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**The Neolithic and Chalcolithic phases in the Ararat plain (Armenia):  
The view from Aratashen**

*Ruben BADALYAN, Pierre LOMBARD, Christine CHATAIGNER, Pavel AVETISYAN*

The Armenian part of the plain of Ararat, situated on the great east-west route joining the region of Erzerum in Turkey to that of Tabriz in northwest Iran, is characterised by a mountainous, seemingly restrictive environment. Except for this large natural axis (which follows the course of the Arax to Nakhichevan, then turns south towards Lake Urmia), the traditional itineraries which might insure contact with the other neighbouring regions of eastern Turkey, Transcaucasia or the northern Near East are much more rare. They should not, however, be dismissed (*map*).

The Anatolian zone of Lake Van remains accessible, at least in summer, by a route which must cross a pass at an altitude of 2500 m. To the north, the middle valley of the Kura can be reached by skirting the Aragats range, either in the west by following the Akhurian river and then crossing the high plateaus of northern Armenia to southern Georgia, or in the east by the Razdan valley, then that of the Agstev which flows to northern Azerbaijan. To the east of the plain of Ararat, the mountain ranges of Gegham, Vardenis and Sjunik present obstacles to communication with the more southern steppes of Azerbaijan. However, today as well as in the past, the populations of these steppes and those of the plain of Ararat summered their herds in these very mountains, thus favouring contact and exchange.

This potential for contact with regions which have been occupied since the Neolithic or the early Chalcolithic (Shulaveri-Shomutepe culture of the Kura basin and the Karabakh plain, Kül Tepe of Nakhichevan culture in the lower basin of the Arax), even the Palaeolithic (western Georgia), is in total contrast to the lack of information observed in the plain of Ararat<sup>1</sup>.

For the periods before the Early Bronze (Kura-Araxes culture or Early Transcaucasian Culture), information is very fragmentary. A single site, Tekhut, was excavated at the beginning of the 1970's and published. This site produced circular mud brick habitations, as well as a lithic industry and pottery attributed to the late phase of the

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Chalcolithic (Torosian 1976). At another site, Khatunakh, an exploratory trench revealed an earlier phase, considered to be Neolithic because of the scarceness of pottery (Torosian *et alii*, 1970, p. 386). A few other deposits were surveyed (Ada Blur, Masisi Blur, etc...), but this late Chalcolithic material, kept at the regional museum of Vagharshapat (former Echmiadzine), remains almost unpublished<sup>2</sup>.

For several years, the Franco-Armenian archaeological mission created in 1977 has endeavored to fill this lack in the knowledge of the late prehistory of Armenia. The mission has paid particular attention to the collection of chronological, stratigraphic, and material data pertaining to the crucial phases preceding the flowering of the Kura-Araxes culture, the expansion of which in the third millennium had a strong impact on Transcaucasia and the whole of the northern Near East. The site of Aratashen, briefly explored in the 1970S by Sardaryan, then in 1993 by Aslanyan (*note*), was again chosen in 1999 for a large program of excavations over several seasons.

### **The site of Aratashen**

Situated some 40 km west of Yerevan and 1.5 km southwest of Vagharshapats, the settlement of Aratashen lies in a loop of the Kasakh River, which flows into the Araxes a few km to the south (*Figure 1*).

The central part of the site consists of a little elliptical elevation (*blur*) of about 90 x 60 m which dominates the surrounding plain at a maximum of 3 meters, at an absolute altitude of 852 meters. A thick alluvial layer of pebbles, vestige of an ancient and extensive spate of the Kasakh, covers the immediate vicinity of the *blur*. It probably hides the exact borders of the site, which possibly extended more to the north and the west originally. During its seasonal inundations, the river eats regularly into the embankment of the site to the north, where layers containing obsidian and pottery are exposed in section over about ten meters. During the 1950's substantial leveling work was carried out in the zone of Artashen, which appears to have greatly modified the original profile of the *blur*. Intended to counter the winter flooding of the Kasakh, two segments of an elongated earth dike are still visible to the east of the central elevation; it is now known that this dike was constructed of earth removed by bulldozer from the main elevation and its immediate surroundings. It is possible that this recent work could be superimposed upon an older protective construction, perhaps contemporary to the prehistoric site.

An obvious consequence of this partial scraping is profound alteration of the stratigraphy of the site and the acceleration of erosion. The first exploratory trenches in 1999, then the two excavation seasons carried out in 2000 and 2001, demonstrated the immediate proximity (-0.20 to -0.30 m beneath the present surface) of a series of three distinct horizons (Levels I to III) which represent the earliest occupation of the site, preserved here in a depth of a little more than 2.5 m. The lower Level III rests on virgin soil. No earlier deposit has been found, while the intrusive pottery of late phases (Iron Age, classical and medieval periods) can be found near the surface.

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<sup>2</sup> For Tekhut, see Torosian 1976 ; for Khatunarkh, see Torosian *et al.* 1970, for Ada Blur, Mashtotsi Blur, Shengavit I, see Sardarian 1967.

To better determine the obviously complex geo-archaeological development at Aratashen, a strategy of excavation in intermittent longitudinal trenches (A to K) was adopted and applied to a north-south median axis covering the whole of the *blur* over almost 80 meters. This strategy proved effective, as the stratigraphic sections in line provided a profile of the whole of the elevation.

An obvious dichotomy appeared very rapidly between the situation observed in the central exploratory trenches (A, B, D, E, F and H) and that revealed by the peripheral trenches (mainly C, J and K). The three successive archeological horizons which were clear in the former were nowhere evident in the latter, which presented a series of overturned destruction levels several of which contained abundant pottery material of Chalcolithic type, which is practically absent from the levels excavated on the highest part of the excavation.

A thorough study of the stratigraphic sections, combined with a sedimentological analysis of the exposed layers, explains this unusual situation as well as reconstructing the geomorphological sequence of Aratashen as a whole (*Figure 2*).<sup>3</sup>

Geologists and archaeologists agree today that the occupation at Aratashen was without a doubt still active after the period represented by levels I-III. As we suspected at the beginning of our excavations, these later levels have completely disappeared today, partly victims of recent leveling work for agricultural purposes, but mainly because of long natural erosion of the *blur*; the products of this destruction have accumulated at the foot of the elevation in a thick layer of nearly 1m where the abundant Chalcolithic pottery recovered in 1999 and 2000 in trial trenches C and J was found. This displaced and accumulated evidence of an occupation level which no longer exists today thus explains the scarcity of pottery of the same period at the top of the *blur* (presence limited essentially to Level I, and only in low quantity). This reconstruction influences the dating of levels I to III, older than this ruined phase, dated by its pottery to a late phase of the Chalcolithic.

The thick alluvial layers which cover the low areas of the site are thus due to a sudden rise of the waters of the Kasakh (from 2 to 2.5 m), after a probable tectonic accident (a sudden fault, in a seismically unstable region). These alluvions then covered the destruction/accumulation level, but not the upper part of the *blur*, which remained above the water. Somewhat later (probably very quickly, the river having rapidly modified its course by circumventing the obstacle), the level returned to its initial position, causing the formation of Terrace I of the Kasakh. It is not possible at the moment to date this sudden inundation of the Kasakh.

The three archaeological horizons identified at Aratashen are identified briefly.

#### *Level I*

This level is cleared over more than 170 m<sup>2</sup>. Its proximity to the surface (average depth of structures: -0.70 to -0.30 cm) renders its preservation extremely unequal: the surface vegetation, composed of little thorny bushes, produces here a deep, strong root system which once it breaks the coherence of the bricks in place, causes rapid disintegration of the construction, already weakened by humidity and winter frost. A strategy of extensive

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<sup>3</sup> This study was carried out in september 2001 by A. Karakhanyan (Institute of Geology, Armenian Academy of Sciences, Yerevan) and V. Trifonov (Institute of Geology, Russian Academy of Sciences, Moscow) from data collected from trenches dug in 2001.

excavations has however enabled discovery of the vestiges of four circular structures (and probably those of a fifth, to the east). In the south of the sector excavated at present, there are also the vestiges of three little orthogonal walls, separating two constructions of circular plan. With the exception of one of these, which is smaller, these round constructions present the same reconstituted diameter of about 5 m. All are built in flat, rectangular mud bricks of even size (about 45 x 25 x 8 cm). Remains of clay floors are evident in each of them, as well as in the orthogonal structure.

As *Figure 3* indicates, two long, straight structures with coating cross the excavated zone from east to west. They are preserved respectively over 9.50 and more than 10 m in length, with an average width of 1.8 to 2 m; they have a slightly concave profile, in a “U” form, and appear to be edged here and there with a kind of border; they are carefully coated along all their length. In the waiting of a complementary excavation, we reserve our interpretation for the moment. We can of course see two areas intended for circulation in the middle of the constructed space, but this remains a simple and unsatisfactory hypothesis. The stratigraphic relation between the northern structure and the circular construction situated at its western extremity is not clear; it is possible that future work will demonstrate that these structures, with their slightly concave profile, could constitute the lower part of a construction dug from a higher level which no longer exists today; the nature of this possible entity remains unknown. A zone of hearths, dug into the ground and stone-lined, as well as two mud brick silos (?) have also been discovered outside the habitations.

The collected archaeological material consists of a very well represented obsidian industry, a bone industry, ceramic material which is less evident, and grinding tools. Except for this last category (grinding stones, mortars, etc.), more associated with built structures, the archaeological material appears to be dispersed over the whole of the excavated zone; this appears to confirm the existence of zones of technical activity in the spaces separating the constructions.

### *Level II*

This level was cleared over a surface of only 45 m<sup>2</sup>. This limited area does not yet permit a vision of the whole of this “horizon” which, unlike the two others, has so far produced hardly any architectural structures.

In the excavated sector, several isolated structures consisting of rounded, formless basaltic pebbles are found associated with large amounts of collapsed mud brick, apparently mixing pisé (?) and brick fragments, some of which are charred; these bricks are thicker than those of Level I, made from a more plastic clay, which in general have preserved impressions of its plentiful plant filler (stems and grains of cereals). These concentrations of pebbles do not generally present a regular plan, but are clearly anthropic in nature. Two little isolated round structures in mud brick (*Figure 5*) were also discovered for the first time this season, notably in Sondage E; as there are no traces of ash, they would not appear to be hearths.

These various features do not appear for the moment to form a truly coherent whole, nor do they seem to rest on a prepared floor or a simple exposed surface. However, clearly evident are the remains of earth constructions of which the foundations would have been built or reinforced with pebbles. We should also consider the possible association of structures built with pebbles and light constructions built with perishable materials. However, the particularly meticulous excavation of these levels has not revealed a single posthole, adding to our questions.

One statement based on the evidence is certain: this “horizon” is so far the richest in archaeological material (more than 55% of the inventory); there are large concentrations of artefacts in obsidian (mainly blades) and especially bone. Pottery is only represented by a few sherds, but also by a little ridged vase which is complete (*Figure 4:1*). This level also

contains very rich faunal material, including many antlers; these sometimes present transverse perforations (*Figure 4 :2*), and are generally associated with the structures described above.

### *Level III*

The earliest archaeological horizon at Aratashen has so far been found only in a narrow trial trench of 10 x 2 m. It is represented by a rather dense architectural network, made up of structures with rounded, usually irregular forms, often adjacent or attached by little curved walls (*Figure 5*). The main characteristic of this mud architecture is the use of pisé and not of brick, which is present in the upper levels; one also notes the presence of several ashy zones, of which at least one was associated with a circular hearth constructed of large basaltic pebbles (diameter: 15 to 18 cm); a little round structure with low elevation (0.13 m) and a diameter of about 0.70 m stands out in the western part of the trench. This horizon is dense with architecture and rich in objects (mainly obsidian and bone), and rests on a series of sandy virgin layers, partly reached by the level of the water table.

The objects discovered are apparently identical to that of Level II, but include no pottery.

## **Interpretation and discussion**

With these preliminary results, we can propose a preliminary reconstruction of the occupation sequence at Aratashen. The village seems to have been founded by populations, which had no knowledge of pottery (Level III), and then progressively adopted (Levels II-I) the use of pottery which appears already developed. Moreover, the remains of one or several upper levels (Horizon "0"), which are completely eroded, have accumulated on the periphery of the site and present abundant pottery which is evidence of a cultural phase which is later but clearly precedes the Kura-Araxes culture.

With no radiocarbon dates for the moment, it is not possible to date this sequence precisely as dating still depends only on comparative data from the neighbouring regions of Transcaucasia and the northern Near East.

These analogies (or differences) will be determined according to the architectural data and the objects.

### *The pottery from Horizon "0" as terminus ante quem*

The pottery from the eroded level or levels of the tell (sondages C and J near the river Kasakh) consists of two ensembles, both very far from Kura-Araxes productions: (a) an abundant production with plant filler mainly including hemispherical bowls with a scraped surface, which evoke the "Coba bowls" which became widespread in northern Mesopotamia in the first phase of the late Chalcolithic.<sup>4</sup> (b) a production with various mineral tempers (sand, crushed obsidian, baked clay fragments), often containing chopped straw, made up of hemispherical bowls and jars with flared rims or little cylindrical necks; the decoration of the bowls consists of incisions on the lip, rounded protuberances on the edge of the lip or on the sides, and one or two rows of perforations beneath the lip; this pottery is close to that of the Sioni culture which developed in the Kura basin after the disappearance of the Shulaveri-Shomutepe culture.<sup>5</sup>

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<sup>4</sup> Trufelli, 1997, p. 8-10.

<sup>5</sup> Dzhaparidze, 1989, p. 338-339 and fig. 132

These two categories of pottery are found on several sites of the Ararat plain where surface collection has been carried out or trial trenches excavated: Mashtotsi-blur, Ada-blur, Shengavit I..., generally considered to belong to the Chalcolithic.

The pottery produced by the ruined and displaced Horizon "0" thus appears to date to the end of the fifth and the first half of the fourth millennium, a period in which the plain of Ararat was clearly in contact with the contemporary populations of northern Mesopotamia, and also with those of the "Sioni culture" of the Kura basin. Thus, the three levels of the *blur* should be placed before the late phase of the regional Chalcolithic; taking into account the existence of an aceramic phase (Level III), we cannot exclude that the Aratashen sequence began in the Neolithic.

### *Architecture*

There does not appear to be continuity in the successive architectural traditions observable in the three identified archaeological horizons on the site. This would seem to be in opposition to the remarkable homogeneity of the lithic and bone industries over the whole of the occupation layer, which gives the impression of the development of successive phases of the same culture.

At first sight, the type of architecture which developed in the lower horizon (III) at first sight would appear to evoke that of the Shulaveri-Shomutepe culture by the circular form of the buildings and their arrangement. But owing to the limited exposure of structure at Aratashen, some caution is necessary. In fact, they are too small to be considered true houses at present. At Shulaveri, units of round habitations appear in the first phase of occupation, and continue to the latest phase (V) of the culture. They are characterised by the use of plano-convex mud bricks arranged in corbelled construction which form domed roofs; in phase III appear "complexes" of buildings joined by little curved walls around closed courtyards. Not until phase V does a rectangular plan appear as well as semi-buried huts, which develop in the following period (Sioni culture).<sup>6</sup> At Aratashen, the construction technique is different: the plano-convex brick was unknown here and the inhabitants of Level III used pisé like their neighbours in southern Transcaucasia (Kül Tepe of Nakhichevan) and the northern Near East (Hajji Firuz, lower levels; Dalma Tepe; Tilki Tepe).<sup>7</sup>

The fragments of crude mud brick, which appear in the intermediate horizon (Level II) of Aratashen, at the same time as the pottery, indicate an important change in the construction techniques. These mud bricks do not have a rounded upper surface and therefore do not belong to the Kura basin tradition, but again to that of southeastern Transcaucasia (Alikemek Tepesi) or the northern Near East (Hajji Firuz, upper levels).<sup>8</sup> In this level II, the absence of any constructed walls and of any floor plan suggests that the excavated zone, which is very rich in objects, corresponds to an activity zone outside the habitations.

The large circular mud brick buildings (4 to 5 m in diameter) of the standard module of the upper horizon at Aratashen (Level I), which appear to be near a rectangular construction, evoke Nakhichevan and the steppes of Azerbaijan, the only regions of Transcaucasia where circular and rectangular buildings in parallelepipedic mud bricks coexist. At Kül Tepe, the buildings are raised in the Halaf levels and later<sup>9</sup>; at Ilanly Tepe (Karabakh steppe) or Alikemek Tepesi (Mugan steppe), they belong to the latest phase of the

<sup>6</sup> Kiguradze 1976, p.157-164.

<sup>7</sup> Kül Tepe of Nakhichevan, Abibullaev 1963, pp. 157-158 ; Hajji Firuz, Voigt 1983, p.31-33; Damla Tepe, Hamlin 1975, p.113; Tilki Tepe, Korfmann 1982, p.31.

<sup>8</sup> Alikemek Tepesi, Narimanov 1987, pp. 58-59 ; Hajji Firuz, Voight 1983, pp. 31-33.

<sup>9</sup> Abibullaev 1963, p.157.

Shulaveri-Shomutepe culture.<sup>10</sup> In the northern Near East, this preponderance of the circular plan over the rectangular is consistent with the Halaf period, but the layout of the buildings is quite different (round tholos type with rectilinear chambers attached to them) as well as the construction technique (pisé, often with stone wall foundations) (for example : Girikihaciyan.<sup>11</sup>

### *Bone industry*

The three levels of Aratashen are characterised by a rich bone industry, apparently quite homogenous throughout the layer (**Figure 6**). It consists mainly of awls, drills and punches of various sizes, clearly from ovicaprine or bird bones; these are made either from simple slivers of long bones, or from larger bone segments having part or all of the epiphysis, in order to facilitate grasping (**Figure 9**). Frequently found scattered throughout the three levels are tools made from a goat horn or the pointed extremity of an antler, which usually have a hole for the handle in their proximal part; these are probably agricultural tools of dibble type. The intermediate horizon (level II)—the richest in bone industry—has also produced “hammers” of antler, which also have a hole for the handle perpendicular to the axis, as well as large “palettes”, carved in deer scapulae and sometimes decorated with grooves. More finely carved spoons from long bones as well as tubular objects are more characteristic of the earliest horizon (Level III). As a whole, this industry appears to be part of the tradition of working bone and horn widespread throughout the northern Near East during the seventh and sixth millennia.

On most of the Neolithic and Chalcolithic sites of Transcaucasia and the Near East, one finds objects in bone, horn and antler which are piercing tools (punches, awls, needles...), burnishing tools and spatulas in bone, intended for working fur and skins. But some sites have produced a large variety of these objects, including as at Aratashen spoons and palettes, as well as tools intended for working the earth (hoes, dibles). The neighbouring site of Tilki Tepe on the southeastern bank of Lake Van is an example. Level III, of the Halaf period, produced many tools, often similar to those of Aratashen, consisting of “hammers” with a hole for the handle perpendicular to the axis of the tool, large palettes (*ibid.*, fig. 17.3-5), here carved in ox scapulae, little spoons (*ibid.*, fig. 18.12) of which the extremity of the handle is pierced by a hole, spatulas with the extremities sometimes pierced), fine tubes from bird bones, etc.<sup>12</sup>

In the Kura basin, the objects in bone and antler flourished throughout the Shulaveri-Shomutepe culture, reaching a peak in the last phases<sup>13</sup>; however, the Sioni culture, which was the local successor, is characterised by the almost total disappearance of these objects<sup>14</sup>. At Shulaveri-Shomutepe, the fine spoons are present from phase I onwards and the large “palettes” made from ox scapulae appear in phase IV. In eastern and southern Transcaucasia only the fine spoons are represented and they are rare: one example at Ilanly Tepe, in the Krabakh steppe and another at Kül Tepe in Nakhichevan.<sup>15</sup> However these objects, spoons and palettes, are a part of a common *savoir-faire* throughout the Near East in the horizon of the seventh and sixth millennia, They are found in the Zagros at Jarmo (fifteen spoons, with long and short handles, found in the upper levels with pottery, in Anatolia at Catal Hüyük in levels IV-II (spoons and palettes), as well as near the Sea of Marmara at Ilpinar (the occupation of

<sup>10</sup> Narimanov 1987, p.48-49 and 57-60.

<sup>11</sup> Watson, Le Blanc 1990, p.39.

<sup>12</sup> Korfmann 1982, fig. 11.4, 15.6-7, 17.2-5 and 18.12.

<sup>13</sup> Kiguradze 1976, p.163-165.

<sup>14</sup> Dzhaparidze, 1989, p. 340.

<sup>15</sup> Ilanly Tepe, Narimanov, 1987, fig. 43 ; Kül Tepe of Nakhichevan, Narimanov, 1987, fig. 57.



the first half of the sixth millennium produced 77 spoons, fabricated from long bones and ribs)<sup>16</sup>. At Hacilar, in the levels with pottery, bone spatulas with decorated handles were found, but the spoons themselves are in clay.<sup>17</sup>

A tool characteristic of the levels of Aratashen, as we have seen, is the “dibble”, made from a goat horn or an antler, sharpened and worked to receive a handle. This type of instrument is widespread in Transcaucasia, in particular in western Georgia (Samele Kldé level II), as well as in the Lake Van Basin (Tilki Tepe level III).<sup>18</sup> However, the “hoes” made of antler (from the bony base and the beginning of the sectioned branch), so characteristic of the Shulaveri-Shomutepe culture where they appear from phase I and develop continuously until phase V, are totally absent from Aratashen; they are very rare too in southern Transcaucasia (Kül Tepe of Nakhichevan).<sup>19</sup>

### *Lithic industry*

The entire lithic industry of Aratashen is in obsidian, and is abundant (so far nearly 8400 artifacts) (**Figure 7**). Chemical analyses carried out on ten pieces collected on the surface of the site show that there were various sources (**Table**). Four mountain ranges, situated on the periphery of the Ararat plain, were exploited (**map**): Arteni to the west (70%), Guansar to the north (*ca.* 17%), Ararat to the south and Geghasar to the northeast (8%). All the sources are situated within a radius of 70 km. The first three are easily accessible, as the obsidian outcrops are in contact with the plain; the Geghasar flows, however, are found on the high plateaux (between 2500 and 3000 m) which are free of snow only in summer.

According to J. Chabot, who is studying the lithic tools of Aratashen, they are characterised by a debitage which is almost exclusively for blades; the flakes discovered are so far rare (6% of the total number of artifacts) and only three have been transformed into tools by retouch<sup>20</sup>. A number of these blades are fragmented and come to us in the form of mesial and proximal segments; this fragmentation was apparently voluntary and probably related to the way these tools were used. This industry is in general one of quality, but there is no observable technological or typological development over the whole sequence of occupation. These tools, obtained mainly by indirect percussion and by crutch pressure, are clearly characteristic of the Neolithic and Chalcolithic cultures throughout Transcaucasia and the northern Near East. In Transcaucasia (Imeretia, Kura and Araxes basins), debitage for blades generally characterises the Neolithic phase. The transition to the Chalcolithic is usually accompanied by the development of flake industries, and that to the Bronze Age by a general decadence of the lithic tools; this is clearly the case for the Shulaveri-Shomutepe culture where flake debitage becomes significant in phase IV, and predominant in phase V.

### *Pottery*

Totally absent from the first habitation level (III), pottery appears at Aratashen in level II, which produced some twenty sherds and a complete vase. This low quantity imposes caution in the determination of the origin of the pottery which penetrated into the Ararat plain. In the material of Aratashen, several sherds with an average brown-orange paste with a brown-gray heart have chopped straw as filler. One of these (AR99.016.002) is a fragment of a jar with a large flaring neck. The only complete form (AR99.016.001), a little ridged bowl

<sup>16</sup> Jarmo, Watson 1983, p. 353-354 and fig. 144, 14-19 ; Catal Hüyük, Mellaart 1971, fig. 102 ; Ilipinar, Roodenberg, 1995, p. 127-128 and fig. 6.

<sup>17</sup> Mellaart, 1970, p. 162 and fig. 180-181.

<sup>18</sup> Samele Kldé, Dzghaparidze 1989, fig. 64-65 ; Tilki Tepe, Korfmann, 1982, fig. 15.

<sup>19</sup> Shulaveri-Shomutepe culture, Kiguradze, 1976, pp. 160-165 ; Kül Tepe, Abibullaev 1959, p.161.

<sup>20</sup> Chabot *in press*.

with a rounded lip, about 5 cm high, is in crude clay with a mineral filler (sand, gravel); its irregular sides are light brown with traces of charring. This simultaneous presence of plant filler and mineral filler is attested in the northern Near East from the second half of the seventh millennium; in this period the ridged forms are characteristic of the proto-Hassuna sites of northeastern Mesopotamia<sup>21</sup>.

In the absence of detailed similarities between a material which is rare at Aratashen and pottery from the other regions, we can only concentrate on the differences which enable exclusion of direct influence of this or that region on the appearance of pottery in the plain of Ararat. Thus the pottery of levels II-I of Aratashen has nothing in common with that of western Georgia, or with that of the Kura basin. The regions of the upper Tigris-upper Euphrates should also be dismissed, as the brown pottery with mineral filler decorated with incised strips and protuberances, which develops at Cayönü, then in the Keban (Norsun Tepe), is unknown at Aratashen<sup>22</sup>. Neither is the red-slipped pottery which develops rapidly at the end of the seventh and during the sixth and fifth millennia in northeastern Mesopotamia and in the basin of Lake Urmia represented.

## Conclusion

In his pioneering work on Transcaucasia, C. Burney stresses the scarcity of pre-Bronze Age remains discovered in the plain of Ararat, the only available data coming from exploratory trenches and surface collection<sup>23</sup>. Thirty years later, the situation has hardly changed: a single site, Tekhut, has been excavated, and all the general works on the region emphasize the lack of knowledge of the cultural phases which preceded the Kuro-Arax culture<sup>24</sup>.

The new excavation of Aratashen, which seeks to fill this gap, has produced preliminary results which are very encouraging. The land works and natural erosion which have affected the upper part of the site have resulted in a difference in preservation of the two phases of occupation: (1) the late Chalcolithic in the trial trenches near the river Kasakh; (2) the early Chalcolithic (and the Neolithic?) in the three levels of the *blur*, the lower level being preceramic.

In the sequence revealed in the *blur*, the lithic and bone objects appear very homogenous, whereas the architecture develops noticeably: round pisé structures in the lower level (III), absence of buildings but fragments of mud bricks with much straw filler in the middle level (II), circular houses and a rectangular building in finer mud brick in the upper level (I). For this first occupation phase at Aratashen, the parallels are to be found in southeastern Transcaucasia and northeastern Mesopotamia, where the same construction techniques (pisé, parallelepipedic mud bricks) are used, where the vessels have a ridged form (as in level II, when pottery appears), and where the lithic and bone tools present the same assemblages. The Shulaveri-Shomutepe culture, which developed in the Kura basin and the Karabakh steppe, presents another type of architecture (domed buildings with walls in plano-convex bricks), different pottery (unridged forms), and bone and horn objects which include many types absent from the Ararat plain (hoes made with tubular bone and ox scapula, objects in the form of “knives”...).

The second occupation phase of Aratashen has produced pottery similar to that from the sites surveyed by Sardarian in the Ararat plain. It is evidence of the influence of the Late

<sup>21</sup> Le Mière and Picon 1999, p. 15.

<sup>22</sup> Cayönü, Ozdogan and Ozdogan, 1993 ; Norsun Tepe , Gülçür 2000.

<sup>23</sup> Burney and Lang 1971, pp. 41-42.

<sup>24</sup> Munchaev 1982, p. 122 ; Dzahparidze 1989, p. 245 ; Kushnareva 1993, p. 45.

Chalcolithic horizon, which occurred (end of the fifth and first half of the fourth millennium) in the whole of northern Mesopotamia: development of straw-tempered ware, initial use of the slow wheel, early forms of standardization in manufacture and typological features (“Coba bowls”), a frequent surface treatment with light scraping... However, truly Transcaucasian features, present in the pottery of the Sioni culture, which locally succeeded the Shulaveri-Shomutepe culture, characterise much of the production (rim incisions, row of perforations or series of protuberances on the upper part of the belly...).

With the extension of the excavation of horizons II and III of the site, future discoveries in the excavation of Aratashen should lead to a more detailed vision of late prehistory in the Ararat plain and add to a body of artefacts which is already quite varied. The radiocarbon analyses in progress will enable this hitherto unique local sequence to be integrated with more precision into regional chronologies.

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### CAPTIONS

**Map.** Aratashen in the context of Transcaucasia and Northern Mesopotamia.

**Figure 1.** Topographic map of Aratashen.

**Figure 2.** Stratigraphy of the site.

**Figure 3.** Architectural remains in Level I (upper level of the *blur*), Aratashen.

**Figure 4.** 1. Small carinated vessel from Level II (middle level of the *blur*) ;  
2. Antler and stucture of pebbles in Level II, Aratashen.

**Figure 5** Architectural remains in Level III (lower level of the *blur*), Aratashen.

**Figure 6.** Bone industry, Aratashen.

**Figure 7.** Lithic industry, Aratashen.

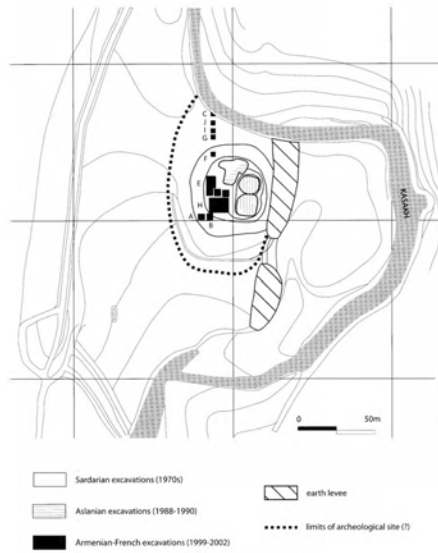
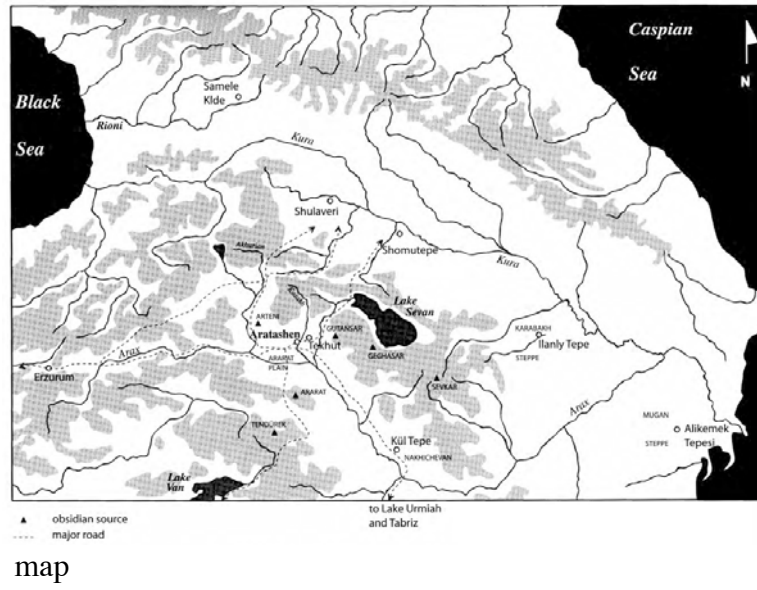


Figure 1

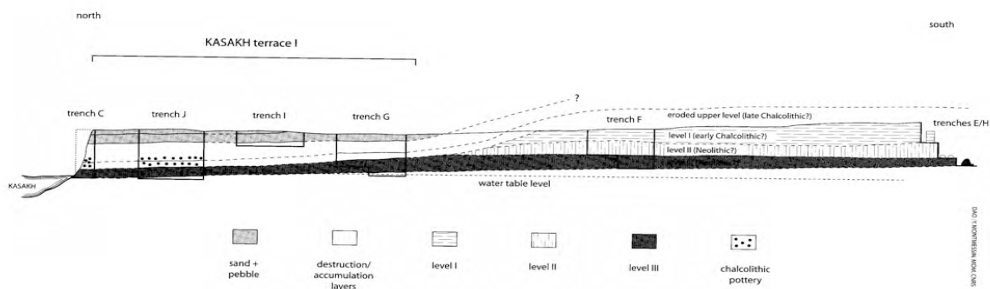


Figure 2

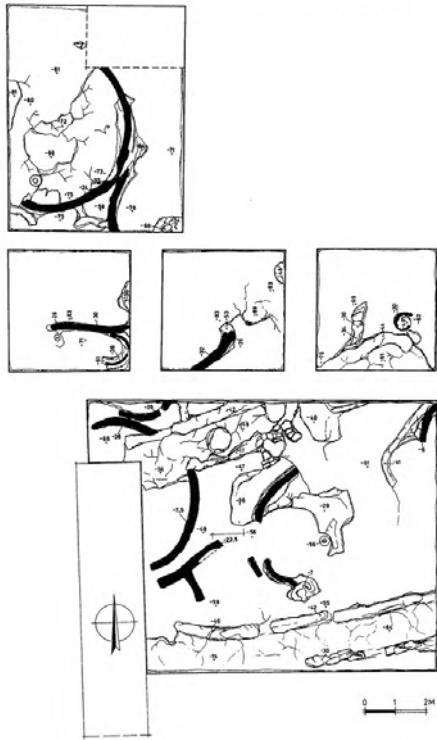


Figure 3

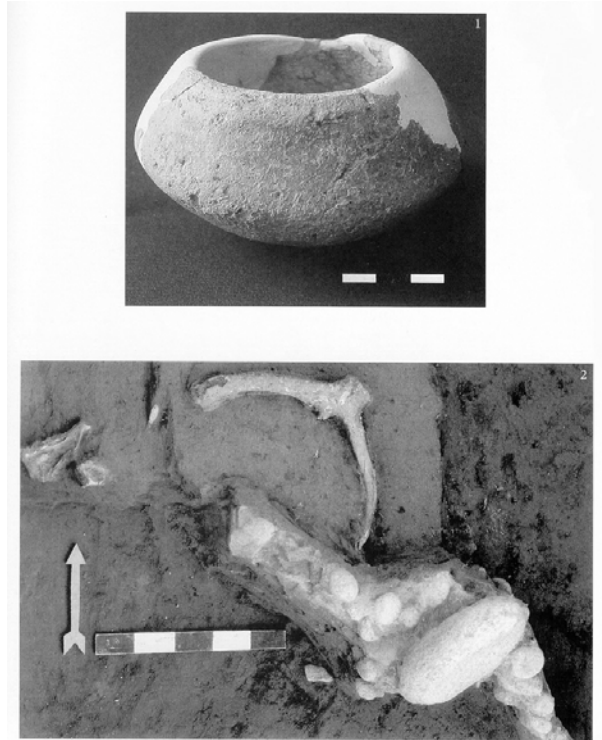


Figure 4 (1 et 2)



Figure 5



Figure 6

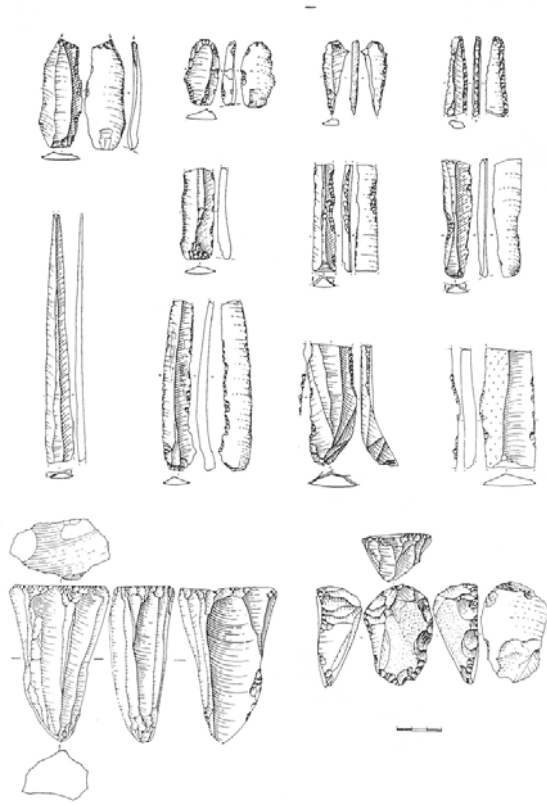


Figure 7