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RECENT DISCOVERIES ON THE NEOLITHIC AND CHALCOLITHIC OF WESTERN AZERBAIJAN

BATI AZERBEYCAN'DA NEOLİTİK VE KALKOLİTİK DÖNEME AİT YENİ BULGULAR

Bertille LYONNET - Farhad GULİYEV

Keywords: Western Azerbaijan, Shomu culture, Göy Tepe, Mentesh Tepe, Soyuq Bulaq

Anahtar Sözcükler: Batı Azerbeycan, Şomu kültürü, Göy Tepe, Menteş Tepe, Soyuk Bulak

ABSTRACT

The aim of the article is to present what is known of the Neolithic and Chalcolithic periods in Western Azerbaijan. The first part gives a short review of the research done during the Soviet period: if the Neolithic period was well represented by the excavations at Shomu-Tepe, there was not much evidence of the Chalcolithic except at a small site considered to be contemporary with Leylatepe further east. The second part presents recent research done within the last 5 years: new excavations have just begun at the 6th millennium Neolithic site of Göy Tepe, whereas several discoveries concerning the Chalcolithic have come to light, including kurgans and settlements dating to the 5th and 4th millennium BC.

ÖZET

Sovyetler Birliği'nin sona ermesinden sonra oluşan yeni politik durum, Batılı arkeologların Güney Kafkaslar'da çalışmasına olanak sağlamıştır. Baku-Tiflis-Ceyhan Boru Hattı Projesi, projenin uygulanacağı alanda kurtarma kazılarının yapılmasını gerektirmiş, bu sayede birçok yeni yerleşim yeri saptanmıştır. Bu makalede öncelikle Azerbeycan'da 2000 yılına kadar yapılmış olan Neolitik ve Kalkolitik döneme ait çalışmalar tanıtılacak ve bu tarihten sonra bölgedeki arkeolojik araştırmaların günümüze kadar nasıl bir ilerleme gösterdiği özetlenecektir.

Şomu Kültürü: Narimanov'un 1960'lı yıllarda Şomu kültürü olarak adlandırdığı kültüre yönelik çalışmalarda ortaya çıkan kerpiç duvarlı yuvarlak planlı yapılar ve bu yapılar ile ilişkili olan kemik aletler, obsidyen ağırlıklı yontmataş endüstrisi ve bitkisel katkı içeren el yapımı çanak çömlek, söz konusu kültürün Kalkolitik Çağ'a ait olduğunu göstermiştir. Şomu kültürüne ait başka yerleşim yerleri yine Narimanov ve ayrıca Gürcistan'ın Azerbeycan sınırına yakın yerlerde çalışan diğer araştırmacılar tarafından bulunmuştur.

Alikemek ve Leylatepe Kültürleri: Narimanov'un Leylatepe'de yaptığı kazılarda dikdörtgen ve ızgara planlı kerpiç yapıların yanı sıra Keçili malzemesine benzer bir çanak çömlek türü bulunmuştur. Çanak çömlekte görülen bazı özellikler ve kilden yapılmış oraklar, bu kültürün Mezopotamya'nın Obeyd Kültürü ile ilişkili olabileceğini düşündürmektedir. Bunların yanı sıra ortaya çıkan bakır buluntular, madenciliğin gelişmiş olduğunu göstergesi olarak kabul edilebilir. Narimanov, Alikemek/Kültepe yerleşimlerinin Şomu kültürü ile eşzamanlı olduğunu ve MÖ 6. binyılın ikinci yarısına tarihlendiğini düşünmektedir. Leylatepe ve Menteş yerleşimleri, Kalkolitik Çağ'ın son evrelerine, yani MÖ 4. binyılın ortasına tarihlenmektedir.

Son yıllarda yapılan araştırmalar kapsamında yeniden ziyaret edilen Şomu-Şulaveri yerleşimlerinin yüzeyinde bulunan malzemenin Neolitik Çağ'a ait olduğu doğrulanmıştır. Bir çoban tarafından açılan çukurdan alınan radyokarbon örneği yerleşimi MÖ 6. binyılın ortasına tarihlendirmektedir. Kazılan mimari kalıntılarda, çeşitli boylarda yuvarlak yapılarla beraber bir dikdörtgen yapı bulunmaktadır. Ayrıca öğütmetaşları ve fırınların bir arada olduğu bir besin hazırlama mekanı da vardır. Özellikle kemik aletler açısından zengin olan bu yerleşimde yapılacak olan yeni kazılar, Şomu-Şulaveri kültürü hakkında yeni verilere ulaşmamızı sağlayacaktır.

Baku-Tiflis-Ceyhan: *Baku-Tiflis-Ceyhan boru hattının Batı Azerbeycan kesiminde Boyuk Kesik, Soyuk Bulak ve Koca Han yerleşimlerinde 2004-2005 yılları arasında yapılan kazılar, Kalkolitik Çağ'la ilgili birçok veri elde etmemizi sağlamıştır. Gürcistan sınırının yakınında yer alan Boyuk Kesik yerleşiminde bulunan malzeme ve özellikle saman katkılı çanak çömlek Leylatepe malzemesiyle benzerlik göstermektedir. Yerleşimin yontmataş buluntu topluluğu dilgi ağırlıklı bir teknolojiyi yansıtmaktadır. Maden eserler açısından zengin olan yerleşimde bakırdan hançerler, bıçaklar, deliciler ve iğneler bulunmuştur. Radyokarbon örnekleri yerleşimin MÖ 4. binyılın ilk yarısına tarihlendiğini göstermektedir.*

Yukarıda sözü edilen Boyuk Kesik yerleşimine birkaç km uzaklıkta olan kurgan mezarlığının kazısı tamamlanmış ancak henüz ayrıntılı olarak yayımlanmamıştır. Ancak yapılan çalışmanın en önemli sonucunun, kurganların Güney Kafkaslar'da önceden düşünülen tarihten 1000 sene daha önce başlamış olduğu söylenebilir. Bu bağlamda daha önceleri Güney Kafkaslar'da MÖ 3. binyılın ortalarında başladığı düşünülen kurgan geleneğinin, Leylatepe dönemine, yani Güney Mezopotamya'nın Uruk dönemi ya da Kuzey Mezopotamya'da Son Kalkolitik 2-4 dönemine tarihlendiği anlaşılmıştır. Söz konusu kurganların bir kısmı 2006 yılında ekibimiz tarafından kazılarak yayımlanmıştır (Lyonnet vd. 2008). K4'de arsenikli bakır bir bız ve olasılıkla alışım olan üç adet gümüş yüzük bulunmuştur. Çanak çömlek buluntuları Boyuk Kesik ve Leylatepe Kültürü ile olan bağlantıyı, radyokarbonlar ise MÖ 4. binyılın ilk yarısına tarihlendiklerini göstermektedir.

Menteş Tepe Kazıları: *Narimanov, Mentеш Tepe'de bulunan çanak çömlek grubunu, Şomu-Şulaveri kültüründen farklı olarak sınıflandırmıştır. 2008 yılında başlayan kazılarda, Son Kalkolitik ve İlk Tunç Çağı dolguları saptanmıştır. Bu yazıda Son Kalkolitik döneme ait buluntular özetlenmektedir. Son Kalkolitik Çağ kazıları sonucunda çok sayıda mimari evre belirlenmiş ancak söz konusu katmanların İlk Tunç Çağı mezar ve çukurları tarafından kesilmiş ve oldukça bozulmuş oldukları görülmüştür. Anadoluya'nın üstünde yer alan en erken tabakada kerpiçten yapılmış yuvarlak planlı evler ve bu evlerle ilişkili yuvarlak ocak yerleri bulunmuştur.*

INTRODUCTION

Archaeological research in Azerbaijan began its development long ago and, leaving aside the late-19th century investigations made by J. de Morgan, many important discoveries that constitute its past occurred when the country was part of the USSR. Unfortunately, because of the Iron Curtain between East and West, these discoveries were hardly known among western archaeologists. Yet, Azerbaijan, like all the Caucasian area, is very closely connected with eastern Anatolia and northern Mesopotamia, and we should have been more concerned with it.

The new political situation after the fall of USSR, while it deeply disrupted, at first, local institutional research, also opened all the southern Caucasus area to western archaeologists. If foreign missions started early in Armenia and Georgia, Azerbaijan stayed longer aside¹, though the opening of the Baku-Tbil-

isi-Ceyhan pipeline (BTC) helped to bring about salvage archaeological excavations under BP's responsibility. These projects led to new discoveries that filled in some prehistoric blanks and are also at the origins of a French-Azerbaijani co-operation.

After a short presentation of what was known of the Neolithic and Chalcolithic of Azerbaijan up until 2000, this article will present the recent discoveries made in the western part of the country.

PREVIOUS DISCOVERIES

The Shomu Culture

Following the first discoveries and excavations of pre-Kura Araxes settlements made during the 1950s in the Mil'sko-Karabakh steppe (Iessen 1965) on the one

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hand, and at Kül-Tepe I in Nakhichevan on the other hand (Abibullaev 1982), and while the site of Alike-mek was just starting to be excavated in the Mugan steppe, I. Narimanov, during the 1960s (Narimanov 1987)², discovered still more ancient sites in Western Azerbaijan (Fig. 1:1). The surveys, soundings and short excavations he then made along the piedmont of the Smaller Caucasus, on the right bank of the Kura, led him first to recognize a new culture that he named 'Shomu', after the name of the first site he excavated on the outskirts of the small town of Agstafa. The site was already partially destroyed, but he uncovered a series of circular buildings of different sizes, made of one row of unbaked plano-convex bricks. The material culture consisted of an abundant bone and horn tool industry, as well as a lithic industry almost exclusively based on obsidian (mainly blades) but sometimes also associated with archaic microliths. The presence of hand-made ceramics, mostly grit-tempered and sometimes with applied decoration along the rim, but also-for about one-fifth-vegetal-tempered and then often covered with a red slip, made him consider that this culture belonged to the Chalcolithic period (also called Eneolithic). Radiocarbon analysis was still very rare, and not calibrated at that time, so that his terminology persisted, creating confusion over the relative chronology of the early cultures of Azerbaijan, a confusion that lasted until very recently. Many other sites belonging to this 'Shomu' culture were recognised by him in the area between Agstafa and Gandja, further east. They consisted of *tepes*, rarely exceeding 1 ha in area, but often grouped together, set on the edge of the dried beds of rivers coming down from the Smaller Caucasus.

Not long after Narimanov's reconnaissance of this culture, Georgian archaeologists started excavations at the site of Shulaveris Gora and several others nearby, close to the border with Azerbaijan, which proved also to belong to the same culture (Kushnareva 1993: 29-43), hence the name more frequently used nowadays of 'Shomu-Shulaveri' culture.

Steady reconstruction of buildings on the same spot led to the view that the population of this culture was sedentary and, on the basis of a large variety of seeds (several sorts of wheat and barley, millet, peas and lentils, grape) found during the excavations, and of traceology analysis on some of the bone tools, it was concluded that agriculture was an important component of its economy. Cattle breeding, nevertheless, was also said to have been a major activity, with a pre-

dominance of ovicaprids at most of the sites, a fact that led to the view that some kind of mobile way of life involving transhumance to the mountains was already starting to develop (Munchaev 1982: 132-137). The fact that the majority of the settlements were along dried river beds also led to the conclusion that the climate may have been more humid at that time than now (Narimanov 1987: 12). The very few items in copper or copper alloys discovered at two of the sites (Gargalar and Khramis Didigora), though not enough to prove anything, at least showed that metal was not ignored.

Even if it pre-dated all the other cultures with ceramics already known at that time in Azerbaijan, the origins of the Shomu-Shulaveri culture were puzzling, since it seemed to have appeared fully fledged, with most of its components well developed. Attempts have been made to distinguish internal phases and to show a rise in complexity (Kiguradze 1976), but total agreement was not reached among specialists in this culture. Relations with northern Mesopotamia were proposed (especially the Proto-Hassuna cultures), but local features were also underlined (Munchaev 1982: 107-115), and the wealth of the local flora (and fauna) advanced as an attractive element for a possible independent neolithisation of the southern Caucasus (Vavilov, quoted by Munchaev 1982: 94).

The Alike-mek and Leilatepe Cultures

Except for the site of Mentesh Tepe-where Narimanov had noticed another type of pottery with an association of applied motifs and combed decoration that was new to him but that he left undated (Narimanov 1987: 32-33)-and a very few Kura-Araxes sites, Narimanov did not recognize any occupation posterior to that of Shomu in this area of Western Azerbaijan until the Late Bronze Age (Narimanov 1987: 82). Only the site of Kechili, close to the Kura River near its confluence with the Shamkhir River, is mentioned as probably dating to the late Chalcolithic period because of a different pottery, which was mostly vegetal-tempered ("*mangal*" with perforations under the rim, combed decoration, incisions on rims, applied bands, painted bands along rims or at the base of necks, *etc.*) (Narimanov 1987: 34-35).

A somewhat similar pottery to that of Kechili was found by Narimanov a few years later, further east in the Mil'sko-Karabakh area, especially at Leilatepe. There, he excavated rectilinear architecture of unbaked bricks, including a grill-plan building (Aliiev

and Narimanov 2001; Narimanov 1987: 47-48). Some of the material, like twin-necked pots or clay sickles, led him to consider that it was related to the Ubaid period of northern Mesopotamia (Narimanov 1985). A hearth, slag and copper prills, as well as several copper items, were also discovered on the site, showing a noticeable improvement in metallurgy (Aliev and Narimanov 2001: 70-73). Several other sites with the same material culture were noticed in the same area, whereas others displayed painted pottery similar to that of Alikemek in the Mugan steppe; or to the lower levels of Kül'Tepe I in Nakhichevan, where Halaf imported pots had also been discovered or also, finally, to the Dalma ware of northwestern Iran (Narimanov 1987: 126-127).

According to Narimanov, the Shomu-Shulaveri sites and the Alikemek/Kül Tepe ones were more or less contemporary and dated to the second half of the 6th millennium³, while sites like Leilatepe, Mentesh, or Sioni marked the end of the Chalcolithic period, around the middle of the 4th millennium (Narimanov 1987: 136-137). But the scarcity of radiocarbon dates and the absence of calibration, together with the lack of publications with a precise stratigraphy, left doubts about Narimanov's proposals, and, in turn, Western Azerbaijan was left a blank in terms of evidence for most of this period.

RECENT DISCOVERIES

The Neolithic Period and Göy Tepe

A short new survey was done in 2006 in Western Azerbaijan by a French-Azerbaijani team⁴ in search of a site contemporary with Leilatepe.

We revisited most of the Shomu-Shulaveri sites that Narimanov had already seen, but the material found on the surface left us in no doubt that they had to be dated to the Neolithic. Limited soundings were made on some of these sites, and on another, Göy Tepe—a particularly large, high and well-preserved mound—we found that a shepherd had dug large areas on the upper side of the mound to make shelters for his sheep in winter. A quick cleaning of the sections showed a circular architecture made of bricks, and several hearths. Radiocarbon calibrated dates from different levels of this area confirmed a date in the middle of the 6th millennium⁵. A topographic plan clearly showed that, under this damaged part, several meters still remained to be excavated (Fig. 1:2), including

those still buried under the actual surface of the plain and not visible.

In 2008, F. Quliyev decided to start excavations at the site, which was threatened with further damage. In 2009, a Japanese team led by Y. Nishiaki joined him to excavate a small area down to the virgin soil, and sample it for ecological data (flora, fauna, palynology, *etc*). Though it is too early to give precise information, since most samples are still being processed, it can already be said that the last architectural period falls within the 6th millennium⁶.

The architectural remains excavated so far show, for the latest periods, one small rectangular building associated with circular ones of different sizes joined together by curved-walls and often rebuilt. All the buildings are made of one row of yellow or grey-brown rectangular bricks (Fig. 2:1). Circular hearths filled with stones and bordered with clay, as well as a special working area with ovens and grinding stones, have been discovered.

The bone and horn industry is particularly impressive, with evidence of different types of perforated 'hoes', hammers and axes, as well as shovels, awls, needles, *etc.*, (Fig. 2:2). Some 'hammers' are decorated with incisions (Fig. 3:1). Long obsidian blades were apparently obtained by pressure, but almost no nucleus has been found up to now. A few archaic microliths are also present. Ceramics are half grit- and half vegetal-tempered, but rarely bear any decoration, except for a few painted or red-slipped sherds and others with an applied decoration along the rim. Some of the flat bottoms show traces of mat-impressions (Fig. 3:2).

The expected results from these new excavations should allow further understanding of the Shomu-Shulaveri culture, of its main economic basis, of its relations with the surrounding cultures, and of its way of life. The recent renewed investigations at the contemporary site of Arukhlo in Georgia (Hansen et al. 2006; Hansen et al. 2007) as well as the excavations carried out at Aratashen in Armenia, which attests this culture in that area (Badalyan et al. 2007) too, will contribute to stimulating research on the earliest agricultural settlements.

The Chalcolithic Period

The Baku-Tbilisi-Ceyhan Discoveries

Along the Baku-Tbilisi-Ceyhan line, no new

Neolithic site has been recorded but several Chalcolithic ones were excavated in 2004-2005, all in Western Azerbaijan: Boyuk Kesik, Soyuq Bulaq, Khodja Khan, among others.

The settlement of Boyuk Kesik (Akhundov 2007; Museibli 2007) is situated on the left bank of the Kura River, at the border with Georgia. Invisible on the surface, it is a small-sized and short duration site with material culture very close to that of Leilatepe, though the architecture seems different, with one small rectangular structure and several oval ones more or less bound together and probably half-built with wattle and daub, as shown by the pits left by poles on the top of the walls. A few infant inhumations in jars are attested.

Pottery, mostly vegetal-tempered, is abundant, and the shapes are similar to those of Leilatepe, including the same potter's marks, and, rarely⁷, painted decoration along rims. A small proportion is combed on the outside and sometimes presents incisions on the rims. Conical or bi-conical spindle whorls, two figurines and two stamp seals, as well as a half mould for a shafted axe, complete the clay material. Most of the lithic material consists of blades, probably for sickle elements, and is made of a greenish stone. Many grinding-stones and other heavy stone tools were also discovered. The bone industry is rather limited and consists mainly of awls. A quite important collection of copper implements completes this material (knives or daggers, awls, needles). The presence of a mould as well as some slag can be considered as proof of a local metallurgy. Several calibrated radiocarbon dates place it within the first half of the 4th millennium BC⁸.

A few kilometres away, on the same left bank but on a higher terrace of the Kura, at Soyuq Bulaq, a cemetery of kurgans was partly excavated at the same time, but has not yet been published in detail. The most important element in this discovery is that it pushed back more than 1000 years the appearance of kurgans south of the Caucasus, which, until then, was believed to date to the Bedeni-Martkopi cultures, around the middle of the 3rd millennium. Another contemporary kurgan has recently been excavated in Georgia and confirms this early date (Makharadze 2007). The tombs of Soyuq Bulaq excavated at that time did not prove to be very rich in funerary material, but what was discovered (ceramics, metal dagger) is close to finds from Boyuk Kesik. Other small Chalcolithic settlements, also buried

under the surface, were discovered on the right bank of the Kura. One of them, Khodja Khan, still unpublished, provided a few traces of architecture similar to that of Boyuk Kesik and several pits, but its ceramic material is different, most of it being combed on the outside and sometimes also decorated with applied bands⁹. Unfortunately, it yielded no radiocarbon.

All these discoveries have helped better to date the Leilatepe culture, making it fully contemporary with the early Uruk period of southern Mesopotamia or the Late Chalcolithic (LC) 2-4 of northern Mesopotamia on the one hand, and the Maikop culture of the Northern Caucasus on the other (Lyonnet 2007). The relations that these cultures evidently had at that time needed to be better understood, especially because of a similar phenomenon—the pre-Uruk expansion was already known in northern Mesopotamia and eastern Anatolia. These were the reasons that led to the creation of the French-Azerbaijani Mission, which, since then, has worked at Soyuq Bulaq again and at Mentesh Tepe.

Further Excavations at Soyuq Bulaq

Not all the kurgans of the cemetery had been excavated and a few were left but threatened with destruction by new agricultural plans. In 2006, we excavated nine of them. A full report has been published (Lyonnet et al. 2008).

All the kurgans look the same on the outside, except for their size, which varies from 4 to 15 m. The mounds are rather low (less than one meter) and composed of a circle of large river pebbles surrounding a rectangle made of the same material, the corners of which face the cardinal directions, and are situated right in the centre of the kurgan (Fig. 3:3). A strange feature of these kurgans is that not all have a funerary pit. Of the nine kurgans excavated by our team, only three had such a pit, right under the rectangular enclosure. Two were rather deep (1 to 1,5 m) and especially well built, with an unbaked brick wall about 60 cm high surrounding the base. The pit was probably covered by wooden beams and formed a sort of chamber or cist for the dead. The third pit was only 0,6 m deep, and did not show any evidence of a wall around it. Human remains in these pits were difficult to trace. The only complete skeleton found there does not seem to be that of the main grave, because of the stratigraphic position of the bones; rather, it had been placed above the cist, though probably at the time when the kurgan was built. In the small pit with-

out a wall, only the skull, the upper vertebrae and the right arm of a young person were found. A possible explanation for these partial discoveries is the existence of a ritual of exposure (Lyonnet 2009).

In almost all the kurgans, pots were found within the rectangular enclosure close to the surface, the probable remains of funerary ceremonies, left after the tomb had been closed. Other sherds were found at the level of the brick wall, and, in one case, a complete pot was placed at the base of the wall. The two graves with walls contained rather rich material for that time: in K. 1 we discovered a copper dagger and a stone sceptre with an equid head (Fig. 4:1, 4), as well as 23 gold beads, 33 in a silver alloy, 1 in lapis-lazuli, 17 in carnelian, 65 in a white soft stone (heated steatite?), and 26 in other non-identified stones; in K. 4 were an arsenical copper awl and three rings made in a silver alloy (Fig. 4:2-3). From the position of most of the beads of K.1, it seems that they were associated with the skeleton placed above the cist.

The analysis of the metal items shows that the silver alloys could be natural, since some mines of the Lesser Caucasus at a short distance from Soyuq Bulaq present the same composition (Courcier et al. 2008). The pottery is generally similar to that of Boyuk Kesik and the Leilatepe culture, and radiocarbon dates place the kurgans of Soyuq Bulaq within the first half of the 4th millennium¹⁰. The sceptre, the beads, and also the ritual can well be compared to what O. Muscarella found in the Sé Girdan kurgans near Lake Urmia (Muscarella 1969, 1971), and which he has recently re-dated (Muscarella 2003). A ritual of exposure has also been pointed out recently, close to Brak and at a similar period (McMahon et al. 2007).

Excavations at Mentesh Tepe

As interesting as such discoveries as those made in the kurgans of Soyuq Bulaq may have been, we were still in need of information about the metallurgical capacities of the local population. Such data can only be found in settlements and we long searched for one until we re-discovered Mentesh Tepe. As Narimanov had already pointed out, and as the excavations of Göy Tepe and other sites along the Baku to Ceyhan pipeline have shown, in Western Azerbaijan Neolithic settlements were abandoned at the end of the 6th millennium and the new settlements did not develop into *tepes*, but were apparently small and short period ones which were covered up by alluvium afterwards. This explains why they became invisible.

Mentesh was one of the few *tepes* where Narimanov had seen a pottery different from the Shomu-Shulaveri repertoire. Unfortunately, the site was completely levelled not long after his visit, the area transformed into a vineyard with concrete poles stuck deep into the ground and, recently, finally converted into a vegetable garden. The few sherds found on the surface nevertheless confirmed that the site could provide a lot of new information, and a small sounding showed that architecture was still visible under the surface. Excavations, started in 2008, have revealed two major periods on the site: Chalcolithic and Early Bronze Age. We will deal only with the first in this article.

Several architectural phases can be distinguished within the Chalcolithic, but later intrusions during the EBA (a funerary chamber and other graves) have deeply damaged them. The earliest phase presents a circular architecture of unbaked bricks, laying directly over the virgin soil, associated with circular hearths surrounded with clay and filled with sherds and stones. Both features recall the Neolithic and show that, in spite of the new location of the settlements, there was no total break in the material culture. The next phase is also made of unbaked bricks but of much better quality, and the architecture is rectangular: part of a large building has been uncovered, the function of which is still unknown. Since we have not yet reached any floor, no material has been found *in situ*. A third phase presents a more flimsy rectangular architecture, but being immediately under the actual surface of the site, it has been most damaged.

Pottery found in these different phases does not seem to vary very much from top to bottom, but greatly differs from the Neolithic. Several groups can be distinguished according to their decoration—painted, combed, or applied—but some pots present a combination of the three types, showing that they are all more or less contemporary. Polishing is also attested. Most of the pottery is vegetal-tempered with a dark core, but cooking ware is tempered with obsidian and, on the rims, shows incisions or impressions made with the teeth of a comb. Different shapes are attested, most with round bottoms, from rather large jars with flaring rims, to jugs, bowls of different sizes, “*mangals*” with perforations under the rim, and hole-mouth and miniature pots. The rims are all simple.

The painted decoration is a totally new feature for this area and is mainly found inside bowls. Designs are executed in bitumen, probably heated but still

rather thick and not easy to handle so that the motifs are coarsely made. They are simple and geometric, and consist of chevrons or vertical lines crossing in the centre, sometimes associated with more or less regular dots or circles (Fig. 4:5). The applied decoration either consists of small oval motifs set on the outside of the rim of bowls, which recall some of the Neolithic pottery, or of bands, either plain or moulded, sometimes making figures on the shoulder of small jars (Fig. 4:6). The comb 'design' covers most of the outside surface of the pots and is irregularly done except for a few pots; it is probably more a technique for smoothing the surface than an intentional decoration. The firing is not regular, and the colour varies from yellow-orange to dark brown, but a few pots are greenish or grey.

Lithic material is represented by grinding stones, many of which are still powdered with ochre, and by obsidian tools and flint blades, though in much reduced quantity compared to the Neolithic period as seen at Göy Tepe. Bone industry is almost not attested and seems to have already been replaced by metal, especially for the awls, several of which have been discovered, unfortunately not *in situ*. Radiocarbon dates situate the Chalcolithic horizons into the 5th millennium¹¹, a date that fits well with the ceramic materi-

al, which is certainly earlier than the Leilatepe assemblage, later than the Shomu-Shulaveri culture, and yet shares some similarities with the so-called Sioni culture and with Alikemek.

CONCLUSION

Recent work in Western Azerbaijan has already better set the absolute and relative chronology between the 6th and the 4th millennia BC. A totally new phase dating to the 5th millennium, characterised by a painted material has also been discovered; it has some affinities with the Alikemek culture known from farther east, but the repertory is much reduced. Nothing similar has yet been excavated to our knowledge in Georgia or Armenia.

Further research should help distinguish precise phases and their related material both within the Shomu-Shulaveri culture of the 7th-6th millennium and within the Chalcolithic cultures of the 5th and first half of the 4th millennium. This, hopefully, will help show exactly when such innovations as paint or comb decoration were introduced. It should also contribute to a better understanding of the overall environment and way of life of these populations, and illuminate the reasons for their relations with surrounding cultures.

NOTES

- ¹ Short term missions and investigations started in the 1990s with P. Kohl (U.S.A.), D. Potts (Australia), and A. Schachner (Germany), but never developed further.
- ² Complete reports or final publications were slow to be printed or never came out, and meanwhile, several syntheses were made, one of the best being Munchaev 1982.
- ³ Radiocarbon dates from Alikemek were obtained by us in 2007 from charred grains provided by T. Akhundov, who said they came from the lower level: Gif-12096, cal. BC 5312-4931 (2 sigma).
- ⁴ Co-directed by B. Lyonnet and T. Akhundov.
- ⁵ UBA-7614, cal. BC 5569-5477 (2 sigma); UBA-7615, cal. BC 5570-5476 (2 sigma); UBA-7616, cal. BC 5576-5484 (2 sigma).
- ⁶ TKa-14622, cal. BC 5614-5477 (2 sigma); TKa-14623, cal. BC 5530-5374 (2 sigma).
- ⁷ Only five sherds.
- ⁸ Beta -200403 cal. BC 3970-3780 (2 sigma) ; Beta -218216 cal. BC 4240-3960 (2 sigma) ; Beta -218217 cal. BC 3960-3670 (2 sigma) ; Beta -226242 cal. BC 3900-3880 and 3800-3650 (2 sigma) ; Gif -12141 cal. BC 3963-3632 (2 sigma)
- ⁹ Information provided by M. Huseynov and B. Jallilov, whom I sincerely thank.
- ¹⁰ Kurgan 1: UB -7609, cal. BC 3951-3759 (2 sigma). Kurgan 4: UB -7613, cal. BC 3768-3644 (2 sigma).
- ¹¹ Beta-252222, cal. BC 4340-4070 (2 sigma) ; Beta-252227, cal. BC 4590-4450 (2 sigma).

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RECENT DISCOVERIES ON THE NEOLITHIC AND CHALCOLITHIC OF WESTERN AZERBAIJAN

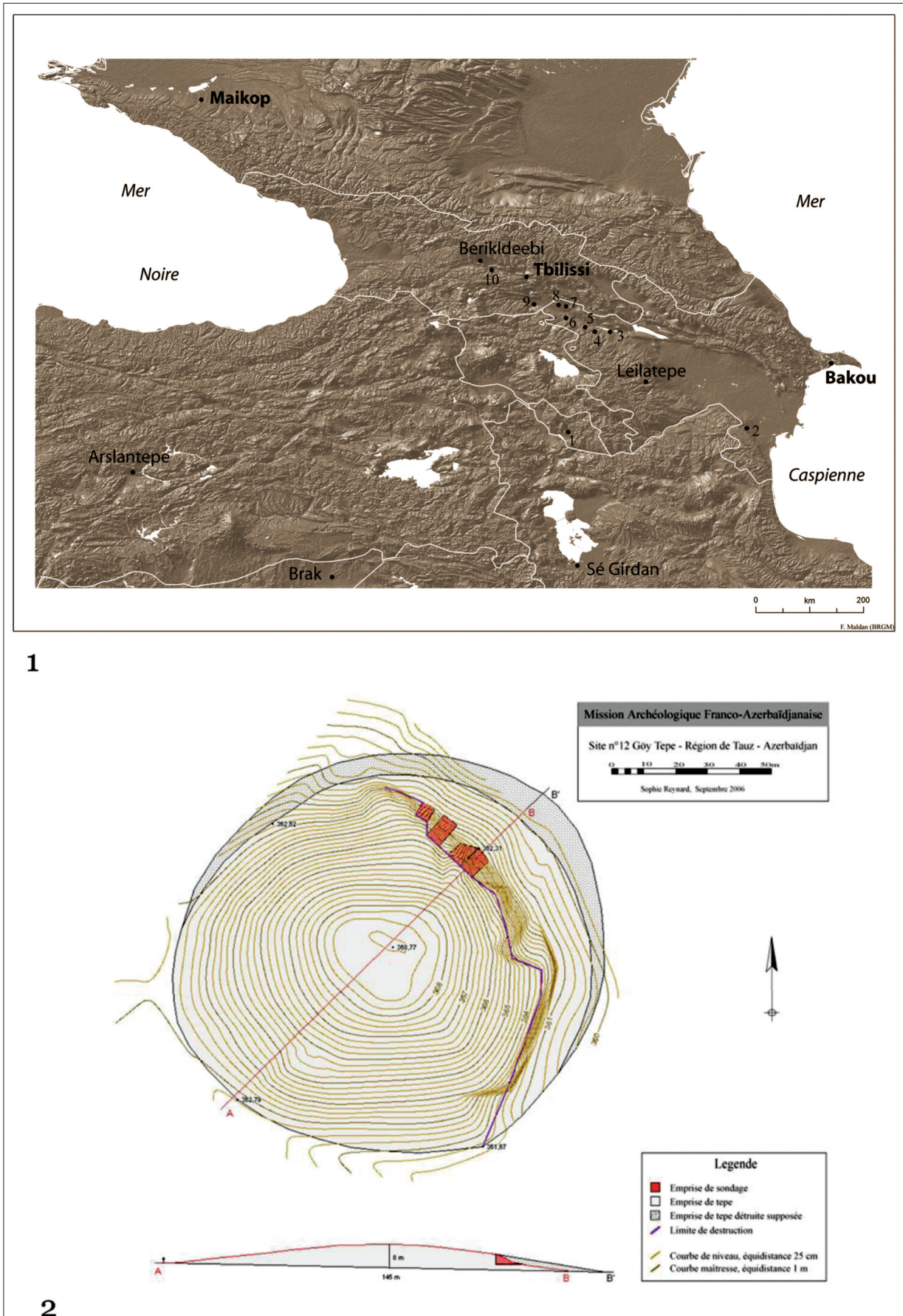


Fig. 1- 1. Map of Azerbaijan with major sites of the Neolithic and Chalcolithic periods: 1- Kül-Tepe I (Nakhichevan), 2- Alikemek, 3- Kechili, 4- Mentesh Tepe, 5- Göy Tepe, 6- Shomu Tepe, 7- Soyuq Bulaq, 8- Boyuk Kesik, 9- Shulaveris Gora, 10- Kavtiskhevi; 2. Göy Tepe, plan before excavations.



Fig. 2- 1. Göy Tepe, circular architecture (2009 excavations); 2. Göy Tepe, shafted bone tools.

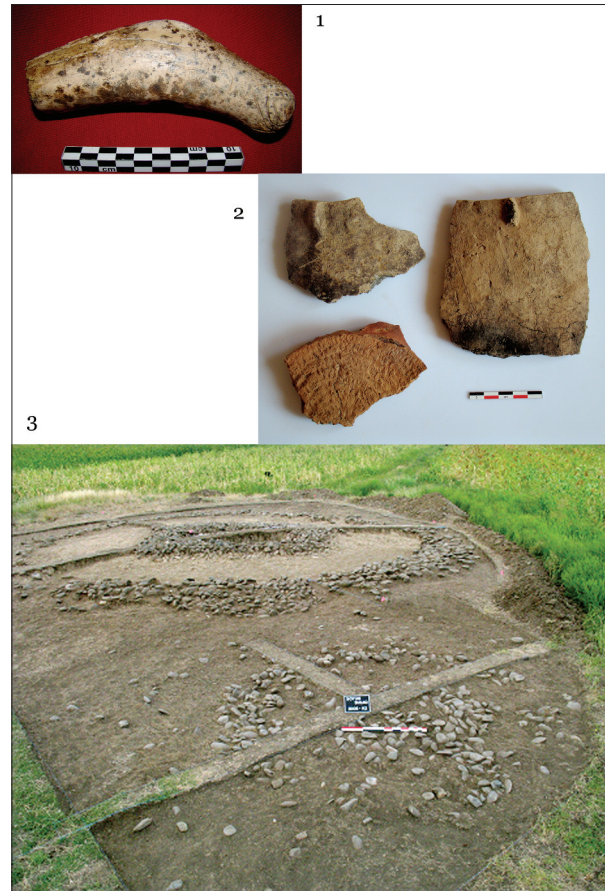


Fig. 3- 1. Göy Tepe, hammer with incised decoration; 2. Göy Tepe, pottery, some with applied decoration; 3. Soyuq Bulaq, two kurgans of different sizes, Kurgan 1 (in second plan) with a central pit, and Kurgan 2 (in front), without a central pit.

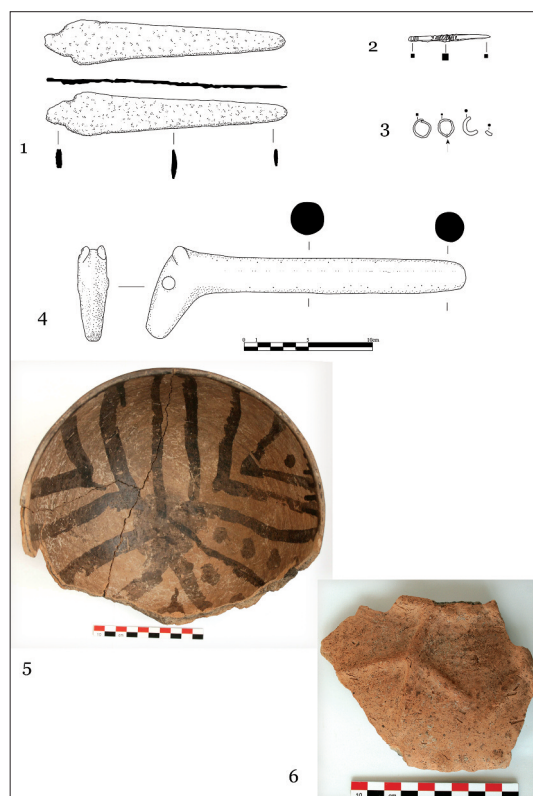


Fig. 4- Soyuq Bulaq, some of the items from Kurgan 1 (1, 4) and Kurgan 4 (2, 3): 1- copper dagger, 2- copper awl, 3- silver alloy rings, 4- stone scepter; 5. Mentesh Tepe, painted pottery; 6. Mentesh Tepe, pottery with applied decoration.