli, 2007, fig. 21).

Group 6 includes signs crossed -lines. This kind of sign was found on a large bowl at Beyuk Kesik (fig. 4:14); (Museibli 2007, fig. 21: 5).

Another instance was recorded on a fragment at Galayeri (fig. 10:5). Such signs are more abundant in Poylu, where three cross-shaped marks were recorded one on plate-type pottery, on the shoulder of a pitcher, and the third close to the seat of a jug (fig. 6: 8,10).

Group 7 includes signs formed by crossed lines with eye-shaped fingertips beside them. This group is represented by only two marks found at Beyuk Kesik. One was applied close to the seat of a large pot-type vessel (fig. 4:13), and the other was carved at the mouth edge of a jug (fig. 4: 10). This is the only mark on the ceramics of the Leilatepe culture incised after firing. As a result of engraving, the cross-lines, the spot between them formed a convex triangle and a wheat-shaped fingertip was incised beside the sign. The use of incising signs on pottery after firing is known in the Maikop culture. On the shoulder of a jar-type pottery found in the Ust-Cegutinski kurgans, two short parallel lines were incised, and on another shard was a bow-shaped line (Korenevskiy, 1999, fig. 4: 4 - 5). On two fragments from Beyuk Kesik, between lines merging at a 45 degree angle, two wheat-shaped fingertips (fig. 4: 2-3) were incised. As the ceramic parts representing the continuation of these signs have not been found, it is impossible to say anything definitive about their overall structure.

Group 8 includes signs consisting of a single line or several parallel lines, possibly with directional rays. Single lines have been revealed on both whole and broken pottery from the Beyuk Kesik, Poylu, and Galayeri settlements (fig. 1: 6, fig. 5, fig. 11). In particular, this kind of sign was found intact at Beyuk Kesik on the shoulder of a reddish pink, earthenware pot that was presumably used for child burial. Here, the straight line sloping from the top first grows wider and deeper, but gradually narrows towards the bottom (fig. 4: 12).

The Leilatepe, Beyuk Kesik, and Galayeri sites have each presented examples (fig. 1: 7, fig.4:15, fig. 11: 2) of two thin, vertical parallel lines incised beyond the inner surface of the mouth of a large pot

(Aliyev and Narimanov, 2001, fig.11; Museibli, 2007, fig. 21: 2). On the shoulder of a pot found at the Leilatepe site a mark was incised consisting of three straight parallel lines with sloping vertical lines the sides (fig. 1:8). The closest analogues of this sign are known from Arslantepe VII and the "G granite" kurgan of the Maikop culture (Korenevskiy, 1999, fig. 5: 3; Trufelli, 1994).

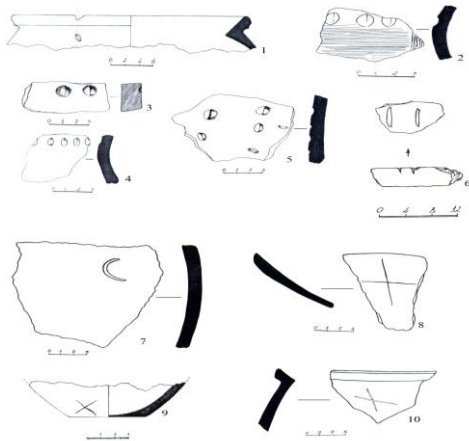


Figure 6. Sherds from Poylu II

Group 9 includes signs consisting of parallel lines and lines connecting them. A sign incised on a plate-type fragment consisting of three vertical lines by a horizontal line was found at Leilatepe. The rim was encircled with a black stripe running outermost point (fig. 1: 8). On a fragment found at Tekhut (fig. 2: 9), four parallel lines merged with a straight line (Korenevskiy, 1999, fig. 8: 4; Torosyan, 1976). A similar sign was detected on the shoulder of a jar at the Bolshetegini settlement of the Maikop culture (Korenevskiy, 1999, fig. 2: 3). This type of sign is not known from Arslantepe.

Group 10 includes rectangular or square-shaped signs. Such signs were incised on the shoulder of a large storage jar found at Leilatepe (Aliyev and Narimanov, 2001; fig. 11: 3). Thin straight lines form a square, and, inside the square, a straight line becomes slanted. The edges of the lines exceed the limits of the square (fig. 2: 2). Similar signs are known from Arslantepe VII and the monuments of the Maikop culture (Frangipane, 2002; Korenevskiy, 1999; Trufelli, 1994). Another interesting sign related to this group was found at Galayeri: two horizontal lines on a thin-walled pottery fragment cross two vertically drawn lines with another sloping line below one of the vertical lines (fig. 10: 6). This is the only part of the sign remaining on the fragment. Unfortunately, no other pieces have been found.

Group 11 includes signs incised with straight lines in different directions. These signs are not repeated and can currently be combined in a single group, but, if findings continue this group may ex-

pand or be consumed. On a vessel found at Beyuk Kesik, over black stripes sloping from top to bottom, an interesting sign was incised before firing: – slanted parallel lines (fig. 5: 8). Other interesting signs were on a pot revealed at Beyuk Kesik, with. Here three long (about 15 cm), sloped parallel lines, two parallel rays and a slanted line in the opposite direction. Beside this mark was an "arc" and an "eye" (fig. 5:4). This type of mark was also revealed at Galayeri on the shoulder of a thin-walled jar, consisting of a vertical straight line and two sloping rays out to the sides. The sign recalls a bird in flight (fig. 10: 4). The closest parallels of this mark are known from Arslantepe VII (Trufelli, 1994). Though signs on Leilatepe culture ceramics can be conditionally divided into these separate groups, each is unique marks S.Korenevskiy (1999), a researcher of Maikop culture marks, signs, which have appeared (Korenevskiy, 1999) on different types of Leilatepe culture pottery. In other words, the same type of mark can be found on different a wide variety of containers – storage jars, pitchers, jugs, bowls. In the Maikop culture, signs were arranged only on the shoulders of a big pitchers (pithos) and jars not on bowls (Korenevskiy, 1999, 2004) Unlike the Caucasian culture, at Arslantepe, bowls were marked (Trufelli, 1994). Meanwhile, no jug-type flat-bottom vessels that were commonly marked in the Leilatepe culture have been registered at Anatolian or Maikop sites.

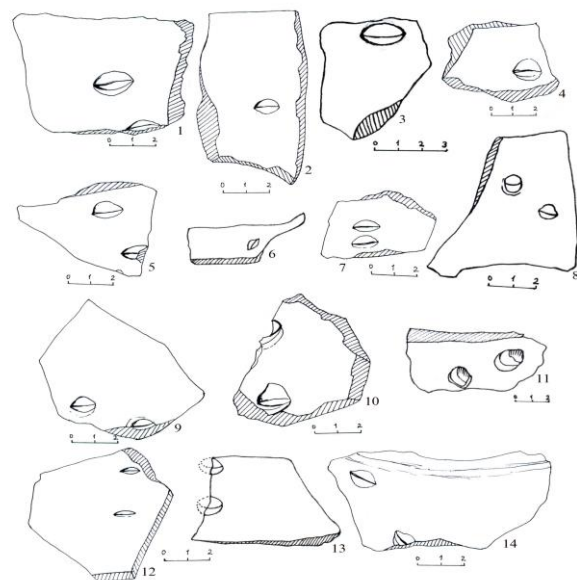


Figure 7. Signs in sherds from Galayeri

As a rule were impressed close to the bottom of jugs. In neither Anatolia or the Caucasus, no pitchers a or jars marked on the lower part of the body have not been found; these kinds of pots were marked only on the shoulder near the mouth.

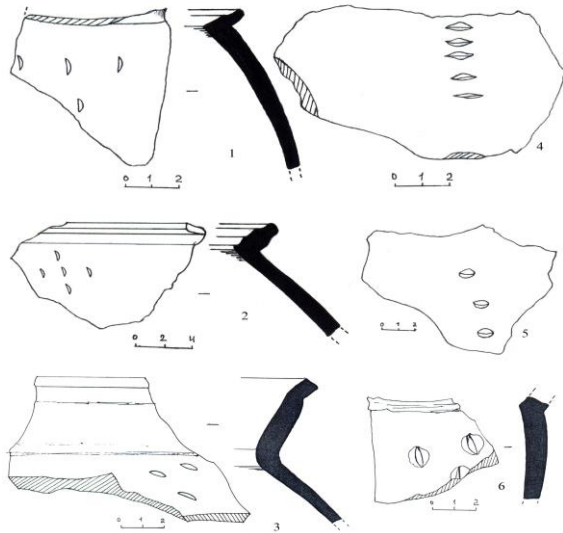


Figure 8. More sherds signs from Galayeri

This paper has thoroughly discussed the reasons why pots are marked, especially for the Arslantepe and Maikop cases. These marks are considered to be related to specialization in ceramic manufacture and a sign of recognition for communities engaged in this field. Mass ceramic production was a specialized field of certain tribes and their marks were the reflection of the direct relationship of a craftsman to his products (Korenevskiy, 1999; Palmieri, 1985). According to Korenevskiy, the Maikop culture ceramics prove that the application of such signs was not attributed to all types of vessels, only to those few vegetal-tempered vessels that required the most advanced methods of the time, where the surface was worked out at the highest level, these limitations indicate the professional specialization of craftsmen who acquired sophisticated technologies that were not widely known at the time (Korenevskiy, 1999).

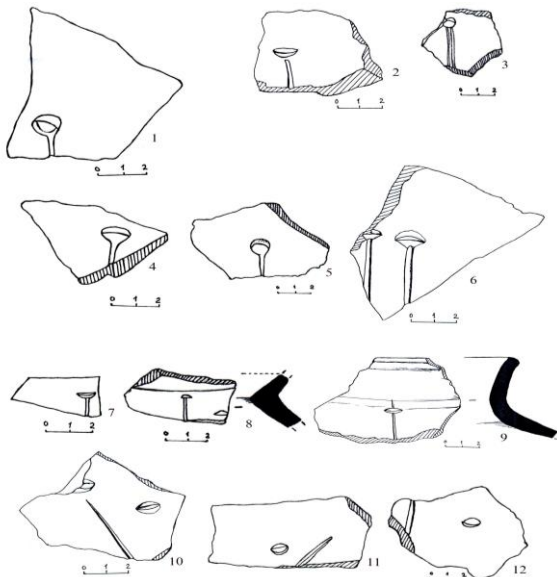


Figure 9. More sherds signs from Galayeri

These findings can be attributed to the Leilatepe culture as well.

Moreover, unlike the Maikop culture, where only pitcher and jug - type vessels were marked the Leilatepe culture marked other types of vessels, even "coarse ceramic" containers. A wide range of signs has also been found at Arslantepe VI: signs have been reported on 335 pottery fragments out of 6000 of wheel-made pottery.

Trufelli (1994) considered these pieces to be of 335 types and divided them according to 23 versions for their number. The presence of numerous but simple signs at Arslantepe VII is directly linked to the manufacturing process of pottery. Going back to the last centuries of the 5th millennium B.C, signs of this type are not found. During this period, vessels were handmade to meet the needs of a family or small groups and were probably produced in the home. In the VII period, some pottery was handmade, but some ceramics were mass manufactured.

Marks were applied only on completely or partially wheel-made pottery. Masters shaping these vessels possibly used the same spaces for drying and firing (Palmieri, 1985), so these signs identified ceramics made by different craftsmen and differentiated certain groups of pots. These signs are not found in the VIA layer of the following phase (the last centuries of the 4th millennium B.C), when ceramic manufacture significantly increased and production was not carried out separately by individual craftsmen, but in a partially centralized manner.

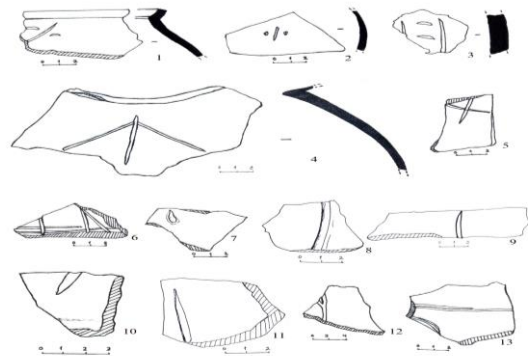


Figure 10. More sherds signs from Galayeri

The need to differentiate vessels made by different masters was eliminated, shifting the purpose of the marks (D'Anna, and Guarino, 2012).

Korenevskiy (1999) agreed with these opinions, the belonging of such marks to the Maikop culture (Korenevskiy, 1999). Certainly, the above Late Chalcolithic period of Eastern and Southern/-Eastern Anatolia in a logical and reasonable way. However, the application of the same situation at Arslantepe is not quite correct, due to the features of ceramics

production and, the level of economic and cultural development in the region.

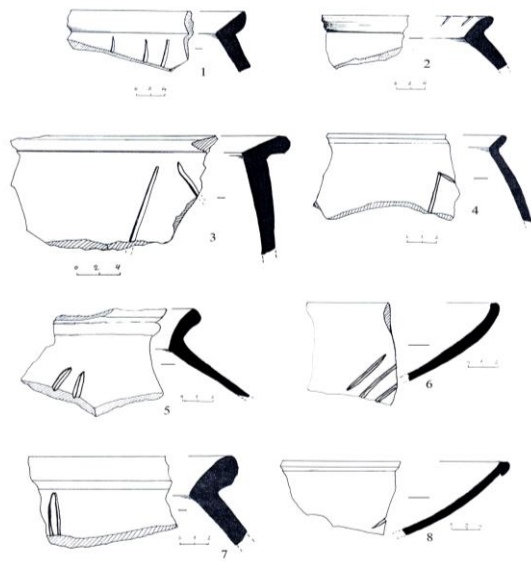


Figure 11. Pottery shapes from Galayeri

These changes most likely affected the marking of and in the settlements of the Leilatepe and Maikop cultures, marks did not bear the same functions as at the Arslantepe settlements. This tradition penetrated the Caucasus as at Arslantepe but in reduced effect. From the sites of the Leilatepe and Maikop cultures, on the whole, only 20 percent of signs identified at Arslantepe have been found. The collective drying and firing of vessels and use of signs at Caucasian sites in order to distinguish them is not probable, though it cannot be completely excluded. In the 100 sq/m excavation area at Galayeri, more than 50 marked pottery fragments have been found. Signs in this settlement had the same function as at Arslantepe. During the excavations of the Caucasian sites, unlike in western Asia, no large -potter's furnace was found to indicate a collective firing of vessels. Certainly, pottery was a specialized field in the Leilatepe and Maikop cultures. However, the centralized manufacture was not as large as at Arslantepe, so a few signs were used not for differentiation, but as a continuation of Anatolian tradition. One more issue should be noted. At Arslantepe, mass manufactured vessels were marked to distinguish them from each other. Despite the mass production of different types of vessels, such as bowls, signs do not appear; only pitchers and jugs- were marked in the Maikop culture. Besides the mass produced pitchers, jugs, and bowls, potters of the Leilatepe culture occasionally applied marks near the bottom of flat-bottomed jugs as well.

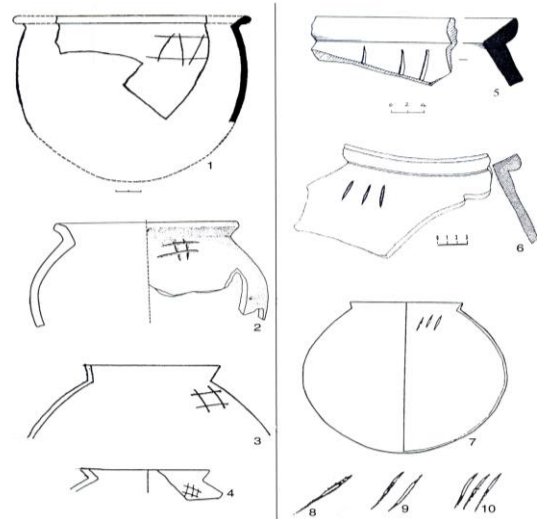


Figure 12. The Comparative table of marks - 1, 5, 6 - Leilatepe culture, 2, 8, 9, 10 - Arslantepe, 3, 4, 7 - Maikop culture

Only 3 out of 10 flat bottom jug fragments discovered at Beyuk Kesik were marked (fig. 4: 5, 6, 13). In this case, the notion of the use of signs for the differentiation of vessels type in Beyuk Kesik is wrong. Signs at the bottom of pottery would hardly attract the attention among numerous vessels. Moreover, the base of the unique ceramic could use for shaping metal that was discovered at Beyuk Kesik was incised with an eye-shaped sign (fig.5:11). This find is further evidence that the signs of the Leilatepe culture were not for identification alone.

The incision of signs on the lower parts of small vessels are known from Arslantepe as well.

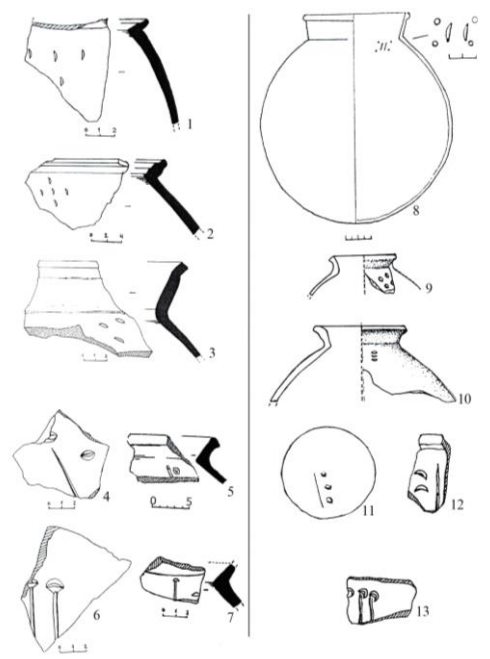


Figure 13. The Comparative table of marks - 1, 7 - Leilatepe culture, 8 - Maikop culture, 9-11 - Arslantepe, 12-13 - Amuq F



On the whole, signs on pottery most probably served more than a practical function in Anatolia and the Caucasus. The afore-mentioned researchers of Anatolian and Caucasian marks consider them to be simply signs. However, signs related to societal ideologies and, the imaginations of the craftsmen who ornamented them, bearing certain semantic meanings.

	Leilatepe culture					Arslantepe VII			Maikop culture		
Group 1											
Group 2											
Group 3											
Group 4											
Group 5											

Figure 14. The Comparative table of marks on the late Chalcolithic ceramics

They should not be considered simple and or meaningless. First one must consider the numerous eye-shaped signs. As early as the 1960s, Munchayev and Nechitaylo (1966) considered the fingertip marks on the pottery of the Ust-Dzegutinski kurgan of the Maikop culture to be eye-shaped ornaments (Munchayev, and Nechitaylo, 1966). Later, in his extensive work on the excavations of the kurgans, Nechitaylo (1978) assessed these marks as eye-shaped ornaments, as well as signs, and considered the eye-shaped mark

within the circle to depict a human face (Nechitaylo, 1978). Korenevskiy (1999) was the first who published the article on the signs of the Maikop culture on ceramics (Korenevskiy, 1999) He collected and systematized all known signs of the Maikop culture. S.N.Korenevskiy and he voiced disagreement with Nechitaylo's views about the description of a human face and "eye" ornaments, considering the images to be simply symbols. However, some signs revealed, during excavations at Beyuk Kesik and Galayeri showed a great deal of truth in what Nechitaylo said. These finds give reason to assume that some signs were associated with the human image, such as the eye-shaped marks. A straight line descending from an "eye" could also "to represent shedding tears". Such signs were found at Arslantepe and Tell Cudeyda (Braidwood, 1960; Trufelli, 1994).

	Leilatepe culture				Arslantepe VII		Maikop culture	
Group 6								
Group 7								
Group 8								
Group 9								
Group 10								
Group 11								

Figure 15. The Comparative table of marks on the late Chalcolithic ceramics (continuation)

On each fragment of two plates from Beyuk Kesik (fig. 3: 1), on the shoulder of a small pitcher from Galayeri (fig. 8: 3, 6), and on a piece of a plate found at Tekhut (fig. 2: 8), three wheat-shaped signs were impressed with nails. Most likely, these marks are the figurative expression of a human's eyes and mouth, a schematic description of a human face. Moreover, Eye marks incised as the "eye s" on the right and left of a straight line were revealed at Galayeri and Tekhut and can also be considered as an expression of a human face.

One more sign related to a human image also should be noted here (fig. 4: 13) a sign consisting of two crossed lines and a wheat-shaped fingertip impressed close to the seat of a flat-bottom jug, which was discovered at Beyuk Kesik (Museibli, 2007, fig. 21: 6). A similar sign was found at Arslantepe (Trufelli, 1994). The general structure of this sign presents the schematic description of a man with arms and legs outstretched.

Leilatepe culture	Maikop culture	Arslantepe VII	Proto-Sumerian signs
			 slave, serf
			 slave, bondmaid
			 eye, to see
			 to cry
			 vegetation
			 ploughed plot of land
			 to divide

Figure 16. The Comparative table of marks on the late Chalcolithic ceramics and signs of the ancient writing system

As mentioned above, I believe that every sign has a semantic load, a certain meaning. If these marks were applied in order to introduce ideas, then each of them functions as a carrier of information. Considering that early stages of writing in ancient civil societies consisted of pictographic and ideographic symbols, then the marks on the Leilatepe culture ceramics can be considered as ideograms in a certain sense, even though they occur only on pottery. However, if these marks were applied with a specific purpose of providing information, they can be also be considered as early signs of graphic writing.

Descriptions of the numerous signs on various ceramics are well-known from Tepe Yahya in southern Iran. Vessels with this type of marks have been revealed from the IV S, IV B and IV A layers of the site, dating to the third or second millennia B.C. These marks have their closest parallels with a range of signs from ancient times (Potts, 1981).

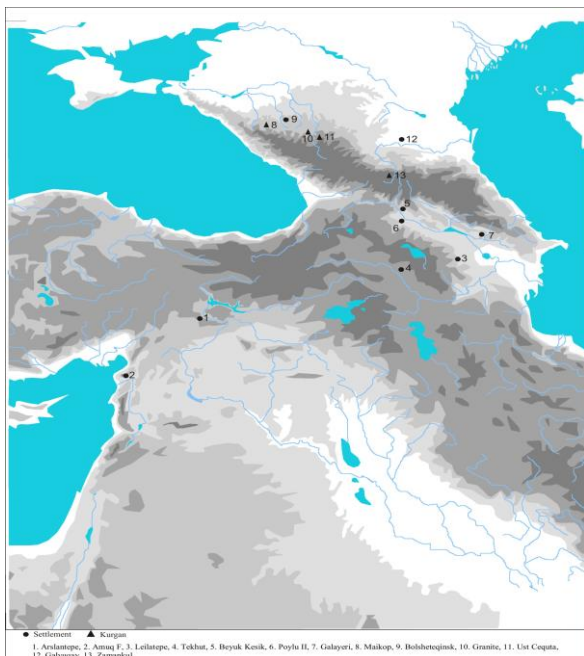


Figure 17 Late chalcolithic monuments of Anatolia and Caucasus with potter's marks on

A direct connection cannot be made between the of signs of the Leilatepe, Anatolian, and Maikop cultures with and the early writing systems of the Near East (Sumerian and Egyptian writings) because they differ geographically, chronologically, and culturally

identity from each other. However, similar signs having the same meaning is not exceptional (fig. XVI), such as the eye-shaped marks.

As mentioned above, Leilatepe, Anatolian, and Maikop ceramics were incised with signs consisting of one or several eye-shaped fingertips. Such symbols are also found ancient Egyptian and Proto-Sumerian works in Mesopotamia (Friedrich, 1979, fig. 33; Vayman, 1976).

Lines descending from an "eye" may imply "crying", and a simple sign of the "eye" may indicate the expression of "eye" or "seeing" in ancient Egyptian ideographic writings (Friedrich, 1979), while, three "eyes" forming a triangle meant "slave" in Proto-Sumerian writing (Vayman, 1976). As can be seen, all of these signs related to the human image, just like., the triangle arrangements of eye-shaped fingertips discovered at Beyuk Kesik and Tekhut.

### 3. CONCLUSION

These comparisons show that in ancient times, simple but unique symbols shared close meanings in different societies, including the Leilatepe culture. The gradually, transformation of Proto-Sumerian signs into a writing system in Mesopotamia is known from archaeological excavations (Koroglu, 2006). Most likely, the Late Chalcolithic Anatolian/Caucasian signs described above are ideographic marks, but their later representations in the writing system are not known.

Carriers of marked ceramics of from the Western Asian, South Caucasian, and Maikop societies show that, farming played a major role economy;, they were sedentary or semi- nomadic cattle-breeding cultures (Korenevskiy , 1991).

Analyses of recent excavations have proven once again that the base of the Leilatepe culture economy was agriculture. A great number of hand mills using flint sickle teeth is evidence of a developing agricultural economy. On the whole, the incision of signs on Anatolian, Leilatepe, and Maikop ceramics, as well as the detection of seals on monuments of these cultures (Amuq F, Arslantepe, and Beyuk Kesik) provide firm evidence of control via the- creation of certain regulatory, management systems and the emergence of the state in those societies.

### REFERENCES

- Aliev, N.G. and Narimanov, I.G. (2001) *Kultura Severnoqo Azerbaydjana v epochu pozdneqo eneolita [The culture of North Azerbaijan in Late Chalcolithic]*. Agridag, Baku.
- Braidwood, R.J. and Braidwood, L.S. (1960) *Excavations in the Plain of Antioch*, Vol. 1. University of Chicago Press, Chicago.

- D'anna, M.B. and Guarino P. (2012) Pottery production and use at Arslantepe between periods VII and VI A: Evidence for social and economic change. *Origini*, XXIV, 59-77
- Frangipane, M. (2002) *Yakındoğu'da devletin doğuşu* [State of the Birth of the Near East]. Arkeoloji ve Sanat Yayınları, İstanbul.
- Frangipane, M. (2009) Non-urban hierarchical patterns of territorial and political organisation in northern regions of Greater Mesopotamia: Tepe Gawra and Arslantepe. *Subartu*, XXIII, 133-146
- Friedrich, J. (1979) *Istoriya pisma* [The History of Writing]. Nauka, Moscow.
- Helwing, B. (2009) Azerbaijan in the Chalcolithic: A view from the southwest. *Azerbaijan – Land between East and West: Transfer of knowledge and technology during the “first globalization” of the VIIIth– IVth millennium BC*, 63-70
- Korenevskiy, S.N. (1999) Znakovaya keramika Kavkaza epoxi eneolita i ranney bronzy [The marked ceramic of North Caucasus in Chalcolithic and Early Bronze Age]. *Drevnosti Severnogo Kavkaza* [Antiquities of North Caucasus], 7-23
- Korenevskiy, S.N. (2004) *Drevnejshie zemledel'cy i skotovody Predkavkaz'ja: Majkopsko-novosvobodnenskaya obshhnost', problemy vnutrennej tipologii* [Ancient farmers and herders of Caucasus. Maikop-novosvobodnenskaya community. Problems internal typology]. Nauka, Moscow
- Korenevskiy, S.N. (2008) K voprosu o texnologii i znakax maykopskoy keramiki na Tereke [On the issue of technology and Signs of Maikop ceramics on the River Terek]. *Materiali po izučeniyu istoriko-kulturnogo naslediya Severnogo Kavkaza. Vypusk VIII. Krupnovskie čteniya. 1971-2006. XVII Krupnovskie čteniya* [Materials for the study of historical and cultural heritage of the North Caucasus. Issue VIII. Krupnovskie reading. 1971-2006. XVII Krupnovskie reading], 468-469
- Koroğlu, K. (2006) *Eski Mezopotamya Tarihi* [Ancient Mesopotamian History]. İstanbul.
- Lyonnet, B., Akhundov, T., Almamedov, K., Bouquet, L., Courcier, A., Jellilov, B., Huseynov, F., Loutye, S., Makharadze, Z. and Reynard, S. (2008) Late Chalcolithic Kurgans in Transcaucasia: The cemetery of Soyug Bulaq (Azerbaijan). *Archäologische Mitteilungen aus Iran und Turan*, bond 40, 27-44
- Marro, C. (2012) -Is there a post-Ubaid culture? Reflections on the transition from the Ubaid to the Uruk periods along the Fertile Crescent end beyond. *Varia Anatolica*, XXVII, 13-38
- Munchaev, R.M. and Amirov, Sh.N. (2009) Vzaimosvyazi Kavkaza i Mesopotamii v VI-IV tys. do n.e. [Relationships Caucasus and Mesopotamia in VI-IV millennium BC]. *Materiali mejdunarodnoy naučnoy konferencii “Kavkaz : arxeologiya i etnologiya”* [Proceedings of the international scientific conference titled "Caucasus: Archaeology and Ethnology."], 41-52
- Munchaev, R.M. and Nechitaylo, A.L. (1966) Kompleksı maykopskoy kultury v Ust-Djegutinskom moqilnike [Complexes of the Maikop culture in Ust-Dzhegutinsk cemetery]. *Sovetskaya Arxeologiya*, 3, 133-151
- Munchaev, R.M., Merpert, N.J. and Amirov Sh.N. (2004) *Tell Hazna I. Kultovo-administrativnyy çentr IV – III tys. do n.e. v severo-vostochnoy Sirii* [Tell Khazna I. Cult-administrative center of IV – III millennium BC in North Syria]. Paleograf, Moscow.
- Museyibli, N. (2007) *Chalcolithic settlement Beyuk Kesik*. Naftapress, Baku.
- Museyibli, N. (2008) Eneolit dovrü II Poylu yaşayış yerində arxeoloji qazıntılar [Archaeological excavations at the Neolithic settlement II Poylu]. *Azərbaycan arxeologiyası və etnoqrafiyası* [Azerbaijan Archaeology and Ethnography], 1, 17-26
- Museyibli, N. (2011) Leylatəpə arxeoloji mədəniyyəti: On Asiya kokləri və Qafqaz eneolitində yeri [Leylatepe archaeological culture: On roots in Asia and place in Caucasus Chalcolithic]. *Azərbaycan arxeologiyası və etnoqrafiyası* [Azerbaijan Archaeology and Ethnography], 2, 5-10
- Museibli, N.A. (2012) Kurqanniy moqilnik pozdneqo eneolita u s. Soyug Bulaq v Azerbaydjane [Soyugbulag -burial mounds of late Chalcolithic time in Azerbaijan]. *Rossiyskaya Arheologiya*, 1, 16-25
- Narimanov, I.H. (1985) Obeydskie plemena Mesopotamii v Azerbaydjane [Ubeyd tribes of Mesopotamia in Azerbaijan]. *Vsesoyuznaya arxeoloqicheskiye konferenciya “Dostijeniya sovetской arxeologii v XI pyatiletke”*. *Tezisi dokladov* [Union archaeological conference :Advances in Soviet archaeology], 271-272
- Narimanov, I.H. (1987) *Kultura drevneyşeqo zemledelçesko-skotovodçeskoqo naseleniya Azerbaydjana* [The culture of ancient farming and ranching population of Azerbaijan]. Elm, Baku.
- Nechitaylo, A.A. (1978) *Verxnee Prikubane v bronzovom veke* [Upper Kuban Region in the Bronze Age]. Naukova dumka, Kiev.
- Oates, I. (2002) *Tell Brak: The 4th millennium sequence and its implications*, in *Artefacts of Complexity*, ed. J.N. Postgate. (Iraq Archaeological Reports – 5). British Institute for the Study of Iraq, London.

- Palmieri, A. (1985) Eastern Anatolia and Early Mesopotamian urbanizations: Remarks on changing relations. in *Studi di Paletnologia in Onore, S.M. Puglisi* (M. Liverani, A. Palmieri and R. Peroni eds.), 191-213
- Potts, D. (1981) The Potter's Marks of Tepe Yahya. *Paleorient*, vol. 7, issue 1, 107-122
- Torosyan, R.M. (1976) *Rannezemledelčeskoe poselenie Texuta (IV tis. do n.e.)*. [Early agricultural settlement of Tekhut (IV millennium BC.)], Yerevan
- Trufelli, F. (1994) Standardization, mass production and potter 'i s marks in the late Chalcolithic potteryeri of Arslantepe (Malatya). *Orgini*, XVIII, 245-289
- Vayman, A.A. ( 1976) O protoshumerskoy pismennosti [On the proto-Sumerian writing]. *Taymyy drevniy pismen* [Secrets of ancient letters], 578-585
- Žavaxišvili A. Ausgrabungen in Berikldeebi (Śida Kartli). *Georgica*, Heft 21, 7-20