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TÜBA-AR
TÜRKİYE BİLİMLER AKADEMİSİ ARKEOLOJİ DERGİSİ

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TÜBA-AR
TURKISH ACADEMY OF SCIENCES JOURNAL OF ARCHAEOLOGY

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As a policy, all types of original research, interpretation, assessments and methodological studies in or related to archaeology regardless of geographic area are included in TÜBA-AR. As the publication of an academy of science, the journal also includes new interpretations, approaches and analyses in cultural heritage management and cultural protection, archaeometry and environmental archaeology, as well as related research in other specialized disciplines. TÜBA-AR hopes to provide a discussion platform in these fields. Upon the decision taken by the Editorial Board, a special section of the journal may be reserved on specific entities that are being currently debated in academic media.

Any type of preliminary excavation or survey report that lacks interpretation and perspective cannot be considered. However, original discoveries that bring insights to cultural history can be included in the journal in the "news" section.

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TÜBA-AR TURKISH ACADEMY OF SCIENCES JOURNAL OF ARCHAEOLOGY

Kurucu (Founder): Ufuk Esin (TÜBA)

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SUNU

Türkiye Bilimler Akademisi'nin bir yayın organı olan TÜBA-AR Dergisi, 13. sayısıyla bir yanda ülkemizde süregelen çalışmaları yansıtmaya çalışırken, öte yanda kapsamlı bir Kafkas dosyasıyla, Anadolu ile yakın bağlantısı olan ancak ülkemizde yeterince tanınmayan Kafkas arkeolojisini ele almaktadır. Son yıllarda ülkemizdeki arkeoloji çalışmalarının sayısı hızla artmış, uygarlık tarihinin en eski dönemlerinden yakın zamanlara kadar olan süreci kapsayan yoğun bir veri akışı olmuştur. Süregelen kazı, yüzey araştırması ve arkeometrik çalışmaların sonuçları her yıl Kültür ve Turizm Bakanlığı'nın düzenlemiş olduğu gelenekselleşmiş sempozyumlarda toplu olarak sunulmaktadır. Sempozyum bildirileri her yıl ortaya çıkan yeni verileri yansıtmaktadır.

Kuşkusuz kapsamlı değerlendirmelerin yapılması, bu bilgilerin uygarlık tarihi açısından ne anlama geldiğinin anlaşılması için uzun bir zaman gerekecektir. Ülkemizdeki veri akışının ötesinde, dünya arkeolojisi ve arkeolojinin tanımı da hızla değişmektedir. Bu yalnızca, ortaya çıkan verilerin arkeometrinin sağladığı yeni olanaklarla değerlendirilmesiyle sınırlı olmayan bir gelişmedir; geçmişe bakış açımız, geçmişi anlamak ve yorumlamak için sorduğumuz sorular değişmekte, arkeolojinin tanımı giderek farklı bir boyut kazanmaktadır. Bu bağlamda özellikle kuramsal çalışmaların giderek yaygınlaştığı da bir gerçektir. Ancak düşünce sistemini zenginleştirecek değerlendirmelerin, kuramların geliştirilebilmesi için de sağlam bir veri tabanının bulunmasının gerekliliği unutulmamalıdır. Son yıllarda sayısı hızla artan arkeoloji dergileri, akademik arkeolojideki bu çelişkiyi, yalnızca ham verinin katalog halinde sunulması ile veriye dayanmayan kuramsal kurguların karşıtlığını yansıtmaktadır. TÜBA-AR olarak iki yaklaşımın ortasındaki bir çizgide kalmayı bilinçli olarak yeğledik.

Dergiye girecek yazıların seçiminde olabildiğince farklı dönemleri yansıtan yazıların bulunmasına özen gösterilmiştir. İlk yazı Çiler Çilingiroğlu'nun baskı bezekli çanak çömleği ele alan çalışmasıdır. Genel olarak *impresso* olarak da bilinen bu tür çanak çömlek, uzun yıllar Orta ve Batı Akdeniz Havzası'na özgü bir buluntu topluluğu olarak tanımlanmış, 1960'lı yıllarda Yunanistan'da Teselya'da İlk Neolitik dönem kazılarında rastlanması Kıta Yunanistan Neolitiğinin kökenleriyle ilgili yeni bir tartışmaya yol açmıştı. Ancak son on yıl içinde, başta Fırat Havzası'ndaki Mezraa-Teleilat olmak üzere, Doğu Akdeniz bölgesinde, bunun hemen ardından İzmir yöresinde baskı bezekli çanak çömlekle ilgili ortaya çıkan yeni bulgular, tartışmaları farklı bir boyuta taşımıştır. Bu veriler ışığında Neolitik yaşam biçiminin aktarımının önceden öngörüldüğü gibi yalnızca kara yoluyla değil, deniz yoluyla da gerçekleştiği giderek daha iyi anlaşılmaktadır. Nitekim son yıllarda Kıbrıs ve geçen yıl Girit Adası'nda ortaya çıkan Neolitik dönem yerleşmeleri, deniz ulaşımının Neolitik Çağ'da düşünüldüğünden çok daha önemli ve canlı olduğunu açık bir şekilde ortaya koymuştur. Çilingiroğlu süregelen tartışmalara İzmir yöresinde son yıllarda ortaya çıkan verilerle katkıda bulunmaktadır. Özdemir Koçak ile Mustafa Bilgin'in İç Batı Anadolu Neolitik kültürleri ile ilgili olan yazısı, Çilingiroğlu'nun vurguladığı Neolitik kültürlerin denizsel açılımının yanı sıra, Anadolu Yarımadası'ndaki gerek yaylaları, gerekse akarsu sistemlerini izleyen farklı bir yolun kanıtlarını ortaya koymaktadır. Bilindiği gibi İç Batı Anadolu Neolitik Çağ kültürleri, James Mellaart'ın 1960 yıllarındaki Hacılar kazısı ile ünlenmiştir. Hacılar kazılarıyla

ortaya çıkan boya bezemeli çanak çömlek, yakın zamanlara kadar Göller Bölgesi'nin özgün bir buluntu topluluğu olarak ele alınmış, daha sonraları Refik Duru'nun Kuruçay, Höyücek ve Bademağacı kazılarıyla söz konusu buluntu topluluğu ayrıntılı olarak tanımlanmıştır. Ancak "Hacılar türü" olarak adlandırılan boya bezemeli bu çanak çömleğin Balkanlar'da görülen Sesklo-Karanovo-Starçevo boya bezemeli kültürleri ile olan ilişkisi Batı Anadolu'daki veri eksikliği nedeniyle tartışmalı bir konu olarak kalmıştı. Bu bağlamda Kuzey Batı Anadolu'ya, Marmara Bölgesi'ne açılan Sakarya Havzası'nın çevresindeki boya bezemeli Neolitik çanak çömleği tanıtan bu yazı, söz konusu tartışmanın çözümüne katkı yapacaktır.

Rana Özbal-Gerritsen'in Tell Kurdu'nun Kalkolitik dönem buluntu topluluğunu ele alan yazısı, kanımızca Suriye - Mezopotamya kültür bölgesi ile Anadolu kültürleri arasındaki ilişkinin anlaşılması açısından büyük bir önem taşımaktadır. Bilindiği gibi Fırat ve Dicle Havzalarında kurtarma kazıları başlamadan önce, Güneydoğu Anadolu'nun tarihöncesi kültürleri ile ilgili bilgilerimiz yok denecek kadar azdı; buna karşılık sınırımızın güneyinde Suriye, Doğu Akdeniz ve Mezopotamya'da tarihöncesi dönemleri kapsayan yüzlerce kazı yapılmış ve bölgenin kültür tarihi, hemen hemen Güneydoğu Anadolu'yu göz ardı edecek şekilde kurgulanmıştı. Bu bağlamda özellikle Halaf kültürünün çekirdek bölgesi olarak Kuzey Suriye ve Kuzey Irak kabul edilmiş, gerek Güneydoğu Anadolu ve gerekse Antakya-Çukurova bölgesindeki buluntu toplulukları, Halaf kültürü etkisinde kalmış yerel çeşitlemeler olarak yansıtılmıştı. Son yıllarda Güneydoğu Anadolu'da, başta Maraş Domuztepe, Tell İdris, Kazane gibi kazılarda ortaya çıkan zengin buluntular bile kalıplaşmış olan bu görüşü değiştirmekte yetersiz kalmıştı. Bu bağlamda Tell Kurdu, gerek yerleşimin boyutları, gerek mimarisi, gerekse buluntu topluluğunun zengin çeşitliliğiyle, Amik Ovası Kalkolitik kültürlerinin tarımcı köy topluluklarının gelişkin düzeye geçiş süreci açısından taşıdığı önemi açık bir şekilde yansıtmaktadır. Amik Ovası, bir yanda Güneydoğu Anadolu - Suriye, öte yanda Doğu Akdeniz kıyı şeridi ile Anadolu Yarımadası arasında kritik bir öneme sahiptir. Özbal'ın değerlendirmesi, bu geniş coğrafyadaki kültürel ilişkilerin anlaşılmasına yeni bir boyut kazandırmaktadır. Gökhan Coşkun'un Seyitömer Attika çanak çömleğini tanıttığı yazısı, Anadolu'nun Demirçağ kültürlerinin daha iyi anlaşılması açısından önemli bir katkıdır. Bilindiği gibi Anadolu'nun Antik Çağı üzerindeki çalışmalar, başta Ege olmak üzere kıyı şeridi üzerinde yoğunlaşmış, başka bir deyişle Antik Çağ Anadolu'sunun belirli bir coğrafi bölgeye özgü olduğu şekilde bir kanı gelişmişti. Aynı şekilde son yıllarda Ahamenid yayılımının Anadolu kültür tarihi üzerindeki etkisi giderek daha iyi tanımlanmış, ancak Ege dünyası ile Doğu dünyası arasındaki ilişkiler yeterince anlaşılamamıştır.

İç Batı Anadolu'da kapsamlı bir kurtarma kazısı olarak sürmekte olan Seyitömer Höyüğü'ndeki çalışmalar, Anadolu Yaylası ile Ege dünyası arasındaki bağlantı noktası üzerinde olması bakımından büyük bir önem taşımaktadır. Bu nedenle Anadolu'nun çok az araştırılmış olan bu bölgesini, Doğu-Batı ilişkileri açısından ele alan bu yazı, Demir Çağı'nı daha iyi tanımamızı sağlayacak bir çalışmadır. Ercan Aşkın'ın Korykos'un Hellenistik dönemi ile ilgili olan yazısı, Antik Çağ'da Kilikya olarak adlandırılan Çukurova'nın Hellenistik dönemine yeni bir açılım getiren önemli bir çalışmadır. Anadolu uygarlıklarının Akdeniz'e açılan kapısı ve Suriye-Mezopotamya kültürleri ile bağlantısı açısından kilit noktada olan Çukurova, her zaman arkeologların, tarihçilerin ilgisini çekmiştir. Her ne kadar son yıllarda Çukurova çevresindeki arkeolojik çalışmaların sayısı artmış ise de, bölgede hızını arttırarak gelişen plansız yapılaşma, bu önemli ve önemiyle orantılı olmayacak kadar az araştırılmış bölgedeki kültür varlıklarını tümüyle tehdit eder duruma gelmiştir. Çukurova her dönemde yoğun olarak yerleşilmiştir; özellikle özellikle Roma ve Ortaçağ sürecinde büyük kentler gelişmiş ve Ercan Aşkın'ın yazısında vurgulandığı gibi Hellenistik ve daha önceki dönemlerin izlerini örtmüştür. Ancak yazılı kaynaklardan da bildiğimiz gibi bölge, Hellenistik dönemde yadsınmaz bir öneme sahiptir. Korykos'un Hellenistik dönemini ele alan bu yazı, benzer birçok çalışmadan farklı olarak, o dönemdeki tarım işletmelerinin önemini vurgulaması bakımından, Hellenistik döneme farklı bir açıdan bakılmasını sağlayacaktır. İnci Delemen, Sedef Çokay-Kepçe ve Zülküf Yılmaz'ın Yündolan Tümülüsü bulgularını değerlendiren yazısı, ülkemizde genellikle göz ardı edilmiş olan Trakya kül-

tür tarihi açısından önemli bir çalışmadır. Trakya, tümülüsleriyle ünlenmiş, bir başka anlamda tümülüs kültürünün beşiği olan bir bölgedir. Atatürk, büyük bir öngörüyle Trakya tümülüslerinin Türkiye kültür tarihi açısından taşıdığı önemi sezinleyerek, Arif Müfit Mansel'i Trakya tümülüslerini incelemekle görevlendirmiş ve bu sayede başta Vize ve Kırklareli olmak üzere birçok tümülüs, zengin buluntularıyla belgelenerek ülkemizin kültürel zenginliğine kazandırılmıştır. Maalesef Atatürk'ün ölümünden sonra Trakya tümülüsleri ile ilgili bilimsel çalışmalar tümüyle durmuş ve bölgedeki binlerce tümülüs definecilerin tahribatına açık bir duruma gelmiştir. Son 50 yıl içinde Trakya tümülüsleriyle ilgili yapılmış olan çalışmalar, birkaç istisna dışında, definecilerin ardından arta kalanları belgeleyen çalışmalarla sınırlı kalmıştır. Bu nedenle definecilerin el atıp tam olarak talan etmesinden önce Kırklareli Müzesi'nin müdahale edebildiği Yündolan, büyük bir önem taşımaktadır. Her ne kadar Yündolan Tümülüsü, bölgenin görkemli tümülüsleri kadar zengin buluntular vermemişse de, bölgedeki ölü gömme geleneğindeki çeşitliğin bilimsel yöntemlerle ortaya konabilmiş olması açısından önem taşımaktadır. Murat Kılıç ve Onur Gülbay'ın Eski İzmir Değirmentepe Tapınağı'nı ele alan yazısı, hızla gelişen çağdaş kentlerimizin tarihi dokuyu ne ölçüde tahrip ettiğinin açık bir göstergesidir. Ülkemizde maalesef kent arkeolojisi tanımlı bir alan olarak gelişmemiş, uzak geçmişlere kadar inen önemli merkezlerle ilgili bilgilerimiz sistemli bir araştırmayla değil, rastlantısal bulgular çerçevesinde sınırlı kalmıştır.

Bu durum hemen hemen bütün tarihi kentlerimiz için söz konusudur; tarihi kentlerimizin ne kadar zengin bir geçmişin belgelerini içerdiği ancak son yıllarda, başta İstanbul Yenikapı, Urfa Haleplibahçe ve İzmir Agora çalışmalarıyla görülmüştür. Günümüzde yok olmuş olan Smyrna Değirmentepe Tapınağı ile ilgili verileri bir araya getiren yazı bu açıdan da büyük bir önem taşımaktadır. Bilindiği gibi Eski İzmir - Smyrna, Antik Çağ'da Ege dünyasının en önemli merkezlerinden biridir; her ne kadar İzmir'in tarihi çekirdeğinde yapılan çalışmalar, İzmir Havzası'nın İlk Tunç Çağı'na kadar inen görkemli geçmişini sergileyen buluntular vermişse de, bu merkezin ne kadar önemli olduğunu yansıtmaya yetersiz kaldığı da açıktır. Umudumuz kent arkeolojisinin gelişmesi ve tarihi dokuya sahip kentlerimizin geçmişinin kurtarma kazılarının sınırlılığıyla değil, bilinçli sistemli kazılarla ortaya çıkarılmasıdır. Zeynep Eres'in Suruç kubbeli mimarisi üzerine yapmış olduğu değerlendirme, mimarlık tarihi, etnoğrafya ile arkeolojik verileri bir bütünlük içinde ele alan ve Yakındoğu arkeolojisinde yoğun olarak tartışılan yuvarlak yapı sorununun çözümüne önemli bir katkıdır. Halaf dönemine ait "tholos" olarak da tanımlanan yuvarlak yapıların ortaya çıkışından bu yana söz konusu yapıların günümüzde Harran - Suruç - Halep bölgesi kubbeli köy yapılarıyla bir benzerliği olup olmadığı, birçok kez gündeme gelmiş olmasına karşın, söz konusu yapılar ayrıntılı olarak belgelenmediğinden tartışmalar sonuçsuz kalmıştır. Bu bağlamda Eres'in çalışması, bir yanda günümüz kubbeli yapılarının tüm çeşitlemesiyle ayrıntılı ilk belgelemesi olarak mimarlık tarihi açısından önem taşırken, aynı zamanda bu tür yapıların höyükleşme sürecini de yansıtarak etnoarkeoloji ve bölge arkeolojisine de önemli bir katkı yapmaktadır.

TÜBA-AR'ın geçen sayısından itibaren yeni bir uygulamaya, belirli bir konu üzerine odaklanmış farklı yazıları "dosya" konusu olarak bir arada sunmaya başlamıştık. Burada amacımız arkeolojide güncelliğini koruyan konuları, o konular üzerinde uzmanlaşmış araştırmacıların anlatımıyla tanıtmaktır. TÜBA-AR'ın 12. sayısında ele almış olduğumuz "kalay" konusunun görmüş olduğu ilgi, bu uygulamanın yararlı olduğunu bize göstermiştir. Uzun yıllardır Kafkasya ve Doğu Anadolu'da çalışmakta olan, bölgeye belirli bir dönem olarak değil, bir bütün olarak bakan Antonio Sagano, bu sayının dosya konusu olan Kafkas arkeolojisinin editörlüğünü üstlenmiş, Paleolitik Çağ'dan Demir Çağı'na kadar olan süreci yansıtan 9 yazıyı bir araya getirmiştir. Sagona'nın dosya giriş yazısında da vurgulandığı gibi Kafkasya, Avrasya stepleri, Doğu Anadolu ve İran kültür bölgelerinin arasında özgün coğrafyası, zengin hammadde kaynaklarıyla kültürel ilişkiler açısından özel öneme sahip bir bölgedir. Bölgenin yüksek dağ sıralarıyla birbirinden ayrılan ovalar dizisi şeklindeki topoğrafik yapısı, kültürel çeşitliliğin artmasına neden olmuş, bu nedenle de başka bölgelerle yapılan karşılaştırmalarda görüş birliği sağlanmasında her zaman sorun olmuştur. Kafkas arkeolojisi her ne kadar 19. yüzyılda zengin mezar buluntularıyla ilgi çekmişse de, Sovyetler Birliği zamanında bu bölge-

de yapılan çalışmaların Batı dünyasına yeterince yansımaması, Kafkas arkeolojinin gereği gibi anlaşılmasını engellemiş, Sovyetler Birliği'nin dağılmasından sonra burada kurulan cumhuriyetlerin ayrı dil ve alfabeler de yayın yapması da, ortaya çıkan sonuçların bilim dünyasına yansımasını engelleyen başka bir etken olmuştur. Ancak gene de son 10 yıl içinde Kafkas cumhuriyetlerinde çok sayıda yeni araştırma başlamış ve ortaya çıkan ilk sonuçlar, bölgeyle ilgili eski bilgilerimizin ne kadar eksik ve yanıltıcı olduğunu da açık bir şekilde göstermiştir. Bu bağlamda özellikle Gürcistan'da Dmanitsi'de ortaya çıkan kalıntıların 1.800.000 yıl gibi, şimdiye kadar Afrika dışında en eski kültür kalıntılarını vermesi, Azerbeycan Kobistan'da da zengin bir çeşitliliğe sahip kaya mezarlarının varlığı, bölgeye olan ilgiyi giderek daha da arttırmıştır. Yine son yıllarda yapılan araştırmalar, bölgenin Paleolitik ve Mezolitik Çağ'daki kültürel zenginliğinin yanı sıra, Neolitik Çağ'da bölgenin koşullarına özgü farklı bir yaşam biçimini ortaya çıkarması, Tunç Çağı'nda İran ve Mezopotamya ile olan canlı etkileşimin izlerini göstermesinin yanı sıra, daha önce hemen hemen yalnızca mezar buluntularıyla tanıdığınmız Kuban kültürünü farklı bir biçimde tanımlamamızı sağlayan bulgularıyla yeniden biçimlenmiştir. Antonio Sagona'nın bir araya getirdiği çalışmalar, Gürcistan, Ermenistan ve Azerbeycan'da halen sürmekte olan çalışmaları, toplu olarak yansıtması açısından, yalnızca ülkemiz için değil, arkeoloji dünyası açısından da önemli bir kazanımdır. Bu nedenle TÜBA-AR yayın kurulu olarak, Antonio Sagona'ya teşekkürlerimizi belirtmek isteriz.

YAYIN KURULU

THE APPEARANCE OF IMPRESSED POTTERY IN THE NEOLITHIC AEGEAN AND ITS IMPLICATIONS FOR MARITIME NETWORKS IN THE EASTERN MEDITERRANEAN

EGE'DE NEOLİTİK DÖNEM İÇİNDE GÖRÜLEN BASKI BEZEKLİ ÇANAK ÇÖMLEK VE DOĞU AKDENİZ'DEKİ DENİZ YOLLARI

Çiler ÇİLİNGİROĞLU

Keywords: Impressed pottery, Neolithic, maritime networks, Aegean basin, West Anatolia
Anahtar Sözcükler: Baskı bezekli çanak çömlek, Neolitik, deniz ulaşımı, Ege Denizi, Batı Anadolu

ABSTRACT

Archaeological data show that in the Eastem Mediterranean impressed pottery appears at the end of the Neolithic Period and disappears with the emergence of Halafian elements.Recently it became evident that this type of pottery appeared simultaneously on either side of the Aegean by 6100-6000 BC. As it has been previously noted by Perlès and Özdoğan, there are a number of common traits shared among the early farming communities of the Eastern Mediterranean an the Aegean such as subsistence patterns, some components of the material assemblages and use of specific technologies in daily life. In spite of the lack of data from the southern coastal strip of Turkey, in an overall assessment, it is evident that the simultaneous appearance of impressed pottery in the Eastern Mediterranean – implying the Levant and Northern Syria – and the Aegean was not coincidental.

The paper will present a comparative study of impressed pottery of the Eastern Mediterranean and Thessaly, mainly noting the similarities in the implementation of this decoration on the vessels and how they differ from those in the western parts of Anatolia. Considering the distribution pattern of impressed pottery on a supra-regional basis, it seems evident that there had been a well-established maritime route following the coastline between the Eastern Mediterranean and the Aegean, which after reaching the Aegean segregated into two distinct trajectories. Even though this type of pottery appears in the Aegean without any antecedents, it is evident that its introduction is not related to an interruption in the cultural sequence, thus implying that this decoration style was a cultural preference for these communitions On the other hand, in the northern Aegean, Macedonia and in Bulgaria, such decoration makes its appearance by the basal levels of Neolithic settlements; thus it is possible to surmise that its presence in this region may be related to arrival of new groups into the Aegean through the maritime routes.

ÖZET

Doğu Akdeniz'de Neolitik Çağ'ın son evrelerinde ortaya çıkan baskı bezekli çanak çömlek, Halaf dönemine geçiş aşaması ile birlikte ortadan kalkar. Son yapılan araştırmalar, bu tür çanak çömleğin MÖ 6100-6000 tarihlerinde Ege Denizi'nin her iki yakasında eşzamanlı olarak bulunduğunu göstermiştir. Perlès ve Özdoğan'ın yayınlarında belirttikleri gibi, Doğu Akdeniz ve Ege İlk Neolitik çiftçi toplulukları arasında, beslenme alışkanlıkları, çeşitli buluntu toplulukları ve günlük yaşamda kullanılan kimi özel teknolojiler açısından belirgin benzerlikler bulunmaktadır. Dolayısıyla, Türkiye'nin güney sahillerinde bu görüşü destekleyen arkeolojik veriler eksik olsa da, yaptığımız karşılaştırmalı değerlendirme sonucunda Doğu Akdeniz (Levant, Kuzey Suriye) ve Ege yerleşmelerinde baskı bezekli çanak çömleğin eşzamanlı olarak ortaya çıkışının raslantısal olmadığı görüşündeyiz.

Bu bağlamda özellikle Levant-Suriye ile Teselya Bölgesi'nde görülen baskı bezeklerin kap yüzeyine uygulanış şekillerindeki benzerlikler ve bunların hangi noktalarda Batı Anadolu'da görülen örneklerden ayrıldığı aşağıda ayrıntılı olarak incelenecektir. Baskı bezekli çanak çömleğin Anadolu'daki dağılımı göz önüne alındığında, Levant ile Ege arasındaki iletişim ve etkileşimin kıyıyı izleyen bir deniz yolu üzerinden olduğu ve Ege'ye ulaştıktan sonra birbirinden farklılaşıp iki ayrı kola ayrıldığını öngörmekteyiz. Her ne kadar Teselya ve Batı Anadolu yerleşmelerinde baskı bezekli örnekler öncülleri olmadan ortaya çıkmışlarsa da, bu durumun kültürel süreçteki bir kesintiyi yansıtmadığı, dolayısı ile de beğeni öğesi olarak benimsenmiş olduğu söylenebilir. Buna karşılık kuzey Ege, Makedonya ve Bulgaristan'daki İlk Neolitik döneme tarihlenen yerleşmelerde baskı bezekli çanak çömlek, höyüklerin en erken tabakalarından itibaren bilinmektedir. Bu durum bize söz konusu bezek türünün Ege'ye yalnızca bir beğeni öğesi olarak girmediğini, bölgeye deniz yoluyla ulaşan çeşitli topluluklarla da ilişkili olabileceğini düşündürmektedir.

INTRODUCTION

The aim of the contribution is to discuss the significance of impressed wares for reconfiguring multiregional networks in the Eastern Mediterranean and the Aegean around 6100-5700 cal. BC. The spatiotemporal distribution and morphological variability of impressed wares is a complex issue which requires scholarly attention for analyzing mobility and exchange relations during the advanced stages of the Neolithic in the Eastern Mediterranean.

It is common knowledge that impressed pottery is an important component of west Mediterranean Early Neolithic (EN) cultures. The general picture presented by current archeological data indicates that the appearance of first food-producing communities in Dalmatia, Italy as well as in southern France and Iberian Peninsula is archaeologically demonstrated by impressed pottery and domestic ovicaprines, i.e. the Mediterranean Neolithic package. There is compelling evidence that food producing groups gradually dispersed from East to West along the coastal Mediterranean regions in several centuries (Guilaine 2007). Impresso and Cardial pottery are different names given to the EN pottery in central and west Mediterranean and are associated with specific cultural packages in their respective regions (Barnett 2000: 93; Binder 2000: 122; Müller 1988).

In this paper, we will restrict ourselves to Eastern Mediterranean and the Aegean specifically to examine the distribution of these wares and their possible interrelationships. To this end, we will focus on the recent excavations carried out in Central-West Anatolia, especially at Ulucak, which provided new insights about the distribution patterns of the impressed wares and allowed us to define its local characteristics. In addition, two recently published monographs, on Argissa by Agathe Reingruber (Reingruber 2008) and Tell Sabi Abyad by Oliver Nieuwenhuyse (Nieuwenhuyse 2007), will provide us the most comprehensive data for comparing Ulucak evidence with contemporary sites from northern Syria and the Thessalian Plain.

This paper will try to make the case that organic links existed between the impressed pottery from the Eastern Mediterranean and the Aegean. One strong argument for the mutual interactions between the Levant and Aegean in terms of impressed wares is the similarity observed in the techniques implemented and the organization of the impressions. It should be underlined that, although making impressions on a pot is an unsophisticated practice, there are endless ways of executing and arranging these impressions. If we are able to detect analogies both in the techniques and in the arrangement of the designs among contemporary sites with similar socio-economical structures and material culture, then I think this phenomenon can not be argued away as a mere coincidence. This seems to be the case with Levantine, West Anatolian and Thessalian communities who produced similar impressed pottery around the same time. Catherine Perlés (Perlés 2001: 58-59; Perlés 2003; Perlés 2005: tab. 1) and Mehmet Özdoğan (Özdoğan 2005: 23; Özdoğan 2007b: 445) demonstrated in several publications that multiple components of the material culture as well as various specialized techniques display strong analogies in all these regions during the 7th-6th millennia BC. They also called attention to a coastal maritime route which seemingly by-passed the Anatolian landmass and reached as far as the western Aegean. I will argue that the similarities observed in impressed pottery from these areas concur well with their models and provide yet another aspect where Levantine-Aegean communities established cultural-social links and influenced each other.

IMPRESSED POTTERY AT ULUCAK

Ulucak is a mound located 25 km east of İzmir and is excavated since 1995 (Fig. 1). Six occupational levels comprising both prehistoric and historic periods are identified on the mound. The radiocarbon dates from levels IV-VI encompass a time span from 7040 to 5660 cal. BC at the 2 sigma range (Çilingiroğlu and Çilingiroğlu 2007).

The Neolithic levels, IV and V, are distinguished by differences in the building techniques. Level IV is characterized by substantial rectangular mudbrick buildings clustered around open areas. The structures from level V are again rectilinear but are built with a wattle-and-daub technique that gives a flimsy appearance to the houses. The community relied on agro-pastoral products for their subsistence (Abay 2005; Çilingiroğlu and Çilingiroğlu 2007). The great majority of the obsidian to the site was brought from Melos, proving that the Ulucak community was actively participating in the Aegean exchange networks (Pernicka 2009)[1].

Pottery from the site is dominated by fine-medium plain burnished wares. In the earlier level V, red slipped wares are accompanied increasingly with cream slipped and burnished wares (CSBW) and brown burnished wares, which are likewise fine-medium in quality. One of the properties of the Level V pottery is the occurrence of mineral non-plastic inclusions in comparison to the subsequent level. The quantity of pottery in phase Vf is strikingly lower than in the subsequent levels. Deposits assigned to Level VI contain no pottery so far.

At Ulucak, between phases Vf-Vb impressed wares do not occur. The earliest appearance of the impressed wares is attested at Level Va at Ulucak (6100-6000 cal. BC) which is represented by adjacent wattle-and-daub structures (Buildings 22-26 in Grid L13, Buildings 27, 28 in Grid N11). The common forms in this stage are small-medium sized neckless jars with globular bodies, jars with short necks and bowls with 'S' profiles in various sizes. Typically jars are accompanied by vertical tubular lugs or pierced knobs. Bases are mainly disc shaped, but flat and ring bases appear as well.

In Level IV, Red Slipped Burnished Ware (RSBW) and Gray Ware constitute almost the entire assemblage. RSBW is mainly chaff, sand and small grit tempered. The cores are either dark colored or with dark colored centers that indicate incomplete oxidization of the paste. In contrast, the surface colors are of light shades, mainly changing between orange, light brown, red to dark red. The surface typically contains slip and burnish. Burnishing is typically well done and results in bright to very bright surfaces. The form variability in this late stage is remarkable. Although the previous vessel forms like simple bowls and hole-mouth jars are still present, large jars with flaring or vertical necks, ellipsoid vessels, anthropomorphic vessels and a few fragments of offering tables are associated with the later occupation on the mound, especially with the extensively excavated building phase IVb.

As mentioned above, impressed pottery is encountered between levels Va-IVa on the mound and constitutes from 2-8% of pottery in all phases. In building phase IVb, most extensively excavated and with the biggest sample size, impressed pottery constitutes 4% of the entire assemblage. Impressions can be found on various ware groups but are typically observed on RSBW (58%) and Gray Ware (36%). A few cream slipped burnished ware (CSBW) sherds also carry impressions. In case of RSBW and CSBW, impressions are always applied over the cream or red slip after the vessel is burnished. Gray Ware, however, does not carry any visible layer of slip and is not burnished, having gray-brown mat surfaces and is decidedly coarser than RSBW and CSBW.

At Ulucak, impressions are mostly observed on small sized bodysherds and rarely on rimsherds which makes it difficult to correlate certain vessel types with impressed decoration (Fig. 2). There is only one complete jar from building phase IVh which gives us an idea of how the technique was applied to the vessel body (Fig. 3). The impressions cover the entire body except the area immediately below the rim. The shallow impressions are executed irregularly and with varying distances. Other rimsherds with impressions likewise demonstrate that the rim circle was left free of impressions whereas the rest was covered. The change in the orientation of the impressions observed on some pieces indicates that the person who applied the decoration rotated the pot in his/her hands as the decorating proceeded.

A variety of shapes is observed on other bodysherds from the site (Fig. 4). Most of the impressions are fingernail impressions or impressions in the shape of short horizontal lines. Shapes such as semi-circles, tear-drops and triangles are also seen on vessels, as well as various combinations of them. The impressions are either made with finger tips and/or nails or with sharp pointed instruments. Shapes such as triangles and tear-drops occur when an instrument is used to decorate the vessels. Tiny circles on some sherds may have been made by impressing the tip of a bone or a straw. There is high variability in the depth and intensity of the impressions. Some bodysherds show deep and intense impressions whereas others have irregular and shallow ones. There seem to be no strict rules governing the issue of impressed decoration, and care given to the execution varied from individual to individual.

CHARACTER OF CENTRAL-WEST ANATOLIAN IMPRESSED POTTERY

An intra-regional homogeneity emerges in the light of comparisons from contemporary sites in the region. All of the excavated 7th-6th millennia sites in the İzmir Region revealed impressed pottery and some of these are already published. Impressed pottery is attested at Ege Gübre 3-4 (Sağlamtimur 2007), Çukuriçi Höyük VIII (Horejs 2008), Yeşilova III Late (Derin 2007), Ulucak IV-Va (Çilingiroğlu et al. 2004) and Dedecik-Heybelitepe Level A (Herling et al. 2008). Interestingly, at Agio Gala Lower Cave on Chios no impressed pottery was found (cf. Hood 1981: 60) which may indicate that the cave was settled before the appearance of impressed wares in the Aegean. Surveys conducted in and around İzmir, such as at Tepeüstü (Caymaz 2008: çiz. I.10), Çakallar (Derin 2006: çiz. 4) and Araptepe (Lichter 2002: fig. 1), likewise produced impressed sherds. As at Ulucak IV-V, at all of these sites impressed wares co-occur with dominating RSBW and their percentage remains well below the other ware groups. For instance, at Dedecik-Heybelitepe Level A contained less than 1% impressed pottery (Herling et al. 2008: 21), although this may be a result of the restricted excavation area. Preliminary studies on Ege Gübre ceramics indicate that the percentage of the impressed pottery may be way below previous assumptions[2]. For the time being, it is early to make conclusive statements as quantitative analyses on pottery from most sites are in progress.

In the light of published material and our observations it seems possible to define the regional characteristics of impressed pottery for Central-West Anatolia:

1. Impressions cover the whole outer surface except the rim area,
2. The decoration is made out of unconnected (non-continuous) units,
3. Predominant shapes are circles, triangles, crescents, half circles and thin horizontal lines,
4. Finger-nail, finger-tips and instruments with pointed and circular edges were utilized,
5. Impressions are either made on slipped and burnished surfaces, mostly red, or on medium-coarse brown-gray colored unburnished pottery.

The properties defined above match to a great extent the 'Impresso A' horizon defined by Johannes Müller (Müller 1988) for the oldest Adriatic

impressed wares. Müller (Müller 1988: 106, fig. 7) maintains that Impresso A is characterized by "*simple unconnected impressions or incisions, covering the entire surface*". Whether it is appropriate to include Central-West Anatolian impressed wares into the 'Impresso A' horizon defined specifically for the Adriatic region is open to question. Nevertheless, the similarities in this early phase are worth highlighting for future research.

POTTERY PINCHED WITH FINGERS

In this section it seems appropriate to emphasize that there is a tendency to confuse some impressed pottery with finger pinched pieces. Finger pinching appears when wet clay is pulled and squeezed between two finger tips (thumb and index fingers). This decoration type is visually very similar to impressed designs made with finger tip impressions that involve pushing the wet clay downwards. Finger pinching, however, cannot be classified as an impression type as it is obviously created by pulling from two sides. Few finger pinched pieces were found at Ulucak such as the 'S' profiled bowl depicted on Fig. 5. They also appear, for instance, at Demircihöyük (Seeher 1987: taf. 5). On the other hand, chronologically and culturally, impressed and finger pinched pottery seem to belong together and it may be wrong to treat them as separate entities.

DISTRIBUTIONAL PATTERN OF IMPRESSED POTTERY IN NEOLITHIC ANATOLIA

Neolithic impressed pottery displays an interesting distribution pattern in Turkey. As far as the research status concerned we can identify a number of regions where impressed pottery occurs: Urfa-Diyarbakır Region, littoral Cilicia, Amuq Valley, and İzmir Region. Less pronounced appearances are recorded in the southern Lake District (Duru and Umurtak 2005), at Aphrodisias-Pekmez (Joukowsky 1986), Northwest Anatolia {such as Ilıpınar IX-VIII (Thissen 2001), Demircihöyük (Seeher 1987)}, Yarımburgaz 5 (Özdoğan and Koyunlu 1986) and Hoca Çeşme II (Bertram and Karul 2005). The recent work at Uğurlu on Gökçeada likewise produced low numbers of impressed pottery[3] whereas no such examples are published from Coşkuntepe in southern Troas (cf. Seeher 1990; Takaoğlu 2005). Despite sporadic occurrences, seemingly, Northwest Anatolia was marginal to the core distribution area of the impressed wares where, for instance, at Ilıpınar they make an appearance in levels IX-VIII and thereafter disappear completely (Thissen 2001: 40-41).

At Mersin-Yumuktepe impressed sherds constituted only 52 pieces as opposed to more than 20,000 undecorated sherds in levels XXVII-XXVI (6320-5840 cal. BC at one sigma) (Balossi-Restelli 2006: 16, 38, tab. 2.26).

The distribution at Lake District sites is worth discussing, as only the southern part of the area seems to have received the impact. At Höyücek's latest "Mixed Accumulation" a number of impressed pieces, which are both morphologically and visually similar to that of Central-West Anatolia, were discovered. They are found on bowls with convex or 'S'-shaped profiles as well as on jars and constitute 1-2% of this stratum's pottery assemblage (Duru and Umurtak 2005: 31, pls. 95-96). Judging from the dominance of painted wares from the Mixed Accumulation (around 80%), an Early Chalcolithic date, i.e. early 6th millennium BC, for the impressed pieces seems highly likely. Such a dating is also in accordance with Ulucak IV where analogous impressed wares were excavated. A small impressed bodysherd from an unstratified context from Bademağacı displays also intense, regular upside down triangular impressions (Duru 1996: lev. 14). Finally there is a jar fragment from Hacılar I with impressions (Mellaart 1970: pl. CXI.5) that cover the whole surface. The impressions are irregular and confined to shallow thin and short horizontal shapes. At Kuruçay, however, not a single impressed sherd was found (Duru and Umurtak 2005: 88).

Impressed pottery was not produced in the Lake District in similar quantities to Central-West Anatolia. Of importance, in my opinion, is the occurrence of impressed sherds at Höyücek and Bademağacı which are both located to the south of the Lake District and are therefore closer to the littoral areas. In this respect, it is worth mentioning that Bademağacı is located on Çubuk Beli, i.e. on a natural pass that links littoral with inland sites. This situation may imply that the impressed sherds from Höyücek and Bademağacı might be indicative of contacts with coastal regions. It does not seem out of place to mention that Early Chalcolithic deposits were indeed excavated at Karain Cave Chamber B in district

Antalya, where a paved surface and red-on-cream painted pottery, even a complete jar with funnel neck, was found (Yalçınkaya et al. 2008: 473, res. 1). Yalçınkaya and her colleagues (Yalçınkaya et al. 2008) indicates that the painted designs on the sherds resemble the "fantastic style" of the Lake District region, and thus may belong to the Hacılar V-II and Kuruçay 10-8 horizons. Karain, as the only littoral site excavated in the region with evidence from the EC period, verifies that the analogous ceramic traditions to Lake District were prevailing in this region and that both areas were in contact.

The most meaningful pattern we can observe is the quasi-absence of impressed wares in the Central Plateau, i.e. Konya Plain, Beyşehir-Suğla Basin, Melendiz and Bor Plains. None of the published reports presenting pottery from the LN and EC sites from Central Anatolia mentions these wares as a significant entity of ceramic assemblages and, even though sporadic occurrences are recorded, morphologically these do not correspond to the impressed wares of Urfa Region, Central-West Anatolia or the southern Lake District. Thus, it is justified to claim that the impressed pottery tradition did not penetrate into the Central Plateau or was not adapted by communities in those areas.

It would have been tempting to propose that impressed pottery in Turkey shows a good correlation with littoral areas, just like the west Mediterranean EN sites; however, impressed pottery is very well attested at late PN sites in inland regions of southeast Anatolia along with a number of sites from northern Syria. In this respect, upper Euphrates, Rouj Basin and the Balikh Valley present us with the best documented ceramic material which included large amounts and a high variety of impressed pottery. In these regions, impressed pottery appears towards the end of PN period at the beginning of the pre-Halaf sequence. Detailed analysis of pottery from Tell Sabi Abyad shows that the impressed examples occur between Levels 8-6 (pre-Halaf levels) and disappears with Level 5 (transitional Halaf) that covers a period from 6100 to 5950 cal. BC (Nieuwenhuyse 2007: tab. 3.4.1). Similarly, at Mezraa-Teleilat impressed pottery is associated with Level IIB2 which corresponds to the stage before the appearance of red slipped and pre-Halaf painted wares (Özdoğan 2007a: 196-197). It is understood that the impressed pottery phenomenon in this region was short-lived and came to an end with the onset of the Halaf Period.

One of the distinguishing characteristics of impressed pottery from southeast Anatolia and northern Syria is its high variability. Impressions may occur on burnished and unburnished surfaces or may be associated with pottery that belongs to different ware groups. For instance, at Mezraa-Teleilat they are found on buff straw tempered pottery, red slipped wares and dark faced burnished wares and co-occur with the so-called husking tray fragments (Özdoğan 2007a: figs 53-58). In contrast to Central-West Anatolian impressed pottery, in this region impressions are executed with a multitude of techniques which leave single as well as continuous patterns on the vessel surface. Comb-impression, shell-impression or the so-called 'rocker' techniques are common to the whole region resulting in continuous vertical lines, wavy dotted lines, continuous zigzag patterns or horizontal lines (Güldoğan 2007: 301). Also typical for the region is the application of a red band around the rim or on the body, especially the neck area, while impressing the rest of the vessel body. The combination of a red band and impressions are attested, among others, at Mezraa-Teleilat (Özdoğan 2007a: 196), Amuq A-B1 (Braidwood and Braidwood 1960), Mersin-Yumuktepe (Balossi-Restelli 2006: 38), Tell Sabi Abyad (Nieuwenhuyse 2007: pls. 48, 52), and Kosak Shamali (Balossi-Restelli 2006: fig. 11.4). Presence of continuous impressions and occasional combination with red bands will be of interest below when we discuss the Thessalian Early-Middle Neolithic impressed pottery.

IMPRESSED POTTERY IN THE AEGEAN

Since the great majority of the Aegean islands – excluding Crete or Gökçeada- remain unsettled during the EN (Cherry 1990), we will focus on mainland Greece in this section. The best documented region on mainland Greece with respect to Neolithic is, of course, Thessaly. At Argissa, one of the earliest Neolithic sites on mainland Greece, impressed pottery makes its first appearance during the ENIII period, i.e. around 6000/5900 cal. BC (Reingruber 2008: 214).

In Thessaly, not every EN-MN site revealed impressed pottery. For instance, it seems to be

absent at Sesklo in all phases and is rather confined to northeast sections of Thessaly (Wijnen 1982: 37). Reingruber also points out that there is an uneven distributional pattern with respect to impressed pottery in the whole of mainland Greece, whereby it appears only in west Thessaly, the region around Argissa, the Greek Macedonian district, and on the west coast of the land (Reingruber 2008: 253). At Achilleion impressed sherds were found in Levels IV-III (6000-5800 cal. BC) which are morphologically similar to Ulucak examples, although they include pieces with continued dotted impressions too (Winn and Shimabuku 1989: 92, figs 5.67, 5.68, 5.69). Appearance of impressed sherds in the younger levels on the mound together with red slipped and painted wares, as opposed to early strata I-II, fits perfectly with the sequential development observed at Argissa and Ulucak. This indicates that whatever the cause of the appearance of impressed wares on both sides of the Aegean was, it hit, so to speak, both sides at the same time. It is indeed very difficult to infer the causes behind this phenomenon. There is no break or cultural replacement along the sequences on mounds and impressed pottery may or may not have been linked to the arrival of new groups to the Aegean.

In the light of data from Nea Nikomedeia, Yannitsa B and Anzabegova on the Vardar/Axios Plain, where even the earliest strata includes impressed pottery, it may be possible to suggest that the appearance of impressed pottery coincides with the foundation of new sites in the northern sections of the Aegean. It is interesting to note that the impressed sherds from Yannitsa B are identical to the Central-West Anatolian types, especially the examples from Ege Gübre, as we defined above (cf. Alram-Stern 1996: abb. 43).

Similarly, the basal EN deposits from Bulgaria (northeast Bulgaria, western Thrace and Struma Valley) contain impressed pottery which date to the very beginning of 6th millennium cal. BC (Krauß 2009). Polyanitsa-Platoto and Koprivets, two 'monochrome' sites in northeast Bulgaria also contained very low amounts of impressed pottery (1%) in their basal layers (Stefanova 1996: 17; Todorova 1990: fig. 2).

In order to elucidate the data better, we need to compare the impressed pottery types from Thessalian and İzmir region sites. It is striking to observe that the impressed pottery from Argissa displays, in some cases, different techniques than in the İzmir region. For instance, as already mentioned above, at İzmir region sites sherds are devoid of continuous impressions made with comb-impression/rocker techniques. In contrast the comb impression technique (*Punktreihenzier*) was observed on 33 out 154 impressed sherds from Argissa (Reingruber 2008: 209-210). This leaves us with three significant observations as to the archaeological data:

1. Impressed pottery appears simultaneously on both sides of the Aegean Sea, around 6100/6000 cal. BC in similar amounts,
2. Fine red slipped and burnished pottery dominates the assemblages in the entire Aegean at this stage,
3. Impressions from Thessalian and İzmir Region sites show certain differences with respect to the technique and arrangement of the impressions.

As argued in the introduction, it is difficult to argue that Thessalian impressed wares appeared without any cultural-social links to the neighboring regions. Interestingly, impressions made with a comb-like instrument which produces dotted-lines such as at Argissa MN are attested in Northern Syria, Levant, Amuq and Urfa (Balossi-Restelli 2006: fig. 6.57). At these sites, impressions can be combined with red bands, a technique likewise attested at Argissa MN (Fig. 6).

In terms of absolute dates there seems to be good correlation between Thessalian and Levantine-North Syrian sites. Reingruber indicates that impressed pottery is encountered only after 6000 BC at Argissa which corresponds to the final EN and MN periods in this region (Reingruber 2008: tab. 3.3). According to the absolute dates from Tell Sabi Abyad impressed pottery made its appearance between 6100-5950 cal. BC (Nieuwenhuyse 2007: tab. 3.4.1). These dates clearly indicate that impressed wares were produced simultaneously in both regions by communities who despite the geographical distance seem to have achieved to maintain social-cultural bonds. Given that the radiocarbon dates from Argissa and Tell Sabi Abyad provide a high-resolution picture, it seems likely that impressed pottery appeared slightly earlier in the Eastern Mediterranean than in the Aegean. If this was indeed the case, then, we can surmise that once the impressed pottery tradition entered the

Aegean, perhaps through multiple maritime routes, it evolved into two divergent channels on both sides of the Aegean which resulted in the non-matching techniques we observe in west and east Aegean.

Returning to Central-West Anatolian sites there is no indication that Levantine-Syrian techniques such as shell, comb or rocker impressions were adapted, as, although Ulucak IV is contemporary with Tell Sabi Abyad 8-6 and Argissa ENIII-MN, these techniques are not encountered at the site or in the region.

It is unfortunate that in Central-West Anatolia it is not possible to discuss further evolution of impressed wares beyond 5700/5600 cal. BC because all the excavated sites so far were abandoned more or less simultaneously before the mid 6th millennium cal. BC. In Thessaly, pottery with impressions continues to be produced in low amounts during the MN period. As mentioned above, in Southwest Asia impressed pottery disappears with the beginning of the Halaf era. To conclude, although the similarities between Thessalian and Levantine impressed wares are quite compelling, supported by radiocarbon data and decoration techniques, a satisfying explanation of the interaction process between these regions is hard to establish due to lack of research and findspots on the southern Turkish coast.

ROLE OF THE MARITIME NETWORKS

As the Central Anatolian landmass remained, by and large, out of the impressed pottery phenomenon, we assume that the mutual bonds and influences between Levant and the Aegean were provided by a maritime route. In the face of archaeological evidence it is with great security established that maritime activities were part of the Neolithic way of life in the Aegean and Eastern Mediterranean that allowed people, animals, plants and goods to circulate (for details see Broodbank 2006; Broodbank and Strasser 1991; Cherry 1990).

The Eastern Mediterranean, including the Aegean, was navigated at least since the Upper Paleolithic (28,000 BP), as Üçağızlı Cave in Iskenderun Bay revealed evidence for pelagic fishing (Broodbank 2006: 207). Also common knowledge is the exploitation of obsidian sources on Melos since at least 11,000 BC as well as several Mesolithic findspots on Aegean islands such as on Youra and Kythnos from the 9th-7th millennia cal. BC (Sampson 2005: 131).

More organized seafaring is attested during the 9th-8th millennia cal. BC, when Cyprus, 65-100 km distant from land, was colonized by agro-pastoral communities, who were obviously able to produce seacraft (most probably without sails) suitable for such a long trip[4]. Moreover, these founder groups did not consist merely of humans but also included sheep, goats, cattle, fallow deer, cats, house mouse, wheat, barley and many other animals and plant species, which were supposed to ensure survival once settlers arrived to the island (Peltenburg 2004).

According to Broodbank and Strasser (Broodbank and Strasser 1991), agro-pastoral seafaring entailed different ideological parameters than forager seafaring, as the purpose was fundamentally different, technology differed, and, of course, much more careful planning was involved. They estimate that a founder group of a minimum of 40 individuals had to carry around 15,000-19,000 kg of food substances in order to survive the first winter until they could create their fields and begin to harvest (Broodbank and Strasser 1991: tab. 2). The presence of Göllüdağ obsidian at PPN sites on the island supports our suggestion that regularly organized voyages between mainland and Cyprus were conducted (Balkan-Atlı and Cauvin 2007: 210; McCartney 2004: 112).

The deep antiquity of seafaring and fishing in the Eastern Mediterranean and the technological progress reflected in the successful colonization of Cyprus point out that mostly coastal waters but also the open sea were explored by Neolithic communities, who must have transmitted the knowledge of navigation and technology from generation to generation. In many cases, especially in the Aegean, coastal transportation must have been easier and safer in comparison to land transport. Broodbank (Broodbank 1999: fig. 1.4) calls such areas 'Seafaring Nurseries' and suspects high maritime activity to have taken place at such localities (Fig. 7).

In the light of the vast distribution of impressed pottery at the end of the 7th millennium cal. BC in the Eastern Mediterranean, it is reasonable to think that its dispersal in the region was connected to the established maritime routes which were already

serving various purposes ranging from colonization, exchange activities, and raw material procurement, to fishing and enabling multiple ways of social communication among many groups-whose traces can be observed in the material culture by the archaeologist today.

Fernand Braudel in his masterpiece *'The Mediterranean and the Mediterranean World in the Age of Philip II'* provides a wide breadth of information on ships, sea routes, trade relations, harbor towns, insurance rates and ecological conditions of seafaring across the Mediterranean during the 16th century; he (Braudel 1972: 105-108) elaborates on the importance of coastal routes for the Mediterranean seafaring by citing several historical incidents and correspondences. 'Slow-Motion Shipping' is the term he suggests for coastal seafaring which involves frequent stops at coastal settlements, be it as shelter from a strong wind, for trading merchandise or acquiring drinking water. Thus, coastal seafaring was not only safer and less challenging to seafarers but also offered multiple opportunities for the crew:

> "*Every sailor, from captain to cabin-boy would have his bundle of merchandise on board, and merchants or their representatives would travel with their wares. The round trip, which could last several weeks or months, was a long succession of selling, buying, exchanging, organized within a complicated itinerary. In the course of the voyage, the cargo would often have completely altered its nature…Only the big specialized salt and grain ships had any resemblance to the destination-conscious shipping of today. The others were more like travelling bazaars.*"

The type of seafaring described above is no doubt applicable to Late Bronze Age maritime trade in the Eastern Mediterranean as reflected in the cargo of the Uluburun shipwreck. To apply analogous principles to Neolithic seafaring may seem exaggerated in the first instant, but in the light of compelling archaeological evidence summarized above, in my opinion, smaller scale expeditions on the coastal routes which involved many social-cultural contacts along with exchange of various goods, i.e. a Neolithic type of slow-motion seafaring, is not implausible.

To sum up, although, admittedly, archaeological evidence from southern Turkish coast is not available to test our hypothesis, there are many other archaeological insights that speak for established seafaring during and even before the Neolithic. In that sense, it is in no way far-fetched to build upon the assumption that aquatic routes were as significant as land routes in the prehistoric East Mediterranean. The issue with the impressed wares is clearly embedded in the recognition of such routes established through cumulative know-how and the technology of navigation.

CONCLUSION

This paper focused on the impressed wares in the Eastern Mediterranean and the Aegean which make their appearance at the end of the 7th millennium cal. BC. We introduced the impressed pottery repertoire from Ulucak and suggested that Central-West Anatolian impressed pottery shares a number of distinctive common traits. Listing these traits enables us to recognize intra-regional homogeneity on the one hand, and detect its contrasting properties with those of other regions.

In the second part we concentrated on the distributional patterns of this specific pottery type and demonstrated that there are analogous traits between Levantine-North Syrian and Thessalian impressed pottery groups that are reflected in the techniques and arrangement of the designs which are interestingly absent in West Anatolia. Most distinctively, the Thessalian and Syrian impressed pottery include continuous patterns whereas impressions observed at Central-West Anatolian sites are always made of single, non-continuous units. With the help of radiocarbon dates and other material cultural similarities, already noted by other scholars, we argued that the co-appearance of impressed wares on both sides of the Aegean as well as the technical similarities observed between Levantine-Syrian and Thessalian impressed pottery need to be treated as products of social-cultural interactions across the Eastern Mediterranean. Such contacts must have been maintained by groups active in the coastal maritime routes that were seemingly established already before the onset of the Neolithic, exemplified in the early colonization of Cyprus. The challenge for archaeologists is to reconstruct the technological and organizational aspects of Early Holocene seafaring in the Eastern Mediterranean and configure the operating long-distance exchange networks.

NOTLAR

[1] Neutron Activation Analysis (NAA) conducted on around 40 obsidian samples from levels IV-V demonstrated that all submitted samples were acquired from Melian sources (Pernicka 2009). I would like to thank Prof. Ernst Pernicka and Curt-Engelhorn-Zentrum für Archäometrie in Mannheim for the analysis. In 2000, XRF analysis made by Katsuji Kobayashi from Japanese Institute of Anatolian Archaeology showed possible presence of a very few Göllüdağ East obsidian at Ulucak IV (personal comm. K. Kobayashi). The statement in Ulucak monograph claiming most obsidian from the site stems from Central Anatolia (Çilingiroğlu et al. 2004: 52) relied exclusively on this information, which needs to be revised in the light of recent NAA results.

[2] Personal communication with Ali Ozan, MA.

[3] I would like to thank Dr. B. Erdoğu for the information he provided on Uğurlu. For details also see Erdoğu 2003.

[4] The earliest evidence for sails in the Eastern Mediterranean is attested on an Egyptian pot depicting a sail boat and dates to 3100 BC (McGrail 2001: 19, fig. 2.5). The round ceramic piece from H3 in Kuwait from 6th millennium BC is said to demonstrate a sail boat as it has two masts (Carter 2006: 55), however, until the Egyptian jar, there are no other representations of sails in the art, nor are there any archaeological indications for it. Thus, it seems highly sceptical that H3 disc from the Gulf Region depicted a sail boat. In Aegean, sails are first depicted on Middle Minoan seals from 2000 BC and none of the boat depictions from Aegean EBA sites show sails (McGrail 2001: 110-112). Sail boats must have appeared somewhere around at the end of 3rd millennium BC in the Aegean, perhaps as a result of interaction with Egyptian sea-farers.

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Fig. 1 - Sites mentioned in the text.

Fig. 2 - Impressed pottery from Ulucak IV.

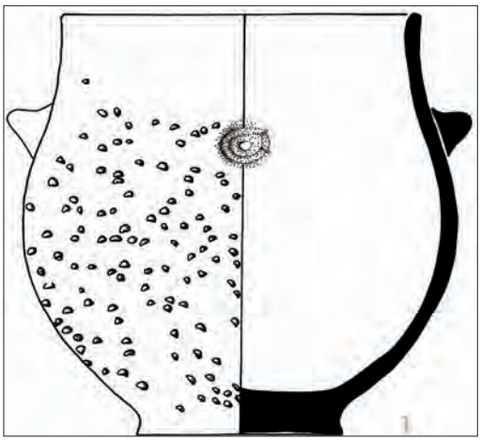

Fig. 3 - Impressed jar from Ulucak IVg. (illustration by Canan Karataş)

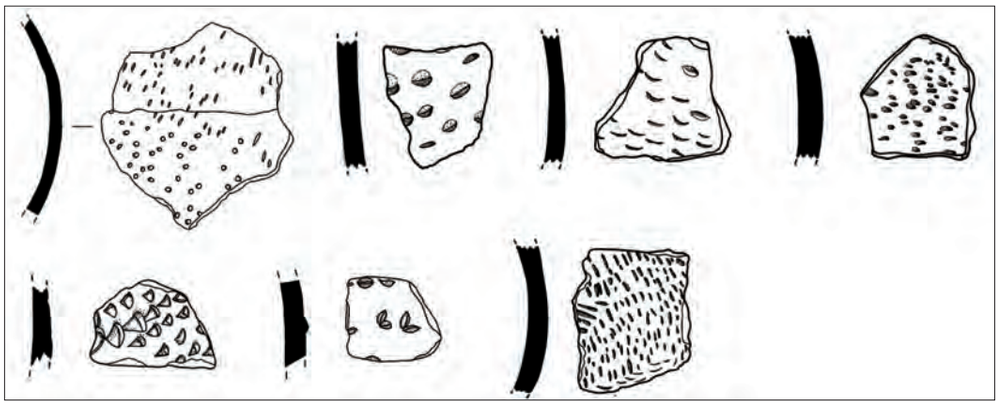

Fig. 4 - Various impression techniques from Ulucak.

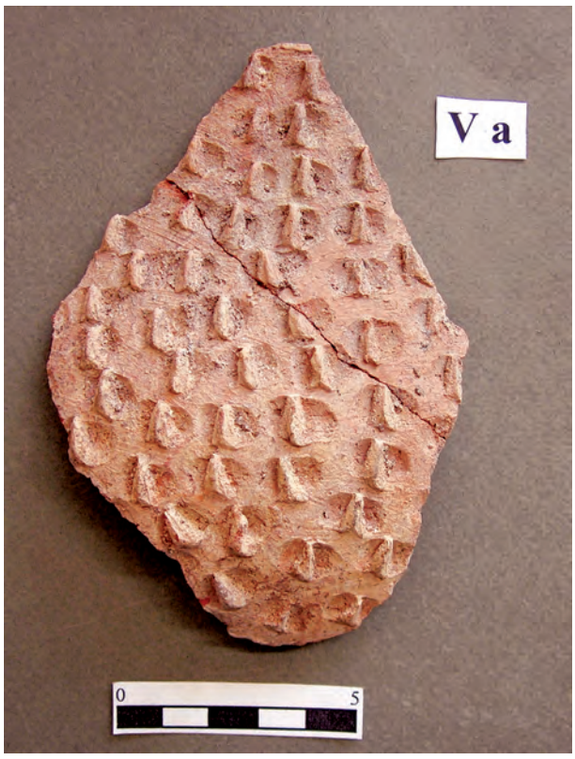

Fig. 5 - Finger pinched vessel from Ulucak Va.

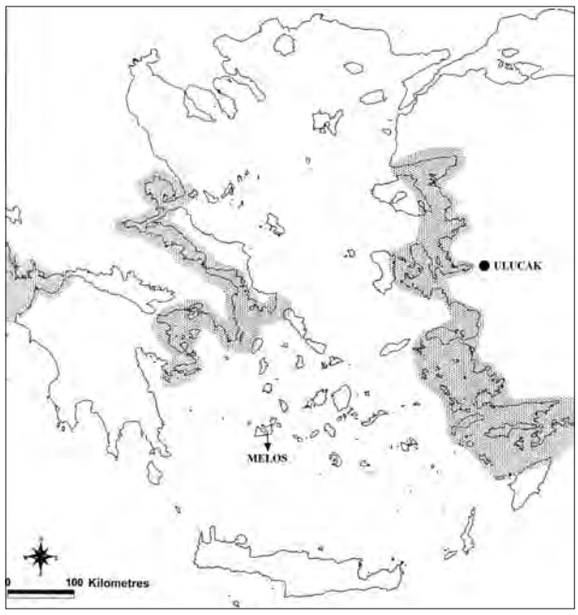

Fig. 7- Seafaring Nurseries. (after Broodbank 1999: fig. 1.4)

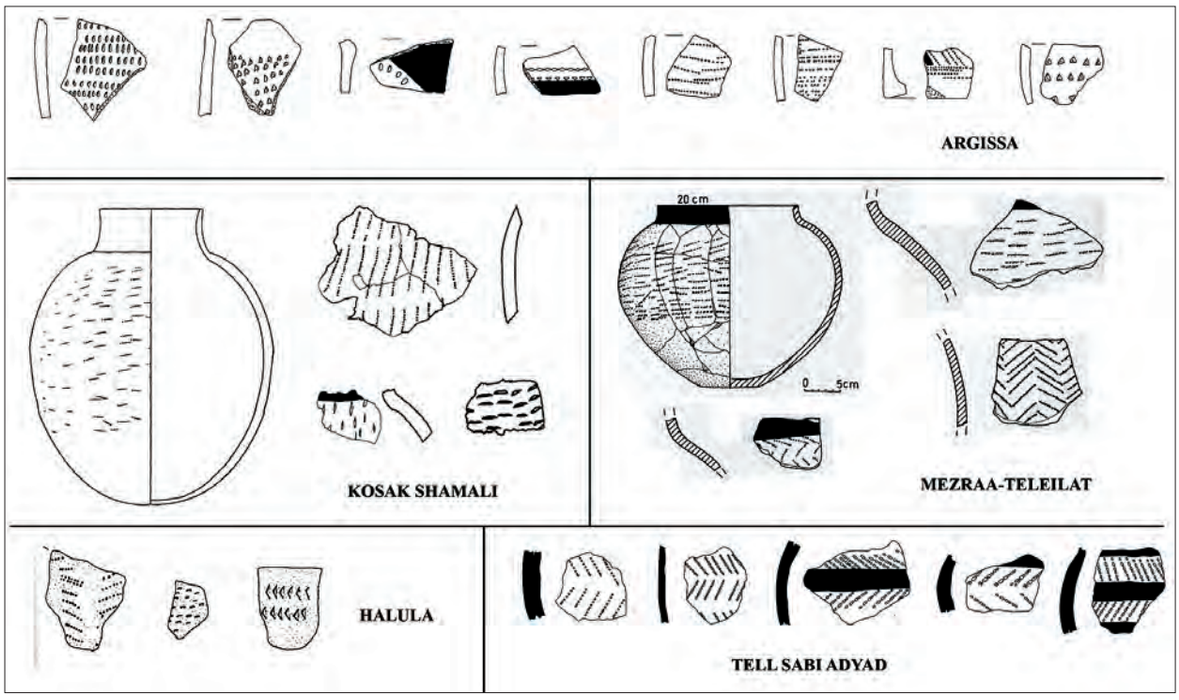

Fig. 6 - Comparative chart with impressed pottery from various sites in the Eastern Mediterranean.

AFYONKARAHİSAR'DA İKİ ÖNEMLİ SON NEOLİTİK / İLK KALKOLİTİK DÖNEM YERLEŞME YERİ: EYİCE VE PANİ HÖYÜK

TWO IMPORTANT LATE NEOLITHIC / EARLY CHALCOLITHIC SITES NEAR AFYONKARAHİSAR: EYİCE AND PANİ MOUNDS

Özdemir KOÇAK - Mustafa BİLGİN

Keywords: Eyice Mound, purplish red painted pottery, Afyonkarahisar, Aslanapa, Inland Mid-west Anatolia

Anahtar Sözcükler: Eyice Höyük, morumsu kırmızı boyalı çanak çömlek, Afyonkarahisar, Aslanapa, İç-Batı Anadolu

ABSTRACT

A number of Late Neolithic and Early Chalcolithic sites have been recovered during recent surface surveys carried out along the fringes of western Anatolia, considerably contributing to our understanding of the cultural happenings that took place in this region. In this respect, the finds from the Eyice Mound located to the northwest of Sinanpaşa, west of Afyonkarahisar deserve a special attention. The site is located on the natural route heading towards Kütahya. The mound yielded not only the typical painted pottery of the Lakes District to the south, but also the purplish red or brown painted pottery groups of the so-called Aslanapa Culture known from the northern parts of Afyon and the entire extent of the Kütahya province. Aslanapa type of pottery has also been collected from the Pani Mound situated in the west of Bolvadin. Thus, it became clear that the distribution area of the Aslanapa Culture extended further to the east to cover Bolvadin, east of Afyonkarahisar.

ÖZET

İç Batı Anadolu'da son yıllarda yapılan yüzey araştırmalarında saptanan bazı buluntu yerleri, bölgenin Son Neolitik-İlk Kalkolitik dönem kültürleri ile ilgili önemli yeni verilerin ortaya çıkmasını sağlamıştır. Bu bağlamda, Afyonkarahisar'ın batısında, Sinanpaşa'nın kuzeybatısındaki Eyice Höyük buluntuları özel bir önem taşımaktadır; burada daha güneyde Göller Bölgesi'nin özgün boya bezemeli çanak çömleğinin yanı sıra, Afyon'un kuzeyi ile tüm Kütahya bölgesinde yaygın olan Aslanapa kültürünün pembemsi kırmızı ve kahverengi boya bezemeli çanak ömleğine ait örnekler de bulunmuştur. Aslanapa türüne giren boya bezemeli parçalara ayrıca Bolvadin'in batısındaki Pani Höyüğü'nde de rastlanmıştır.

I. GİRİŞ

Batı Anadolu Bölgesi'nin Son Neolitik Çağ (SNÇ) ve İlk Kalkolitik Çağ'ı (İKÇ) ile ilgili bilgilerimiz son yıllarda, özellikle Ulucak, Yeşilova, Ege Gübre, Çukuriçi ve Dedecik-Heybelitepe'de yapılan arkeolojik kazı çalışmaları ile artmıştır[1]; ancak sözü edilen dönemlerle ilgili olarak bu bölgenin İç Batı Anadolu kesiminde araştırmalar yetersizdir. Bundan dolayı, Orta İç Batı Anadolu'nun, Neolitik ve Kalkolitik dönemine ait çanak çömlek grupları hakkında sağlıklı yorumlar yapmak güçtür. Bölgede Uşak-Sivaslı Selçikler'de yapılan kazılarda SNÇ/İKÇ boyalılarına rastlandığı bilinmektedir (Özdoğan 1999: 169). Ayrıca son yıllarda, Afyonkarahisar çevresinde tarafımızdan yapılan yüzey araştırmaları (Koçak 2004, 2006) ile E. Abay başkanlığında Çivril Ovası'nda yürütülen çalışmalar (Abay ve Dedeoğlu 2007) bu konuya ışık tutacak önemli sonuçlar vermektedir.

Afyonkarahisar çevresinde yaptığımız araştırmalar, bölgeye Neolitik Çağ'dan itibaren yerleşildiğine işaret etmektedir. Bu durum, Orta İç Batı Anadolu'nun tümü için de geçerlidir. Höyüklerin büyük çoğunluğunda eski dönemlere ait tabakaların, çok daha geniş yayılım alanına sahip olan sonraki dönemlere ait tabakalar tarafından kapandığını düşünürsek, bölgedeki Neolitik ve Kalkolitik Çağ yerleşmelerinin aslında yoğun olduğunu söyleyebiliriz. Buna en iyi örneklerden biri Pani Höyük'tür. Bu yerleşmede SNÇ/İKÇ malzemelerine ancak sistemli ve uzun süreli bir araştırma sonucunda ulaşmak mümkün olabilmiştir. Buna rağmen yerleşmede, sözü edilen döneme ait bulguların sayısı 10'u geçmemektedir. Aynı durum olasılıkla bölgedeki diğer yerleşmeler için de geçerli olmalıdır. Örneğin bu kesimde stratejik açıdan çok önemli bir konumda ve çok geniş bir yayılım alanına sahip olan Bolvadin Üçhöyük'ten Afyonkarahisar Arkeoloji Müzesi'ne Neolitik ve Kalkolitik Çağ'a ait buluntuların gittiği bilinmekteyse de, bu yerleşmede yaptığımız uzun araştırmalara rağmen, bu döneme ait sınırlı sayıda malzemeye ulaşabildik. Bölgenin SNÇ/İKÇ kültürlerini tanımakta en büyük engel bu durumdur. Verimli alanlarda yer alan Neolitik ve Kalkolitik dönem yerleşmelerinin üzerleri özellikle Tunç Çağı ve Hellenistik-Roma dönemi kültürleri tarafından kapanmış olsa da, günümüzde bazı yerleşmeler üzerinde yapılan tarımsal etkinlikler bu eski tabakaların, Eyice Höyük'te olduğu gibi, ortaya çıkmasını sağlamaktadır.

Uşak, Afyon ve Kütahya illerini içine alan Orta İç Batı Anadolu'da Neolitik ve Kalkolitik Çağ yerleşmeleri, çoğu zaman daha geniş bir yayılım gösteren İlk Tunç Çağı, Orta Tunç Çağı, Hellenistik ve Roma dönemleri yerleşmeleri tarafından kapandığından dolayı, bu bölgenin söz konusu devirler bakımından taşıdığı önem henüz yeterince anlaşılamamıştır. İleride bölgede yapılacak kapsamlı araştırma ve kazıların bu durumu açık bir şekilde ortaya koyacağına hiç şüphe yoktur.

Özellikle, bu bölgedeki Eyice (Hüyüğün Dibi) ve Pani yerleşmelerinde, SNÇ ve İKÇ özelliklerini belirgin bir şekilde yansıtan malzeme grupları bulunmuştur. Afyonkarahisar çevresinde, bunların dışında erken dönemleri temsil eden başka yerleşmeler de saptanmıştır. Bunların arasında; Pirenlik, Baldanlar, Ahaların Çeşme 1, Pazarcık, Gövem Mevkii, Arslan Tepesi, Maltepesi, Sinneli, Karakaya, Bolvadin-Üçhöyük başta gelmektedir (Res. 1).

Burada ele alacağımız yerleşmelerden Eyice Höyük Sinanpaşa, Pani Höyük ise Çobanlar ilçesi sınırları içerisinde yer almaktadır.

Eyice Höyük: Eyice Köyü'nün 2 km güney-güneybatısında, Mercimek Tepe yerleşmesinin 1,5 km güneyinde, Akçaşar'ın 3 km kuzeydoğusunda ve Başkimse Köyü'nün 2 km batısında, GPS ölçümüne göre $N38^{0}51.798'$ $E030^{0}10.336'$ El: 1163 Ac: 6 konumunda olan Eyice Höyük yerleşmesi, köylüler tarafından "Hüyüğün Dibi" ismi ile de anılmaktadır. Höyüğün 60 m batısından Afyon-Uşak tren yolu geçmektedir. Doğal bir tepe üzerinde, önemli bir su kaynağının yakınında ve bir vadi içinde konumlanmış olan höyüğün 40 m kuzeybatısında bir kaynak ve bir çeşme bulunmaktadır. Yerleşmenin doğu-batı uzantısı 185 m, kuzey-güney uzantısı 165 m, taban seviyesinden yüksekliği ise 19 m'dir (Res. 3, 5). SNÇ/İKÇ buluntuları, özellikle yerleşmenin batı yamaçları ve zirvesinde bulunmuştur (Res. 7:16; 18:21; 22:1-3).

Pani Höyük: Bu çalışmada ele alınan ikinci yerleşme yeri olan Pani Höyük, Çobanlar İlçesi, Kocaöz Kasabası sınırları içinde (Res. 1), Bolvadin'in 16 km batısında, Bolvadin-Çobanlar yolunun 1 km

güneydoğusunda, Kocaöz Kasabası'nın 6 km güneydoğusunda, Arapdede (Hamidiye) yerleşmesinin 4 km kuzeybatısında ve GPS ölçümüne göre N38^{0}41.540' E030^{0}52.175'El: 983 Ac: 4 konumundadır. Güneydoğu-kuzeybatı yönünde uzanan höyük, 160x110 m ölçülerinde olup, ovadan yüksekliği 7 m'dir (Res. 4, 6) (Koçak 2004: 43; Koçak 2006: 84).

Aşağıda değinilecek olan Pelitler kültürünü temsil eden birkaç parçanın yanında İlk Kalkolitik Çağ'a ait boyalı çanak çömlek parçalarının da bulunduğu (Res. 17; 22: 4-7) (Koçak 2004, 2006; Özsait 2001: 214, fig. 2:27) Pani Höyük, Aslanapa ve Pelitler kültürlerinin kronolojik süreç içindeki yerlerinin saptanması bağlamında büyük önem taşımaktadır.

Eyice Höyük'de Son Neolitik Çağ / İlk Kalkolitik Çağ'a tarihlenen çok sayıdaki çanak çömlek parçasının önemli bir kısmı, bölgenin belirgin boya bezemeli çanak çömlek buluntu toplulukları ile benzeşmektedir (Res. 8:16). Söz konusu çanak çömlek topluluğu üzerinde çalışmış olan T. Efe, bu grup içerisinde yer alan morumsu kırmızı astarlı ya da boyalı grup yanında, krem üzerine kahverengi ya da kızılkahverengi boya bezemeli çanak çömleğin de Hacılar'dan ziyade Aslanapa kültür grubu içerisinde değerlendirilmesi gerektiğini söylemektedir (Efe 1993: 20; Efe 2001: 48, 54, 74, 124, pl. XIV:a)[2] . J. Mellaart da Güneybatı Anadolu'da benzeri boya bezemeli Kalkolitik Çağ çanak çömleğinden söz etmektedir (Mellaart 1954: 188 vd.; Mellaart 1961: 164, 177 vd.). T. Efe'ye göre bu Kalkolitik Çağ çanak çömleği Konya Ovası'ndan kuzeybatıda Marmara Denizi'ne kadar olan geniş bir alanda yayılmış olmalıdır (Efe 2001: 54, dpnt. 36).

Aslanapa grubunun morumsu kırmızı çanak çömleği Uşak'ın güneyinde Adatepe yerleşmesinde de saptanmıştır (Efe 2001: 58, fig. 21:326, 332). Nitekim, Son Neolitik Çağ / İlk Kalkolitik Çağ'a tarihlenen bezemeli örneklerin benzerleri Çivril Ovası araştırmalarından da bilinmektedir (Abay ve Dedeoğlu 2007: 278 vd., 286, res. 4). Bu durum, Aslanapa kültür özelliklerinin Orta İç Batı Anadolu'da, Eskişehir bölgesi de dahil olmak üzere, geniş bir alana yayıldığını göstermektedir.

Afyonkarahisar kültürlerinin batı ile ilişkisi başka örneklerle de bilinir. J. Mellaart, Uşak/Dutluca mallarının yayılım alanını, doğuda (yaklaşık Hacılar I-MÖ 5.250-5.000) Afyonkarahisar'ın batısındaki bir alana kadar genişletmiştir (Mellaart 1970: 437, pl. 156:2)[3]. Ayrıca, Uşak-Sivaslı İlçesi Selçikler'de SNÇ/İKÇ boyalılarına rastlanması ve Selçikler'in, Eyice Höyük'e çok yakın bir mesafe olması (Özdoğan 1999: 169) bu ilişkinin kanıtları arasındadır.

II. ÇANAK ÇÖMLEK

Burada ele alınan çanak çömlek, Son Neolitik Çağ (yak. MÖ 6000-5800) ve İlk Kalkolitik Çağ (yak. MÖ 5800-5000) olmak üzere, Kuruçay kronolojisi esas alınarak (Duru 1994) iki ayrı dönem altında incelenmiştir:

Son Neolitik Çağ

Eyice Höyük'te bu döneme tarihlendirilebilecek az sayıda çanak çömlek bulunmuştur (Res. 7-8; 18: 1-9). Bu çanak çömleklerin hamur özellikleri incelendiğinde, hamur renginde kırmızı, kahverengi, kahverengimsi gri renkler ile bu renklerin tonlarının hakim olduğu gözlenir. Hamurun içeriğinde, yoğun taşçık dışında fazla katkı görülmez. Astar daha çok kahverengi ve tonları şeklindedir. Boya bezeme, kırmızımsı kahverengi tonlarında olup, kalın bantlar şeklinde uygulanmıştır. Yüzeyler iyi açkılıdır. Belirleyici biçim dışa dönük şişkin dudaklı, küresel gövdeli derin kaselerdir (Res. 7; 18: 1-5). Ayrıca sepet kulplara ait iki parça da bulunmaktadır.

Bu grup içinde değerlendirilen hafif dışa dönük şişkin dudaklı parçaların ağız çapları 13-14 cm arasında değişir (Res. 7a-c; 18: 1-3). Sağlam olarak ele geçmeyen parçalar ağız kenarının hemen altından içbükey bir profil yaparak karına doğru genişler. Profil olasılıkla kaideye doğru daralarak düz bir diple tamamlanır. Örneklerden birinin ağız çapı 15 cm, hafif dışa dönük dudaklı ve hemen ağız kenarı altından genişleyen küresel karınlıdır ve düz dipli olduğu düşünülmektedir (Res. 7e; 18: 5).

Eyice Höyük'te ağız çapı 17 cm olan hafif dışa dönük dudaklı ve profili 'S' kıvrımlı bir kase parçası da bulunmaktadır (Res. 7d; 18: 4).

Eyice Höyük'ün Son Neolitik Çağ'ına tarihlediğimiz çanak çömleklerin bazı benzerlerini Hacılar IX (Duru 2007; Mellaart 1970), Kuruçay GNÇ (Duru 1994, 2007), Höyücek EYD-KAD (Duru 2007, 2008;

Duru ve Umurtak 2005) Orman Fidanlığı (Efe 2001), Aslanapa (Efe 1993), Canhasan 7-4 (French 2005), Kızılkaya (Bademağacı) (Mellaart 1961)[4], Pelitler (Özsait 2001), Ulucak IVa-IVb1 (Abay 2003; Çilingiroğlu vd. 2004; Çilingiroğlu ve Çilingiroğlu 2007), Ege Gübre (Sağlamtimur 2007), Yeşilova (Derin 2007), Dedecik-Heybelitepe (Lichter ve Meriç 2007), Fındık Kayabaşı (Efe 1995) ve Ilıpınar (Thissen 1995) malzemeleri arasında görmekteyiz.

İlk Kalkolitik Çağ

Eyice Höyük

Eyice Höyük'te bulunan ve İlk Kalkolitik Çağ'ı temsil eden çanak çömlek incelendiğinde, üç ana grup saptanmıştır.

Bunlardan birinci grubu krem ya da beyaz astar üzerine kızıl-kahverengi, mor ya da kırmızı ve tonları şeklinde boya bezemeli olan grup oluşturur. İkinci grup, astarı griye çalan zemin üzerine kahverengi boya bezemeli çanak çömlektir (Res. 9:15; 18: 10-16; 19:21). Üçüncü grup ise, morumsu kırmızı astarlı ya da boyalı çanak çömlektir (Res. 16, 22: 1-3). Bu son iki grup, aynı özelliklerle Aslanapa yerleşmesinde de bulunmuştur. Morumsu kırmızı astarlı ya da boyalı çanak çömlek, özellikle Eskişehir bölgesindeki Orman Fidanlığı ve Kanlıtaş yerleşmelerinden bilindiği üzere, kuzeydeki Porsuk kültürünün en belirleyici mal gruplarından birini oluşturur.

Her üç grupta da hamur özelliklerinin birbirlerine benzediği görülmektedir. Burada hamur renkleri kırmızıdan kahverenginin tonlarına dönüşmektedir. Hamurların bazısı özlü ve genellikle ince taşçık katkılıdır. Mika ve bitki-saman katkısı ise genellikle görülmez.

Eyice Höyük İKÇ mal grupları içinde iki ana mal grubu belirlenmiştir. Çömlek ve kâselerden oluşan biçimlerin özellikleri şu şekildedir:

Eyice Höyük İKÇ çömleklerinden üç parça, daralan ağızlı, kısa boyunlu çömlektir. Bu örnekler (Res. 9d, f-g; 18: 13, 15-16) dışa çekik dudaklı olup, hemen ağız kenarı altından genişleyerek küresel bir karınla devam etmektedir. Ağız çapları 8-10 cm arasında değişmektedir. Genişleyen küresel karının dibe doğru daralarak düz bir diple son bulduğu düşünülmektedir. Parçalardan biri (Res. 9g; 18:16), ağız kenarının oldukça yayvan bir akıtacak şeklinde yapılmasıyla diğer örneklerden ayrılmaktadır. Bu grubun kendi içindeki farklılıklarını belirleyen bir özellik de, dışa çekik kenarın biçimlendirilişidir. Üç parçada (Res. 9d, f-g; 18: 13, 15-16) dudak diğerlerine göre daha belirgin şekilde dışa doğru çekilerek yapılmıştır.

Dışa dönük ağızlı çömlek grubuna ait bir örnek vardır (Res. 9e; 18: 14). Oval dudaklı parçanın kenarı hafif dışa çekik olarak yapılmıştır. Ağız kenarından itibaren düz olarak aşağı doğru daralmakta olan gövde, olasılıkla düz bir diple son bulmaktadır.

Eyice'de daralan ağızlı küresel gövdeli iki çömlek parçası değerlendirmeye alınmıştır (Res. 9b-c; 18: 11-12). Ağız çapları 10-12 cm olan ve düz gelen ağız kenarı gövdeye doğru genişleyerek küresel bir karın yapmakta olan bu örnekler, ağız kenarının daha düz oluşuyla dışa çekik dudaklı örneklerden ayrılmaktadır.

Eyice Höyük İKÇ buluntuları arasında daralan ağızlı derin kâselerden bir örnek vardır (Res. 9a; 18: 10). Bu örneğin dudağı hafif dışa çekik olup, ağız çapı 13 cm'dir. Ağız kenarının hemen altından içbükey bir profil yaparak karına doğru genişleyen gövde, olasılıkla kaideye doğru daralarak düz bir diple tamamlanır.

Eyice İKÇ malzemeleri arasında en büyük gruplardan birisini düz kenarlı derin kaseler oluşturmaktadır (Res.10:11; 19). Bunların ağız kenar çapları 12-17 cm arasında değişmektedir ve oval ağızlı olan kapların dudakları düz ya da hafif dışa çekik olarak yapılmıştır (Res. 10a, d-f; 11b, d; 19: 1, 4-6, 8, 10). Gövde ağız kenarından itibaren düz olarak aşağı doğru daralmakta ve olasılıkla düz bir diple son bulmaktadır. Ancak, bazı örneklerin gövde profilinin daha açık yapıldığı görülmektedir (Res. 10b-c; 11a, c, e-f; 19:2-3, 7, 9, 11-12). Bunlarda da ağız kenarı oval olarak biçimlendirilerek dudakları düz ya da hafif dışa çekiktir.

Eyice Höyük dip parçaları hakkında fikir verebilecek sekiz adet parça bulunmaktadır. Değerlendirmeye alınan bu parçalar kenarsız düz diplidir ve olasılıkla açılan kenarlı kaselerin diplerine ait olmalıdırlar. Dip çapları 4-8 cm arasında değişmektedir. Düz yapılan dip profili çanağın gövde açılımına uygun olarak dik

ya da yayvan bir biçimle gövdeye doğru yükselmektedir. Kâselerin derinlik oranlarını gövde kenarının dikliği belirlemektedir. Kenar kalınlığı dip çapının oranına göre ince ya da kalın olarak yapılmıştır.

Eldeki parçalara dayanarak temsil edilen biçimler hakkında genel olarak şunlar söylenebilir: Var olan biçimlerin hemen hemen tamamını düz profilli veya ağız kenarları altında hafif 'S' kıvrımlı olan derin kaseler oluşturmaktadır (Res. 9:11; 18:10-16; 19). Hatta, bunların bazıları dışa doğru açılan ağız kenarlı, küresel ya da çift konik gövdeli kase ya da çömleklere aittir (Res. 10-11, 19). Son Neolitik Çağ'ın şişkin dudakları büyük oranda özelliğini kaybetmiştir. Bulunan parçaların sayısından düz diplerin belirleyici olduğu anlaşılmaktadır. Diplere ait parçalardan anlaşılacağı üzere, kapların tüm gövdesinin genellikle boyanmış olduğu söylenebilir (Res. 12-13, 20). Parçaların çok küçük olması, biçimlerin tam anlamıyla saptanmasını engellemektedir.

Eyice Höyük'te İlk Kalkolitik Çağ'ı temsil eden üç gruba ait çanak-çömleğin benzerleri Hacılar I, Kuruçay 6-10, Höyücek, Yeşilova, Orman Fidanlığı, Çivril yerleşmeleri, Canhasan 3[5], Akmakça (Efe 1995), Kızılkaya (Bademağacı) (Mellaart 1961), Batı Çatalhöyük (Mellaart 1961) ve Yumuktepe XXII-XXIV (Garstang 1953) İKÇ buluntuları arasında görülmektedir.

Pani Höyük

Pani Höyük'te bulunan boyalı çanak çömlek parçaları basit profilli sığ kaselere aittir (Res. 17; 22: 4-7). Bunlar, gerek biçim ve gerekse mal özellikleri bakımından Eyice malzemesinden ayrılmaktadırlar. Parçaların hepsinin her iki yüzeyi boyanmıştır. Pani Höyük örneklerinde bezeme doğrudan zemin üzerine geniş dalgalı ve zigzag bantlar şeklinde yapılmıştır.

Pani Höyük buluntuları arasında, kapalı ağızlı kase ya da çömleğe ait bir örnek vardır (Res. 17a; 22: 4). Ağız kenarının hemen altından içbükey bir profil yaparak karına doğru genişleyen bu parçanın profili olasılıkla kaideye doğru daralarak düz bir diple tamamlanır.

Örneklerden biri açık ağızlı kase parçasıdır (Res. 17b; 22: 5). Oval olan kapların ağız kenarı düz ve yayvandır. Gövde, ağız kenarından itibaren düz bir profille aşağı doğru daralmakta, olasılıkla düz bir diple son bulmaktadır. Hamur rengi sarı ve kahverenginin tonlarında olan çanak çömlekte, yoğun mika ve kireç katkı görülmektedir.

İlk Kalkolitik Çağ Bezeme Özellikleri

Eyice Höyük'te az sayıda SNÇ boyalı çanak çömlek ve tutamak parçası bulunmuştur (Res. 8; 18: 6-9).

Eyice ve Pani Höyük'teki İlk Kalkolitik Çağ boya bezemeleri genel hatlarıyla bir bütünlük gösterir. Aradaki tek belirgin fark, Pani Höyük İKÇ çanak çömleğinin her iki yüzeyinin de boya bezemeli olmasıdır (Res. 17; 22:4-7). Eyice Höyük'te ise boya bezeme genellikle dış yüzeye uygulanmıştır. Her iki yerleşmenin İKÇ mal gruplarında boyalıların belirgin bazı özellikleri vardır. Burada en yaygın gelenek çanak çömlek üzerine çoğunlukla bant şeklinde uygulanan bezemelerdir (Res. 9:17; 18:10-16; 19:22). Bu bantlar zikzak hatlar, paraleller, yarım daire ya da daireler oluşturacak şekilde yapılmıştır. Bunun yanında içi dolgulu ya da taramalı üçgenler (Res. 10d; 11c; 12a; 19:4, 9; 20:1), nokta bezeme (Res. 11d; 19:10), düzensiz dalgalı hatlar da (Res. 15f; 21:14) görülmektedir.

Eyice yerleşmesindeki diğer bezemeler arasında sıklıkla görülen örnek, yarım daire ya da daire şeklinde olan iç içe dairelerdir (Res. 12c; 13d; 14a-d; 20: 3, 7; 21:1-4). Bu bezemelerin benzerleri Hacılar I, Kuruçay ve Höyücek başta olmak üzere bölge yerleşmelerinden bilinmektedir.

Çanak çömlek üzerinde görülen bezemeler arasında zikzak hat da sıklıkla karşımıza çıkan örnekler arasındadır. Bunlar çoğu zaman ağız ve gövdedeki paralel bantlar arasına uygulanmıştır. Kimi zaman bunlar iç içe yapılmış ve iç kısımdakiler daha ince çizgiler şeklinde işlenmiştir (Res. 10b; 19:2). Bu bezeme şeklinin benzerleri Kuruçay, Höyücek, Canhasan 3, Batı Çatalhöyük, Yumuktepe XXIII, Çivril yerleşmeleri başta olmak üzere yakın çevredeki yerleşmelerin SNÇ/İKÇ buluntuları arasında vardır.

İçi dolgulu üçgen motifi de bezemeler arasında görülmektedir. Bu üçgenlerin sivri kısmı yukarıya, aşağıya ya da sağa dönüktür (Res. 10d; 11c; 12a; 14a; 19:4, 9; 20:1; 21:5). Bunlar genelde kaplar üzerinde

koşut diziler halinde sıralanmıştır. Kimi örneklerde bu diziler üst üste birkaç sıra halindedir (Res. 12a; 14e; 20:1; 21:5). İçi dolu üçgen motifi Anadolu'da çok uzun bir zaman kullanılmış bir bezeme şeklidir. Elimizdeki örnekler ise Hacılar IIA ve Kuruçay başta olmak üzere yakın yerleşmelerin İKÇ bezemelerini andırmaktadır.

İçi ağ şeklinde bezeli bir üçgen motifi diğer bir bezemedir (Res. 12a; 20:1). Bu bezeme bir çanağın dip kısmına yapılan iki sıra üçgen dizisi içinde yer alır. Sivri kısmı yukarıya dönük olan bu üçgenlerin bir kısmı daha silik olarak betimlenmiştir. Bu bezeme şeklinin benzerlerini Yumuktepe XXIV[6] ve Canhasan Kalkolitik Çağ örneklerinde görmek mümkündür.

Ayrıca birbirini dik ya da belirli açılarla kesen bant dizileri de görülmektedir (Res. 10d; 14f; 19:4; 21:6). Bunlar genellikle yüzeyi panolar şeklinde dilimleyen ve ağızdaki paralel bant ile kesişen bezeklerdir. Bu örneğin benzerlerini de Hacılar I, Kuruçay, Çatalhöyük ve Yumuktepe'nin SNÇ/İKÇ buluntuları, Çivril yerleşmeleri ile Canhasan'ın biraz daha geç örnekleri arasında görmekteyiz.

Eyice'de bant, iç içe daireler ve üçgenlerin çevresine uygulanan nokta bezemelerle benzeşen bir parça bulunmuştur (Res. 11d; 19:10). Nokta bezemelerle ilgili yakın örnekler Hacılar I, Çatalhöyük, Canhasan 2B ve Yumuktepe XXIV Kalkolitik Çağ tabakalarının erken örneklerinde görülebilir.

Bir gövde parçası üzerinde görülen dalgalı hat bezemesi de dikkat çekicidir (Res. 15f; 21:14). Bu bezeme tam olarak olmasa da Hacılar V, Canhasan 2B-2A ve Yumuktepe XXIII-XXIV'deki bazı örnekleri andırmaktadır.

KARŞILAŞTIRMALAR VE TARİHLENDİRME

Eyice Höyük Son Neolitik Çağ çanak çömleği altında değerlendirilen parçalar, bölgede bu döneme ait çok iyi bilinen çanak çömlekten farklı değildir. Hatta bu grup, bazı mal özellikleri sebebiyle Son Neolitik Çağ'ın erken bir evresine tarihlenmelidir.

Eyice İlk Kalkolitik Çağ çanak çömleği, mal özellikleri ve özellikle bezeme açısından Hacılar çanak çömleği ile karşılaştırılabilmektedir. Bezemenin çizgisel özellikler göstermemesi ve kenarları keskin dönüşlü kapların olmayışı, söz konusu buluntu topluluğunun Hacılar I'den daha eskiye tarihlenmesi gerekli olduğunu göstermektedir; diğer bezeme özellikleri de bu görüşü destekler niteliktedir (Hacılar V- MÖ 5.600-5.500)[7]. Parçaların küçük olması daha ayrıntılı bir değerlendirme yapılmasını engellemektedir. Bulunan malzeme içinde, J. Mellaart tarafından "fantastik üslup" olarak adlandırılan bezemelere rastlanmamıştır (Mellaart 1970: fig. 73:2-4, 6-9, 12, 16).

Eyice Höyük'te (Res. 16; 22:1-3) açık gri zemin üzerine kahverengi şeritler şeklinde yapılmış bezemeli parçalar, hem bezeme ve hem de hamur özellikleri bakımından Aslanapa'da bulunmuş olan bir parçayla benzeşmektedirler (Efe 1993: 20 vd., fig. 7:20, 8:20).

SONUÇ

Afyonkarahisar bölgesinde birbirlerinden dağlarla ayrılan, Afyon, Bolvadin, Şuhut, Küçük Ova ve Sincanlı gibi çok sayıda ova yer alır. Bu topoğrafya, bölge kültürlerinin oluşumu, yayılımı ve gelişimi üzerinde etkin bir rol oynamıştır. Kültürler arası etkileşim, söz konusu bu dağlar arasındaki koridor şeklinde uzanan doğal ulaşım yolları ile sağlanır.

Özellikle Son Neolitik Çağ / İlk Kalkolitik Çağ'da bu durum açık bir şekilde görülür. Örneğin Eyice Höyük'ün Aslanapa kültürü ile olan bağlantısı hemen kuzeyindeki dağ kitleleri arasında bulunan doğal bir yolla sağlanmıştır. Göller Bölgesi ile olan ilişki ise güneyde Sandıklı-Dinar üzerinden olmalıdır. Pelitler, Pani ve Aslanapa yerleşmeleri yan yana birbirlerinin kesintisiz devamı şeklinde oluşmuş olan ovaların üzerinde yer alırlar; dolayısıyla kültürel ilişkilerin bu ovalar boyunca çok daha yoğun olması doğaldır.

Diğer taraftan burada tanıtılan iki yerleşme, Aslanapa, Göller Bölgesi ve Pelitler kültürlerinin kesişme noktasında yer alır. Örneğin Eyice Höyük'te Aslanapa'nın yanı sıra Göller Bölgesi boyalılarını, Pani Höyük'te Aslanapa ve Pelitler kültürlerine ait buluntuları bir arada görmek mümkündür.

1163 m yükseklikte ve verimli bir vadiye hakim konumda olan Eyice Höyük, doğusunda ve batısında bulunan dağlara göre çok daha alçakta yer alır.

Yukarıda söz ettiğimiz gibi burası kuzey ve batıya doğru uzanan birer doğal koridor görünümündedir. Bundan dolayı yerleşmenin bulunduğu alan stratejik açıdan önemli bir konumdadır. Ayrıca bu çevrede çok sayıda su kaynağının bulunması, yerleşmenin üzerinde ve bütün çevresinde günümüzde de tarım yapılması bu alanın verimliliğini gösterir.

Eyice Höyük'te Son Neolitik Çağ'a ait az sayıda çanak çömlek bulunmuştur. Hamurlarında yoğun taşçık görülen bu çanak çömleklerin hamur renginde kırmızı, kahverengi, kahverengimsi gri renkler ile bunların tonları hakimdir. Astar daha çok kahverengi ve tonları şeklindedir. Boya bezeme, kırmızımsı kahverenginde olup kalın bantlar şeklinde uygulanmıştır. Yüzeyler iyi açkılıdır. Belirgin biçim dışa dönük şişkin dudaklı, küresel gövdeli derin kaselerdir. Ayrıca sepet kulplara ait örnekler de vardır. Eyice Höyük'te Son Neolitik Çağ'a tarihlediğimiz çanak çömleklerin benzerleri Göller Bölgesi, Kütahya-Eskişehir kesimi, Batı ve Kuzeybatı Anadolu, Konya Ovası ve Akşehir-Pelitler yerleşmelerinden bilinmektedir.

Eyice yerleşmesinde İlk Kalkolitik Çağ malzemesi krem ya da beyaz astar üzerine kızıl kahverengi, mor ya da kırmızı ve tonları şeklinde boya bezemeliler, astarı griye çalan zemin üzerine kahverengi boya bezemeliler ve morumsu kırmızı astarlı ya da boyalı çanak çömlekler olmak üzere üç grupta incelenir. Buradaki son iki mal grubu aynı özelliklerle Aslanapa yerleşmesinde de ele geçmiştir. Morumsu kırmızı astarlı ya da boyalı çanak çömlek kuzeydeki Porsuk kültürünün en belirleyici mal gruplarından birini oluşturur. Her üç grupta da hamur özellikleri birbirlerine benzemektedir. Burada hamur renkleri kırmızıdan kahverenginin tonlarına değişmektedir. Hamurların bazısı özlüdür ve genellikle ince taşçık katkılıdır. Mika ve saman katkısı ise genellikle görülmez.

Eyice İlk Kalkolitik Çağ malzemeleri arasında en büyük grubu düz kenarlı derin kaseler oluşturmaktadır. Ayrıca, bu yerleşmede daralan ağızlı kısa boyunlu çömleklere de rastlanır. Eyice Höyük'te İlk Kalkolitik Çağ'ı temsil eden üç gruba ait çanak çömleğin başlıca benzerleri Göller Bölgesi, Batı Anadolu Bölgesi, Kütahya-Eskişehir ve Konya Ovası yerleşmelerinden bilinmektedir.
Pani İlk Kalkolitik Çağ boyalı çanak çömlek parçaları basit profilli kaselere aittir. Bunlar, biçim ve mal özellikleri bakımından Eyice malzemesinden ayrılmaktadırlar. Yoğun mika, kireç katkı görülen bu malzemelerde hamur rengi sarı ve kahverenginin tonlarındadır. Boya bezeme, parçaların iç ve dış yüzeyine uygulanmıştır.

Bezeme özellikleri açısından bir değerlendirme yapıldığında, çanak çömlek üzerinde sadece boya bezemelerin kullanıldığı dikkati çekmektedir. Bezemelerin Pani örnekleri dışında, daha çok çanak çömleğin dış yüzeyine uygulandığı görülmektedir. Gölge ve çizgisel teknikte yapılan bu boya bezemeler; bant, üçgen, nokta, zikzak hat, dalgalı hat şeklindedir. Bunların dışında en çok tercih edilen bezeme, yarım daire, daire ya da iç içe dairelerdir.

Yaptığımız değerlendirmeler sonucunda Eyice ve Pani Höyük'teki Son Neolitik / İlk Kalkolitik Çağ boya bezemeli örneklerin en yakın benzerlerinin Göller Bölgesi'nde olduğu görülmektedir. Bu yerleşmelerde ele geçen morumsu kırmızı ya da kahverengi astarlı malların ise Kütahya/Eskişehir bölgesi kültürlerininki ile benzeştiği anlaşılmaktadır. Bundan dolayı Aslanapa kültürü ismiyle tanınan bu kültürün güney yayılımının Afyonkarahisar Sinanpaşa ilçesinin kuzeybatısındaki Eyice Höyük ve Çobanlar ilçesinin doğusundaki Pani Höyük dolaylarına kadar uzandığı açık bir şekilde görülmektedir. Doğudaki Pani Höyük'e doğru Aslanapa kültürünün etkisinin azalmaya başladığı anlaşılmaktadır; dolayısıyla doğu sınırı Emirdağ ve Sultandağları'na dayanmış olmalıdır; diğer bir deyişle, Çobanlar ilçesinin biraz doğusundan geçmelidir.

Yukarıda işaret ettiğimiz gibi, Akşehir-Pelitler, Pani Höyük ve Eyice Höyük, doğuda Konya'dan başlayıp Kütahya'ya kadar uzanan ve birbiri arkasına sıralanan çöküntü ovalarının oluşturduğu doğal bir ulaşım yolu üzerinde yer alırlar (Res. 2). Kültürel benzerliklerin daha çok bu ulaşım yolu üzerinde oluştuğu izlenimi edinilse de aynı zamanda burada tanıttığımız Eyice ve Pani Höyüklerinin, Göller Bölgesi ve Aslanapa kültür grupları arasında oluşan bölgeye yakın bir yerde bulunmaları, bu höyüklerde her iki gruba da özgü çanak çömlek özelliklerinin saptanmasından anlaşılmaktadır.

Ayrıca, yukarıda belirttiğimiz gibi, J. Mellaart Afyon'dan Denizli'ye doğru olan bölgede "Dutluca Grubu" olarak isimlendirdiği ve Hacılar'dan biraz daha farklı bir boyalı çanak çömlek geleneğinden söz

etmektedir (Mellaart 1970). Yukarıda sözü edilen Adatepe buluntularına da dayanarak bu grubun, belki de Hacılar'dan ziyade, daha fazla kuzeyin Aslanapa kültür grubuyla ilişkili olduğu söylenebilir.

İncelediğimiz iki yerleşmenin konumları gereği ana ulaşım yolları üzerinde yer almaları büyük önem taşımaktadır. Bu yerleşmelerde, daha sonraki dönemlerde yapılacak daha kapsamlı çalışmalarla saptanacak stratigrafig veriler, Konya-Akşehir-Göller Bölgesi ile Orta İç Batı Anadolu Neolitik ve Kalkolitik Çağ kronolojilerinin çakıştırılmasında büyük önem taşıyacaktır.

KATKI BELİRTME

Bu proje Selçuk Üniversitesi Bilimsel Araştırma Projeleri Koordinatörlüğü ve T. C. Kültür ve Turizm Bakanlığı Döner Sermaye İşletmesi Merkez Müdürlüğü tarafından desteklenmiştir. Bundan dolayı bu kurum yetkililerine teşekkürü borç bilmekteyiz. Selçuk Üniversitesi Bilimsel Araştırma Projeleri Koordinatörlüğü: "2008-2009 Yılları Afyonkarahisar ve Çevresi Yüzey Araştırmaları ve Yukarı Çaybelen Köyü Kazı Ön Çalışmaları" (08401013 Proje no). Arazi ve laboratuar çalışmalarını birlikte yürüttüğümüz Doktora öğrencilerimiz Harun Oy ve Salih Kaymakçı, Yüksek Lisans öğrencimiz Aslı Kısa ve Lisans öğrencimiz Şükrü Ünar'a teşekkür ederiz.

KATALOG

Eyice Höyük SNÇ buluntuları

Buluntu no (BN): 308.01.08.792. Ağız çapı: 12 cm. Hamur 10 YR 4/3 (brown), mikalı, kireç ve çok az taşçık katkılı, astar 5 YR 5/6 (yellowish red), açkılı, iyi fırınlanmış, e.y. res. 7 a; 18: 1

BN: 308.01.08.803. Ağız çapı: 13 cm. Hamur 7.5 YR 6/3 (light brown), mikalı ve az kireç katkılı, astar 7.5 YR 5/3 (brown), açkılı, iyi fırınlanmamış, e.y. res. 7 b; 18: 2

BN: 308.01.08.804. Ağız çapı: 14 cm. Hamur 7.5 YR 6/6 (reddish yellow), mikalı ve yoğun kireç katkılı, astar 7.5 YR 6/6 (reddish yellow), açkılı, iyi fırınlanmış, e.y. res. 7c; 18:3

BN: 308.01.08.800. Ağız çapı: 17 cm. Hamur 10 YR 4/3 (brown), az mikalı, kireç ve yoğun taşçık katkılı, astar 5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmamış, e.y. res. 7d; 18: 4

BN: 308.01.08.802. Ağız çapı: 15 cm. Hamur 10 YR 7/4 (very pale brown), yoğun mikalı ve az kireç katkılı, astar 5 YR 4/3 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 7 e; 18: 5

308.01.08.858. Hamur 2.5 Y 5/4 (light olive brown), yoğun mikalı ve az oranda taşçık katkılı, astar 2.5 Y 8/3 (pale yellow), bezeme 5 YR 4/3 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 8 a; 18: 6: BN

BN: 308.01.08.822. Hamur 10 YR 5/6 (yellowish brown), bol mikalı, kireç ve çok az taşçık katkılı, iç yüzey astarsız, dış 2.5 Y 6/3 (light yellowish brown), bezeme 2.5 YR 4/4 (reddish brown), iç yüzey açkılı, iyi fırınlanmış, e.y. res. 8b; 18: 7

BN: 308.01.08.870. Hamur 2.5 Y 7/4 (pale yellow), kireç katkılı, astar 2.5 Y 8/4 (pale yellow), bezeme 5 YR 4/4 (reddish brown), üst yüzey açkılı, iyi fırınlanmış, e.y. res. 8 c; 18: 8

308.01.08.809. Hamur 10 YR 6/6 (brownish yellow), bol mikalı, az kireç ve taşçık katkılı, astar 10 YR 8/2 (very pale brown), bezeme 5 YR 4/4 (reddish brown), üst yüzey açkılı, iyi fırınlanmış, e.y. res. 8d; 18: 9: BN

Eyice Höyük İKÇ buluntuları

BN: 308.01.08.874. Ağız çapı: 13 cm. Hamur 10 YR 8/4 (very pale brown), yoğun kireç katkılı, astar 10 YR 8/3 (very pale brown), bezeme 2.5 YR 4/3 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 9a; 18:10

BN: 308.01.08.896. Ağız çapı: 10 cm. Hamur 10 YR 4/3 (brown), az mikalı ve az kireç katkılı, astar 10 YR 8/ 2 (very pale brown), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 9 b; 18: 11

BN: 308.01.08.864. Ağız çapı: 12 cm. Hamur 10 YR 5/3 (brown), az mikalı ve çok az kireç katkılı, astar 10 YR 8/ 2 (very pale brown), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 9 c; 18: 12

BN: 308.01.08.843. Ağız çapı: 8.1 cm. Hamur 10 YR 7/4

(very pale brown), az mikalı ve kireç katkılı, astar 10 YR 8/4 (very pale brown), bezeme 5 YR 4/3 (reddish brown) açkılı, iyi fırınlanmış, e.y. res. 9 d; 18: 13

BN: 308.01.08.842. Ağız çapı: 13 cm. Hamur 10 YR 7/6 (yellow), az oranda mikalı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 9 e; 18: 14

BN: 308.01.08.838. Ağız çapı: 10 cm. Hamur 10 YR 7/3 (very pale brown), az kireç katkılı, astar 10 YR 7/3 (very pale brown) bezeme 10 R 3/4 (dusky red), açkılı, iyi fırınlanmış, e.y. res. 9 f; 18: 15

BN: 308.01.08.793. Ağız çapı: Alınamadı. Hamur 10 YR 4/2 (dark grayish brown), yoğun mikalı ve taşçık katkılı, astar 10 YR 7/4 (very pale brown), bezeme 2.5 YR 4/4 (reddish brown) açkılı, iyi fırınlanmış, e.y. res. 9 g; 18: 16

BN: 308.01.08.839. Ağız çapı: 13 cm. Hamur 7.5 YR 5/6 (strong brown), yoğun mikalı, çok az kireç ve taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 10 a; 19: 1

BN: 308.01.08.833. Ağız çapı: 14 cm. Hamur 7.5 YR 6/6 (reddish yellow), yoğun mikalı, az kireç ve yoğun taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 3/4 (dark reddish brown), açkılı, iyi fırınlanmış, e.y. res. 10b; 19: 2

BN: 308.01.08.808. Ağız çapı: 17 cm. Hamur 7.5 YR 6/4 (light brown), yoğun mikalı, az kireç ve taşçık katkılı, astar 2.5 Y 8/1 (white), bezeme 5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 10c; 19: 3

BN: 308.01.08.835. Ağız çapı: 13 cm. Hamur 7.5 YR 5/6 (strong brown), mikalı, az kireç ve taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 3/4 (dark reddish brown), açkılı, iyi fırınlanmış, e.y. res. 10 d; 19: 4

BN 308.01.08.895. Ağız çapı: 13 cm. Hamur 5Y 5/1 (gray), az oranda mikalı, kireç ve taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 10 e; 19: 5

BN:308.01.08.814. Ağız çapı: 14 cm. Hamur 10 YR 5/6 (yellowish brown), mikalı, az kireç ve taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 10 f; 19: 6

BN: 308.01.08.836. Ağız çapı: 12 cm. Hamur 7.5 YR 6/6 (reddish yellow), yoğun mikalı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 3/4 (dark reddish brown), açkılı, iyi fırınlanmış, e.y. res. 11 a; 19: 7

BN: 308.01.08.841. Ağız çapı: 13 cm. Hamur 10 YR 6/6 (brownish yellow), az mikalı, çok az kireçli katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 3/4 (dark reddish brown), iyi fırınlanmış, e.y. res. 11 b; 19: 8

BN: 308.01.08.840. Ağız çapı: 13 cm. Hamur 10 YR 5/6 (yellowish brown), çok az mikalı, yoğun kireç ve çok az taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 4/3 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 11 c; 19: 9

BN: 308.01.08.834. Ağız çapı: 12 cm. Hamur 7.5 YR 5/6 (strong brown), mikalı, çok az kireç ve taşçık katkılı, astar 2.5 YR 8/2 (pale yellow), bezeme 5 YR 3/3 (dark reddish brown), açkılı, iyi fırınlanmış, e.y. res. 11d; 19: 10

BN: 308.01.08.878. Ağız çapı: 14 cm. Hamur 5 Y 6/2 (light olive gray), yoğun mikalı ve çok az kireç katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 3/4 (dark reddish brown), açkılı, iyi fırınlanmış, e.y. res. 11 e; 19: 11

BN: 308.01.08.798. Ağız çapı: 17 cm. Hamur 7.5 YR 6/6 (reddish yellow), mikalı, az kireç ve çok az taşçık katkılı, astar 7.5 YR 6/6 (reddish yellow), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 11 f; 19: 12

BN: 308.01.08.806. Dip çapı: 8 cm. Hamur 5 YR 6/6 (reddish yellow), yoğun mikalı ve çok az kireç katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 3/4 (dark reddish brown,), açkılı, iyi fırınlanmış, e.y. res. 12 a; 20: 1

BN: 308.01.08.856. Dip çapı: 5 cm. Hamur 10 YR 8/6 (yellow), mikalı ve kireç katkılı, astar 10 YR 8/4 (very pale brown), bezeme 5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmamış, e.y. res. 12 b; 20: 2

BN: 308.01.08.857. Dip çapı: 3.8 cm. Hamur 10 YR 6/6 (brownish yellow), mikalı, yoğun kireç ve çok az taşçık katkılı, astar 10 YR 8/4 (very pale brown), bezeme 10 R 3/6 (dark red), açkılı, iyi fırınlanmış, e.y. res. 12 c; 20: 3

BN: 308.01.08.850. Dip çapı: 8 cm. Hamur 10 YR 6/6 (brownish yellow), mikalı ve kireç, taşçık katkılı, astar 2.5 Y 8/1 (white), bezeme 7.5 YR 4/4 (brown), açkılı, iyi fırınlanmış, e.y. res. 13 a; 20: 4

BN: 308.01.08.816. Dip çapı: 8 cm. Hamur 5 Y 4/1 (dark gray), yoğun mikalı ve kireç katkılı, astar 2.5 Y 8/2 (Pale yellow), bezeme 10 R 3/4 (dusky red), açkılı, iyi fırınlanmış, e.y. res. 13 b; 20: 5

BN: 308.01.08.830. Dip çapı: 8 cm. Hamur 10 YR 6/4 (light yellowish brown), yoğun mikalı, az oranda kireç ve taşçık katkılı, astar 10 YR 8/3 (very pale brown),

bezeme 10 R 3/3 (dusky red), açkılı, iyi fırınlanmış, e.y. res. 13 c; 20: 6

BN: 308.01.08.845. Dip çapı: 6.6 cm. Hamur 10 YR 6/3 (pale brown), mikalı, az oranda kireç ve taşçık katkılı, astar 10 YR 8/2 (very pale brown), bezeme 5 YR 3/3 (dark reddish brown), açkılı, iyi fırınlanmış, e.y. res. 13 d; 20: 7

BN: 308.01.08.790. Dip çapı: 6 cm. Hamur 2.5 Y 6/3 (light yellowish brown), az oranda mikalı ve taşçık katkılı, astar 2.5 Y 8/3 (pale yellow), bezeme 10 R 3/4 (dusky red), açkılı, iyi fırınlanmış, e.y. res. 13 e; 20: 8

BN: 308.01.08.812. Hamur 2.5 YR 5/4 (light olive brown), yoğun mikalı ve taşçık katkılı, astar 10 YR 8/3 (very pale brown), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 14 a; 21: 1

BN: 308.01.08.849. Hamur 2.5 Y 5/4 (light olive brown), yoğun mikalı, az kireç ve yoğun taşçık katkılı, astar 2.5 Y 8/1 (white), bezeme 2.5 YR 4/6 (red), açkılı, iyi fırınlanmış, e.y. res. 14 b; 21: 2

BN: 308.01.08.848. Hamur 10 YR 6/6 (brownish yellow), bol mikalı, çok az kireç ve taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 2.5 YR 3/4 (dark reddish brown), silik açkılı, iyi fırınlanmış, e.y. res. 14 c; 21: 3

BN: 308.01.08.821. Hamur 2.5 Y 7/4 (pale yellow), yoğun mikalı ve az oranda taşçık katkılı, astar 10 YR 8/3 (very pale brown), bezeme 5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 14 d; 21: 4

BN: 308.01.08.846. Hamur 10 YR 6/4 (light yellowish brown), mikalı, kireç ve az taşçık katkılı, astar 10 YR 8/3 (very pale brown), bezeme 2.5 YR 4/6 (light reddish brown), açkılı, iyi fırınlanmış, e.y. res. 14 e; 21: 5

BN: 308.01.08.811. Hamur 10 YR 5/6 (yellowish brown), az mikalı ve bol kireç katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 5 YR 5/4 (reddish brown), dış yüzey açkılı, iyi fırınlanmış, e.y. res. 14 f; 21: 6

BN: 308.01.08.866. Hamur 10 YR 6/6 (brownish yellow), çok az mikalı, kireç ve taşçık katkılı, astar 2.5 Y 8/3 (pale yellow), bezeme 10 R 3/4 (dusky red), açkılı, iyi fırınlanmış, e.y. res. 14 g; 21: 7

BN: 308.01.08.854. Hamur 10 YR 6/6 (brownish yellow), kireç katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 5 YR 5/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 14h; 21: 8

BN: 308.01.08.829. Hamur 5 YR 6/6 (reddish yellow), bol mikalı, kireç ve az taşçık katkılı, astar 10 YR 8/2 (very pale brown), bezeme 10 R 3/4 (dusky red), dış yüzey açkılı, iyi fırınlanmış, e.y. res. 15a; 21: 9

BN: 308.01.08.827. Hamur 5 Y 5/3 (Olive), bol mikalı, çok az kireç ve taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 5 YR 3/3 (dark reddish brown), dış yüzey açkılı, iyi fırınlanmış, e.y. res. 15 b; 21: 10

BN: 308.01.08.824. Hamur 5 Y 5/4 (olive), yoğun mika, çok az kireç ve taşçık katkılı, astar 10 YR 8/2 (very pale brown), bezeme 5 YR 4/3 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 15c; 21: 11

BN: 308.01.08.853. Hamur 2.5 Y 7/4 (pale yellow), yoğun mikalı ve taşçık katkılı, astar 2.5 Y 8/2 (pale yellow), bezeme 7.5 YR 4/4 (brown), açkılı, iyi fırınlanmış, e.y. res. 15 d; 21: 12

BN: 308.01.08.862. Hamur 10 YR 8/6 (yellow), az mikalı, yoğun kireç ve az taşçık katkılı, astar 10 YR 8/3 (very pale brown), bezeme 5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmamış, e.y. res. 15 e; 21: 13

BN: 308.01.08.815. Hamur 5 YR 6/6 (reddish yellow), az mikalı, kireç ve taşçık katkılı, astar 10 YR 8/3 (very pale brown), bezeme 10 R 4/4 (weak red), dış yüzey açkılı, iyi fırınlanmış, e.y. res. 15f; 21: 14

BN: 308.01.08.851. Hamur 5 Y 4/3 (olive), yoğun mikalı, çok az kireç ve taşçık katkılı, astar 2.5 Y 8/1 (white), bezeme 2.5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 16 a; 22: 1

BN: 308.01.09.1208. 7.5 YR 6/6 (reddish yellow), yoğun mikalı, az kireç ve taşçık katkılı, astar 10 YR 8/3 (very pale brown), bezeme 2.5 YR 3/4 (Dark reddish brown), açkılı, orta fırınlanmış, e.y. res. 16 b; 22: 2

BN: 308.01.09.1195. Hamur 10 YR 7/4 very pale brown), yoğun mikalı, kireç ve taşçık katkılı, astar 7.5 YR 7/6 (reddish yellow), bezeme 10 R 4/4 (weak red), açkılı, orta fırınlanmış, e.y. res. 16 c; 22: 3

Pani Höyük İKÇ buluntuları

BN: 308.01.09.223. Hamur 10 YR 7/4 (very pale brown), yoğun mikalı ve kireç katkılı, astar 10 YR 7/4 (very pale brown), bezeme 2.5 YR 4/8 (red), açkılı, iyi fırınlanmış, e.y. res. 17 a; 22: 4

BN: 308.01.09.136. Hamur 7.5 YR 7/3 (pink), yoğun mikalı, kireç ve az taşçık katkılı, astar 7.5 YR 7/4 (pink), bezeme 10 R 4/8 (red), açkılı, orta fırınlanmış, e.y. res. 17 b; 22: 5

BN: 305.01.04.95. Hamur 5 YR 6/6 (reddish yellow), bol mikalı ve kireç katkılı, bezeme 10 R 4/6 (red), açkılı, orta fırınlanmış, e.y. res. 17 c; 22: 6

BN: 305.01.04.101. Hamur 2.5 Y 8/3 (pale yellow), mikalı ve az kireç katkılı, bezeme 5 YR 4/4 (reddish brown), açkılı, iyi fırınlanmış, e.y. res. 17 d; 22: 7

NOTLAR

1 Batı Anadolu Neolitiği ile ilgili yeni gelişmeler ve ayrıntılı kaynakça için bkz. Özdoğan ve Başgelen 2007. Ayrıca söz konusu yayında yer almayan Çukuriçi için bkz. Evren 1999.

2 Malzemelerin değerlendirmesi ve tarihlenmesi konusunda yaptığı yardımlardan dolayı hocamız Prof. Dr. Turan EFE'ye teşekkür etmeyi borç bilmekteyiz.

3 Bu konudaki yeni görüşler için bkz. Efe 2001: 58.

4 Kızılkaya-Bademağacı eşitliği ile ilgili bkz. Duru 2007: 342.

5 Canhasan'da benzer biçimde, ancak boya bezemesiz ve farklı bezeme türlerinde örnekler için bkz. French 2005: 94, fig. 015: 2-5, Layer 2B, Trans. Ayrıca bkz. French 2005: 153, fig. 074:1-7, Layer 2B, Trans.; 171, fig. 092, Layer 2B, Trans.

6 Yumuktepe'de tarama motifi bunun dışında da kullanılmıştır. Burada özellikle paralel hatlar arasına dolgu yapmak amacıyla kullanılan çok sayıda örnek vardır. Bkz. Garstang 1953: 95, fig. 56, Level XXII, Early Chalcolithic. Halaf örnekleri için bkz. Garstang 1953: 113, fig. 71, Level XIX, Middle Chalcolithic.

7 Hacılar'dan birkaç Hacılar malzemesiyle ilgili yeni değerlendirmeler için bkz. Duru 2007: 331 vd.

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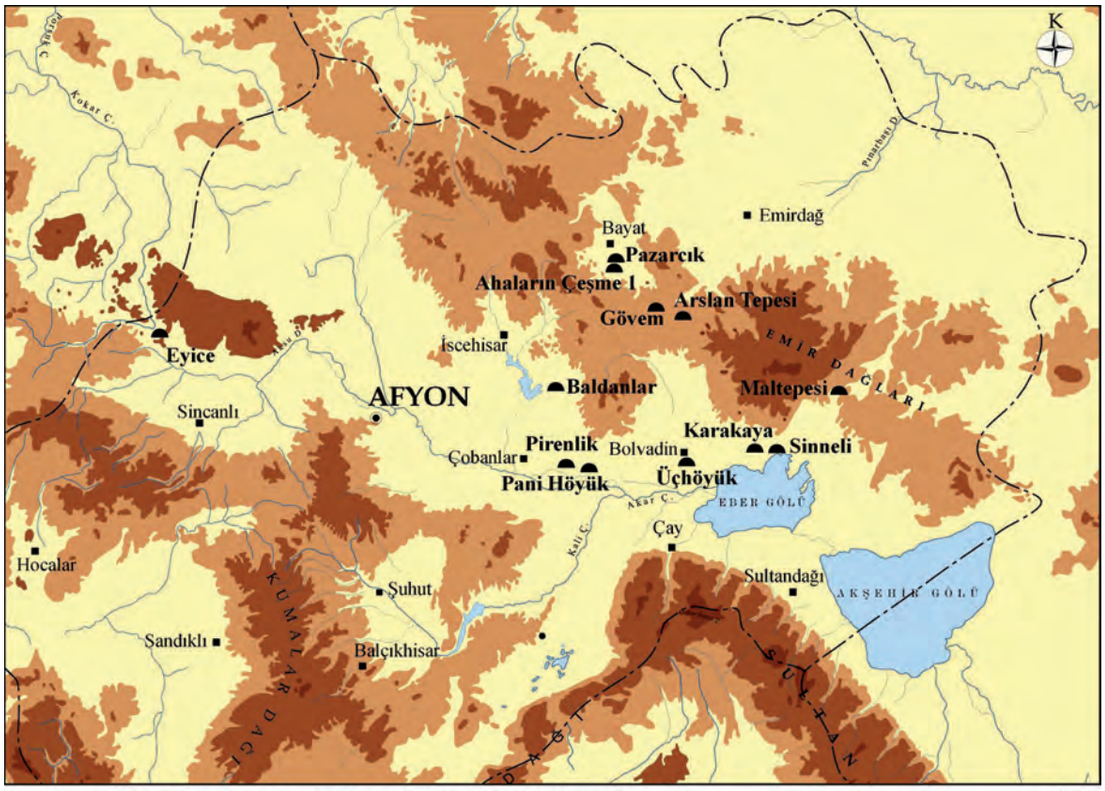
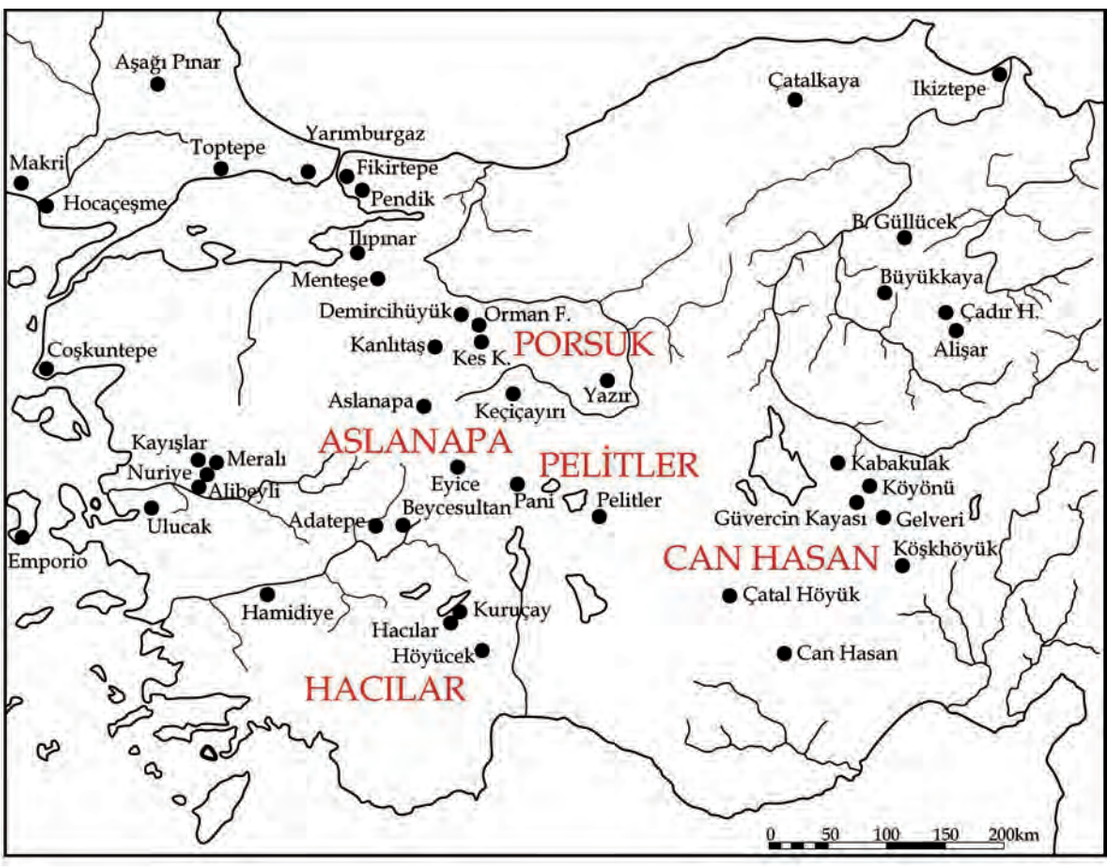
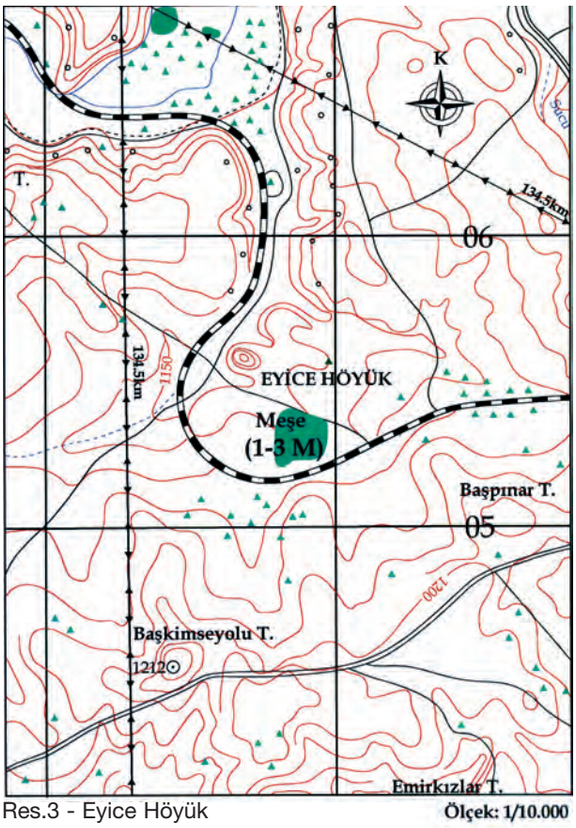


Res.1- Afyonkarahisar çevresindeki bazı Neolitik-Kalkolitik Çağ yerleşmeleri

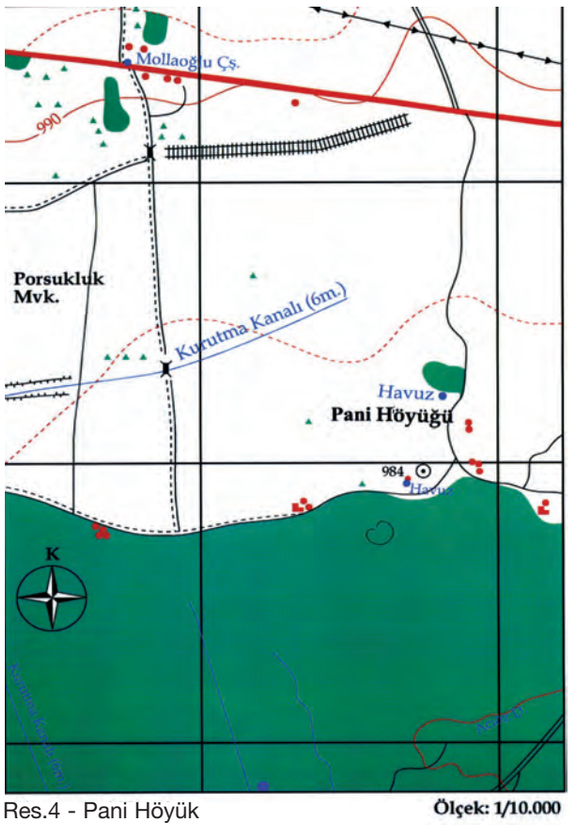


Res.2 - Anadolu'nun batısında bazı Neolitik ve Kalkolitik dönem yerleşmeleri ve kültür bölgeleri (Efe 2001:51,62, map 1-2)



Res.3 - Eyice Höyük

Ölçek: 1/10.000



Res.4 - Pani Höyük

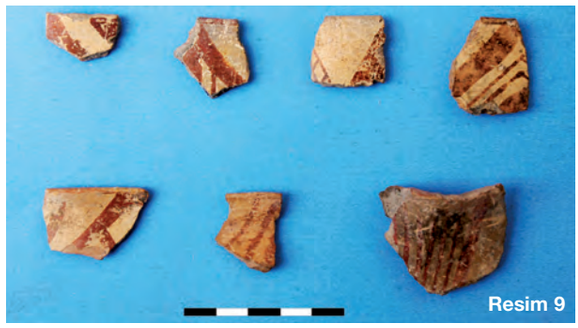
Ölçek: 1/10.000

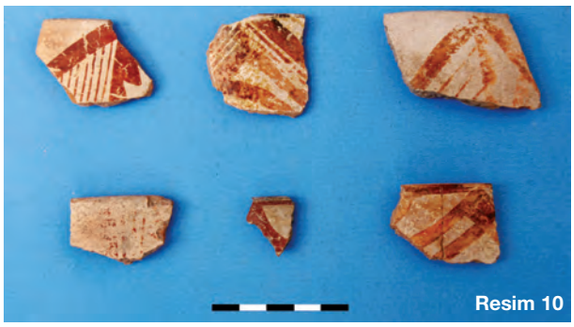
Res.5 - Eyice Höyük görünüm

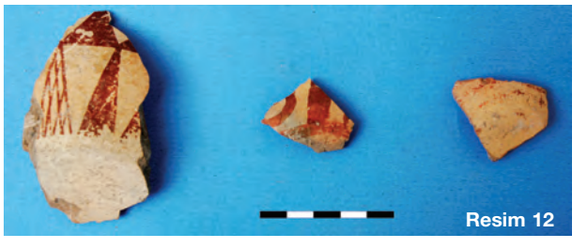
Res.6 - Pani Höyük görünüm

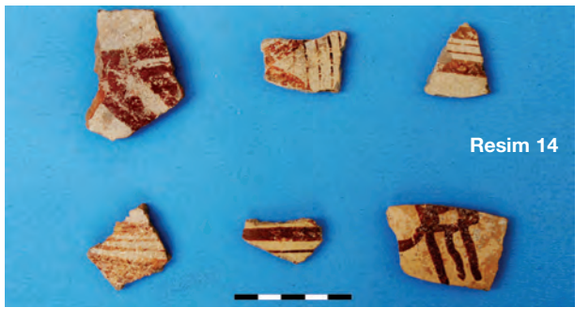
Res. 7 - Eyice Höyük SNÇ buluntuları

Res. 8 - Eyice Höyük SNÇ buluntuları



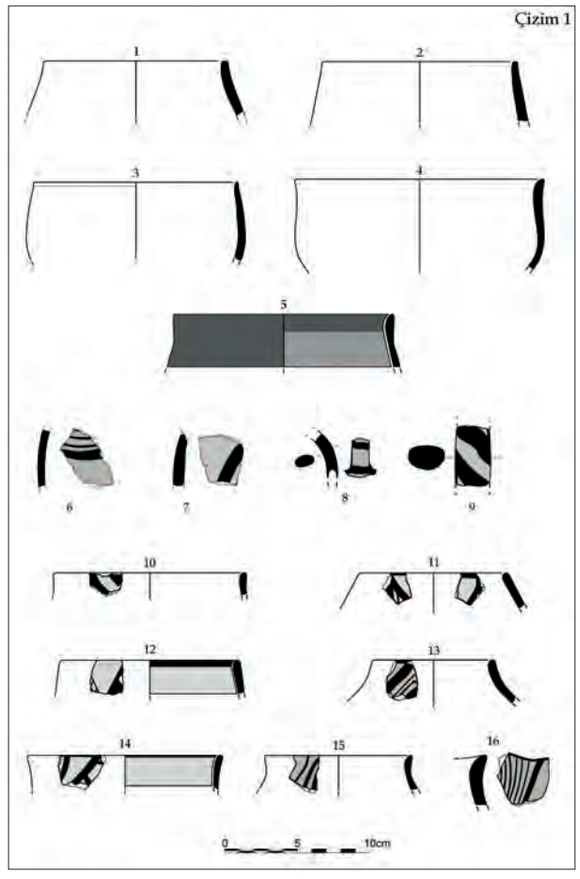




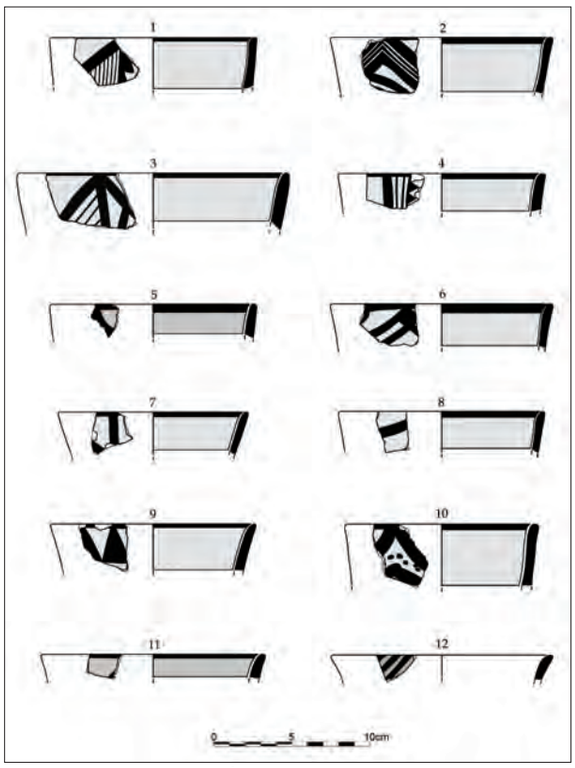


Res. 9-16 - Eyice Höyük İKÇ buluntuları

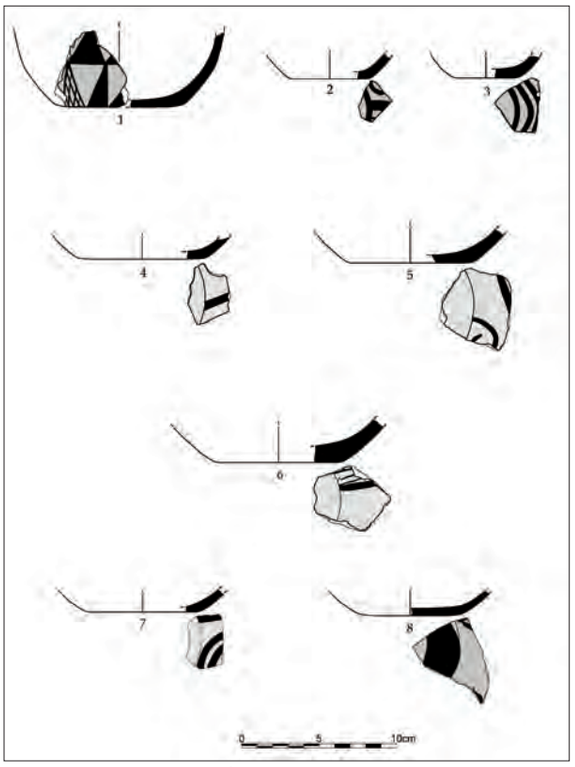
Res.17 - Pani Höyük İKÇ buluntuları



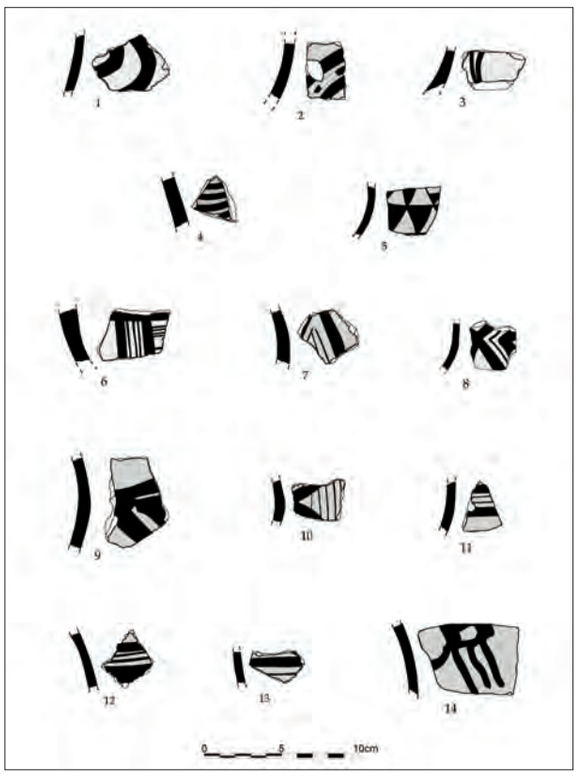
Res. 18 - Eyice Höyük SNÇ/İKÇ çanak çömlek çizimleri



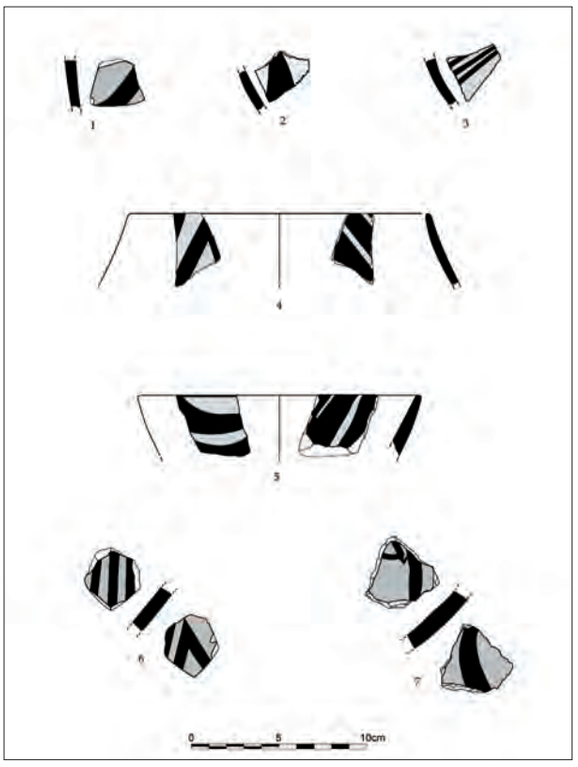
Res.19 - Eyice Höyük İKÇ çanak çömlek çizimleri



Res.20 - Eyice Höyük İKÇ çanak çömleği; dipler



Res. 21 - Eyice Höyük İKÇ boyalı çanak çömlek grubu



Res. 22 - Eyice Höyük (1-3) ve Pani Höyük (4-7) İKÇ Boyalı çanak çömlek grubu

A COMPARATIVE LOOK AT HALAF AND UBAID PERIOD SOCIAL COMPLEXITY AND THE TELL KURDU CASE

HALAF VE OBEYD DÖNEMLERİNİN TOPLUMSAL ÖRGÜTLENME GELİŞKENLİĞİ AÇISINDAN KARŞILAŞTIRILMASI VE TELL KURDU ÖRNEĞİ

Rana ÖZBAL

Keywords: Halaf Period, Ubaid Period, pre-state societies, social and administrative complexity, Tell Kurdu

Anahtar Sözcükler: Halaf dönemi, Obeyd dönemi, kentleşmenin öncüleri, gelişkin toplumsal örgütlenme ve yönetim, Tell Kurdu

ABSTRACT

While the Uruk Period is generally accepted as the earliest state society in the Near East, assessing the social, political and economic organization of the antecedent Halaf and Ubaid phases has been a matter of long-standing debate. Over-schematized evolutionary categories like "tribes" or "chiefdoms" provide little resolve in characterizing the socio-political complexity of Near Eastern prehistory because they fail to account for the variability these phases encompass. This paper invites us to move beyond typological categories, yet considers issues of political economy and explores conscious strategies towards social complexity between these two well-known phases of Near Eastern prehistory. Located in the Hatay province of southern Turkey, Tell Kurdu has relatively wide horizontal exposures dating both to the Halaf-related and to the Ubaid-related phases, providing a unique opportunity to explore at a single settlement the contrasting levels of social complexity in the sixth and fifth millennia BC.

ÖZET

MÖ 6. ve 5. binyılları kapsayan Halaf ve Obeyd dönemleri, Kuzey Mezopotamya kentleşme sürecinin öncüleri sayıldıklarından önemlidir. Gerek belirgin çanak çömlek özelliklerinin, gerekse özgün mimari öğelerinin Mezopotamya dışında Anadolu'nun doğu ve güneydoğusu ile Doğu Akdeniz sahilini de kapsayan geniş bir coğrafi alana yayılmış olması dikkat çekicidir. Halaf ve Obeyd dönemlerinde birbirinden uzak olan yerleşimlerde biçim ve bezeme açısından birbirine benzer çanak çömlek ve yapı türlerinin görülmüş olması, birçok araştırmacının bunların arasındaki ilişki ve yayılımıyla ilgili kuramlar geliştirmesine neden olmuştur. Burada olduğu gibi geniş bir coğrafya içinde görülen benzerlikler, çoğu kez kuramsal yaklaşımlara dayalı genellemelerle açıklanmaya çalışılmaktadır; ancak bu yazıda, her iki kültürün etkisi altında kalmış olan Hatay İli, Reyhanlı İlçesi, Tell Kurdu yerleşiminde Halaf ile ilişkili MÖ 6. ve Obeyd ile ilişkili MÖ 5. binyıl tabakaları karşılaştırmalı olarak ele alınmasıyla yetinilecektir. Bu bağlamda Tell Kurdu yerleşiminin iki evresi arasında idari ve politik oluşumlar açısından görülen farklılıklar, Halaf ve Obeid dönemlerinin genel yapılanması içinde ele alınacaktır.

INTRODUCTION

The Halaf and the Ubaid Periods, spanning the sixth and fifth millennia BC respectively, have received considerable attention because both phases are characterized by widespread material cultural expansions extending far beyond Mesopotamia into southeast Anatolia and the northern Levantine coast. The discovery across broad distances of similar or even identical styles in ceramic shape and decoration, as well as in architectural plans has prompted archaeologists to search for explanations about the nature and reasons for the spread of archaeological culture in the respective phases (Perkins 1949; Redman 1978; for the Halaf Period see: Davidson 1977; Hijjara 1997; Watkins and Campbell 1987; for the Ubaid Phase see: Artz 2001; Esin 1989; Oates 1983, 1993, 2004; Stein and Özbal 2007). The extensive distribution of pottery motifs and other elements has traditionally been treated as a sign of political complexity (Oates 1977: 469-470; Redman 1978). For the Halaf Period, for example, Watson and LeBlanc suggest that the "high degree of similarity in painted pottery and shapes may be a reflection of the role these items played as status goods" and further extrapolate that this fact underlies their reason for suggesting that Halaf society was hierarchically organized (Watson and LeBlanc 1990: 137).

Changing perspectives in recent years have led to a general reluctance towards questions on social complexity and have driven researchers instead to address local site-specific issues focused on social practices. However, because both the Halaf and Ubaid Periods are considered the antecedents of the earliest state societies, the level of social complexity these phases exhibit continues to lurk as a topic of widespread interest (Campbell and Flecther in press; Frangipane 2007, 2010; Redman 1978; Yoffee 1993, 2005)[1]. Overall, it has become clear that Elman Service's (Service 1962) predetermined templates for "tribes" and "chiefdoms" find their best correlates in the New World or Polynesia (Flannery 1999; Frangipane 2007). The numerous modifications[2] to which Service's evolutionary rungs have been subjected when applied to Near Eastern prehistory show how incompatible these categories are for the dataset at hand.

This paper invites us to move beyond typological categories like "tribes" or "chiefdoms," yet considers issues of political economy and explores strategies towards social complexity. The main aim of the paper is to examine the socio-political scenario in northern Mesopotamia in the Halaf and Ubaid Phases of the sixth and fifth millennia BC, and a major part of the paper is devoted to outlining the scholarly discussion in an updated context. The paper continues with a brief case study from Tell Kurdu. The settlement is compared with its north Mesopotamian contemporaries with reference to issues of complexity. This discussion in turn enables us to highlight transformations that occur in the fifth millennium BC, not only at Tell Kurdu but also at fifth millennium sites in general.

Excavations at Tell Kurdu exposed relatively wide horizontal exposures dating both to the Halaf-related and to the Ubaid-related phases, providing a unique opportunity to explore the contrasting levels of social complexity between the sixth and fifth millennium BC at a single settlement. Tell Kurdu is geographically considered on the outskirts of the zones of influence of the Halaf and Ubaid cultures. However, during the Ubaid-related Phase, the inhabitants were, in fact, very much in tune with the developments taking place in Greater Mesopotamia. This paper demonstrates that the relationship Tell Kurdu maintained with the Ubaid sphere of influence extends far beyond material aspects and that the inhabitants were also aware of strategies of administration and craft production practiced at Ubaid sites.

On the other hand, elements of the local Amuq culture heavily dominate the assemblage and architecture during the preceding Halaf-related Phase. Halaf-type wares are rare and the architecture shows little commonalities with typical Halafian sites. Nonetheless, in terms of political complexity, the emerging picture from Tell Kurdu closely follows the developments taking place in Greater Mesopotamia. The paper proceeds first with a broad and up-to-date overview of the socio-political situation during both the Halaf and the Ubaid period:

THE HALAF PHASE

Elements of Halaf culture have puzzled researchers since the early twentieth century. Not only did finely decorated, high-quality pottery seem out of place in the tiny settlements of less than two hectares, but striking similarities in ceramic motifs and architectural plans could be found across bewildering expanses (Perkins 1949; Redman 1978: 206; Watson and LeBlanc 1973: 130). Attempts to characterize Halaf society in a framework of tribes and chiefdoms have failed to clarify these incongruities. Some researchers in the 1970s and early 1980s focused on the indications for complexity and proposed that there was ample evidence to argue for Halafian chiefdoms (Redman 1978: 206; Watson 1983: 242-243; Watson and LeBlanc 1973). Many others since then, however, have maintained that Halafian society was organized at a pre-chiefdom level or that headmen existed only in subtle ways (Akkermans 1993; Akkermans and Schwartz 2003; Breniquet 1996; Flannery 1999; Frangipane 2007; Hijjara 1997). The latter group of researchers based their assessment on a weakly-developed settlement hierarchy (Frangipane 2007: 155; Hijjara 1997: 84-96), the lack of evidence for inherited status in mortuary remains (Akkermans 1989a; Frangipane 2007: 162-163), the domestic character of practically all architectural structures (Akkermans 1989b; Frangipane 2007: 155-157; Merpert and Munchaev 1993b), and the use of household technologies in ceramic production (Hijjara 1997: 102; Nieuwenhuyse 2008).

The growing evidence for (semi) nomadic habitation during the sixth millennium BC evokes a completely different lifestyle and presumably a different level of social complexity (Flannery 1999). Especially Syrian sites like Sabi Abyad, Khirbet esh-Shenef, Damishliyya and Umm Qseir (Akkermans 1993; Akkermans and Duistermaat 1997; Akkermans and Schwartz 2003: 117-121; Akkermans and Wittmann 1993) and a few located in modern-day Turkey like Fıstıklı Höyük and Nevalı Çori (Bernbeck et al. 2003; Pollock 2009) may fall within this framework. A semi-nomadic lifestyle in no way precludes socio-political complexity, but it undoubtedly makes complex social formations, as Flannery frankly states, "hard to identify" (Flannery 1999: 44).

Yet recent discoveries in the northern reaches of the Halaf sphere of influence indicate once again that the situation in the sixth millennium BC was more varied and intricate than previously thought: Turkey and parts of northern Syria harbor a number of sixth millennium BC sites, with Halafian type ceramics, that range between 10 and 20 hectares, far larger than the typical 1-2 hectare Halaf sites (i.e. Takyan Höyük, Kazane, Domuztepe, Tell Kurdu, Mounbatah, Tell Badan/Nisibin and Samsat, see Akkermans 1989c: 129; Algaze 1989: 229; Algaze et al. 1991; Bernbeck et al. 1999; Campbell et al. 1999; Lyonnet 2000; Özbal et al. 2004; Özdoğan personal communication; Yener, Edens, Harrison et al. 2000; Yener, Edens, Casana et al. 2000). Although what percentage of each site was occupied simultaneously awaits to be researched[3], the fact that these sites are substantially larger than contemporaneous sites in other parts of northern Mesopotamia is undeniable; some may even represent regional centers in two or even three-tiered settlement hierarchies (Algaze et al. 1991: 195).

In sum, we are now beginning to see just how multifaceted the sixth millennium BC was; while at one end of the spectrum, large sites of immense proportions have been discovered, on the other, researchers continue to encounter tiny village settlements with evidence for seasonal or transhumant dwellings. Given that all the large sites are located in the northern reaches of the Halaf World where average annual rainfall is higher, Frangipane contends that environmental factors may have played a role in constructing this dichotomy (Frangipane 2007: 155). Yet the main thread of her stimulating argument, especially with reference to the dryer regions, is that the "egalitarian character" of sixth millennium BC settlements prevented them, by nature, from growing and supporting large groups of people (Frangipane 2007: 161). She believes that the newly created daughter communities that split off from an enlarged parent settlement affirmed their cultural connections with their forebears by replicating aspects of material culture, especially the expressive pottery designs we associate with the Halaf Period. The homogeneity we see in Halaf material cultural elements could there-

fore result from the perpetual cultural affirmation that newly formed groups felt compelled to maintain (Frangipane 2007). This argument contributes much to our growing knowledge on the undeniable uniformities we see in Halafian designs across broad distances.

In fact, although Frangipane formulates her argument with reference to the plethora of small Halafian sites, her ideas on the egalitarian character of the communities at this time may also be applicable to large settlements. Domuztepe, the most extensively excavated large Halaf settlement to date, yielded intentionally laid and maintained ditches and terraces, which may have formed boundaries between different neighborhoods of this 20 ha settlement (Campbell 2008; Carter and Campbell 2008: 124). If so, this would suggest, in line with Frangipane, that the settlement was also comprised of several independent sub-communities that were presumably also egalitarian in their social organization (Campbell and Fletcher in press). In other words, Frangipane's argument, that the Halaf Period in general lacked the hierarchical control to sustain substantial populations, is still applicable to large sites like Domuztepe, if they were in fact comprised of an agglomeration of smaller bounded and independently managed neighborhoods (Campbell and Fletcher in press; Frangipane 2007). Future research at Domuztepe may be able to test Frangipane's hypothesis on the perpetuation of ceramic form and decoration to maintain group affiliation and investigate whether there are differences in ceramic motifs and the grammar of decoration across Domuztepe's various terraced neighborhoods.

The idea that the ditches may have denoted the boundaries of distinct corporate groups is also supported by fact that the "Death Pit," in which disarticulated and butchered bones of close to 40 individuals were found, was dug precisely at the edge of one of these terraces (Campbell 2008; Carter et al. 2003: 121; Kansa et al. 2009). This large burial pit was marked by substantial upright posts and no structures were built in its immediate vicinity for several generations, suggesting that this area must have carried special significance over an extended period of time (Kansa et al. 2009: 163). Based on observations made several decades ago by Arthur Saxe (Saxe 1970, 1971) and Lynn Goldstein (Goldstein 1981), the visible demarcation and maintenance of the area used for the disposal of the dead could be a way in which residents of the terrace in question maintained links with their ancestors and ultimately legitimated their claim to their neighborhood terrace or their section of the settlement (Campbell 2008). Highly visible grave-markers supported by large posts, as was probably the case at Domuztepe, are among the ways in which rights to the local resources could be reaffirmed.

Our understanding of issues of social complexity during the sixth millennium BC is bound to change again as excavations at large Halaf settlements continue and the organizational dynamics of small settlements are better understood. The claim that Domuztepe was comprised of a number of independent units separated spatially from one another and the assumption that such a set-up was preferred because it allowed residents to evade hierarchical governance is compelling (Campbell and Fletcher in press). This type of social organization could, to use Carol Crumley's terminology, be called a type of heterarchy (Crumley 1995; Stein 1998). According to Crumley,

"*Heterarchy may be defined as the relation of elements to one another when they are unranked or when they possess the potential for being ranked in a number of different ways. For example, power can be counterpoised rather than ranked. Thus, three cities might be the same size but draw their importance from different realms: one hosts a military base, one is a manufacturing center, and a third is a home to a great university*…" (Crumley 1995: 3).

The concept of heterarchy, in other words, allows for flexibility and an alternative to the problematic evolutionary band-tribe-chiefdom-state model proposed by Service (Crumley 1995: 3-4). Current evidence suggests that Halaf society may, in fact, have followed such "alternative" pathways towards complexity (Flannery 1999).

THE UBAID PHASE

Based on the scenario described above for large Halaf settlements like Domuztepe, one could argue that the nearly complete lack of settlements exceeding about 10 ha[4] in the Ubaid Period is per-

haps a consequence of the emergence of hierarchy by the fifth millennium BC. In other words, it is quite possible that the first attempts in attaining and maintaining political and economic power could only be realized with modest groups of people. If the Ubaid Period is considered an incipient phase of hierarchical complexity, fifteen or twenty hectares, as known from the preceding Halaf Phase, may simply have been too large a territory for a chief or an elite class to govern. Indeed, when compared with the Halaf Phase, in the Ubaid Period one undeniably finds more evidence for social inequalities, for specialized crafts as well as for public and monumental structures, although evidence for hierarchies becomes notably more pronounced by the end of the fifth millennium BC (e.g. Pollock 1983)[5].

As in the Halaf Period described above, much of the discussion concerning the Ubaid Period has circled around how well the period can be classified within the traditional "chiefdom" concept (Akkermans 1989b; Berman 1994; Frangipane 2007; Matthews 2003; Pollock 1983; Stein 1994). Yet, Near Eastern pre-state societies simply continue to defy such predetermined templates, and so opinions on socio-political complexity have remained divided: some researchers argue that the Ubaid Period lacked socially stratified communities altogether (Akkermans 1989b; Akkermans and Schwartz 2003: 178; Forest 1983: 77; Hole 1983), while others maintain that the evidence for social complexity is compelling (Berman 1994; Forest 1996; Frangipane 2007, 2009; Jasim 1985; Stein 1994, 1996; Pollock 1983, 1999; Wright 1984; Yoffee 2005). Part of the reason for this disagreement stems from the fact that a number of sub-phases and a broad geographical expanse often tend to be engulfed within the term "Ubaid," but much of the confusion is based on the inadequacy of Service's evolutionary categorization scheme for the Near East.

A well-known argument made for the Ubaid Period in reference to the mismatch between the chiefdom concept and the available data on sociopolitical complexity is the idea that the Ubaid system of power and authority was built not on items of wealth but on agricultural surplus (Stein 1994, see also Frangipane 2007). Stein put forth that Ubaid "chiefs" controlled the access to collective grain storage depositories (Stein 1994). Yet, their power was in no way institutionalized, and the system would have functioned on the principle of tight kinship ties. All evidence, in other words, for hierarchical differentiation would have been intentionally suppressed and hidden behind egalitarian facades (Stein 1994: 43). This argument would, in essence, provide an explanation for the apparent lack of items of wealth, status, power and social rank across the Near East in the Ubaid Period. While the relative rarity of prestige goods over nearly a century of excavations cannot be ignored (Stein 1996: 29), given the alluvial overburden overlying Ubaid levels in southern Mesopotamia, Matthews points out the flaws in basing arguments on the absence of evidence and reminds us of the sumptuous goods like lapis lazuli and carnelian beads discovered in Gawra XIII (Matthews 2003: 105; see Tobler 1950: 192). Similarly, a large number of imported copper artifacts, mostly axes, were found at Susa (Hole 1983: 318), but as in the Gawra XIII example above, these also date to the terminal Ubaid when the earliest signs for chiefs and a distinct elite class were visibly beginning to emerge (Frangipane 2009: 136; Frangipane 2010; Pollock 1983). These data must be viewed as evidence that the Ubaid Phase is one of great internal variability with clearer evidence for hierarchical organization beginning to take root later in the development of this period.

The idea that the earlier Ubaid system of power and authority was built not on items of wealth but on agricultural surplus is not only plausible but also quite convincing. However, the associated archaeological correlates are subtle and can be read in several interpretative ways. For example, silos for the collective storage of grain and storage rooms for other surpluses already existed in the Late Neolithic Phases in northern Mesopotamia at sites like Sabi Abyad (Akkermans and Duistermaat 1997; Akkermans and Verhoeven 1995), Tell el-Kerkh (Tsuneki et al. 1998: 11-12, fig. 11), Umm Dabaghiyah (Kirkbride 1975), Yarim Tepe I (Merpert and Munchaev 1993a: fig. 6.3), and the Yumuktepe "silo base" (Caneva and Köroğlu 2008: 85-86; Garstang 1953: 47-50).

Large grain storage repositories continue into the Ubaid Period (Arzt 2001: 34-36; Forest 1991: 95-

96; Fukai et al. 1970; Hammade and Koike 1992; Hole and Arzt 1998; Tobler 1950). Researchers, however, have questioned whether they were used collectively under the control of chiefs in charge of staple-finances (Frangipane 2010: 80; Stein 1994) or individually as storage annexes to houses (Arzt 2001: 36). Level 1 at Tell Ziyadeh yielded a grill structure interpreted as a granary. Jennifer Arzt believes, based on its small size and its proximity to a residence that "each household probably stored and controlled all the grain it produced" (Arzt 2001: 35-36; also see Akkermans and Schwartz 2003: 161). She argues that this is the case also for other grill structures like those brought to light at Tell al-'Abr in Level 7 (Hammade and Yamazaki 2006: 43) and Tellul eth-Thalathat level XIII (Fukai et al. 1970: 18, see also pl. 65). These grain repositories are of modest proportions and appear to be close to or connected with residential structures. Yet Arzt also makes a similar argument even for Ouelli Level 1 (Arzt 2001: 36), which is a considerably large complex and is likely to have been used communally (Forest 1983: 76-79; Frangipane 2010: 80). Like Frangipane, I believe a corporate use can be justified for the pigeonhole structures of Oueilli (see especially the plans for Level Ubaid 0 in Huot 1983), which could indicate the presence of hierarchies, either overt or concealed (Frangipane 2007, 2010). Frangipane interprets the latter structure as having been used by a large social unit or an extended family but rightly assumes it would not have sufficed for the entire community (Frangipane 2009: 167; Frangipane 2010: 80). The same can probably be said for the substantial grill building foundations we find at Tepe Gawra, especially in Level XV (Tobler 1950).

Yet the Ubaid Period sees grill structures also in close proximity to temples, perhaps confirming Stein's view (Stein 1994) of a staple good based economy, especially at sites like Eridu. Excavations yielded grill structures near Temple XI and Temple X (Safar et al. 1981: figs 44A, 39:11, 39:10). Although interpreted by the excavators as platforms on to which temples were erected, the fact that they are adjacent and not superimposed could argue that they served a different purpose. If the grill structures were in fact the foundations of granaries, then the idea that they were linked with temples may be especially significant; it suggests that temples were repositories for grain and that temple personnel were in charge of overseeing the storage and distribution of staple goods (Stein 1994).

Later in the Ubaid Phase, especially at Eridu Temples VII-VI (Lloyd and Safar 1943; Safar et al. 1981: 103-110) and Gawra XIII (Frangipane 2009: 136; Tobler 1950) the process of redistribution *may* take on ritual elements and become increasingly linked to ceremonial acts. There is disagreement, however, over whether Ubaid temples denoted a growing ideology for legitimating inequalities in social rank. While some argue that religious leaders carried few privileges beyond their ritual specialization (Oates 1977), others believe that a few religious leaders had elevated statuses and possibly functioned as paramount chiefs (Pollock 1989; Wright 1984). The fact that "temples" contain paraphernalia that would not be out of place even in simple dwelling contexts (like spindle whorls and grinding stones) is noteworthy, though temples do stand out in most cases with their unusual ceramics, elaborate niched and buttressed architecture and other unusual artifacts like carved stone seals (Frangipane 2009: 136; Pollock 1999: 87; Rothman 2010: 18-19, fig. 1; Safar et al. 1981: 156; Tobler 1950).

Identifying houses of "headmen" or residences with special importance is equally difficult. Given the large horizontal exposures and the possibility to compare different houses, Building A at Tell Abada (Jasim 1983, 1985) has often been cited as a chief's residence (Pollock 1999: 88; Stein 1994: 38). The size of the structure exceeds all others, and the concentration of infant burials under the floors of this structure suggests that it carried special significance. Nonetheless, in line with the idea that wealth in the Ubaid Period was based more on the control of staple products than of prestige goods, is the fact that the artifacts found within the structure are mostly domestic in nature. Excavations did yield higher numbers of stone mace heads and carved gypsum or marble vessels than in other structures, but no sumptuous materials or prestige items were found (Jasim 1985). Since few other sites have such broad exposures, comparable case studies are difficult to come by, but the excavations at Late Ubaid Değirmentepe, located in the Malatya province of eastern Turkey, uncovered an area over 2500 m^2 yielding at least

14 structures, of which no single residence appears to stand out from the rest (Esin 1985, 1994, 1998; Esin and Harmankaya 1985, 1986, 1987).

A final argument used in assessing the level of social complexity during the Ubaid Period is the evidence for craft production (Berman 1994; Nissen 1989: 248-249). The Ubaid period witnesses efficiency in many aspects of ceramic production (Nissen 1988: 46). While the shaping and decorating of ceramic vessels were aided by the tournette or slow wheel, we also find clusters of kilns, suggesting that pottery was produced in specialized workshops rather than in the domestic sphere[6]. There is no question that these craft improvements are all signs of emergent complexity, yet it is unclear whether this skill and efficiency in ceramic production was produced in craft facilities under chiefly control. Given the great consistency in design among Ubaid ceramics, for example, Susan Pollock argues that Susa's exquisite painted wares, known from the end of the Ubaid Period, were made for and used by elites, suggesting that they were produced beyond the domestic sphere, perhaps in chiefly workshops (Pollock 1983). She further maintains that the complexity of the designs and the consistency of the motifs support the presence of chiefly power.

Basing her argument on the clays used in production, Judith Berman's neutron activation analysis of Late Ubaid ceramics from the Susiana plain show that though remarkably homogeneous in design, there is great variability in clay sources used (Berman 1994). She suggests, therefore, that Ubaid ceramics were made in a range of different production locales and not in singular workshops that were presumably under chiefly control. This is in line with the argument made by Brumfiel and Earle (Brumfiel and Earle 1987) that specialized crafts can also be produced by skilled artisans in ateliers that are not necessarily attached to given patrons. In sum, research over the Ubaid Period with reference to socio-political complexity has yielded conflicting results on many fronts. Some, like Stein, Berman and Frangipane, have taken a middle path and argued for alternative pathways to social complexity (Berman 1994; Frangipane 2007; Stein 1994).

The next section of this paper will address these issues across the Halaf and the Ubaid-related Phases at Tell Kurdu. The exposures for both the sixth and fifth millennium BC levels of this site approach 800 m^2 each. The sixth millennium BC levels correspond with the Halaf Phase of northern Mesopotamia when Amuq C ceramics were locally produced at Tell Kurdu (Fig. 1) while the fifth millennium BC levels, when Amuq E ceramics were being used, correspond with the subsequent Ubaid Phase (Fig. 2). Eight hundred m^2 is substantial enough to allow us to contrast the nature of the deposits here in terms of political organization. As a result, this juxtaposition allows us to evaluate the emergence of corporate facilities and specialized crafts at a single settlement and provides a way to characterize the interaction with the greater Mesopotamian region.

TELL KURDU: BACKGROUND TO THE SITE

Tell Kurdu is a large prehistoric mound, located in the Amuq Valley of southern Turkey approximately 30 km northeast of the modern city of Antakya (ancient Antioch, Fig. 3). The temperate climate, the multiple sources of water, natural resources and agricultural lands combined with the strategic location of the region have contributed to the allure of the Plain of Antioch for prehistoric communities (Yener et al. 1996; Yener 2005) (Fig. 4). Being by far the largest prehistoric mound in the plain, Robert and Linda Braidwood selected Tell Kurdu to bring clarity to this time segment of the occupation history of the Plain of Antioch (Braidwood and Braidwood 1960: 15-18). The excavations conducted at the site in 1938 were limited to two weeks and four trenches. Though brief and hurried, their work proved crucial in understanding the Late Neolithic and Chalcolithic phases in which local variants of North Mesopotamian types of Halaf and Ubaid wares were present (Braidwood and Braidwood 1960: 137-225). These phases, labeled Amuq C-E (6-5th millennium BC), were designated by Robert Braidwood as part of his regional pottery sequence (Braidwood and Braidwood 1960).

No scientific excavations took place at Tell Kurdu in the half century to follow, although the mound underwent significant bulldozing and destruction. In the mid 1990s, Aslıhan Yener reinstated the excavations at Tell Kurdu, led campaigns at the site in 1996, 1998 and 1999 and in 2000 transferred the responsibility to the author and Fokke

Gerritsen (Edens and Yener 2000a; Özbal et al. 2004; Yener, Edens, Harrison et al. 2000; Yener, Edens, Casana et al. 2000). Trenches excavated in 1938 on both the southern and northern flanks of the site yielded Amuq C pottery (Braidwood and Braidwood 1960: 18), suggesting that the Amuq C occupation spread across the whole site. This observation was confirmed by recent intra-site settlement surveys (Branting 1996; Edens and Yener 2000a: 199), which have shown that the mound may have been as large as 15 ha in the Halaf-related sixth millennium BC phase but that it did not exceed 5-7 ha in the subsequent millennium during the Ubaid-related phase; the habited mound appears to have shrunk to about half its original size in the latter period. This observation follows trends seen at other sites and regions in northern Mesopotamia as described above.

Both the 1938 excavations and the 1996-1999 seasons centered on the Ubaid-related levels on the higher south mound (Braidwood and Braidwood 1960; Edens and Yener 2000a; Yener, Edens, Harrison et al. 2000; Yener, Edens, Casana et al. 2000), while the work conducted in 2001 specifically focused on the highest preserved Amuq C or Halaf-related level in the northern part of the mound (Fig. 5). The transitional Amuq D Period, which bridges the phase between the two major phases, is little understood. The ceramic assemblage suggests that the inhabitants continued to be influenced by north Mesopotamian styles of vessel production and decoration, although this is more apparent in the Ubaid-related fifth millennium assemblage. Painted Halafian vessels are rare and contrast sharply with local Dark Faced Burnished Wares, which represent a tradition that was practiced in the region since the Ceramic Neolithic. North Mesopotamian influences are much stronger in the Ubaid (Amuq E) phase when Ubaid-like ceramics dominate the assemblage and local styles of burnishing almost completely disappear. The following section first describes the situation during the Ubaid-related Amuq E Phase and thereafter provides a summary of the apparent socio-political situation during the Amuq C Phase.

The Ubaid-Related Amuq E Phase

The exposures of the Amuq E Phase of the fifth millennium BC encompass approximately 800 m^2, but this is an aggregate value of smaller 200-300 m^2 exposures across at least three different areas of the site. As mentioned, even though the Amuq Valley is geographically on the edges of what is often considered the Ubaid sphere of influence, aspects of the ceramics, figurines and architectural organization display distinct Ubaid elements (Özbal 2010). Overall, the picture emerging from the Amuq E levels at Tell Kurdu is one of variability; each sub-area had a different character, forming part of a varied settlement fabric. In addition to residential structures, excavations of the Ubaid-related levels, for example, yielded an area with what appears to be a large granary and another with a pottery production facility (Özbal 2010). Such structures are typically found across Ubaid settlements in greater Mesopotamia. The discussion below will explore the nature of these different complexes in terms of social and political complexity.

The architectural complex believed to be a granary was discovered on the summit of the mound, in trenches 1, 6 and 9 (Figs 6-7). Dating to the Early Amuq E, the grilled structure was either associated with or built upon a large platform and enclosed within a massive 10 x 9 meter building. The grills had a foundation made of stacked beds of woven reeds (Edens and Yener 2000a: 44) (Fig. 8). The fact that large quantities of stamp seals, baling tags, tokens and other administrative devices were found in association with the structure (Edens and Yener 2000a: 44) was further interpreted as evidence for large-scale grain storage (Akkermans and Schwartz 2003: 163). Too narrow for activities, the grills were likely constructed to elevate the structure to ensure that the floor (and the stored grain) remained dry. Such granaries, as described above, are quite typical of the Ubaid Period. Especially the Early Ubaid sees many examples at sites like Ziyadeh Level 1 (Arzt 2001: 34-36), Tell al-'Abr in Level 7 (Hammade and Yamazaki 2006: 43), and Tellul eth-Thalathat level XIII (Fukai et al. 1970: 18, see also pl. 65). Grill structures are also known from Tepe Gawra XV, XVA and XVI (Tobler 1950) and possibly even Eridu Temple XI and Temple X (Safar et al. 1981: figs 44A, 39:11, 39:10, see discussion above). If, as discussed above, the relative size of grain storage depots and proximity to other structures (either residential or ritual) are con-

sidered, it may be possible to extrapolate whether such granaries were used by singular households or communally, perhaps under the control of "chiefly" elite.

Given its substantial size and the discovery of significant quantities of administrative artifacts, the Early Ubaid grill structure at Tell Kurdu can most likely be interpreted as one of communal importance. Indeed, based on the scale of the building and the effort placed into constructing the foundations, Akkermans and Schwartz suggest that this building at Tell Kurdu likely carried "public" significance (Akkermans and Schwartz 2003: 163). Whether this is sufficient to argue for a staple-finance based chiefdom (Stein 1994) with elites controlling access to resources is difficult to say. The complex, though not fully excavated, would probably not have been sufficient to store all the grain for the community but was certainly excessively large for a single household. I would argue it was used communally, perhaps by the neighborhood residents.

In addition to the grain storage depots, excavations of the Amuq E levels at Tell Kurdu also yielded a pottery production atelier. The discovery of a craft facility for the bulk production of ceramics is in line with the growing efforts towards the efficiency in manufacture that we see emerging in the Ubaid Period (Nissen 1988, 1989). The pottery producers of Tell Kurdu are known to have resorted to other instruments of efficiency, like the multiple brush device, which significantly reduces the labor time in decorating if applied while the pot is rotating on a slow wheel (Braidwood 1939) (Fig. 9a-9b). The potters' wheel or tournette, perhaps the most obvious step in "simplifying" the production process, also appears for the first time in the Ubaid Period (Nissen 1988: 47). Finally, producing pottery in an atelier reserved for this task, perhaps by specialists, as we see at Tell Kurdu, is no doubt another way to make the process more efficient.

The pottery workshop at Tell Kurdu is located in Trench 11 and 15 in the southwestern part of the mound (Fig. 10). Excavations yielded at least four kilns and associated ash pits. All pyrotechnic features were set into a partially walled space. The fire hardened kiln installations and a large number of over-fired sherds or wasters in the vicinity indicate that these features must have functioned as ceramic kilns (Casana 2000). Small pottery firing workshop facilities are known across the Ubaid world and suggest that this activity was beginning to shift from a household craft to one that was practiced in small community workshop settings. Whether these were "attached specialists," to use Brumfiel and Earle's terminology (Brumfiel and Earle 1987), working for a given chief, is in most cases difficult to determine, although the evidence for elite production is usually weak. The pottery production facility discovered at Tell Kurdu is likely more in line with the situation Judith Berman describes for Susa (Berman 1994): small independent yet specialized centers for the manufacture of ceramics[7].

Kiln complexes not unlike those at Kurdu, were also discovered at Tell Abada (Jasim 1985: 53-54), Tell al-'Abr (Hammade and Yamazaki 1995; Hammade and Yamazaki 2006: 42), Kosak Shamali (Koizumi and Sudo 2001), Al- 'Ubaid and Eridu (Moore 2002), Songor B (Matsumoto and Yokoyama 1995) and possibly also at Tell Ziyadeh (Buccellati et al. 1991; Akkermans and Schwartz 2003: 170-171; but see Hole 2008). It cannot go without mention, however, that high firing temperatures were already achieved using complex updraft kilns during the sixth millennium. Such facilities are found regularly across Halafian sites (see Streily 2000 for a discussion). These are, however, singular cases[8]. The notable change found in the Ubaid Period is the switch to concentrations of *multiple* kilns in a single specialized locale (Streily 2000: 80). The production of ceramics in workshop facilities as a specialized craft may well represent a step taken towards greater social complexity.

In addition to the granary and the pottery production center, excavations also uncovered a small residential complex dating to the Amuq E Phase in Trench 2, located on the southeastern part of the mound along a bulldozer cut (Edens and Yener 2000a: 38) (Fig. 11). The discovery of three superimposed architectural layers in this trench, all of which appear to be residential in character, suggests that this area remained domestic for several occupational phases. Especially Phase 2 of the architecture is noteworthy because it yielded a web of small rooms with complete vessels and

grinding stones in situ as well as a series of small bins which still contained charred grain (Edens and Yener 2000a: 38) (Fig. 11). The rooms are small yet the overall appearance of such agglutinatively clustered structures is quite similar to the sixth millennium architecture on the northern mound described below (Fig. 12). The Phase 2 architecture does not extend to the eastern part of the trench, probably due to issues of preservation. Yet excavations in this area yielded part of a lower phase of architecture called Phase 3 (Edens and Yener 2000a: 39). Quite surprisingly, this structure is round and resembles a tholos[9]. Although clearly Amuq E in date, this is not the sole example of post-Halaf tholoi (see Breniquet 1991: 25; Tobler 1950; Wilkinson et al. 1996; and possibly Nishiaki et al. 2001: 58-59)[10]

In sum, when we look at the overall evidence yielded by the Ubaid related levels at Tell Kurdu, we see great variability. Even though not all the areas exposed are exactly contemporaneous, the Amuq E deposits to date are comprised of at least three areas of different character: (i) a quarter reserved for the communal storage and possibly the (overt or covert chiefly) administration of grain on the summit of the mound; (ii) a residential area of different overlying housing complexes in the east; and (iii) a nearby specialized community craft workshop reserved for the production of ceramics. The appearance of such specialized facilities for the production of pottery and for the storage and redistribution of grain resembles examples known from Ubaid sites and suggest that the inhabitants of Tell Kurdu were also following the steps that other contemporary sites in Mesopotamia were taking towards incipient social complexity.

The Halaf-Related Amuq C Phase

Excavations of the Amuq C Phase were concentrated on the north mound (Özbal et al. 2004; Yener, Edens, Harrison et al. 2000; Yener, Edens, Casana et al. 2000). The structures are either mudbrick or pisé and lack stone foundations. Given the proximity of the exposed levels to the surface, the buildings were in part damaged by plowing and other activities. Overall, the architecture is comprised of complex agglutinative structures arranged around a web of streets (Fig. 12). Unlike the Ubaid situation, the architecture is entirely residential. There are no craft areas reserved for specialists and no large granaries. The only variability present is among different residential complexes in how they organize their space. Evidence suggests that some houses were somewhat more private and that others preferred more open and communal arenas for activities like food preparation (Özbal 2006). What binds the whole Amuq C settlement together is the underlying residential character of all the Amuq C exposures in general.

Only one area, Area A, a private residential compound, is described here. The residence was arranged around a small courtyard (see Özbal 2006, in press, Özbal et al. 2004) (Figs 13-14). Entrance into the area was through room R10. The two postholes on either side of the entrance indicate that a gate restricted access into the compound. One presumes that only those who had the right to enter were welcome. Another posthole placed on the wall dividing rooms R07 and R10 suggests that the inhabitants and the visitors had to go through an additional door (this time stepping over a raised threshold) before they arrived at the main courtyard of Area A (i.e. courtyard R07). From the courtyard, one enters room R05, which has a door just south of the courtyard bin. This was a kitchen or food preparation area. In addition to a large bread oven, excavations here yielded two work platforms, one with a large grinding stone still *in situ*. Adjacent to this was a small semi-circular bin, formed by a small mud-ledge. The bin was equipped with two stones onto which the residents had balanced two large sherds, which may have acted as a shelf. The floor had other in situ materials on it including several more grinding stones and a complete large jar, several bone tools, sling pellets, tokens as well as two pot discs (Fig. 15), suggesting that other activities must also have taken place here (Özbal et al. 2004: 41-42). The discovery of grinding stones in the courtyard of the complex may indicate that room R07 was also used for grinding activities, perhaps also for food preparation. In addition, microarchaeological analyses showed that lithic knapping took place here (Özbal 2004; Özbal and Healey 2008).

The northern room of the complex, room R06, was the presumed living-room of the compound.

Although it too was restricted in size, it yielded a series of plaster floors, suggesting that it went through several episodes of maintenance and refurbishing. This was also the room selected for the placement of deceased family members. Two burials were excavated here, one placed beneath the highest and one beneath the lowest excavated floors. Noteworthy is the fact that neither of the burials were of infants as infants are the usual candidates for subfloor burials at Tell Kurdu. Interestingly, analyses of the DNA show that both individuals come from the same matriline, which may be used as evidence to show that the residents of Area A were kin (Mekel-Bobrov and Lahn 2004: tab. 15)[11].

Overall, the inhabitants of Area A were probably an independent household which saw to their own food production and craft activities. Although other areas of the site like Area E are not as restricted as this compound, we find a general lack of craft workshops and administrative complexes or other public structures within the exposed area[12]. Future research may be able to determine whether these compounds were bounded in any way to divide the community into smaller neighborhoods (as in Domuztepe). At present however, one cannot argue for any centralized authority, any form of hierarchical organization or any evidence for craft production beyond the household sphere at Tell Kurdu in the sixth millennium BC.

DISCUSSION

As mentioned at the outset, the aim of this paper was to describe the differences we see in Mesopotamian social complexity in the Halaf and Ubaid Periods. A review of the literature has shown that there are significant changes that take place across northern Mesopotamia by the beginning of the fifth millennium. This observation is supported by the Tell Kurdu case study, a useful example that allows comparison between the phases in question at a single site. The Amuq Valley lacks evidence for hierarchy and craft specialization in the Amuq C phase, closely paralleling the situation across northern Mesopotamia in general at this time. However, as mentioned, neither the ceramics nor the architecture of the Amuq C phase shows strong Halaf influences. The architecture displays Levantine or Anatolian characteristics and local Amuq C ceramics comprise the great majority of the pottery assemblage (although characteristic Halaf-type painted ceramics are recognizably present in small numbers in the Amuq during the sixth millennium). In terms of architecture and social organization, there seems to be a general lack of functional variability. All excavated areas are residential as excavations yielded no workshops or organizational quarters.

The scenario in the Amuq E Phase at Tell Kurdu, on the other hand, is markedly different. The fifth millennium BC layers at Tell Kurdu display close resemblances -not only in the architecture, as described above, but also in ceramics, figurines and burial practices- to the developments taking place in Ubaid settlements to the southeast (Özbal 2010). Nearly half of all rim sherds were painted in an Ubaid-like style, leading Braidwood and Braidwood to characterize the ceramics of this phase as having "an overwhelmingly Ubaid complexion" (Braidwood and Braidwood 1960: 511). Figurines with coffee-bean eyes and elongated heads, well known from southern Mesopotamia are present at Tell Kurdu, and inhabitants begin burying their dead in cemeteries as is common among Ubaid settlements (Özbal 2010). The discovery of Ubaid architectural elements within the Amuq repertoire, especially large communal storage structures and kiln facilities, may suggest that the fifth millennium inhabitants of Tell Kurdu were adopting not just Ubaid materials and styles but also aspects of Ubaid social organization. Specialized craft production facilities suggest that household level economies at Tell Kurdu were beginning to be replaced by specialists. Moreover, communal storage facilities indicate that some sort of community organization and administration was necessary for the gathering and redistribution of staple goods.

The lack of evidence for hierarchy and craft specialization in the Halaf-related Amuq C case at Tell Kurdu is noteworthy because it highlights the dramatic changes in terms of incipient social complexity that take place at the site by the fifth millennium. Overall, these results allow us to document, at a single settlement, examples of the greater critical changes that social and political organization and settlement dynamics were under-

going between the sixth and fifth millennia BC in the Near East.

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NOTES

1 For the Halaf Period specifically see: Akkermans 1993; Flannery 1999; Hijjara 1997; Redman 1978: 198-201; Watson 1983. For the Ubaid Period specifically see e.g.: Berman 1994; Pollock 1983; Redman 1978: 247-253; Stein 1994, 1996.

2 i.e. "staple finance-based chiefdom" (Stein 1994); "vertical egalitarian system" (Frangipane 2007); "low-level chiefdoms" (Watson and LeBlanc 1973); "developed chiefdoms" (Watson 1983: 242-243).

3 Domuztepe is a marked exception; here the excavators have demonstrated concurrent occupation across the whole 20 ha site (Campbell et al. 1999).

4 Sites such as Eridu, Ur and Uqair in the south (Lloyd and Safar 1943; Oates 1977: 472; Wright 1981: 324-325) and Tell Al Abr, Tell Zeidan and Tell Hammam et Turkman in the north (Akkermans and Schwartz 2003: 165; Hammade and Koike 1992: 109; Stein 2009: 129) may have been around or even slightly exceeding 10 ha in size. We know that Susa in Khuzistan may have approached 15 ha, but this site dates to the very end of the Ubaid period when evidence on many fronts point to the development of a "proto state" society.

5 Typically, site sizes have been a direct reflection of the level of complexity. Yet there is a notable decline in site sizes between the Halaf and the Ubaid Phases in the Near East. Perhaps, in addition to size, we should also be looking at issues of organization. If large Halaf sites are heterarchical, and Ubaid sites are showing incipient hierarchies, this may provide some explanation for the apparent discrepancies.

6 The technology of constructing updraft kilns was already known during the Halaf Period and even earlier (Streily 2000). However, these are singular examples likely used by households or family work groups. It is not until the Ubaid Period that we see concentrations of kilns in what would have been workshop settings suggesting that this is when pottery production becomes a specialized craft (Streily 2000: 80).

7 Based on an analysis of Amuq E ceramics from Tell Kurdu, in fact, Fokke Gerritsen (Gerritsen 1994) proposed that pottery from this phase was likely produced by specialists in community workshop settings (also see Casana 2000). The excavated kiln facility at Tell Kurdu may represent such a community craft area.

8 The concentration of "kilns" noted at the Halaf Period site of Yunus (Woolley 1934: 149) is misleading and is likely a series of superimposed tholoi. Almost all other cases of kilns in the Halaf Period are singular (Streily 2000) although there are instances of rebuilding obsolete kilns in nearby locales giving the appearance of a multiple kiln facilities (e.g. Tsuneki and Miyake 1998).

9 The tholos has triangular inner supports, identical in size and layout to those excavated in the Halaf Levels of Yarim Tepe III, Level 3 (Merpert and Munchaev 1993b: 186-188).

10 There are other known examples of residential architecture at Tell Kurdu: excavated in 1999, Trench 14 also along the bulldozer cut, just south of this area, yielded two phases of architecture likely serving a similar function. In the upper phase of the latter complex, two bread ovens were discovered in the main room exposed (Edens and Yener 2000b: 40-41). East of the structure were a series of overlying lenses of ash and domestic debris. Unfortunately, the sounding here was relatively narrow and could not be widened given time constraints.

[11] The DNA is currently being reanalyzed by a second laboratory to ensure accuracy.

[12] Unlike Domuztepe, at Tell Kurdu our knowledge of the ceramic assemblage is not refined enough to be able to assess whether the whole mound surface was occupied simultaneously, but even if the total occupied area at any one time was no more than a few hectares, we are undoubtedly dealing with a cluster of residential compounds.

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Fig. 1 - Examples of Amuq C painted pottery from Tell Kurdu (photo: Tell Kurdu excavation archives)

Fig. 2 - Examples of Amuq E painted pottery from Tell Kurdu (photo: Tell Kurdu excavation archives)

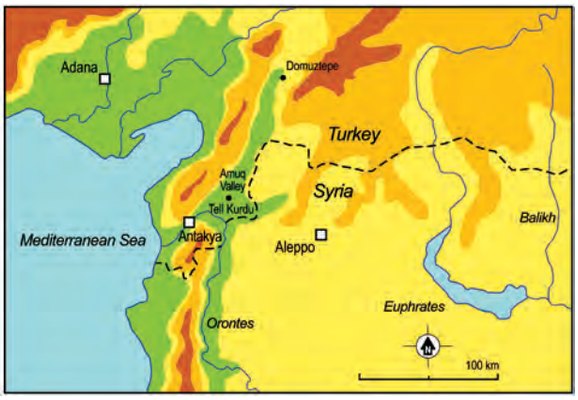

Fig. 3 - Map of southern Turkey indicating the location of the Amuq Valley (adapted from Gerritsen et al. 2008: fig. 1)

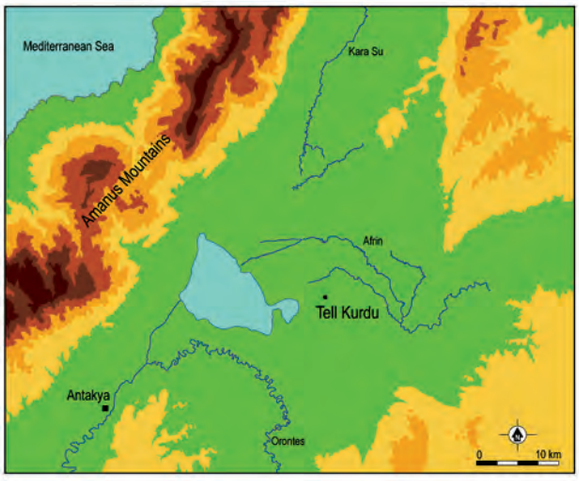

Fig. 4 - Map of the Hatay region and the Amuq Valley (adapted from Gerritsen et al. 2008: fig 2)

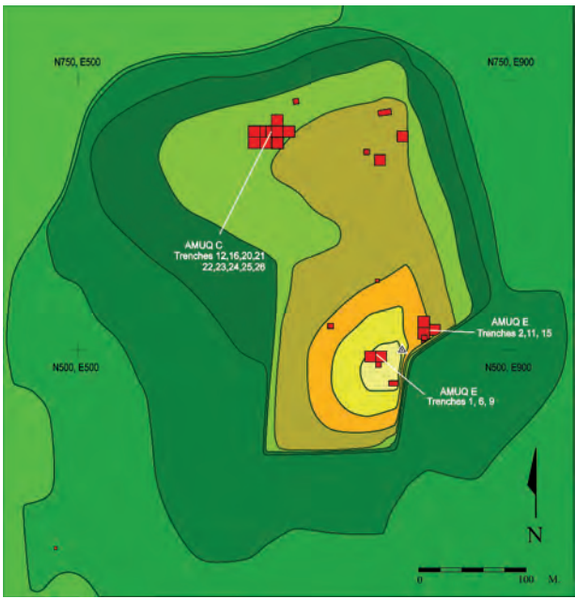

Fig. 5 - Map of Tell Kurdu showing the location of the current excavations (after Özbal et al. 2004: fig 1)

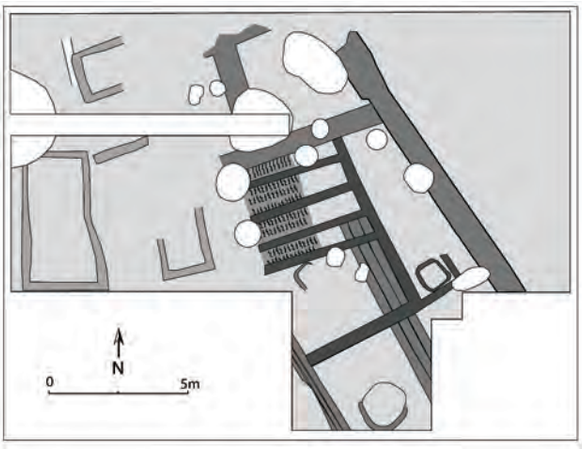

Fig. 6 - Plan of Trenches 1,6,9 on the summit of the mound (after Yener et al. 2000a: 24)

Fig. 7 - Photo of Trenches 1,6,9 showing the grill structure in the foreground (photo: Tell Kurdu excavation archives, courtesy of Aslıhan Yener)

Fig. 8 - Photo of the reeds forming the foundation of the grill structure (photo: Tell Kurdu excavation archives, courtesy of Aslıhan Yener)

Fig. 9a and 9b - A photo of an Amuq E vessel from Tell Kurdu (photo: Tell Kurdu excavation archives, courtesy of Aslıhan Yener) and a reconstruction of a multiple brush device that may have been used to decorate such a vessel (after Braidwood 1939: fig. 8).

Fig. 10 - Plan of the kiln area in Trenches 11 and 15 (after Yener at al. 2000b:fig.3)

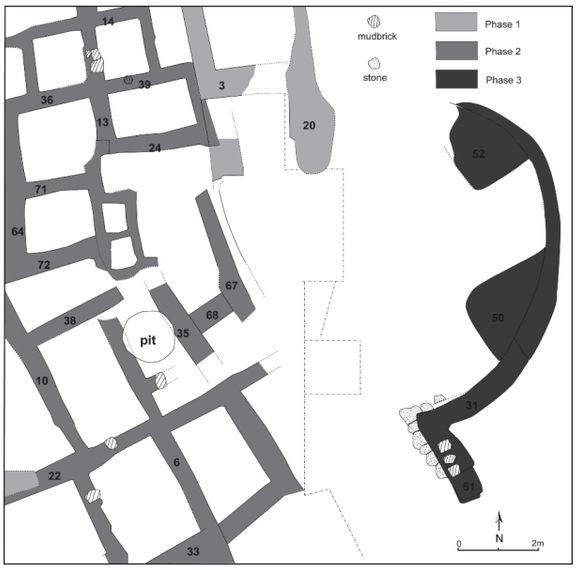

Fig. 11 - Plan of Trench 2 architecture (after Yener et al. 2000a:fig. 20)

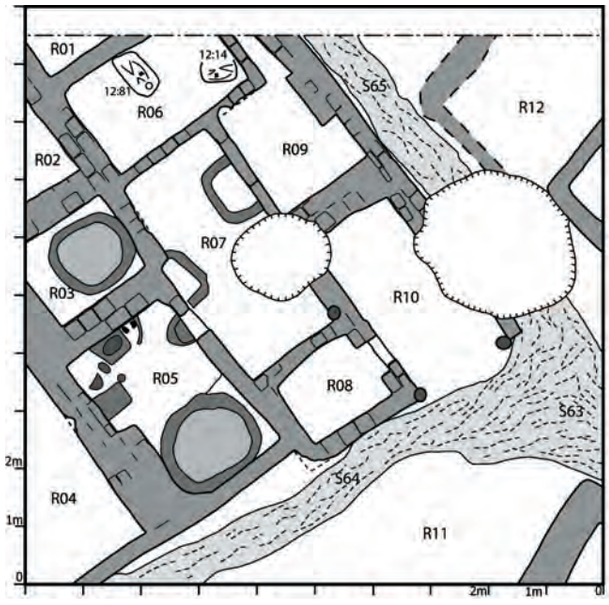

Fig. 13 - Plan of Area A (in the North Mound, after Özbal 2006 fig.4.4)

Fig. 12 - Plan of the North Mound Operation (after Özbal et al. 2004: fig 2)

Fig. 14 - Photo of room R05. Notice the oven on the left and the platform with an in situ grinding stone on the right. (photo: Tell Kurdu excavation archives)

Fig. 15 - Photo of the artifacts found in situ on the floor from room R05 (photo: Tell Kurdu excavation archives)

ATTIC POTTERY FROM SEYİTÖMER HÖYÜK

SEYİTÖMER HÖYÜK ATTİKA SERAMİKLERİ

Gökhan COŞKUN

Keywords: Attic, pottery, Seyitömer, Inner-Western Anatolia, Achaemenid Period, glaze.
Anahtar Sözcükler: Attika, seramik, Seyitömer, İç Batı Anadolu, Ahamenid dönem, firnis.

ABSTRACT

This paper presents an analysis and the catalogue of the Attic painted pottery excavated at Seyitömer Höyük. The majority of fragments are black glazed and belong to small vessels such as drinking vessels, plates and perfumed oil jars. There are also fragments of black and red figure vases. This study shows that Attic pottery was imported during the period between the beginning of the 5th and the last quarter of the 4th century BC, the highest quantity and largest variety of shapes falling into the 5th century BC. The Attic pottery assemblage in this study contributes towards understanding the commercial network in the region and the social status of the people during Achaemenid rule as well as the dating of the architecture of the corresponding level at Seyitömer Höyük.

ÖZET

Bu çalışmada Seyitömer Höyük'te bulunan Attika seramiklerinin kataloğu yapılmış, tarihlenmiş ve söz konusu malzemenin incelenmesi sonucunda elde edilen veriler sunulmuştur. Mevcut parçaların büyük bir çoğunluğu siyah firnislidir ve içki kaseleri, tabaklar ve parfüm kapları gibi küçük boyutlu vazolara aittir. Bunların yanı sıra siyah ve kırmızı figür tekniği ile bezeli örnekler de mevcuttur. Attika seramikleri Seyitömer Höyük'e MÖ 5. yüzyılın başları ile MÖ 4. yüzyılın son çeyreği arasındaki dönemde ithal edilmişlerdir. Hem sayısal çoğunluk, hem de biçim çeşitliliği açısından MÖ 5. yüzyıl seramikleri dikkat çekmektedir. Attika seramikleri höyüğün Akhaemenid Dönem tabakasındaki mimari yapıların tarihlendirilmesinde önemli rol oynamaktadır. Diğer yandan höyüğün sosyal, kültürel ve ticari pozisyonu hakkında bir takım öneriler sunmamıza olanak sağlamaktadır.

INTRODUCTION

Located 25 km northwest of Kütahya and on the premises of the Seyitömer Lignite Enterprise reserve site, Seyitömer Höyük measured roughly 150 m east-west and 140 m north-south with a maximum height of 23,5 m above datum in the beginning of the fieldwork. The archaeological excavations were first initiated by the Eskişehir Museum in 1989 (Aydın 1991: 191-204), and then carried out by the Afyon Museum

from 1990 to 1995 (İlaslı 1996: 1-20; Topbaş 1992: 11-34; Topbaş 1993: 1-30; Topbaş 1994: 297-310). Since 2006 a team under the supervision of Prof. Dr. A. Nejat Bilgen of the Department of Archaeology at Dumlupınar University has been excavating the site (Bilgen 2008: 321-332). These campaigns have shown the presence of five major occupation levels: the Roman, Hellenistic, Achaemenid periods, and the Middle and Early Bronze Ages. The Attic pottery studied in this paper is from the third level attributed to the Achaemenid period.

Attic painted pottery has long been recognised as a significant tool by archaeologists for the dating of excavated deposits in the wider Mediterranean world. Although it has not been represented in great numbers at Seyitömer Höyük, it provides significant help in the dating of the strata and the architectural remains.

The catalogue shows that smaller shapes were generally preferred. Drinking vessels are the most common. The shapes comprise: cup, stemless cup, skyphos, cup-skyphos, kantharos, cup-kantharos, mug, phiale, bolsal, bowl, plate, fish plate, lekythos, askos and animal-head cups. A large amount of the Attic pottery discovered at the mound is black glazed. Along with purely black glazed pottery, red figure and black figure and silhouette decorated pottery have also been found.

POTTERY TYPES

Cup

Three types of the black glazed cups (For black glazed cup types see Sparkes and Talcott 1970: 88-97) produced in Attica during the 5th century BC have been found at Seyitömer Höyük. These are Type C, Concave Lip Vicups and Acrocups. Only a rim fragment related to Type C, Concave Lip cup has been found at the mound. Sparkes and Talcott report that the high incurving lip of the earlier types later became shorter (For form development see Sparkes and Talcott 1970: 91). Cat. No.1 dated to 480-450 BC has a shorter lip compared to earlier examples. It seems this type of cup that appeared in Attica during the last quarter of the 6th century BC (Sparkes and Talcott 1970: 91) reached Seyitömer by 480-450 BC. The vicup production in Attica appears to be limited to the second quarter of the 5th century BC (Sparkes and Talcott 1970: 93). The cup of this type produced in such a short time span has attracted attention at Seyitömer right from the beginning of its appearance. The vicup fragments found in Seyitömer Höyük comprise two foot fragments (Cat. Nos. 2-3).

Sparkes and Talcott suggest that the acrocups that were introduced into the repertoire of Attica during the 5th century BC were produced by a single workshop only for a limited time just like the vicups (Sparkes and Talcott 1970: 94). These cups have been widely seen as adaptations of the Achaemenid metal cups (Miller 1993: 127-129). A foot fragment of an acrocup has been identified at Seyitömer (Cat. No.4), and has been dated to 475-450 BC. (The citations for similar samples and comparisons are given in the catalogue section).

There are two additional cup fragments, the exact shape of which, however, could not be determined. The first is a black glaze foot fragment (Cat. No. 5) showing a profile that could not be matched with any Attic counterparts. A similar profile to this relatively short foot has been observed among acrocups dated to 480-460 BC (Sparkes and Talcott 1970: fig 5 no. 440), and stemless cups dated to 470-450 BC (Sparkes and Talcott 1970: fig 5 no. 471). Its diameter is close to the size of the foot of acrocups. In contrast, however, our fragment has neither the high stem of the acrocups, nor the large foot of the stemless cups. It seems the best typological match would be among cups. The graffito inscribed at the bottom reads ΑΡΔΔΔ (For similar graffito samples with triple or quadruple delta signs see Robinson 1950: pl. 235 no. 918-919).

The typology of a second fragment that could not be precisely defined is the foot of a cup (Cat. No. 6). The outer surface is black-glazed. The floor is decorated in red figure. It shows part of a figure too fragmentary to be identified.

In summary, the Attic cups found at Seyitömer Höyük have been represented by six fragments in total, and they were used in this settlement approximately between 480 and 450 BC.

Stemless Cup

There are four fragments of Attic stemless cups among the Seyitömer Höyük finds: three fragments of rim and body (Cat. No. 7) and a foot fragment (Cat. No. 8). They are all black-glazed.

The stemless cups are divided into two major categories based on their dimensions: large stemless and small stemless cups (For black glaze stemless types see Sparkes and Talcott 1970: 98). So far no small stemless cup has been found at Seyitömer Höyük. The fragments all belong to the large inset lip stemless cups. This type of stemless cup was first observed in the Attic pottery repertoire during the second quarter of 5th century BC (For the emergence and development of this type see Sparkes and Talcott 1970: 101-102). The Seyitömer Höyük fragments are identical with finds from other centres dated to 470-450 BC.

Skyphos

The diagnostic sherds in the category of skyphoi appear to match with Types A and B (For Attic black glazed skyphos types see Sparkes and Talcott 1970: 81).

The earliest fragments, a total of four, belong to Type B (For type B skyphos see Boulter 1953: 73, fig. 2, pl. 28-29; Knigge 1976: taf. 31, fig. 6-2, no. 122-2; Sparkes and Talcott 1970: 86-87, no. 360-363, fig. 4, pl. 17). There are two rim-body-handle fragments (Cat. No. 9) and two foot fragments (Cat. No. 10).

The Type B skyphos emerged in Attica during the last years of the 6th century BC (Sparkes and Talcott 1970: 86). The full round body of this type is well observed on the rim and body fragment in Cat. No. 9 (Knigge 1976: taf. 31, fig. 6-2, no. 122-2). Cat. No. 10 displays the ring foot of this type. The finds of Seyitömer Höyük match with finds from other centres dated to 480-450 BC.

The only sample of a Type A skyphos discovered at Seyitömer Höyük is a foot fragment presented in Cat. No. 11. Sparkes and Talcott report that the Type A skyphos was first produced in Attica during the 6th century BC (Boulter 1953: pl. 38 no. 134; Boulter 1957: 195; Sparkes and Talcott 1970: 84-85, no. 334-354, fig. 4, pl. 16-17), and reached a mature form by the beginning of the 5th century BC (Sparkes and Talcott 1970: 84). With a profile comparable to those dated to 460-430 BC, Cat. No. 11 demonstrates that this type of skyphos reached Seyitömer Höyük in the mid-5th century BC.

In addition to the plain black glazed skyphoi fragments there are two decorated skyphos fragments. The rim-body-handle fragment in Cat. No. 12 belongs to the Saint Valentin Group (For Saint Valentin Group see Howard and Johnson 1954) and can be dated to the second half of the 5th century BC both in terms of decoration and shape. Cat. No. 13 shows a small body fragment with a palmette pattern in red figure, and can be dated to the second quarter of the 4th century BC.

Cup-Skyphos

The cup-skyphos fragments excavated at Seyitömer Höyük can be studied under the Black Glazed Group (For Attic black glazed cup-skyphos types see Sparkes and Talcott 1970: 109-112) and the Haimon Group. There are five black glazed rim and body fragments which belong to heavy wall type (For heavy wall type cup-skyphos see Sparkes and Talcott 1970: 111-112). The earliest fragment (Cat. No. 15) can be dated to approximately 410 BC. The other fragments shown in Cat. No. 14 are dated to the first two decades of the 4th century BC. It appears that the heavy wall type cup skyphos that emerged in Attica around 420 BC (Sparkes and Talcott 1970: 111-112) reached Seyitömer Höyük within a short span of time.

All the decorated fragments (Cat. Nos. 16-23) can be associated with the Haimon Group regarding their form and decoration (For samples of Haimon group and its vicinity see Boardman 1959: pl. 38-39 no. 100, 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153). There are eight rim and body fragments in this category and date from 490-470 BC based on their profile and decoration.

We suggest the cup-skyphoi were used at this centre during 490-380 BC based on their typology.

Kantharos

Although the kantharoi were the most popular drinking vessels of the 4th century BC only one rim-body-handle fragment was discovered at Seyitömer Höyük. This black-red glazed piece (Cat. No. 24) is an example of the plain rim type (Sparkes and Talcott 1970: 122), and can be dated to 375-350 BC.

Cup-Kantharos

The cup-kantharos fragments discovered at Seyitömer Höyük are all black glazed. These are examples of a standard type of moulded rim cup-kantharos (For standard type see Sparkes and Talcott 1970: 118-119).

As a result of the excavations carried out at Athenian Agora it was suggested that the cup-kantharos first emerged during the early 4th century BC. The foot of the early examples is similar to that of heavy wall cup-skyphos and the underside was decorated with concentric rings. The shape gradually grew taller and into a slender body and base with concave profile on the neck and coarsely made handles. The underside of the foot is completely black glazed (For the emergence and development of this form see Sparkes and Talcott 1970: 118-119).

The standard type was very popular during the 4th century BC. It shows a high concave neck and thick outturned moulded rim, which could be hollow inside. Cat. No. 25 represents this type.

The standard type cup-kantharoi that were used during the 4th century BC continued to be in use during the Hellenistic Period and then disappeared by 275 BC (Sparkes and Talcott 1970: 119).

The cup-kantharoi of this type found at Seyitömer Höyük are dated to the second and third quarters of the 4th century BC. So far three pieces were discovered that consist of fragments of a rim-body-handle and a foot. Based on stylistic analysis Cat. Nos. 25 and 27 were dated to 375-350 BC, and Cat. No. 26 was dated to 350-325 BC.

There are also two body fragments with ribs on the lower part (Cat. Nos. 28-29) which belong to vessels like kantharos or cup-kantharos. A date between 375-325 BC can be suggested for those fragments.

Mug

The black glazed mugs that were intensively produced in Attica during the second half of the 5th century BC are represented at Seyitömer Höyük only by one fragment. The foot and body fragment (Cat. No. 30) dated to approximately 450 BC belongs the Pheidias Shape (For Pheidias mugs see Sparkes and Talcott 1970: 72-74, no. 201-222, fig. 3, pl. 11), a type known for showing Achaemenid influence (Miller 1993: 133-134, taf. 23 no. 1-2; Miller 1997: 140, fig. 42-44; Shefton 1971: 109-110, pl 21, fig. 8A-8B).

Phiale

Only one phiale (For general information on phialai see Luschey 1939) fragment was found at this center. This rim and body fragment presented in Cat. No. 31 is classified as an "Achaemenid Phiale," matching those in the Attic pottery repertoire. The phialai of this category have been interpreted as imitations of the Achaemenid metal bowls (Miller 1993: 113-114; Miller 1997: 136-139; Shefton 1971: 109). The fragment discovered at Seyitömer Höyük can be dated to the first half of the 5th century BC based on its profile.

Bolsal

The bolsal which became popular during the third quarter of the 5th century BC in Attica continued to be in production in the 4th century BC as well (For shape development see Sparkes and Talcott 1970: 107-108). The finds of Athenian Agora shows that early versions of this shape are dated to 430 BC (Sparkes and Talcott 1970: 107, 273, no. 532-535). All of the Seyitömer Höyük finds are black glazed, the earliest examples dating from the last quarter of the 5th century BC. These consist of three fragments in Cat. Nos. 32 and 33. There are also three rim fragments from the late 5th-early 4th centuries BC (Cat. No. 34). It is difficult to find a matching counterpart; however, there are similar examples dated to the late 5th-early 4th centuries BC. The sherds datable to the early 4th century BC consist of foot and body fragments (Cat. Nos. 35-37).

Another foot and body fragment in Cat. No. 38 can be dated to the second quarter of the 4th century BC and the foot fragment on Cat. No. 39 compares with those dated to approximately 375 BC.

Bowl

Two types of black glazed bowls from the Attic pottery repertoire were discovered at Seyitömer Höyük. These show outturned rim and incurving rim types (For black glazed Attic bowl types see Sparkes and Talcott 1970: 128).

There are four rim and body fragments and a foot fragment associated with outturned rim bowls at Seyitömer Höyük (Cat. Nos. 40-42). The outturned rim bowls took their classical shape in the 4th century BC and they continued to be popular until the middle of the Hellenistic Period (For shape see Corbett 1949: 328; Sparkes and Talcott 1970: 128-130. For Hellenistic examples see Crowfoot et al. 1957: 245, fig. 48; Thompson 1934: 486, fig. 17). The shape went through some changes with time: During the 4th century BC the upper and lower curves of the body became more pronounced: the upper steep, the lower joining the foot sharply. The join of the upper and lower curves gradually form a right angle (For shape development see Sparkes and Talcott 1970: 128-130). It is possible to observe the formation of this right angle on Cat. No. 40 dated to ca. 380 BC.

Incurving rim bowls emerged in Attica during the late 5th century BC, continued during the 4th century BC and remained popular until the middle of Hellenistic Period (For shape development see Sparkes and Talcott 1970: 131-132). Those from the 5th century are among the rare finds. It appears these bowls were most popular during the 4th century BC. Only three black glazed rim and body fragments of this type were found at Seyitömer Höyük. Parallels of these fragments (Cat. No. 43) are from the Athenian Agora dated to 350 BC.

There are also three small bowl (For small bowls see Sparkes and Talcott 1970: 132ff.) fragments. They are all black glazed and have incurving rims. No 44, which has a complete profile and bears a groove on the resting surface, matches well with those from the Athenian Agora and can be dated to 475-450 BC. Based on their profiles No 45 is datable to the last quarter of the 5th century BC and Cat. No. 46 to the third quarter of the 4th century BC.

Plate

There are three plate fragments. These are black glazed plates (Cat. No. 47-48) and belong to the rolled rim type. They belong to late 4th century BC for their profiles and the grooves below the rim.

The fish plate fragment (Cat. No. 49) has been dated to approximately 375 BC by comparison to those discovered at other centres. The fish plate (For Attic black glazed fish plates see Sparkes and Talcott 1970: 147ff.) which entered the Attic repertoire during late 5th century BC reached Seyitömer Höyük around the 4th century BC.

Lekythos

The largest number of diagnostic sherds of Attic production belongs to lekythoi, a total of 16 fragments. The decoration varies: some of the fragments were black glazed and some were plant ornamented in red-figure and black-figure. There are a few, however, too fragmentary for any comment about their decoration.

The rims on Cat. Nos. 50-52 and the foot fragment (Cat. No. 53) are black glazed and dated to the 5th century BC. The body decoration of these sherds remains obscure. The body fragment (Cat. No. 54) belongs to the first half of the century for its shape and decoration. The preserved part of the decoration on the shoulder fragment (Cat. No. 55) shows tongues and a chain of lotus buds. The shoulder fragment on Cat. No. 56 bears the same ornamentation. This type of ornamentation is frequently observed on lekythoi dated to the first half of the 5th century BC. The body fragment with palmettes on Cat. No. 57 belongs to the same group. The lower body fragment in Cat. No. 58 can be dated to the first three quarters of the 5th century. The rim fragment on Cat. No. 59 belongs to the globular-body-sub-type of Black Deianeira lekythoi, and shows a profile similar to those produced during 325-310 BC.

There are also four squat lekythoi fragments. The black glazed fragment on Cat. No. 60 is dated to 420-400 BC. The red figured shoulder fragment on Cat. No. 61 is dated to the late 5th and first half of 4th century BC. The lekythos presented on Cat. No. 62 belongs to the second quarter of the 4th century BC for its profile and palmette decoration. The body fragment on Cat. No. 63, which belongs to the Bulas group, is dated to the first half of the 4th century BC.

Amphoriskos

There are three black glazed amphoriskos fragments among Seyitömer Höyük finds (For Black glazed amphoriskos see Sparkes and Talcott 1970: 155-156). Cat. No. 64 represents a rim and neck fragment, and can be dated to 430-420 BC. The

ribbed body fragments in Cat. Nos. 65-66 date from 430-400 BC.

Askos

Only one askos was discovered at this centre. Shown as Cat. No. 67 this black glazed sample is classified among the Guttus Type Askoi (For types of askos see Sparkes and Talcott 1970: 157-160). Sparkes and Talcott, report that the earliest examples of Guttus Type Askoi may belong to the beginning of the 4th century BC (Sparkes and Talcott 1970: 160). The fragment discovered at Seyitömer Mound is in accordance with those produced around 350 BC.

Animal-Head Cup

Animal-head cups (For general information see Hoffmann 1961) entered the Attic pottery repertory as adaptations of the Achaemenid metal animal-head cups (Miller 1997: 141-142). Only three fragments of Attic animal head cups were discovered at Seyitömer Höyük. Two of the black glazed rim and body fragments (Cat. No. 68) which seem to belong to the straight type of animal-head cups do not find exact parallels (Miller 1997: 141, fig. 47). It is possible to find the horn and ear depictions on Cat. No. 69 among the straight and bent types of the animal-head cups (Hoffmann 1961: 21-23, pl. 8-10; Miller 1997: 141, fig. 48). The fragments in Cat. Nos. 68-69 can be dated to the first half of the 5th century BC.

GENERAL EVALUATION

It is quite reasonable to suggest that Seyitömer Höyük was economically well-off during the Achaemenid period as it acquired a substantial amount of fine Attic pottery, long regarded as high quality and expensive in the pottery market. This may have been highly possible, but it is difficult to corroborate it with the archaeological features of the occupation level, because the entire material including the very few associated small finds comes from the fifth and fourth century fills, nothing intact and mendable. The pottery, mere scraps, and general scarcity of small finds give us the impression that the inhabitants gathered their belongings and left the settlement by the end of this occupation period since there is no indication of destruction or warfare. It is likely that the settlement was abandoned for a brief period by its inhabitants as the empire was collapsing after the defeat at the Battle of Granicus.

The classical writers Arrian and Strabo report that Parmenion, a commander of Alexander the Great, captured the "deserted" Daskyleion after the Battle of Granicus (Arrian. *Anabasis.* 1.17. 1; Strabo. *Geographica.* 16. 776). In contrast, the excavations at Daskyleion have shown that the satrapal centre was not deserted when the Macedonian army reached there. It was captured after a military confrontation resulting in plunder and destruction (Bakır 2003: 8). Even though the comments of Arrian and Strabo might not reflect what really happened in Daskyleion, there may have been such situations when people fled before the arrival of the Macedonian army. In fact the barren and abandoned look of Seyitömer Höyük around the time of the Battle of Granicus fits well into the kind of scenario mentioned by Arrian and Strabo.

The Attic pottery from Seyitömer Höyük helps to date the other findings of the Achaemenid period settlement such as Achaemenid bowls and bullae, idols, fibulae, arrow heads, etc. On the other hand, this pottery provides significant information concerning the Achaemenid period settlement and its trade connections. Our study shows that Attic pottery was imported during the period between the beginning of the 5th and the last quarter of the 4th century BC, the highest quantity and largest variety of shapes falling into the 5th century BC. This is the period when the region was ruled by the Achaemenid Empire. If the long lasting wars and political conflicts between Persians and Greeks were taken into account it is not possible for Seyitömer Höyük to have had direct trade relations with Athens. Attic pottery must have reached Seyitömer Höyük indirectly. Despite the lack of specific evidence we could suggest that the trade relations of the settlement depended on the west Anatolian poleis, Daskyleion and Sardis, the satrapal centers (For commercial activities in central Anatolia see Miller 1997: 71-72).

One could of course pose the following question: if wars and political strife between Persians and Athenians actively continued during the 5th and 4th centuries BC, why did the inhabitants of Seyitömer Höyük under Achaemenid rule use Attic pottery?

Part of the answer lies in the Achaemenid satrapal system in which each satrap, the highest

Achaemenid official in a province, appointed local governors to smaller divisions within their area of administrative responsibility (Xenophon. *Hellenica*. 3. 1. 10-15). The satraps and their local officials imitated the lifestyle of the Great King (*Imitatio Regis*: Xenophon. *Kyropaidia*. 8. 6. 10) as his representatives. This included a tendency towards using expensive luxury items. Fine Attic pottery, regarded as the highest quality of its time, was in high demand by the local rulers and the wealthy class. In such an environment it is no surprise to see some shapes in Attic pottery that were heavily influenced by Achaemenid metal ware (Miller 1993: 109-146, taf. 18-42; Miller 1997: 135-152; Shefton 1971). No doubt, the Achaemenid world was an important market for the Attic potters (Coşkun 2004, 2006; Görkay 1999; Miller 1997: 65ff.; Tuna-Nörling 1999; Vries 1977).

CATALOGUE

Cup

1- Type C, Concave Lip (Fig. 1)
H. pres. 0.022. D. of rim. 0.15.
Rim and body fragment. Shallow convex body. Black glaze inside and out.
Parallels: Bloesch 1940: taf. 36 no. 4; Sparkes and Talcott 1970: fig. 4 no. 413.
480-450 BC.

2- Vicup (Fig. 1)
H. pres. 0.011. D. of foot. 0.076.
Foot fragment. Resting surface and wall slightly concave and reserved. Underside reserved with one circle in thick glossy black glaze.
Parallels: Bloesch 1940: taf. 38 no. 3; Sparkes and Talcott 1970: fig. 5 no. 434.
Ca. 475 BC.

3- Vicup (Fig. 1)
H. pres. 0.014. D. of foot. 0.088.
Foot fragment. Resting surface and wall slightly concave and reserved. Underside reserved with one circle in thick glossy black glaze.
Parallels: Sparkes and Talcott 1970: pl. 20 no. 436.
470-460 BC.

4- Acrocup (Fig. 1)
H. pres. 0.013. D. of foot. 0.074.
Foot fragment. Concave upper and convex lower part. Wall and resting surface reserved. Thick glazed circle on underside. Glossy black glaze.
Parallels: Bloesch 1940: taf. 39 no. 3.
475-450 BC.

5- Others (Fig. 1)
H. pres. 0.014. D. of foot. 0.066.

Foot fragment. Conical. Resting surface grooved and reserved. Black glaze.
For comparison see: Sparkes and Talcott 1970: fig 5 no. 440 (acrocup: 480-460), no. 471 (stemless: 470-450).
480-450 BC.

6- Others (Fig. 1)
H. pres. 0.029. W. pres. 0.046.
Stem and floor fragment. Two scraped grooves outside the stem. Black glaze outside, painted in red-figure inside. Too fragmentary.
5th century BC.

Stemless Cup

7- Large: Inset Lip (Fig. 1)
H. pres. 0.029. D. of rim. 0.136.
Rim, body and handle fragment. Slightly concave lip, inset at junction of body and rim. Black glaze inside and out. Handle-panel reserved.
Parallels: Alexandrescu 1978: fig. 11 no. 519; Boardman 1959: fig. 11 no. 185; Boulter 1953: fig. 2 no. 199; Sparkes and Talcott 1970: fig. 5 no. 471.
470-450 BC.

8- Large: Inset Lip (Fig. 1)
H. pres. 0.013. D. of foot. 0.078.
Foot fragment. Black glaze in. Side and resting surface reserved. Horizontal groove over upper part of side. Two concentric circles and dot in black glaze on underside of the foot.
Parallels: Alexandrescu 1978: fig. 11 no. 519; Boardman 1959: fig. 11 no. 185; Boulter 1953: fig. 2 no. 199; Sparkes and Talcott 1970: fig. 5 no. 471.
470-450 BC.

Skyphos

9- Type B (Fig. 1)
H. pres. 0.026. D. of rim. ?
Rim, body and handle fragment. Plain rim. Black glaze

inside and out.
Parallels: Sparkes and Talcott 1970: pl. 17 no. 362.
480-450 BC.

10- Type B (Fig. 1)
H. pres. 0.021. D. of foot. 0.042.
Foot and body fragment. Horizontal reserved fillet on the lower wall. Convex ring foot. Black glaze inside and out. Resting surface reserved. Thick circle in black glaze and central dot on reserved underside of foot.
Parallels: Sparkes and Talcott 1970: pl. 17 no. 362.
480-450 BC.

11- Type A (Fig. 1)
H. pres. 0.017. D. of foot. 0.094.
Foot and body fragment. Convex ring foot. Resting surface and underside of foot reserved. Black glaze inside and out.
Parallels: Robinson 1950: pl. 199 no. 561.
460-430 BC.

12- Saint Valentin Group (Figs 1, 5)
H. pres. 0.055. D. of rim. 0.104.
Rim, body and handle fragment. Plain rim. Black glaze inside and out. Decoration: Olive branch painted in added white in two bands between handles. Vertical strokes in reserved band in between.
Parallels: Howard and Johnson 1954: pl. 34, fig. 19; Tuna-Nörling 1999: taf. 15 no. 285a-285b.
450-400 BC.

13- Red Figure (Fig. 5)
H. pres. 0.031. W. pres. 0.024.
Body fragment. Part of palmette pattern in red figure. Black glaze in.
Parallels: Tuna-Nörling 1999: taf. 25 no. 458A.
375-350? BC.

Cup-Skyphos

14- Heavy Wall (Fig. 1)
H. 4.3. D. of rim 11.8.
Rim, body and handle fragment. Groove at juncture of lip and body. Black glaze inside and out.
Parallels: Cook 1965: fig. 1 no. 1; Kastenbein 1974: abb. 236 B; Sparkes and Talcott 1970: pl. 27 no. 622.
400-380 BC.

15- Heavy Wall (Fig. 1)
H. pres. 0.023. D. of foot. ?
Rim and body fragment. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 6 no. 617.
Ca. 410 BC.

16- In the Manner of Haimon Group (Figs 1, 5)
H. pres. 0.063. D. of rim. 0.23.
Rim and body fragment. Convex body. Black glaze on outer surface of lip. Thin reserved band on black glazed inner surface. Decoration: From left: palmette, head and torso of nude male reclining right. Black Figure.
Parallels: Boardman 1959: pl. 38 no. 100; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16, pl. 39 no. 102; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

17- In the Manner of Haimon Group (Figs 2, 5)
H. pres. 0.003. D. of rim. 0.16.
Rim and body fragment. Slightly outturned rim. Convex body. Lip black glazed outside. Silhouette ornamentation on reserved body: dotted ivy leaves and palmette. Thin reserved band on black glazed inside.
Parallels: Boardman 1959: pl. 38 no. 100, pl. 39 no. 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

18- In the Manner of Haimon Group (Figs 2, 5)
H. pres. 0.038. D. of rim. 0.132.
Rim and body fragment. Plain rim. Convex body, outer face of lip black glazed, inner face reserved, black glaze in. Decoration from left: Dotted ivy leaves, male facing right and palmette. Black figure.
Parallels: Boardman 1959: pl. 38 no. 100, pl. 39 no. 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

19- In the Manner of Haimon Group (Figs 2, 5)
H. pres. 0.029. D. of rim. 0.154.
Rim and body fragment. Slightly outturned rim, convex body, outer face of lip black glazed, inner face of lip reserved; black glaze in. Decoration: palmette and ivy leaves. Black figure.
Parallels: Boardman 1959: pl. 38 no. 100, pl. 39 no. 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

20- In the Manner of Haimon Group (Figs 2, 5)
H. pres. 0.032. D. of rim. 0.156.
Rim and body fragment. Slightly outturned rim, convex body, outer face of lip black glazed, inner face of lip reserved; black glaze in. Decoration: palmette. Silhouette black figure.
Parallels: Boardman 1959: pl. 38 no. 100, pl. 39 no. 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99;

Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

21- In the Manner of Haimon Group (Fig. 5)
H. pres. 0.036. W. pres. 0.037.
Lip and body fragment. Outturned rim, convex body, outer face of lip black glazed, inner face of lip reserved; black glaze in. Decoration: Unidentified silhouette. Black figure.
Parallels: Boardman 1959: pl. 38 no. 100, pl. 39 no. 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

22- In the Manner of Haimon Group (Fig. 5)
H. pres. 0.029. W. pres. 0.039.
Lip and body fragment. Outturned rim, convex body. Glaze fired reddish brown on outer face of lip, and reddish black in.
Decoration: Obscure figure in silhouette black figure.
Parallels: Boardman 1959: pl. 38 no. 100, pl. 39 no. 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

23- In the Manner of Haimon Group (Fig. 5)
H. pres. 0.037. W. pres. 0.053.
Body fragment. Decoration: On reserved body palmette and two thin bands below. Lower wall black glaze out; reddish mottled black glaze in.
Parallels: Boardman 1959: pl. 38 no. 100, pl. 39 no. 102; Görkay 1999: taf. 10-12 no. 135-148; Ivanov 1963: taf. 99; Robinson 1950: pl. 12 no. 4-7, pl. 22 no. 16; Stern 1973: fig. 231; Tuna-Nörling 1999: taf. 4-6 no. 93-153.
490-470 BC.

Kantharos

24- Plain Rim (Fig. 2)
H. pres. 0.064. D. of rim. 0.084.
Rim, body and handle fragment. Slightly outturned rim. Horizontal spur levels with the rim. Upper part of the body concave, lower part convex. Glaze fired black and red in and out.
Parallels: Sparkes and Talcott 1970: fig. 7 no. 707.
375-350 BC.

Cup-Kantharos

25- Moulded Rim: Standard (Fig. 2)
H. pres. 0.083. D. of rim. 0.079.
Rim, body and handle fragment. Outturned molded rim. Hollow channel inside the rim. Upper part of the body concave, lower part convex. Handle stem preserved. Decoration inside: palmettes within rouletting. Black glaze inside and out.
Parallels: Blondé 1985: fig. 16 no. 128; Robinson 1950: pl. 184 no. 500; Sparkes and Talcott 1970: pl. 28 no. 657. For comparison see Vaag 2002: pl. 1, A8.
375-350 BC.

26- Moulded Rim: Standard (Fig. 2)
H. pres. 0.021. D. of foot. 4.3.
Foot fragment. Molded. Concave beneath. Reserved groove at junction of moldings. Resting surface reserved. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 7 no. 661.
350-325 BC.

27- Moulded Rim: Standard (Fig. 2)
H. pres. 0.025. D. of foot. 0.05.
Foot fragment. Scraped line at junction of two moldings. Resting surface reserved. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: pl. 28 no. 657.
375-350 BC.

28- Cup-kantharos or kantharos (Fig. 5)
H. pres. 0.043. W. pres. 0.058.
Body fragment. Upper wall flaring slightly. Ribbed lower wall. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: pl. 28 no. 673-674, pl. 29 no. 704, 711.
375-325 BC.

29- Cup-kantharos or kantharos (Fig. 5)
H. pres. 0.0615. W. pres. 0. 052.
Body fragment. Upper wall flaring slightly. Ribbed lower wall. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: pl. 28 no. 673-674, pl. 29 no. 704, 711.
375-325 BC.

Mug

30- Pheidias Shape (Figs 2, 5)
H. pres. 0.024. D. of foot. 0.068.
Foot and body fragment. Groove at junction of convex body and foot. Vertical grooves on wall. Low ring foot. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 3 no. 202.
Ca. 450 BC.

Phiale

31- Achaemenid Phiale (Fig. 2)
H. pres. 0.029. D. of rim. ?
Rim and body fragment. Plain rim. Concave rim and convex body. Black glaze in and out except the body

reserved outside.
Parallels: Shefton 1971: pl. 20, fig. 2; Miller 1993: taf. 20 no. 20.2.
500-450 BC.

Bolsal

32- Bolsal (Fig. 2)
H. pres. 0.025. D. of rim. ?
Rim and body fragment. Plain rim. Body tapers down slightly. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 6 no. 554.
425-400 BC.

33- Bolsal (Figs 2, 5)
H. pres. 0.09. D. of foot. 0.088.
Foot and body fragment. Lower wall meets the foot at a sharp angle. Flaring ring foot. Reserved underside with glazed circle. Black glaze inside and out. Impressed decoration inside: palmettes.
Parallels: Sparkes and Talcott 1970: fig. 6 no. 554.
425-400 BC.

34- Bolsal (Fig. 2)
H. pres. 0.05. D. of rim. 0.112.
Rim, body and handle fragment. Plain rim. Convex lower wall. Glaze brownish black inside and out.
Parallels: Boardman 1959: fig. 12 no. 193 (Late 5th century BC.); Robinson 1950: pl. 213 no. 663, 676. (Early 4th century BC.).
Late 5th-Early 4th century BC.

35- Bolsal (Fig. 3)
H. pres. 0.023. D. of foot. 0.058.
Foot and body fragment. Convex lower wall joins the foot at a sharp angle. Flaring ring foot. Two glazed circles and dot on underside of foot. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 6 no. 557; Coşkun 2006: fig. 2 no. 23-24.
Early 4th century BC.

36- Bolsal (Fig. 3)
H. pres. 0.021. D. of foot. 0.066.
Foot and body fragment. Convex lower wall joins the foot at a sharp angle. Flaring ring foot. Resting surface glazed. Glazed circle on reserved underside of foot. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 6 no. 557; Coşkun 2006: fig. 2 no. 23-24.
Early 4th century BC.

37- Bolsal (Fig. 3)
H. pres. 0.01. D. of foot. 0.07.
Foot and body fragment. Convex lower wall joins the foot at a sharp angle. Flaring ring foot. Resting surface glazed. Two circles, one narrow and one wide on reserved underside of foot. Black glaze inside and out.
Parallels: Robinson 1950: pl. 213 no. 663 A.
Early 4th century BC.

38- Bolsal (Fig. 3)
H. pres. 0.032. D. of foot. 0.062.
Foot and body fragment. Convex lower wall joins the foot at a sharp angle. Flaring ring foot. Resting surface glazed. Underside of foot reserved. Glaze fired brown inside and out.
Parallels: Alexandrescu 1978: fig. 13 no. 559.
375-350 BC.

39- Bolsal (Fig. 3)
H. pres. 0.09. D. of foot. 0.06.
Foot and body fragment. Convex lower wall joins the foot at a sharp angle. Flaring ring foot. Resting surface glazed. Underside of the foot reserved. Black glaze inside and out.
Parallels: Robinson 1950: pl. 213 no. 659.
Ca. 375 BC.

Bowl

40- Outturned Rim (Figs 3, 5)
H. pres. 0.037. D. of rim 0.154.
Rim and body fragment. Upper wall straight, lower body convex and tapers sharply towards base. Narrow reserved band at junction of body and foot. Impressed decoration inside: circle of enclosed ovules within linked palmettes. Black glaze inside and out.
Parallels: Alexandrescu 1978: fig. 15 no. 587; Blondé 1985: fig. 8 no. 66; Sparkes and Talcott 1970: fig. 8 no. 802.
Ca. 380 BC.

41- Outturned Rim (Figs 3, 6)
H. pres. 0.016. D. of foot. 0.08.
Foot and body fragment. Lower wall joins sharply to foot. Junction of wall and foot reserved. Impressed decoration inside: linked palmettes within circle of enclosed ovules. Resting surface reserved. Circle on reserved underside of the foot. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 8 no. 803.
Ca. 380 BC.

42- Outturned Rim (Fig. 3)
H. pres. 0.026. D. of rim. 0.132.
Rim and body fragment. Steep curve on the join of outturned rim to convex body. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 8 no. 806
350-325 BC.

43- Incurving Rim (Fig. 3)
H. pres. 0.034. D. of rim. 0.184.
Rim and body fragment. Incurving rim. Convex bowl

tapers toward base. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 8 no. 830; Salles 1983: fig. 11 no. 20.
Ca. 350 BC.

Small Bowl

44- Small bowl (Fig. 3)
H. 0.031. D. of rim. 0.056. D. of foot. 0.038.
Complete profile. Incurving rim. Convex body tapers toward base. Sharp angle on juncture of lower wall and ring foot. Narrow groove on resting surface. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: pl. 33 no. 854-856.
475-450 BC.

45- Small bowl (Fig. 3)
Unknown provenance.
H. 1.9. D. of rim 8.6.
Rim and body fragment. Incurving rim. Convex body tapers toward base. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 9 no. 870.
425-400 BC.

46- Small bowl (Fig. 3)
H. pres. 0.019. D. of rim. 0.068.
Rim and body fragment. Incurving rim. Convex body tapers toward base. Black glaze inside and out.
Parallels: Jehasse 1978: fig. 28 no. 167; Salles 1983: fig. 9 no. 12.
350-325 BC.

Plate

47- Rolled Rim (Figs 3, 6)
H. 0.02. D. of rim. 0.126. D. of foot. 0.076.
Complete profile. Smooth transition from convex rim to body. Shallow and narrow groove at junction. Sharp angle at junction between convex lower wall and ring foot. Impressed decoration inside: roulette. Resting surface reserved. Black glaze inside and out.
Parallels: Crowfoot et al. 1957: fig. 51 no. 3; Hamdorf 1976: abb. 238, K 117; Rotroff 1983: fig. 6 no. 39.
Late 4th century BC.

48- Rolled Rim (Figs 3, 6)
H. pres. 0.022. D. of foot. 0.10.
Foot and body fragment. Narrow and shallow groove at junction of rim and body. Lower wall meets ring foot at sharp angle. Impressed decoration inside: roulette. Resting surface reserved. Black glaze inside and out.
Parallels: Crowfoot et al. 1957: fig. 51 no. 3; Hamdorf 1976: abb. 238, K 117; Rotroff 1983: fig. 6 no. 39.
Late 4th century BC.

49- Fish Plate (Fig. 4)
H. 0.039. D. of rim. 0.266. D. of foot. 0.124.
Complete profile. Sharp angle at junction of flat upper wall and downturned convex rim. Ring foot. Black glaze inside and out. Reserved band at junction of body and foot on outer surface. Reserved grooves on outer edge of floor and round central depression. Resting surface reserved. Inner side of foot glazed. Stacking circles on reserved underside of foot.
Parallels: Cook 1965: fig. 10 no. 1.
Ca. 375 BC.

Lekythos

50- Lekythos (Fig. 4)
H. pres. 0.034. D. of rim. 0.025.
Rim and neck fragment. Echinus mouth with incurved inner edge, reserved on top. Black glaze inside and out, neck reserved.
5th century BC.

51- Lekythos (Fig. 4)
Unknown provenance.
H. pres. 0.0135. D. of rim. 0.036.
Rim fragment. Top of mouth reserved. Black glaze inside and out.
5th century BC.

52- Lekythos (Fig. 4)
H. pres. 0.02. D. of rim. 0.06.
Rim fragment. Flaring convex mouth. Black glaze inside and out. Top of mouth and neck reserved.
5th century BC.

53- Lekythos (Fig. 4)
Unknown provenance.
H. pres. 0.08. D. of foot. 0.036.
Foot fragment, disk shaped. Black glazed upper part. Toe and underside reserved. Parallels: Sparkes and Talcott 1970: pl. 38 no. 1117-1119.
5th century BC.

54- Lekythos (Figs 4, 6)
H. pres. 0.087. W. 0.055.
Shoulder and body fragment. Concave shoulder joins in right angle to body. Decoration: Tongues and rays on reserved shoulder. Scraped palmette and lotus bud chain and abraded white on reserved upper wall. Glaze fired in red partially on lower wall.
Parallels: Blinkenberg 1931: pl. 128 no. 2657; Boardman 1959: pl. 39 no. 108-109; Boulter 1963: pl. 37 no. B5; Görkay 1999: taf. 17 no. 242; Kurtz 1975: pl. 69 no. 5; Stern 1973: fig. 232 (right); Tuna-Nörling 1999: taf. 16 no. 296; For more examples see Knigge 1976: taf. 16ff.
500-450 BC.

55- Lekythos (Fig. 6)

H. pres. 0.03. W. pres. 0.033.
Neck, shoulder and handle fragment. Reserved neck. Lower part of handle reserved, black glazed above. Decoration: Tongues on reserved shoulder and chain pattern below.
Parallels: Boulter 1963: pl. 38 no. A1; Haspels 1936: pl. 35 no. 2, pl. 37 no. 3, pl. 39 no. 1, pl. 40 no. 1-2; Kurtz 1975: pl. 6 no. 4. pl. 59 no. 4a-c, pl. 67 no. 2.
500-450 BC.

56- Lekythos (Fig. 6)
pres. 0.02. W. pres. 0.021.
Shoulder fragment.
Decoration: Lotus bud chain on reserved shoulder.
Parallels: Boulter 1963: pl. 38 no. A1; Haspels 1936: pl. 35 no. 2, pl. 37 no. 3, pl. 39 no. 1, pl. 40 no. 1-2; Kurtz 1975: pl. 6 no. 4, pl. 59 no. 4a-c, pl. 67, no. 2.
500-450 BC.

57- Lekythos (Fig. 6)
H. pres. 0.029. W. pres. 0.04.
Body fragment. Decoration: Two palmettes in mirror image on reserved body.
Parallels: Kurtz 1975: pl. 69 no. 3, 6.
500-450 BC.

58- Lekythos (Fig. 6)
H. pres. 0.036. W. pres. 0.047.
Body fragment. Four narrow reserved bands on lower wall. Black glaze inside and out.
Parallels: Görkay 1999: taf. 17 no. 243, taf. 18 no. 247; Robinson 1950: pl. 31 no. 23; Tuna-Nörling 1999: taf. 18 no. 345-346.
500-425 BC.
59- Lekythos (Fig. 4)
H. pres. 0.013. D. of rim. 0.05.
Rim and neck fragment. Flaring rim. Black glaze inside and out.
Parallels: Rotroff 1983: pl. 55 no. 44; Sparkes and Talcott 1970: fig. 11 no. 1108.
325-310 BC.

60- Squat Lekythos (Fig. 6)
H. pres. 0.037. W. pres. 0.031.
Shoulder and body fragment. Fillet at junction of shoulder and body. Ribs on convex upper wall. Black glaze outside.
Parallels: Sparkes and Talcott 1970: pl. 38 no. 1129-1131.
420-400 BC.

61- Squat Lekythos (Fig. 6)
H. pres. 0.028. W. pres. 0.028.
Shoulder and body fragment. Decoration: Red Figure. Head and upper torso of female facing right.
Parallels: Ivanov 1963: taf. 6-10; Moore 1997: pl. 93 no. 947, 951, 953.
Late 5th–first half of the 4th century BC.
62- Palmette Lekythos (Figs 4, 6)
H. pres. 0.051. D. of foot. 0.034.
Neck, body and foot fragment. Plump body with sloping shoulder. Ring foot. Black glaze. Decoration: Palmette pattern in red figure.
Parallels: Berlin 2002: pl. 2 no. 6-7; Blondé 1985: fig. 2 no. 28-29; Coldstream 1999: pl. 30 no. 18-20; Felten 1982: taf. 27 no. 355; Ivanov 1963: pl. 49-50; Robinson 1950: pl. 106.
375-350 BC.

63- Bulas Group (Fig. 6)
H. pres. 0.026. W. pres. 0.031.
Body fragment. Decoration: Web pattern in black. White dots on crossings.
Parallels: Boardman 1959: fig. 10 no. 167-168; Hellström 1965: pl. 4 no. 67-68; Ivanov 1963: taf. 53 no. 161, 164; Robinson 1950: pl. 102 no. 186-194, pl. 107 no. 164-171, pl. 108 no. 172-178; Tuna-Nörling 1999: taf. 16 no. 300-303.
400-350 BC.

Amphoriskos

64- Amphoriskos (Fig. 4)
H. pres. 0.028. D. of rim. 0.028.
Rim and neck fragment. Outturned rim. Slightly flaring convex lip offset from neck. Black glaze inside and out.
Parallels: Sparkes and Talcott 1970: fig. 11 no. 1150.
430-420 BC.

65- Amphoriskos (Fig. 6)
H. pres. 0.042. W. pres. 0.04.
Body fragment. Ribbed wall. Black glazed outside.
Parallels: Shefton 1971: pl. 21, fig. 6; For surface treatment see Ivanov 1963: pl. 63 no. 244; Sparkes and Talcott 1970: pl. 48 no. 1152.
430-400 BC.

66- Amphoriskos (Fig. 6)
H. pres. 0.058. W. pres. 0.04.
Body fragment. Ribbed wall. Black glazed outside.
Parallels: Shefton 1971: pl. 21, fig. 6; For surface treatment see Ivanov 1963: pl. 63 no. 244; Sparkes and Talcott 1970: pl. 48 no. 1152.
430-400 BC.

Askos

67- Guttus Type (Fig. 4)
H. pres. 0.041. D. of foot. 0.098.
Foot and body fragment. Horizontal groove at junction of concave shoulder and body. Sharp angle between join of upper and lower walls. Resting surface and underside of foot reserved. Black glazed outside.
Parallels: Sparkes and Talcott 1970: fig. 11 no. 1194.
Ca. 350 BC.

Animal-Head Cup

68- Animal-Head Cup? (Fig. 4)
H. pres. 0.06. D. of rim. 0.216.

Rim and body fragment. Shallow groove at junction of convex rim and lip. Slightly flaring offset lip. Convex bowl tapering towards base. Black glazed inside and out.
Parallels: Miller 1993: taf. 28 no. 28.2; Miller 1997: fig. 47.
500-450 BC.

69- Ram-Head Cup (Fig. 6)
H. pres. 0.052. W. pres. 0.081.
Body fragment. Horn and ear of plastic ram head. Black glaze outside. Drips of glaze inside.
Parallels: Winnefeld 1899: 21, 23; Hoffmann 1961: taf. 8-9; Miller 1993: taf. 25 no 1-2, taf. 28 no. 3; Miller 1997: fig. 48.
500-450 BC.

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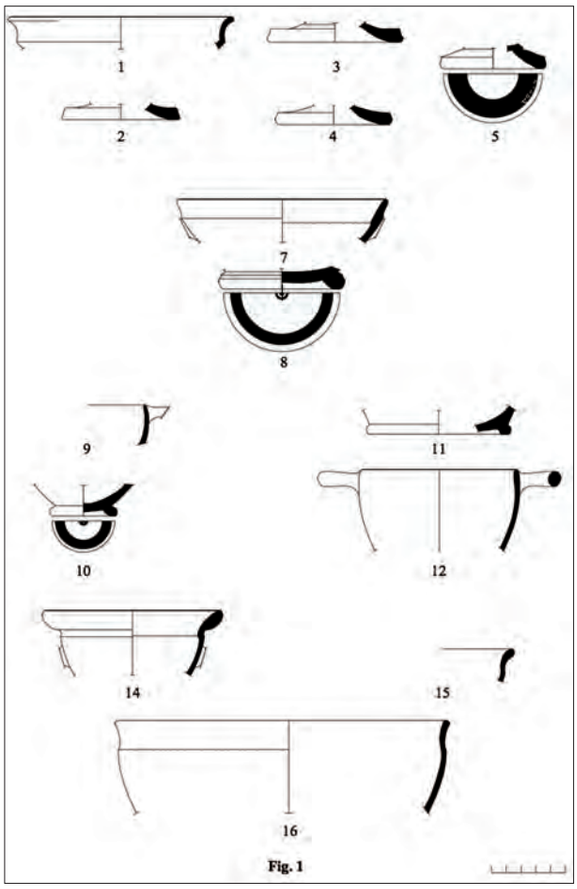

Fig. 1

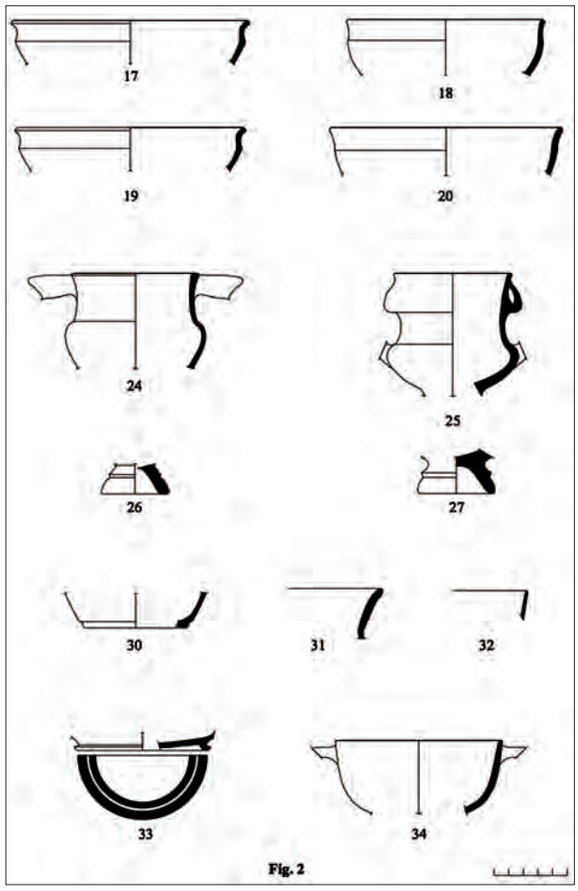

Fig. 2

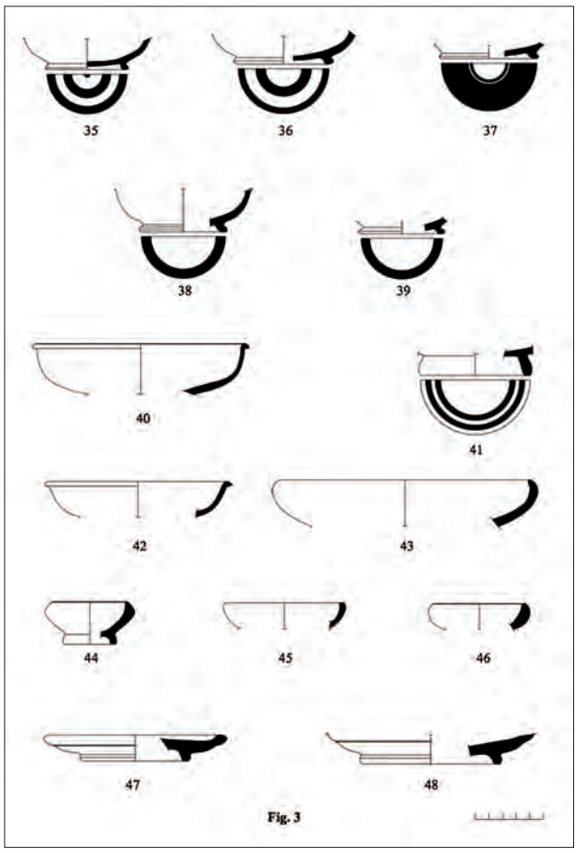

Fig. 3

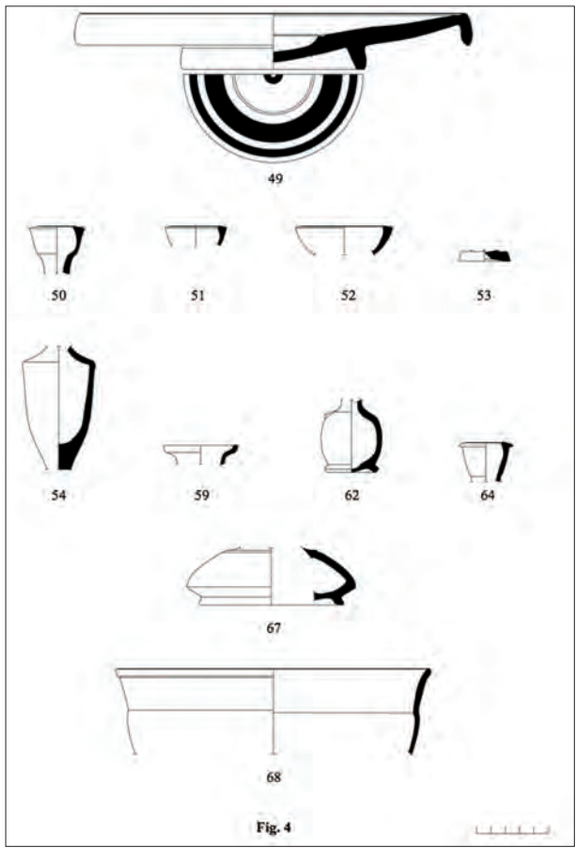

Fig. 4

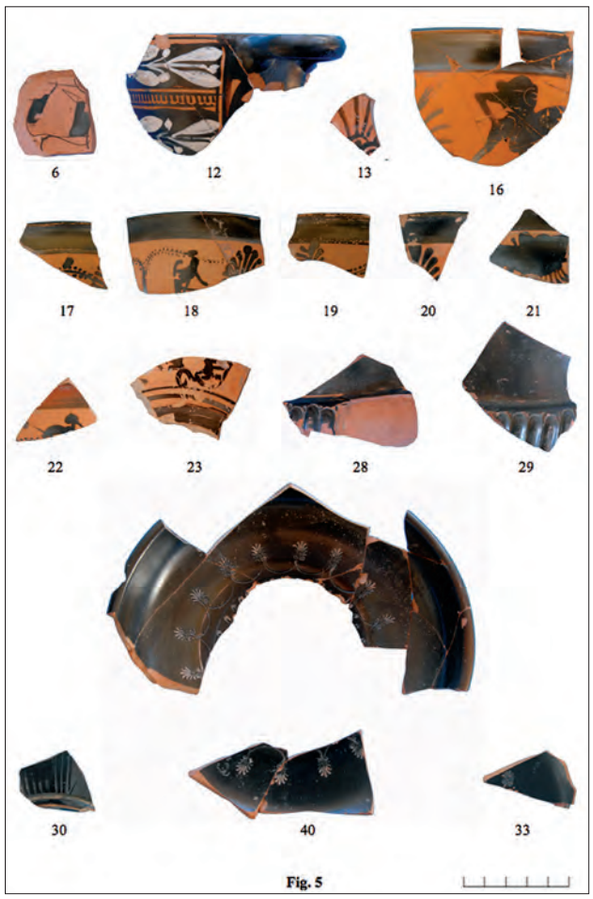

Fig. 5

Fig. 6

KORYKOS'UN (DAĞLIK KİLİKİA) HELLENİSTİK DÖNEMİ ÜZERİNE GÖZLEMLER

OBSERVATIONS ON THE HELLENISTIC PERIOD OF KORYKOS (ROUGH CILICIA)

Ercan AŞKIN

Keywords: Rough Cilicia, Olba Region, Korykos, Hellenistic period.
Anahtar Sözcükler: Dağlık Kilikia, Olba Bölgesi, Korykos, Hellenistik dönem.

ABSTRACT

The extensive presence of architectural remains of the Hellenistic Period that are to be seen in the urban centre of Korykos, along the peripheral slopes of the town, and also within its hinterland are indicative of the density of population and of the intensity of construction activities that took place during the Hellenistic period. Due to the building activities of the later periods and of the subsequent destructive agencies, very little of the Hellenistic architecture, particularly in the centre of the town has survived up to the present. In spite of the paucity of standing Hellenistic buildings, the polygonal masonry of the fortification walls and towers, the quality of the craftsmanship displayed at the tombs, implies that there must have been other remarkable architectural monuments in Korykos. The 2nd century BC is marked in the Olba region by the extensive implementation of polygonal masonry in architecture; the fact that there are numerous examples of this style at Korykos, is indicative of the dynamic architectural built up in the town during that century. Likewise, in the immediate periphery of Korykos, besides the tombs, there are numerous agricultural installations such as towers, threshing areas and cisterns displaying polygonal masonry, evidencing that the town was surrounded by establishments related to agricultural activities.

ÖZET

Korykos'un Hellenistik dönemde önemli oranda iskân gördüğüne, kentte mimari açıdan önemli gelişmeler kaydedildiğine dair kanıtları, kent merkezinde, kenti çevreleyen yamaçlarda ve kentin etkileşim alanında rastlanan mimari kalıntılarda görmekteyiz. Ancak sonraki dönemlerde gerçekleşen yapılaşmalar ve tahribatlar, özellikle kent merkezinde Hellenistik döneme ait mimari kalıntıların oldukça sınırlı oranda günümüze ulaşmasına neden olmuştur. Kent merkezinin Hellenistik dönemde sahip olduğu yapılar hakkında her ne kadar yeterli veri bulunmasa da, günümüzde görülebilen polygonal duvar örgüsüne sahip sur, kuleler ve mezarların işçiliklerindeki nitelik, Hellenistik Korykos'ta nitelikli başka yapıların da bulunduğunu düşündürmektedir. MÖ 2. yüzyılda Olba Bölgesi genelinde, belirleyici özelliği polygonal duvar işçiliği olan yoğun bir imar sürecinin yaşanması ve Korykos'ta da bu mimari biçimin çok sayıda örneğinin belirlenmesi, aynı yüzyıl içerisinde kentte mimari bir hareketliliğin söz konusu olduğunu göstermektedir. Korykos'un yakın çevresinde karşılaşılan polygonal duvar işçiliğine sahip kule, pres, harman yeri, sarnıç ve mezarlardan oluşan tarımla ilgili yapılanmalar ise, Hellenistik dönemde kentle bağlantılı, kentin etrafını kuşatan bir tarımsal organizasyonun varlığını ortaya koymaktadır.

GİRİŞ

Korykos, Mersin il merkezinin kuş uçumu 55 km kadar güneybatısında, Silifke ilçe merkezinin yaklaşık 22 km kuzeydoğusunda, günümüz Kızkalesi kasabası sınırları içerisinde yer almaktadır. Mevcut konumuyla Antik dönemde Kilikia Trakheia'nın (Dağlık Kilikia) (Strabon, XIV, V, 1) doğu kesimini oluşturan, Kalykadnos (Göksu) ve Lamos (Limonlu) akarsuları arasında kalan Olba Bölgesi'nde yer alan bir kıyı kenti niteliği taşımaktadır[1] (Res. 1). Korykos'un Hellenistik dönemini ele alan bu çalışmada, kent merkezi, yakın çevresi ve etkileşim alanında şimdiye kadar saptanan arkeolojik kalıntılar ile mevcut yayınlar bir bütün olarak değerlendirilecektir. Kent merkezindeki verilerin sınırlılığı, değerlendirme yaparken Korykos'un yakın çevresinde ve etkileşim alanında karşılaşılan arkeolojik kalıntılardan hareket etmeyi zorunlu kılmaktadır. Zira yakın çevresinin ve etkileşim alanlarının sahip olduğu potansiyelin, belli oranlarda kent merkezinin niteliğine de ışık tutacağı düşünülmektedir. Ayrıca, konuya açıklık kazandırılmasına yardımcı olacağı düşüncesiyle Korykos'a dair değerlendirmelerde bulunulurken Olba Bölgesi'ndeki diğer kent ve yerleşimlerin Hellenistik dönem üzerine sunduğu bilgiler de destekleyici unsurlar olarak kullanılacaktır. Nitekim Olba Bölgesi'nin sınırları içerisinde yer almasından dolayı, Hellenistik dönemde bölge genelinde gerçekleşen gelişmelerden Korykos'un doğrudan etkilendiği açıktır.

Yazılı kaynaklar ve arkeolojik veriler Korykos'un kent olarak varlığının şimdilik en erken Hellenistik döneme uzandığını ortaya koymaktadır. Kentin adı ilk olarak, III. Antiokhos'un (MÖ 223-187) Ptolemaiosları Anadolu'nun tamamından çıkarmak amacıyla MÖ 197 yılında başlattığı askeri harekâtın ilk aşamasında, Kilikia'da ele geçirdiği kentler arasında anılmaktadır (Livius XXXIII 20.4; Jones 1937: 199). Daha sonra MÖ 79'da Publius Servilius'un Kilikia ve Pamphylia'ya gönderildiği, Kilikia'ya boyun eğdirdiği ve ele geçirdiği kentler arasında Korykos'un da bulunduğu yönünde bir bilgi Eutropius tarafından dile getirilmektedir[2] (Eutropius, 6, I, 139). Bunların dışında kentin MÖ 1. yüzyılda basılmış sikkelerinin varlığı da bilinmektedir (Hill 1900: 66 (1-8), pl. XI, 13-14; SNG Lycaonia-Cilicia 1956: 114-120; SNG v. Aulock 1966: 5676-5679; SNG Levante-Cilicia 1986: 790-804; SNG Levante-Cilicia Suppl. 1993: 216). Bu yüzyıla ait sikkelerin bazılarından Korykos'un otonom bir yapıya sahip olduğu anlaşılmaktadır (SNG Levante-Cilicia 1986: 802, 804).

Yukarıda sözü edilen kaynakların yanı sıra, antik kentin merkezinde, yakın çevresinde ve etkileşim alanında Hellenistik döneme ait olan mimari kalıntılarla karşılaşılmaktadır. Ancak sonraki dönemlerde gerçekleşen yapılaşmalar ve tahribatlar, özellikle kent merkezinde Hellenistik dönemden oldukça sınırlı oranda mimari kalıntının günümüze ulaşması sonucunu beraberinde getirmiştir. Nitekim arkeolojik yüzey araştırmalarında saptanan bulgular gerek Roma dönemi, gerek Geç Antik dönem, gerekse Ortaçağ'da kentin yoğun bir şekilde iskân gördüğünü göstermektedir (Durugönül vd. 2006: 21 vd.; Durugönül ve Durukan 2007: 17 vd.; Durugönül vd. 2008: 115 vd.; Durugönül vd. 2009: 85 vd.; Durugönül 2010: 289 vd.). Bununla beraber günümüz yapılaşmalarının da yer yer antik kentle iç içe geçtiği gözlenmektedir. Günümüze kadar uzanan süreç içerisindeki yapılaşmalar ve tahribatlar, Hellenistik dönem kentini adeta ortadan kaldırmış, kent merkezinde sadece savunma duvarlarının bir kısmının takip edilebilmesine neden olmuştur. Kimi kesimlerde ise tahribat bununla da sınırlı kalmamış, kentin kurulu bulunduğu alanın topoğrafyasının dahi değişikliklere uğramasına neden olmuştur. Ortaçağ'a ait Kara Kalesi'nin savunmasına katkıda bulunması için açılmış hendek ile günümüz karayolunun inşası dolayısıyla gerçekleştirilen dolgu ve diğer düzenleme çalışmaları topoğrafyanın belli oranlarda değişmesi sonucunu doğuran unsurlar arasında sayılabilir. Ayrıntılı verilere ulaşmayı engelleyen bir diğer konu ise Antik döneme ait kalıntıların yer aldığı yaklaşık 250.000 m^2'lik alanın pek çok yerinde yapıların yoğun bitki örtüsüyle kaplanmış durumda olmasıdır.

KORYKOS

Kent Merkezi

Korykos'un kent merkezinde Hellenistik dönemden günümüze ulaşabilen tek mimari unsurun, antik limanın 300 m kadar kuzeydoğusunda rastlanan *polygonal* işçiliğe sahip duvar kalıntısı olduğu görülmektedir (Res. 2). Denize yaklaşık 25 m mesafeden başlayarak güneydoğu-kuzeybatı yönünde 70 m boyunca ilerleyen duvar 2 m civarında kalınlığa sahiptir. Yüksekliği hiçbir noktada tam olarak korunmamakla

beraber, güneybatı cepheden bakıldığında bazı noktalarda yaklaşık 3 m'ye kadar ayaktadır (Res. 3). Kuzeydoğu cephede ise zaman içerisinde gerçekleşen toprak ve taş dolgu nedeniyle ancak 1-1,5 m kadar bir yükseklik görülebilmektedir (Res. 4). *Polygonal* bloklarla sandık duvar tekniğinde inşa edilmiş olan duvarın bazı kesimlerinde zaman içerisindeki aşınmalardan dolayı bloklar arasında boşlukların oluştuğu gözlense de, derzleri birbirine gayet iyi oturan özenli işçilik sergilediği açık bir şekilde anlaşılmaktadır (Res. 5). Bloklar genel olarak bosajlı olarak işlenmiş olmakla birlikte, duvarın deniz tarafındaki kesiminin güneybatıya bakan cephesinin bir bölümünde blok yüzeylerinin düzleştirilmiş olduğu gözlenmektedir (Res. 6). Daha önceki yayınlarda varlığına değinilmemiş olan söz konusu duvarın yapısal özellikleri, Korykos'un Hellenistik dönemdeki savunma sisteminin bir parçası olabileceğini düşündürmektedir. Nitekim Hild ve Hellenkemper, Korykos'un ilk erken dönem otonom sikke baskılarında sur biçiminde tacı olan Tykhe betimiyle karşılaşılması nedeniyle MÖ 1. - MS 1. yüzyılda bir kent surunun bulunması gerektiğini belirtmekte, ancak böyle bir erken dönem kent surunun izine rastlanmadığını dile getirmektedirler (Hild ve Hellenkemper 1990: 317).

Hellenistik dönemden günümüze sadece yukarıda anılan *polygonal* işçiliğe sahip duvarın ulaşması, bu dönemde Korykos'un kurulu bulunduğu alanın tam olarak saptanmasını zorlaştırmaktadır. Bununla beraber eldeki verilerle birtakım önerilerde bulunmak mümkündür. Mevcut yayınlarda yerleşimin çekirdeğinin günümüzde dolmuş olan doğal limanı çevreleyen kaya çıkıntısı üzerinde yer alması gerektiği dile getirilmektedir (Herzfeld ve Guyer 1930: 90 vd.; Hild ve Hellenkemper 1990: 317). Gerçekten de topoğrafik yapı incelendiğinde antik limandan Kara Kalesi'nin kuzeyine doğru uzanan alanın seviyesinin düşük olduğunun gözlenmesi, Antik dönemde denizin bu kesimlere kadar uzandığını düşündürmektedir (Res. 2). Bununla beraber *polygonal* duvar devam ettiği yön konusunda, tahribat nedeniyle ne kuzeybatı, ne de güneydoğu ucunda bilgi sunmaktadır. Ancak genel olarak bosajlı bir görünüm sergilemesine rağmen, deniz tarafındaki güneybatıya bakan cephesinin bir kısmında blokların yüzeylerinin düzleştirilmiş olması, koruma altına alınan kesimin duvarın güneybatısında kalan alan olabileceği düşüncesine yöneltmektedir. Nitekim Çatıören antik yerleşiminde bu düşünceye destek olabilecek nitelikte veriler bulunmaktadır (Res. 1). *Polygonal* duvar işçiliğine sahip Hermes Tapınağı, savunma sisteminin bir parçası olarak planlanmış olması nedeniyle, dışa bakan cepheleri sur olarak algılanmasını sağlamak amacıyla bosajlı, yerleşimin içerisinde kalan *pronaos* ve *naos* duvarları ise düz yüzeyli bloklarla inşa edilmiştir (Durukan 2004: 44, res. 5-6.).

Bu durumda eldeki verilerle Hellenistik kentin çekirdeği için, antik liman ile *polygonal* duvar arasında güneybatı-kuzeydoğu doğrultusunda 300 m boyunca uzanan ve yer yer genişliği 100 m'ye varan kayalık yükseltinin ağırlık kazandığı görülmektedir (Res. 2). Strabon, MÖ 7 veya MS 18-19 yılları arasında kaleme aldığı "Geographika" adlı eserinde kentin kurulu olduğu alan hakkında bilgi vermekte ve Korykos'u bir burun olarak nitelemektedir (Strabon, XIV, 5, 5). Söz konusu eserin tarihi her ne kadar Roma İmparatorluk dönemi içerisinde yer alsa da, Strabon'un Korykos üzerine bu konuda aktardıklarının daha ziyade Hellenistik kente dair olması muhtemeldir. Çünkü söz konusu dönem, Erken İmparatorluk dönemidir ve özellikle eyaletlerde Roma İmparatorluğu'nun henüz tam anlamıyla kapsamlı imar etkinliklerinden söz etmek mümkün değildir. Yukarıda sözü edilen kara parçasının yapısal özellikler açısından Strabon'un tanımına uyan bir nitelik taşıması da Hellenistik kentin bu alanda yer aldığı yönünde bir diğer ipucu olarak yorumlanabilir.

Kentin Yakın Çevresi

Korykos'un kent merkezindeki verilerin sınırlılığına karşın, kenti çevreleyen yamaçlarda Hellenistik döneme ait çok sayıda mimari kalıntıya rastlanmaktadır. *Polygonal* duvar tekniğiyle inşa edilmiş bağımsız duran kuleler ve mezarlar, bu döneme ait olduğu bilinen unsurlardır. Kentin yakın çevresinde şimdiye kadar 6 adet kule ile 34 adet mezarın varlığı belirlenmiştir (Res. 7).

Kulelerin büyük oranda tahribata uğramış olmaları, yapısal özellikleri hakkında çok fazla detaylı bilgiye ulaşmayı engellemektedir. Bununla beraber belirlenenlerin tamamı bağımsız duran ve dörtgen plan sergileyen yapılardır. Arazinin genel olarak kayalık yapıya sahip olması nedeniyle kulelerin anakaya üzerine oturtuldukları gözlenmektedir. Duvar işçiliklerindeki nitelik açısından ise, özenli ve özensiz *polygonal* işçiliğe sahip örnekler olmak üzere iki farklı tarzda karşımıza çıkmaktadırlar. Özenli duvarlarda, blokların derzlerinin birbirine gayet iyi oturduğu, özensizlerde

ise böyle bir durumun söz konusu olmadığı bloklar arasında boşlukların bulunduğu görülmektedir.

Özenli duvar işçiliğine sahip kulelerden biri kent merkezinin yaklaşık 1350 m kuzeybatısında yer almaktadır. 3,55 x 3,25 m boyutlarındaki yapı, büyük oranda tahribata uğramış olmakla birlikte, güney duvarının yaklaşık 2 m'ye kadar ayakta olduğu gözlenmektedir. Kulenin hemen batısında anakayaya oyulmuş bir baskı kollu pres bulunmaktadır (Res. 7 K1, 8). 4,06 x 3,56 m boyutlarında, nitelikli *polygonal* duvar işçiliğine sahip bir başka kuleye ise antik kentin yaklaşık 1000 m kuzeydoğusunda rastlanmaktadır (Res. 7 K2, 9). Kulenin 15 m kadar güneyinde yine anakayaya açılmış bir baskı kollu presin varlığı söz konusudur (Res. 9a). Yer yer 2 m yüksekliğe kadar korunmuş olan 4,45 x 3,90 m boyutlarındaki benzer işçiliğe sahip bir diğer kule de Korykos'un 1450 m kadar kuzeydoğusundadır (Res. 7 K3, 10). Kulenin doğu duvarının önünde bir sarnıçla, biraz daha doğuda ise baskı kollu presle karşılaşılmaktadır (Res. 10a).

Özensiz duvar işçiliğine sahip kulelerden ilki, kentin 1100 m kadar kuzeyinde yer almaktadır (Res. 7 K4, 11). 5,05 x 4,10 m boyutlarındaki kulenin batı duvarına bitişik olarak anakayaya açılmış bir baskı kollu pres dikkati çekmektedir. Yukarıdaki örneklerden farklı olarak pres kuleyle bütünleşmiş durumdadır; baskı kolunun yerleştirileceği yuva için kulenin duvarı kullanılmıştır (Res. 11a). Bu kulenin 150 m kadar güneyinde ise benzer işçilik sergileyen 6,10 x 3,80 m boyutlarında bir diğer kuleyle karşılaşılmaktadır (Res. 7 K5, 12). Bu örnekte de baskı kollu pres kuleyle bütünleştirilmiş, doğu duvarının önündeki anakayaya açılmış, baskı kolunun yuvası için de yine kule duvarı kullanılmıştır (Res. 12a). Kulenin hemen kuzeyinde ise anakayaya açılmış bir sarnıç görülmektedir (Res. 12b). Yoğun şekilde tahribata uğramış olan bir diğer kuleye kentin 1100 m kadar kuzeydoğusunda rastlanmaktadır (Res. 7 K6, 13). Sadece temel seviyesinde blokları görülebilen 4,5 x 3,5 m ölçülerindeki yapının hemen güneyinde bir baskı kollu pres (Res. 13a) ve anakaya sarnıcı (Res. 13b), kuzeydoğusunda ise tahrip olmuş durumda bir harman yeri (Res. 7 H1) bulunmaktadır. Kule olabilecek nitelikte bir başka yapıyla ise Korykos'un yaklaşık 1750 m kuzeyinde karşılaşılmaktadır. Fakat yıkıntı taşların altında kalmış olması kesin bir sonuca ulaşmayı engellemektedir (Res. 7 K7).

Kentin yakın çevresindeki arazilerde dağınık olarak bulunan *polygonal* duvar işçiliğine sahip mezarlar ise tek mekândan oluşan dörtgen planlı yapılardır. Girişlerin, kenarlardan birinde yer alan ve tıpa şeklinde kapaklarla kapatılan küçük bir kapıdan sağlandığı anlaşılmaktadır. Mezarların yerleştirilmesinde herhangi bir yön kaygısının olmadığı girişlerin farklı yönlere bakmasından ortaya çıkmaktadır. Üst yapıları ise uygun büyüklükteki blokların mekânın üzerine sırayla yerleştirilmesi suretiyle oluşturulmuştur. İç mekân düzenlenişlerine bakıldığında ise bir örnek dışında kline gibi unsurlara rastlanmadığı, basit bir dörtgen odadan meydana geldikleri gözlenmektedir. Arazinin kayalık yapısı kulelerde olduğu gibi, mezarların inşasında da anakayadan faydalanılması sonucunu beraberinde getirmiştir. Bununla birlikte mezar yapılarında da iki farklı tür duvar işçiliğini görmek mümkündür.

Özenli duvar işçiliğine sahip ve oldukça iyi bir şekilde korunmuş olarak günümüze ulaşmış olan mezarlardan biri, kent merkezinin 500 m kadar kuzeyinde Nekropolis Vadisi içerisinde yer almaktadır. İnşasında büyük oranda anakayadan yararlanıldığı gözlenen ve içerisinde klineye rastlanan yapı, kapı lentosunun üzerinde Hellenistik dönem sonrasında eklenmiş bir yazıt ile doğuya bakan duvarında küçük bir sunak kabartması taşımaktadır (Res. 7 M21, 14) (Machatschek 1967: 67). İyi korunmuş bir diğer mezara ise, kentin 1000 m kadar kuzeyinde bulunan kulenin güneyinde rastlanmaktadır (Res. 7 M24, 15). Bir başka mezar da, kentin 1500 m kadar kuzeybatısındaki yüksek tepenin hemen doğusundadır (Res. 7 M17, 16).

Yukarıdaki örneklere oranla daha düşük nitelikte işçilik sergileyen mezarlardan biri Korykos'un 1450 m kadar kuzeydoğusundaki kulenin (Res. 7 K3) 50-60 m güneybatısında yer almaktadır (Res. 7 M32, 17). Benzer bir mezarla ise, kentin yaklaşık 1250 m kuzeyindeki özensiz duvar işçiliği sergileyen kulenin (Res. 7 K4) kuzeyine doğru olan alanda karşılaşılmaktadır (Res. 7 M18, 18).

Mevcut veriler, yukarıda anılan kule ve mezarların kentin yakın çevresinde yürütülen tarımsal etkinliklerle bağlantılı olduklarını ortaya koymaktadır. Nitekim arkeolojik bulgular ile yayınlarda ortaya konan kanıtlar, Hellenistik dönemde Korykos'un yakın çevresindeki doğal alanlar ve çeşitli düzenlemelerle tarıma elverişli hale getirilmiş alanlarda

üretim gerçekleştirildiğini göstermektedir (Aşkın 2010a: 33 vd.). Bu topraklardan elde edilen ürünlerin işlenmesi için ise, kenti çevreleyen arazilerin uygun noktalarına kule, baskı kollu pres, harman yeri ve sarnıç gibi unsurlardan meydana gelen yapılanmaların inşa edildiği anlaşılmaktadır. Baskı kollu preslerin kulelerle çağdaş olduğunu, kulelerin hemen yakınında yer almaları, bazı örneklerde ise preslerin kuleyle bütünleştirilmiş olmaları göstermektedir. *Polygonal* duvar işçiliğine sahip mezarlar ise, bu yapılanmaların bir diğer öğesi olarak kulelerin yakınlarına veya arazinin uygun noktalarına konumlandırılmışlardır. Bununla beraber tahribat nedeniyle söz konusu yapılanmaları meydana getiren unsurları her zaman bir arada görmek mümkün olamamaktadır.

Kulelerin, çevrelerindeki tarım arazileriyle bağlantılı oldukları, onlara hâkim konumlarda yer almalarından da açığa çıkmaktadır. Bu durum inşa amaçlarından birinin de etraflarındaki tarım alanlarının kontrol altında tutulması olduğunu göstermektedir. Bununla beraber elde edilen ürünlerin depolanması için kullanıldıkları da söylenebilir. Olba Bölgesi'nde çok sayıda örneği mevcut olan *polygonal* duvar tekniğiyle inşa edilmiş bağımsız duran kulelerin, yakınlarında preslere rastlanması nedeniyle, savunma, gözetleme, haberleşme işlevlerinin yanı sıra tarımsal etkinliklerle ilişkilendirilmesi de Korykos'taki kulelerin inşa amacının anlaşılmasına katkıda bulunmaktadır[3] (Durugönül 1995b: 201-202; Durugönül 1998a: 79 vd.) Tarımsal işlevlerine ek olarak, kulelerin kentin yakın çevresini kapsayan muhtemel bir gözetleme ve haberleşme ağının birer parçası oldukları da söylenebilir. Kulelerin yapısal özellikleri hakkında detaylı bilgilere tahribat nedeniyle ulaşılamasa da, Olba Bölgesi'nde rastlanan diğer örneklerden hareketle birkaç kattan meydana geldikleri önerilebilir (Durugönül 1998a: 11 vd.).

Hellenistik dönemde kulelerin yanında başka ek yapılanmaların olup olmadığı konusunda kesin sonuçlara ulaşmak mümkün olamamaktadır. K2 ve K3 gibi bazı kulelerin yakınlarında başka yapılara ait kalıntılarla karşılaşılmakta, ancak söz konusu kalıntıların Hellenistik dönem sonrasına ait oldukları anlaşılmaktadır[4]. Bununla beraber Antik dönemde farklı coğrafyalarda kuleye sahip çiftliklerin varlığı bilinmektedir. Yunanistan'da Klasik döneme (Lohmann 1992: 29 vd.), Lykia'da ise Hellenistik döneme (Konecny 1997) tarihlenen örnekler bulunmaktadır. Bu durumda Korykos'taki yapılanmaların asli unsuru olan kulelerin bir kısmının bu tür çiftliklerin birer parçası olabilecekleri ihtimali üzerinde de durulabilir.

Kuleli yapılanmaların yanı sıra, Korykos'ta çeşitli mekânlardan oluşan çiftlik yapılarının varlığını gösterir nitelikte unsurlarla da karşılaşılmaktadır. Nitekim kalıntıları arasındaki bir kapı lentosu üzerinde Hermes'in sembollerinden *kerykeion* ve para kesesi, başka bir blok üzerinde ise *phallos* betimi bulunan, kent merkezinin 1750 m kuzeydoğusundaki tarımsal üretime yönelik bir yapılanma bu yönde ipuçları sunmaktadır (Aşkın 2010a: 39, 51 fig. 11.). Lentonun, boyutları itibariyle bir kuleden ziyade bir yapının ana giriş kapısına ait olabilecek nitelik sergilemesi, hemen yanı başında bir harman yeri de bulunan yapılanmanın birkaç mekândan oluşan bir çiftlik yapısı olduğunu düşündürmektedir. Söz konusu sembollerin Olba Bölgesi'nde Hellenistik dönemde görülmeye başlandığının bilinmesi nedeniyle yapılanmanın bu döneme ait olması muhtemeldir[5]. Bununla birlikte Olba Bölgesi'nde gerçekleştirilen arkeolojik araştırmalar esnasında ana giriş kapılarının üzerinde bu tür semboller taşıyan ve birkaç mekândan oluşan çiftlik yapılarının varlığı gözlemlenmiştir.

Mezarların kulelerin yakınlarına, dolayısıyla tarım alanlarının çevrelerine inşa edilmiş olması ise, toprağa ve üretime verilen önemin bir göstergesi niteliğindedir. Nitekim arazi sahibi kendi topraklarına gömülmeyi yeğlemiş olmalıdır. *Polygonal* duvar işçiliğiyle inşa edilmiş Hellenistik dönem mezarlarına kentin yakın çevresindeki vadi ve yamaçlarda rastlanmakla beraber, nekropolis oluşturacak şekilde topluca bulundukları bir alanın olmaması dikkat çekici bir durum olarak karşımıza çıkmaktadır[6]. Söz konusu mezarların, tek başlarına veya birkaç mezardan oluşan gruplar halinde kenti çevreleyen arazilere dağılmış oldukları gözlenmektedir (Res. 7). En fazla mezarın bulunduğu grup ancak altı adet mezardan meydana gelmektedir. Bu durumda kent merkezinde oturan insanların, mezarları için kendi topraklarını tercih ettiği, bundan dolayı da bilinen anlamdaki bir nekropolisin gelişmemiş olduğu düşünülebilir. Nihayetinde arazi sahibi kentlilerin, taş mimariyle inşa edilmiş ve konum itibariyle de onların ikincil yaşama mekânları olan, kentin yakın çevresindeki çiftlikleriyle bağlantılı mezarlarla karşılaşıldığı görülmektedir. Hellenistik döneme ait bir nekropolisin bulunamayışı, Korykos'ta bu dönemde *inhumasyon*

gömüt tarzının yanı sıra, *kremasyon*un da kullanılmış olabileceğini düşündürmektedir. Nitekim Olba Bölgesi'nde şimdiye kadar Hellenistik döneme ait bir nekropolisin saptanamamış olmasının bu bağlamda anlam taşıdığı söylenebilir.

TARİHLEME

Korykos'taki *polygonal* duvar işçiliğine sahip mimarinin, yani savunma sistemine ait olabilecek nitelikteki duvar ile kule ve mezarların tarihlenmesi konusunda ise Olba Bölgesi'nde Hellenistik dönemde gerçekleşen imar etkinlikleri çerçevesinde değerlendirmelerde bulunmak doğru olacaktır. MÖ 3. yüzyılın başlarında bölgenin Seleukosların kontrolü altına girdiği, bununla bağlantılı olarak da birtakım mimari etkinliklerin gerçekleştirildiği bilinmektedir (Durugönül 1995a: 75; Durugönül 1998a: 125; Durugönül 2002: 107 vd.; Durukan 1998: 87 vd.). Örneğin, I. Seleukos Nikator tarafından MÖ 296-281 tarihleri arasında Seleukeia kenti kurulmuştur (Durugönül 1998b: 70; MacKay 1968: 80). Ayrıca Diokaisareia'daki Zeus Olbios Tapınağı'nı çevreleyen *temenos* duvarında, I. Seleukos Nikator'un yaptırmış olduğu çatıların Zenophanes oğlu Teukros tarafından tamir ettirildiğini ifade eden yazıt da bu yüzyıldaki etkinliklerle bağlantılı olarak anılabilir (Durugönül 1998b: 70 vd.; Heberdey ve Wilhelm 1896: 85 vd., yazıt no: 166). Bunlara ek olarak, MÖ 3. yüzyıla ait olan başka epigrafik kanıtlarla da karşılaşılmaktadır[7]. Olba Bölgesi'ndeki imar etkinliklerinin asıl ivme kazandığı dönem olarak ise MÖ 2. yüzyılın ön plana çıktığı görülmektedir. MÖ 188 yılında yapılan Apameia Anlaşması'ndan sonra Seleukosların sınırlarının, Sarpedon Burnu'na, yani Olba Bölgesi önlerine kadar daraldığı bilinmektedir. Bu durum Seleukosların, sınırlarının uç noktasını oluşturan bu bölgede tutunabilmek amacıyla imar etkinliklerine girişmelerine neden olmuş ve böylelikle bölge genelinde, karakteristik özelliği *polygonal* duvar işçiliği olan askeri, dini ve sivil mimari ortaya çıkmıştır[8]. Olba Bölgesi'ndeki asıl mimari yapılanma sürecinin MÖ 2. yüzyılın başlarından itibaren yaşanmış olması ve bu yöndeki verilerin fazlalığı, söz konusu kalıntıların MÖ 2. yüzyılın ilk yarısından itibaren ortaya çıkmış olabilecekleri düşüncesinin ağırlık kazanmasına neden olmaktadır. Nitekim, kanıtların azlığı, Korykos ve çevresinde karşılaşılan *polygonal* duvar işçiliğine sahip mimariyi MÖ 3. yüzyılla ilişkilendirmeye ihtiyatla yaklaşmayı zorunlu kılmaktadır. Zaten bölgedeki *polygonal* duvar işçiliğine sahip mimarinin yoğunlukla MÖ 2. yüzyılın başlarından, aynı yüzyılın son çeyreğine ya da sonuna kadar geçen süreç içerisinde inşa edilmiş olabilecekleri önerilmektedir (Durukan 2004: 52). Olba Bölgesi'ndeki Mancınıkkale antik yerleşiminde bulunmuş olan *polygonal* duvar işçiliğine sahip bir mezar da üzerinde taşıdığı yazıt dolayısıyla MÖ 2. yüzyılın başlarına tarihlenmektedir (Durukan 2004: 47, 63, res. 14; Söğüt 1993: 224-225, 228-230, res. 3-7; Tırpan 1990: 420-421, res. 8-9). Kentteki tahıl üretiminin arkeolojik kanıtları olan harman yerlerinin tarihlenmesi konusundaki arkeolojik veriler de yine Olba Bölgesi'nden gelmektedir. Elaiussa-Sebaste'nin etkileşim alanındaki Hisarkale antik yerleşiminde bulunan örneklerin çevre blokları üzerinde taşıdıkları Herakles labutu ve Dioskur takkesi kabartmaları, harman yerlerinin Hellenistik dönemde görülmeye başladıklarını göstermektedir (Aşkın 2010b: 244 vd.).

SONUÇ

Korykos'un Hellenistik dönemde önemli oranda iskân gördüğüne, kentte mimari açıdan önemli gelişmeler kaydedildiğine dair kanıtları, kent merkezinde, kenti çevreleyen yamaçlarda ve kentin etkileşim alanında rastlanan mimari kalıntılarda görmekteyiz. MÖ 2. yüzyılda Olba Bölgesi genelinde, belirleyici özelliği *polygonal* duvar işçiliği olan yoğun bir imar sürecinin yaşanması, Korykos'ta da bu mimari biçimin çok sayıda örneğinin belirlenmesi, aynı yüzyıl içerisinde kentte mimari bir hareketliliğin söz konusu olduğunu göstermektedir. Kent merkezinin Hellenistik dönemde sahip olduğu yapılar hakkında her ne kadar veri bulunmasa da, günümüzde görülebilen özenli *polygonal* duvar örgüsüne sahip sur kalıntısı ile kule ve mezarlar, Korykos'ta nitelikli başka yapıların da var olabileceğini düşündürmektedir. Ancak kent merkezindeki yoğun tahribat, Hellenistik kentin yapı çeşitliliği ve dokusu üzerine bilgilere ulaşmayı engellemektedir. Olba Bölgesi'ndeki diğer kentler de ne yazık ki karşılaştırma yapabilecek nitelikte yeterli veriler sunmamaktadır. Hellenistik dönem üzerine en fazla verinin bulunduğu kıyı kenti olan Elaiussa-Sebaste'de, güney limanın çevresinde *polygonal* işçilikli duvarlarla (Morselli 1999: 159 fig. 92, 160 fig. 93), yamaçlarda da yine *polygonal* duvar işçiliğiyle inşa edilmiş mezarlarla (Morselli 1999: 169 fig. 103, 170 fig. 104) karşılaşılmaktadır. Bununla beraber Elaiussa-Sebaste'nin de Hellenistik dönemdeki kent doku-

suna ait ayrıntılı verilere henüz ulaşılamamış olması, karşılaştırmalar yaparak Korykos için önerilerde bulunulmasının önünü kesmektedir.

Korykos'un yakın çevresinde karşılaşılan *polygonal* duvar işçiliğine sahip kule, pres, harman yeri, sarnıç ve mezarlardan oluşan tarımsal yapılanmalar ise, Hellenistik dönemde kentle bağlantılı, kentin etrafını kuşatan bir tarımsal etkinliğin varlığını ortaya koymaktadır. Yapılanmaların sahip olduğu baskı kollu presler ve harman yerleri tarımsal etkinliklerde, dolayısıyla kentin ekonomisinde zeytin, üzüm ve tahıl üretiminin ön plana çıktığını göstermektedir. Belirlenen Hellenistik yerleşimler, bu tarımsal etkinlik ağının sadece kentin yakın çevresiyle sınırlı kalmayıp, kentin etkileşim alanına da uzandığını göstermektedir. Korykos kent merkezinin kuş uçumu 3,5 km kuzeybatısındaki Adamkayalar ile 11 km kadar kuzeybatısındaki Hüseyinler antik yerleşimlerini bunlar arasında saymak mümkündür[9] (Res. 1). Nitekim Hellenistik dönemde Olba Bölgesi'nde savunmaya, kontrole ve tarımsal etkinliklere yönelik bir yerleşim düzenlemesinin söz konusu olduğu, bu iki yerleşimin de bu bağlamda ortaya çıkmış oldukları dile getirilmektedir (Aydınoğlu 2003: 251 vd.). Buradan hareketle Korykos'un etkileşim bölgesinin Hellenistik dönemde Olba Bölgesi'ndeki gelişmelerden doğrudan etkilendiği, bölgesel düzenlemenin bir parçası olarak ele alındığı anlaşılmaktadır. Bununla beraber Korykos'un 2,5 km kadar kuzeydoğusundaki komşu kent Elaiussa-Sebaste'nin etkileşim alanında yer alan Hisarkale ve Çatıören gibi antik yerleşimler de bu bağlamda değerlendirilmektedir (Aydınoğlu 2003: 251 vd.). Korykos'un gerek yakın çevresinde, gerekse etkileşim alanında gerçekleştirilen tarımsal üretimde asıl söz sahibi olanların ise, Olba Territoriumu'nun Hellenistik dönemdeki feodal-teokratik yapısı göz önünde bulundurulduğunda, rahip sınıfı olduğunu söylemek mümkündür (Durugönül 1995a: 78-79; Durugönül 1995b: 197-198; Durugönül 1999: 363-364).

Kıyı kenti olması dolayısıyla yukarıda anılan tarımsal etkinliklerin yanı sıra, Korykos'ta balıkçılık ve denizle bağlantılı başka üretim etkinliklerinin de önemli yer tuttuğu söylenebilir. Nitekim kayalık kıyı hattı boyunca karşılaşılan, anakayanın işlenmesiyle oluşturulmuş pek çok yapılanma (Res. 19) ile denize inen basamaklar (Res. 20) Korykos'ta denizle bağlantılı etkinliklerin yürütüldüğüne ışık tutmaktadır. Söz konusu kıyı yapılanmalarının Hellenistik döneme ait olup olmadığı konusunda kesin veriler bulunmasa da, Elaiussa-Sebaste'ye doğru uzanan kayalık kıyı hattının *polygonal* işçiliğe sahip duvarla çevrelenmiş olması ve söz konusu duvarın da bu döneme ait olma ihtimali, Hellenistik dönemle ilişkili olabileceklerini düşündürmektedir (Res. 7, 21)[10].

NOTLAR

1 Olba Bölgesi, doğuda Lamos, batıda Kalykadnos, kuzeyde Toros Dağları ve güneyde Akdeniz ile doğal sınırlar içine alınmış oldukça korunaklı bir bölge olup, bu sınırlar içerisine yayılmış çok sayıda yerleşim biriminden oluşan bir 'Territorium'dur (Durugönül 1995a: 75 vd.).

2 Her ne kadar Eutropius bu bilgileri bize aktarıyor olsa da, Publius Servilius'un korsanlara karşı yürüttüğü mücadele çerçevesinde ele geçirdiği Korykos kentinin Kilikia'daki mi, yoksa Lykia'daki mi olduğu konusu tartışmalıdır (Durukan 2009: 85 vd.). Bu durum Eutropius'un bu konuda verdiği bilgilere ihtiyatla yaklaşmayı zorunlu kılmaktadır.

3 Lykia, Karia, Oniki Adalar gibi yerlerde de benzer amaçlarla kullanılan kulelerin varlığı bilinmektedir (Durugönül 1995b: 201).

4 Korykos'un yakın çevresindeki Hellenistik dönem tarımsal yapılanmalarının sonraki dönemlerde de kullanımlarıyla ilgili olarak bakınız: Aşkın 2010a: 40 vd.

5 Olba Bölgesi sembolleriyle ilgili olarak bakınız: Bent 1890: 322; Durugönül 1995a: 78; Durugönül 1998a: 85 vd.; Durugönül 1999: 364; Durukan 2001: 328 vd.

6 Yayınlarda nekropolisin limanın üzerindeki kuzey yamaçta yer aldığı dile getirilmektedir (Hild ve Hellenkemper 1990: 317). Ancak Ortaçağ'a ait Kara Kalesi'nin 150 m kadar kuzeybatısında, Bizans dönemi surunun içerisinde kalmış bir *polygonal* duvar işçiliğine sahip mezar (Res. 7 M3) dışındaki mezarların Hellenistik döneme ait olduğu konusunda herhangi bir veri bulunmamaktadır.

7 Korykos'un kuş uçumu yaklaşık 4 km güneybatısında bulunan Korykion-Antron'daki rahip listesinin, yapılan hesaplamalarla MÖ 240'lara kadar geri gittiği düşü-

nülmektedir (Durugönül 1998b: 72). Kanytella'daki *polygonal* kule üzerinde bulunan iki yazıt epigraflar tarafından MÖ 3. yüzyıla tarihlendirilmektedir (Hicks 1891: 226; Heberdey ve Wilhelm 1896: 53, yazıt no: 121). Mancınıkkale'de sur duvarlarından düşmüş olan bir yapı yazıtı MÖ 3. yüzyılın sonu ile MÖ 2. yüzyılın başları arasına tarihlenmektedir (Durugönül 1998a: 51).

8 Olba Bölgesi'nde Hellenistik dönemde yürütülen mimari etkinlikler ve *polygonal* duvar işçiliği üzerine düşünceler için bakınız: Aydınoğlu 2003: 252 vd.; Durugönül 1998a; Durugönül 1998b: 69, 74; Durugönül 1999: 361 vd.; Durukan 1997: 14 vd.; Durukan 1999: 79 vd.; Durukan 2004: 39 vd.; Söğüt 1993: 221 vd.; Söğüt 2006; Tırpan 1990: 405 vd.

9 Korykos'un etkileşim alanı, ayrı bir makalenin konusu olarak yayına hazırlanmaktadır.

10 Korykos ve etkileşim bölgesinde 2004 yılından bu yana arkeolojik çalışmalar yürüten "Korykos Yüzey Araştırmaları" Başkanı Prof. Dr. Serra Durugönül'e konuyu çalışmama imkân tanıdıkları ve değerli yönlendirmeleri; Doç. Dr. Murat Durukan ve Yrd. Doç. Dr. Ümit Aydınoğlu'na yine değerli yönlendirmeleri; Araş. Gör. Erkan Alkaç'a ise katkıları dolayısıyla teşekkürlerimi sunarım.

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Fig. 1 - Korykos'un konumu.

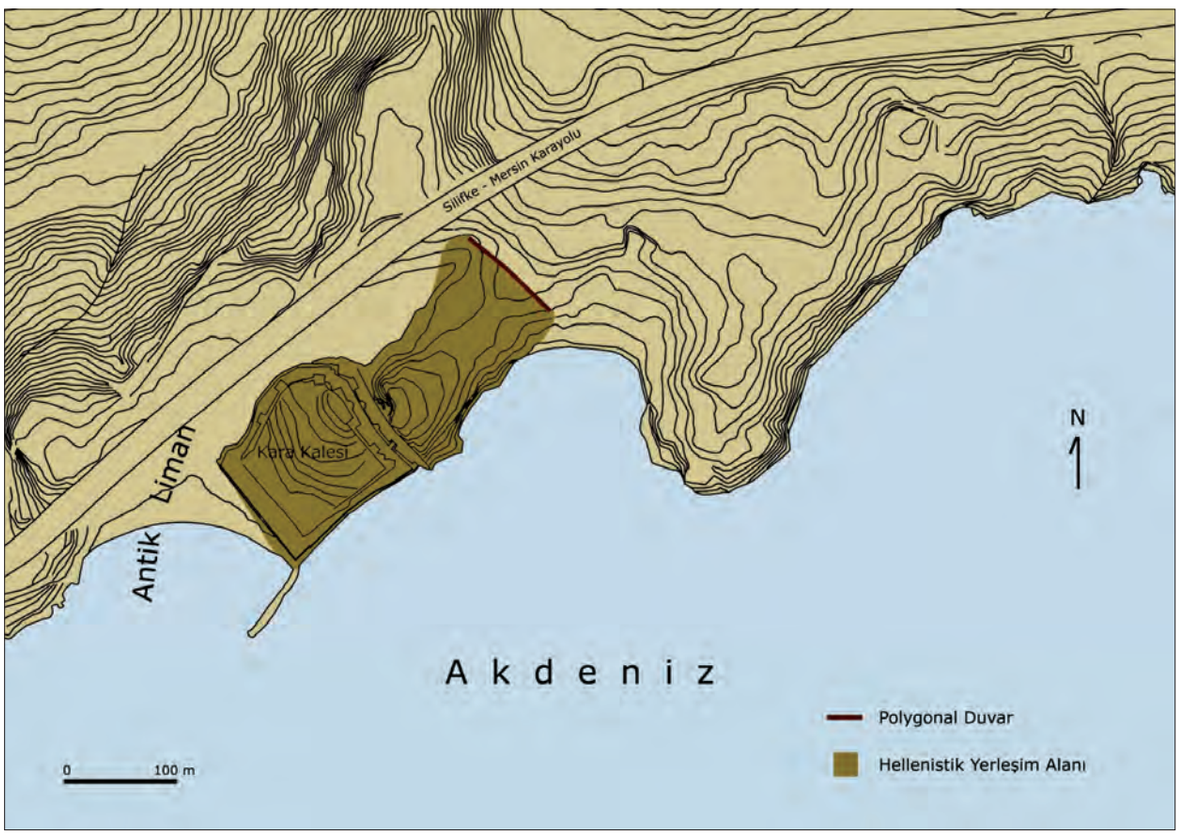

Fig. 2 - Hellenistik yerleşim alanı.

Fig. 3 - Polygonal duvarın güneybatı cephesi

Fig. 4 - Polygonal duvarın kuzeydoğu cephesi

Fig. 5 - Polygonal duvarın güneybatı cephesi

Fig. 6 - Polygonal duvarın düz yüzeyli bölümü

Fig. 7 - Korykos'un yakın çevresindeki kule ve mezarların dağılımı.

Fig. 8 - Kule K1.:

Fig. 9 - Kule K2.

Fig. 10 - Kule K3.

Fig. 11 - Kule K4.

Fig. 12 - Kule K5.

Fig. 13 - Kule K6.

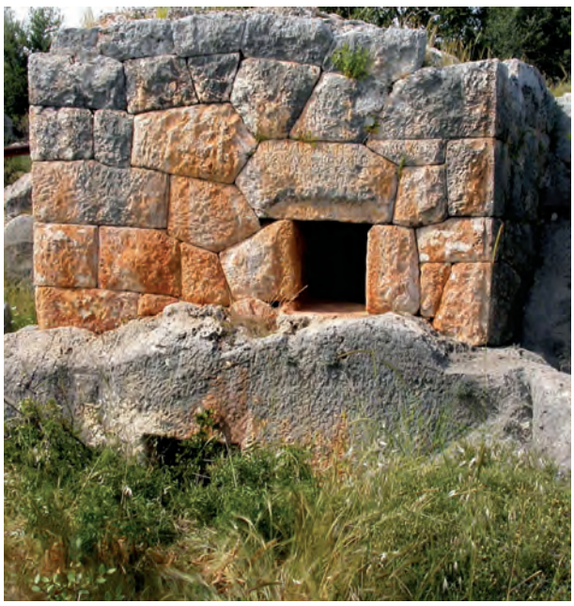

Fig. 14 - Mezar M21.

Fig. 15 - Mezar M24.

Fig. 16 - Mezar M17.

Fig. 17 - Mezar M32.

Fig. 18 - Mezar M18.

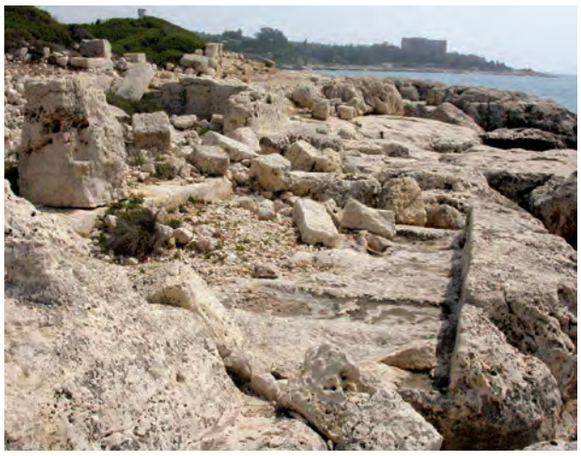

Fig. 19 - Kıyı yapılanmalarından bir görünüm.

Fig. 20 - Denize inen basamaklar.

Fig. 21 - Kıyı hattını çevreleyen duvarlardan bir görünüm.

A "WARRIOR" BURIAL OF THE MID-FOURTH CENTURY BC IN SOUTHEASTERN THRACE: TUMULUS C AT YÜNDOLAN NEAR KIRKLARELİ

GÜNEYDOĞU TRAKYA'DAN MÖ 4. YÜZYIL ORTASINA AİT BİR "SAVAŞÇI" MEZARI: KIRKLARELİ, YÜNDOLAN C TÜMÜLÜSÜ

İnci DELEMEN – Sedef ÇOKAY KEPÇE – Zülküf YILMAZ

Trakya arkeolojisinin öncüsü,
Hocalarımızın Hocası Ord. Prof. Dr. Arif Müfid Mansel
ve Hocamız Prof. Dr. Somay Onurkan'ın anılarına

Keywords: Thrace, Kırklareli, tumulus, fourth century BC, grave inventory.

Anahtar Sözcükler: Trakya, Kırklareli, tümülüs, MÖ 4. yüzyıl, mezar envanteri.

ABSTRACT

Rescue excavations carried out at Yündolan C tumulus, one of the five tumuli located in the vicinity of the Yündolan village, Kırklareli province, have revealed a cist burial carved into the bedrock. The cist grave, showed traces of being subject to fire, possibly due to a primary cremation activity. Even though the metal and terracotta grave goods were considerably damaged due to fire and humidity, it is possible to make certain deductions. The three categories of grave goods, namely symposion vessels, containers for liquids and military gear indicate that there was a single male burial at Yündolan C and the deceased had a military position.

The Yündolan C tumulus stands as an example from the southeastern part of the region, of a modest "warrior" burial, familiar from Thrace during the 4th century BC.

ÖZET

Kırklareli merkeze bağlı Yündolan Köyü yakınındaki beş tümülüsten biri olan Yündolan C'de gerçekleştirilen kurtarma kazısı sonucunda, kayaya oyulmuş bir kist mezar açığa çıkarılmıştır. Çevresi bir dizi taşla yükseltilen kist mezardaki yoğun ateş izleri, birincil kremasyon ile ilişkili olmalıdır. Ölüyle birlikte mezara bırakılan metal ve pişmiş toprak nesneler ateş ve nemden hasar görmelerine karşın, bazı saptamalara izin vermektedir. Mezar envanteri işlev açısından üç grup oluşturur: Symposion kapları, su kapları ve askeri teçhizat. Bu gruplama Yündolan C'de tek defin yapıldığına ve gömülen kişinin askeri görev taşıdığına işaret eder.

Buluntular ışığında MÖ 4. yüzyıl ortalarına tarihlenen Yündolan C, Trakya genelinden tanınan gösterişsiz "savaşçı" mezarları için, bölgenin güneydoğusunda bir örnek oluşturması nedeniyle önem kazanır.

INTRODUCTION

Tumuli in the southeastern part of Thrace began to be explored in the early 20th century. The first dig was conducted by F.W. Hasluck (Hasluck 1911, 1912) at the Eriklice tumulus near Kırklareli. A group of finds discovered in this chamber tomb are in the Istanbul Archaeological Museum (Onurkan 1988: nos 24-25, 101). In 1936-1940 A.M. Mansel initiated systematic excavations around Kırklareli. 15 tumuli were excavated in Lüleburgaz, Vize, and central Kırklareli, yielding a range of pit graves, cists, and chamber tombs (Delemen in print; Mansel 1939, 1940, 1941, 1943). During the following decades up to the present day, investigations have been limited to salvage excavations throughout southeastern Thrace. Among them are Uzunhacı, Karakoç, Pınarhisar İslambey A, and Düğüncülü Höyüktepe around Kırklareli (Fıratlı 1964; Kenan 1941; Yılmaz 1994, 1995), İkiztepe B and Enez in the vicinity of Edirne (Başaran 2007; Yıldırım 2007: 87-90), Harekattepe, Naip, Tekhöyük, and Askertepe near Tekirdağ (Delemen 2004, 2006; Işın and Özdoğan 2000; Öztürk 1998; Yıldırım 2008).

Like most of the latter, the tumuli at Koçasa (a.k.a. Kocatepe) 5 km northwest of the village of Yündolan (a.k.a. Yündalan or Gündolan) near Kırklareli became the target of illegal digs in the 1990s (Fig. 1). Of the five tumuli that are aligned in a northwest – southeast direction, the two biggest mounds on the north, dubbed Yündolan A and B, were destroyed completely. In the year 2000, pillaging occurred also on Yündolan C, upsetting a large part of the mound. The illegal attempts instigated a salvage excavation by Kırklareli Museum with the contributions of Prof. Dr. E. Beksaç and his students (Trakya University, Edirne). The salvage excavation brought to light the traces of funerary activities in the pile and a tomb beneath, the contents of which have been taken to the Kırklareli Museum. Some of the grave goods are currently on view. After the preliminary report (Yılmaz 2001), the present research on Yündolan C was carried out with the permission (2006/187547) of the Turkish Ministry of Culture and Tourism, General Directorate for Cultural Heritage and Museums with an aim to reevaluate the context in relation to chronological and interregional issues[1].

THE MOUND AND FINDS FROM THE FILL

The recorded height of Yündolan C is 3 m and the diameter 20 m (Fig. 2). Despite the destruction, three spots on the northwest, northeast, and east of the fill displayed signs of strong fire, while a partial horse skeleton appeared in the south (Yılmaz 2001: 73-74). A bronze element (M 10; Fig. 11) retrieved during the rescue excavation was apparently connected to the horse gear. The closest parallels of this object enhanced with a schematized duck's head are known from Derveni B (Themelis and Touratsoglou 1997: 85 B 83, pl. 96). The data from the fill are to be associated with ritual practices. Without doubt, the traces of fire and the horse skeleton relate to the offerings that followed the interment. Similar evidence is familiar from Thracian tumuli in general (Archibald 1998: 52-53, 68-69, 155-156, 174-175, 242-250, 295-287; Filow 1934: 12-16, 59; Fol et al. 1986: 20-24; Hoddinott 1975: 76, 79, 98, 120; Kitov 1999: 3-6; Mansel 1939: 176).

The fill also offered sherds of pottery. It is reported that the majority belong to amphorae (Yılmaz 2001: 72). The fragments of a red-figure lekanis (P 2; Fig. 17a-b) found in the fill are particularly noteworthy. They show figures of an Eros and women with chests and baskets that can be stylistically attributed to the Otchet Group of 380-350 BC (Boardman 1989: 193, figs 397-398; Moore 1997: 283-285, nos 1093, 1095-1117, pl. 104; Rutherfurd 1973: 435-439). The lekanis may have been left at the tomb in the course of the burial or afterwards, perhaps by a woman.

THE TOMB AND BURIAL

The tomb itself is near the center of the mound[2]. It is a rectangular pit, 1.80 m wide and 2,78 m long, dug 80 cm deep into the rock (Fig. 3). The compartment thus formed had its edges raised with a single row of stones that could be followed especially on the west and south at the time of the excavation. Inside were abundant pieces of burnt wood and other traces of strong fire. This evidence implied on one hand that the tomb was floored and roofed with wood, and on the other hand that it probably contained an *in-situ* cremation[3].

The structural features at Yündolan C connect to cist graves beneath Thracian tumuli attested since the early first millennium BC, which continued despite the appearance of chamber tombs later in the fifth century BC (See, e.g. Archibald 1998: 52-55, 61-72, 151-167, 242-247; Filow 1934: 19, 39, 60, 82-83, 98-99, 171, 236; Fol et al. 1986: 24; Hoddinott 1975: 39; Hoddinott 1981: 110). That the cist was cut into the rock must have resulted from topographical conditions. But the wooden flooring and roofing of pit- and cist graves occur throughout Thrace and the neighboring regions starting with the sixth century BC (Archibald 1998: 76, 156-164, 170, 174, fig. 6.3; Filow 1934: 19, 60, 83, 128). Because of the generic nature of the surviving structural features, it is possible to set merely a tentative t.p.q. for Yündolan C in the sixth century BC.

THE GRAVE GOODS

The strong fire impaired the metal objects and pottery deposited with the body drastically. This was coupled with subsequent humidity that increased the damage. Nonetheless, the remnants of the grave goods can throw sufficient light on the character and the date of Yündolan C.

Metal Finds

The first group among the grave goods includes three silver phialae mesomphaloi. One is of the embossed type featuring eight almond-shaped bosses that have their tip toward the omphalos and alternate with large lotus flowers (M 1; Fig. 4a-b). Almost an exact parallel is known from the Rogozen Treasure (Fol 1988: no. 42) differing only in the *repoussé* head in the center. Both examples reflect Achaemenid influence in their sharp profiles and clear decorations (cf. Strong 1965: 76-77, 98-99). The Rogozen phiale has been directly connected to the Achaemenid art of the sixth – fifth centuries BC (Fol 1988: no. 42; cf. Abka'i-Khavari 1988: 104). However, neither the simplification of the ornament[4] nor the *repoussé* head are characteristic of Achaemenid phialae. In fact, close analogies of the *repoussé* head exist on several phialae in the Rogozen Treasure itself (Fol 1988: nos 101-103), none of which are products of the pure Achaemenid art of the sixth and fifth centuries BC but lie in its impact zone. Furthermore, the names Kotys and Argiske/Ergiske inscribed on Rogozen 42 are familiar from a number of silverware dated to the reign of Kotys in 383-359 BC (e.g. Archibald 1998: 260-263, 274, fig. 11.3; Fol 1988: nos 43-44, 46; Zournatzi 2000). With all these, Rogozen 42 and the Yündolan C phiale have to be anchored in the first half of the fourth century.

The two smaller phialae (M 2 and M 3; Fig. 5a-b) are not decorated. Due to the deformation resulting from high heat and humidity, it cannot be safely determined whether they were manufactured as a couple or not. But the proximity of their dimensions partly strengthens the first probability. Their analogies are observed among plain Kotys phialae (e.g. Abka'i-Khavari 1988: 102-105; Archibald 1998: 260-261, 274; Fol 1988: no. 31; Jacob et al. 2004: nos 237b, 251c), thereof helping assign the date to the first half of the fourth century BC.

The silver finds from Yündolan C comprise two fragmentary terminals. Both are modelled out of thin silver plaques in *repoussé* around a wooden core. One of them is in the form of a ram's head with a choker around the neck (M 5; Fig. 7). The other has vertical and horizontal grooves (M 6; Fig. 8). The terminals end in plain bands. In view of some smaller fragments of the same material likewise round in section, the existence of a short scepter like a baton terminating in a ram's head may be considered.

Among the metal objects in the tomb, there were three bronze vessels, all in strongly corroded and fragmented condition at present. Several fragments come from an ovoid situla with swinging handles that end in bud-like terminals (M 7; Fig. 9a-b). The decoration on the body consists of an inverted palmette and scroll pattern below the handle attachment rings on both sides. The scrolls emerge from handle rings and run at the base of the inverted palmette in uninterrupted spirals. This type of decoration is associated with the second type of ovoid situlae that originates in the fourth century BC (Barr-Sharrar 2000: 286-288; Bothmer 1984: 46-47; Pfrommer 1983: 252-253, 2163; Shefton 1985). Although the simplified pattern is also encountered on several examples and indicate a date in the middle of the century (Barr-Sharrar 2000: 287-298, figs 13 a-b, 14 a-b; Jacob et al. 2004: no. 269; Pfrommer 1987: 181-182 FK 46; Shefton 1985: 403), it should be added that the main spirals on the Yündolan C situla roll over in opposing directions, a feature as yet unparalleled through the series.

In addition to the situla, a bowl and a jug made of bronze were retrieved from the tomb. Neither the bowl nor the jug (M 9; Fig. 10a-b) offers a profile. Nonetheless, the resemblance of the bowl to the finds from Karakoç and Derveni B (Onurkan 1988: no. 34, fig. 6, pl. 18; Themelis and Touratsoglou 1997: 73 B25, pl. 77) on account of the dimensions and decoration can be noted.

The salvage excavation at Yündolan C revealed numerous fragments of a cuirass (M 11; Figs 12a-b, 13). The fragments have rectangular iron plaques fastened with leather strings. The leather lining and edging is also preserved in some parts. Although the exact findspot in the tomb is not recorded, the silver ornament (M 4; Fig. 6a-b) in the shape of a wing with incised feathers and rosettes may have been attached to the cuirass. The traces of rust on its surface are clearly transmitted from an iron object in the inventory, i.e., the cuirass and/or the weapons.

Compound cuirasses made out of leather and small metal plaques seem to have originated in the East, where they were also used by the Persians. Since the type provided ease of movement in addition to protection, it was later absorbed into Scythian and Greek military gear (Archibald 1998: 201, 255; Snodgrass 1967: 90-91). The actual finds that belong to such cuirasses are extremely rare in the Greek world and its periphery[5]. But their depictions occur on red-figure vases of the fifth century BC. These show that the plaques were brought together to form large rectangular parts that covered either the front and back or the sides of the corselet (Boardman 1989: 10, 38-39, figs 9, 80.1). Either model can be surmised for the cuirass in Yündolan C; though with the available data fine dating proves impossible. The cuirass fragments gain significance not only because of their rarity, but because they present evidence for the gender and the occupation of the deceased, namely as a warrior fighting in the front-lines.

Eight spearheads (M 12 - M 19; Fig. 14) and one blade (M 20; Fig. 15), all made of iron, accompany the cuirass. That one of the spearheads (M 16; Fig. 13) got fused to a cuirass fragment, can bear witness to the fact that the military gear was deposited together as a group. Due to the deterioration caused by fire and humidity, the weapons cannot be dealt with in detail.

Pottery

Of the two red-figure vases found in the tomb proper, the first is a bell-krater (P 1; Fig. 16a-c). It has a laurel wreath on the rim and a ground line of egg pattern with dots. The obverse shows a symposion scene with two men reclining on klinai. Between them stands a dressed female auletes wearing a sakkos. Her skin and some details are painted white. The palaestra scene on the reverse represents three men, all draped in himations. The symposion and palaestra scenes, popular in red-figure vase painting of the fourth century, reflect a hasty workmanship on the Yündolan C krater. This is evident particularly in the palaestra scene. Not only the figures are disproportionately drawn, but their limbs and clothing are schematized. The painter rendered details like the eyes and lips with a single brush stroke. Based on these stylistic features, it is possible to attribute the krater to the Black Thyrsos Painter or his workshop, active around 375-350 BC[6].

On the second red-figure find, which comprises the fragments of a kylix (P 3; Fig. 18a-b), a youth with a strigil as well as a standing figure can be distinguished. The style points to the Fat Boy Group, ca. 400 BC[7].

There were four black-glazed bowls in the Yündolan C inventory. The bowl P 4 has been restored in the museum (Fig. 19a-b). It features an outturned rim and bears stamped decoration with egg patterns and palmettes. Worth noting is the fact that a worn palmette stamp was employed. P 5 is a base fragment displaying careful execution in both the stamped egg pattern and palmettes and the rouletting (Fig. 20a-b). P6 is a small fragment with one stamped palmette (Fig. 21). Each of the above are attributed to separate hands on account of the difference in stamping, but all are assigned to 350-325 BC (Sparkes and Talcott 1970: 128-129; cf. Rotroff 1997: 157, 330, no. 867, pl. 72). P 7 consists of fragments that belong to an echinus bowl (Fig. 22). Due to the rouletting, it can be dated to 390/380 BC at the earliest (Sparkes and Talcott 1970: 30). But in the absence of other criteria, fine dating is not possible. The plain pottery at Yündolan C is limited to an askos (P 8; Fig. 23a-b). It is a typical representative of duck askoi that have a baggy body like an animal skin and an arched handle with a protuberance on the external attachment, consequently resembling a

duck's tail. Askoi of similar size and profile come from Olynthos and Athens, providing a date around 425-400 BC[8].

Two amphorae were disposed with the body. Although neither carries a stamp, one of them (M 9; Fig. 24) can securely be associated with Herakleia Pontika amphorae of 400-250 BC by means of its clay and profile (Kassab-Tezgör et al. 2003: no. 1). The second amphora (M 10; Fig. 25) approaches the Mende series particularly because of the emphasized shoulder. A close example in a private collection is placed in the second half of the fifth century BC (Kassab-Tezgör et al. 2003: no. 10). However, it might be logical to date the Yündolan find on the basis of the context rather than analogies.

CONCLUSION

Tumulus C at Yündolan exhibits local character in the horse burial as well as the hearths and the layers of ash. The phialae are probably also local, though the embossed find may have been manufactured in western Anatolia. The latter source can be surmised for the situla, too. On the other hand, Athenian imports are represented by the red-figure vases, the black-glazed wares, and the plain askos. Imports from Herakleia Pontika and possibly Mende are evinced by one find each. Noteworthy is the fact that the inventory contains an impressive number of import goods, among which Athenian pottery comes to the fore.

In terms of function, the grave goods from Yündolan C can be classified into three groups. The first group is the sympotic set composed of the phialae, krater, kylix and askos, supplemented by amphorae. The second group comprises water containers like the situla, bowl, and jug. The third group includes the military gear with the compound cuirass, blades, and spearheads, possibly accompanied by a baton. This classification demonstrates the compact character of the inventory and helps us to conclude that there was a single male occupant at Yündolan C. The compound cuirass, moreover, manifests that this person was a warrior fighting in the front-lines.

As mentioned above, the tomb itself does not help contribute much to the dating of Yündolan C. But the grave goods –foremost among them and in chronological order, the askos, kylix, phialae, krater, and bowls– place it somewhere around the middle of the fourth century BC. When compared with its unplundered contemporaries beneath southeastern tumuli in Thrace, namely the chamber tomb at Eriklice and the sarcophagus at Harekattepe[9]. Yündolan C becomes significant on account of its modest character that is already known from the "warrior" burials (Archibald 1998: 197-206, 247-251) in other parts of the region.

CATALOGUE

In the catalogue, M 1 - M 20 are metal finds and P1 - P 10 are pottery. Out of this assortment M 10 and P 2 were spotted in the pile, the rest came from the tomb. None has been published in detail beforehand. The publications at the end of each entry involve the analogies.

The following abbreviations are used in the catalogue: D. = diameter; H. = height; L. = length; W. = width; Est. = estimated; ba. = base; r. = rim, om. = omphalos. All inventory numbers (inv.) are as recorded in the Kırklareli Museum and all measurements are in centimeters. The measurements do not include the weight of the metal finds because of poor preservation.

M 1. Phiale, silver (inv. 1188; Fig. 4a-b).
D. r. 15.2, om. 2.4; H. 4.8, om. 0.6. Deformed, corroded, and highly fragile due to fire and humidity. Partially restored, some parts of rim and body missing.
Of embossed type featuring eight almond-shaped bosses alternating with large lotus flowers. Tips of bosses toward omphalos. Flowers with bulbous bottom and drop-shaped central leaf. Medians of bosses and flowers ridged.
Abka'i-Khavari 1988: 104; Fol 1988: no. 42 (sixth - fifth centuries BC).

M 2. Phiale, silver (inv. 1187; Fig. 5a-b).
D. r. 12.2, om. 2.3; H. 3.2, om. 0.6. Deformed, corroded, and brittle. Parts of rim and body missing.
Not decorated.
Abka'i-Khavari 1988: 102-105; Archibald 1998: 260-261, 274; Fol 1988: no. 31; Jacob et al. 2004: nos 237b, 251c (first half of the fourth century BC).

M 3. Phiale, silver (no inv. no.; Fig. 5a).
D. r. 12.4, om. 2.3; H. 2, om. 0.6. Deformed, corroded, brittle, and highly fragile. Parts of rim and body missing. Not decorated.
Abka'i-Khavari 1988: 102-105; Archibald 1998: 260-261, 274; Fol 1988: no. 31; Jacob et al. 2004: nos 237b, 251c (first half of the fourth century BC).

M 4 Ornament, fragmentary, silver (no inv. no.; Fig. 6a-b).
H. 2.6, L. 6. Corroded and fragile. Lead in alloy became manifest due to fire. Traces of rust on surface.
Fragment comprising a bird's right wing attached to trapezoidal element. Incised feathers and rosettes along bottom edge. May belong to compound cuirass **M 11**.

M 5. Terminal, silver (no inv. no.; Fig. 7).
D. 2.5, L. 5.5. Two joining parts slightly disengaged. Lead in alloy became manifest due to fire. Brittle and very fragile. Small parts missing from edge.
Terminal worked in two parts in the shape of ram's head bordered by thick plain band. Head modelled in *repoussé.* Naturalistic features, choker with beading around neck. Remains of wooden core inside.

M 6. Terminal, silver (no inv. no.; Fig. 8).
H. 2.3, L. 4. Lead in alloy became manifest due to fire. Brittle and fragile.
Two vertically joining parts of a cylindrical terminal. Vertical grooves bordered with horizontal grooves and plain band.

M 7. Situla, fragmentary, bronze (no inv. no.; Fig. 9a-b).
Est. D. r. 18, ba. 11. Thirteen non-joining fragments of rim, handle zone, foot, and handles. Strongly corroded.
Partial profile indicative of ovoid shape. Body cast apparently with subsequent hammering on lower parts. Ring foot, rim, and pair of swinging handles separately cast and attached to body. Ring foot bordered with two grooves. Handles rectangular in section, rounded toward tip with bud-like terminals. Handle attachments in shape of rings rising on top of rim with small lotus flower in between. Scrolls emerging from handle rings and running in opposite directions to base of inverted palmette in uninterrupted spirals. Simplified version of the second type paralleled in mid-fourth century.
Barr-Sharrar 2000: 286-289, figs 13a-b, 14a-b; Bothmer 1984: 46-47; Jacob et al. 2004: no. 269; Pfrommer 1983: 252-253, 263; Pfrommer 1987: 181-182 FK 46; Shefton 1985: esp. 403.

M 8. Bowl, fragmentary, bronze (no inv. no.).
Est. D. r. 21. Six non-joining fragments of rim. Strongly corroded.
Does not offer profile. Inturned broad brim. Plain band below rim restrained by grooves. Onurkan 1988: no. 34, fig. 6, pl. 18; Themelis and Touratsoglou 1997: 73 B25, pl. 77 (analogous in decoration).

M 9. Jug, fragmentary, bronze (no inv. no.; Fig. 10a-b).
Est. D. ba. 9.5. Non-joining fragments of body, foot, and handle. Strongly corroded.
Does not offer profile.
Ring foot. Handle with round section. Heart-shaped leaf with symmetrical tendrils on lower attachment. Edges and median of leaf incised.

M 10. Element of horse gear, bronze (no inv. no.; Fig. 11).
L. 5.7, W. 3.2. Quite well-preserved with some corrosion on surface.
Horseshoe-shaped, round in section. Schematically rendered duck's head on curved part.
Themelis and Touratsoglou 1997: 85 B83, pl. 96

M 11. Compound cuirass, fragmentary, iron and leather (no inv. no.; Figs 12a-b, 13).
Corroded and fragmented.
Numerous fragments made of rectangular iron plaques (W. 1.3) fastened with leather strings. Leather lining and edging preserved in some parts. Apparently the plaques were brought together to form large rectangular parts that covered either the front and back or the sides of the corselet. Archibald 1998: 201, 204, 255.

M 12. Spearhead, fragmentary, iron (inv. 1189).
L. 37.7, W. 5.2. Strongly corroded.
Leaf-shaped with marked midrib.

M 13. Spearhead, fragmentary, iron (no inv. no.; Fig. 14).
L. 30.3, W. 3.7. Two non-joining fragments. Strongly corroded.
Leaf-shaped with marked midrib. Remnants of wooden shaft in socket.

M 14. Spearhead, fragmentary, iron (no inv. no.; Fig. 14).
L. 27, W. 4.4. Two non-joining fragments. Strongly corroded.
Marked midrib.

M 15. Spearhead, fragmentary, iron (no inv. no.).
L. 22.6, W. 3.3. Strongly corroded.
Marked midrib.

M. 16. Spearhead, fragmentary, iron (no inv. no.; Figs 13-14).
L. 18.2, W. 4.4. Fused to a fragment of cuirass. Strongly corroded.

M 17. Spearhead, fragmentary, iron (no inv. no.; Fig. 14).

L. 12, W. 2.5. Strongly corroded.

M 18. Spearhead, fragmentary, iron (no inv. no.; Fig. 14).
L. 15.3, W. 4.7. Strongly corroded.

M 19. Spearhead, socket fragment, iron (no inv. no.; Fig. 14).
L. 14.7, W. 3.8. Strongly corroded.

M 20. Blade, fragmentary, iron. (no inv. no.; Fig. 15)
L. 31.8, W. 4.2. Four non-joining fragments. Strongly corroded.

P 1. Bell-krater, red-figure (inv. 1135; Fig. 16a-c).
D. r. 24.8, ba. 11.2; H. 24.8. Partially restored with some parts missing. Fabric reddish yellow (5 YR 6/6), without inclusions, well-fired. Smooth, hard surface.
Shape relatively smaller and slimmer compared to early bell-kraters, body tapering strongly to a stem, and molded foot, all pointing to the fourth-century type.
Laurel wreath to left on rim; ground line of egg pattern with dots; reserved band at the juncture of handles to the body. No decoration below handles.
Obverse: Symposion scene with two men reclining on klinai and female auletes standing between (Fig. 16a). Man on left kline rests left arm on pillow. Right arm outstretched holding diadem. Mantle over legs, right leg bent at knee. Head turned behind to auletes. Reserved line around hair, which is painted entirely. Diadem with dots. Female auletes in profile to right. Wearing sakkos and black dotted mantle. Second symposiast draped and posed like the first, but looking forward. Two pillows on kline. Horizontal beams of klinai have wave pattern with dots. Table on left is of three-legged type, second table painted entirely black without details. Vine branch with three bunches of grapes runs over the heads of all three figures. Disproportionately drawn overall. Anatomical inaccuracy on arms and hands. Schematized details. Iris rendered with single vertical line, eyelids with two parallel lines (Fig. 16c). White: first diadem, dots on second diadem, second pair of pillows, auletes' skin, aulos, dots on sakkos, bunches of grapes.
Reverse: Palaestra scene with three men standing (Fig. 16b). Two on the left face right, the third in opposite direction. All entirely draped in himation with schematized folds. Exaggerated volume of central figure's drapery in the part tossed back noteworthy. Facial features executed as on obverse. Sponge (?) hanging above.
The shape, the proportions, the decorative scheme, and the use of white on a bell-krater in Copenhagen attributed to the Black Thrysos Painter by Beazley are very similar. The ground line features a meander pattern. On the obverse of the Copenhagen krater, there are three men, one bearded, reclining on klinai and a female auletes. Despite schematization, the details on this krater show less hasty execution, which is apparent especially on the drapery. The same can be said of the palaestra scene on the reverse of the Copenhagen krater. Here the heads of the figures are smaller and the treatment of the hemlines is unalike. The scene includes a basket and an aryballos hanging above as well as a column between the second and third figures. Another analogy is supplied by a fragment from the Athenian Agora dated to 375-350 BC. On this find the feet and drapery are similarly rendered. On the basis of these analogies it is possible to associate the Yündolan C krater with the Black Thyrsos Painter or his workshop around 375-350 BC.
Beazley 1963: 878-880; Johansen 1963: 272, pl. 355.2; Moore 1997, no. 496, pl. 54.

P 2. Lekanis, fragmentary, red-figure (no inv. no.; Fig. 17a-b).
D. r. bowl 20, lid 23. Fabric reddish yellow (5 YR 7/6), without inclusions, misfired. Smooth, hard surface.
Numerous fragments, some joining. Egg pattern around lid and knob.
Seated women: a) To left, wearing sakkos, body in ¾ view, arms raised, chest in left hand with a sash hanging down. Right hand extending for another chest with sash held by a figure which has not been preserved on left. Basket in front. Behind her, pair of large wings, evidently of an Eros. b) To left with head in profile, left arm resting on back of chair. Behind her, mirror (?) and sash. Also, hemline apparently belonging to a woman.
All figures relate to wedding scenes depicted on lekanides in 400-350 BC. The condition makes stylistic analysis difficult, but it is clear that the figures approach those of the Otchet Group in 380-350 BC.
Boardman 1989: 193, figs 397-398; Moore 1997: 283-285, nos 1093, 1095-1117, pl. 104; Rutherfurd 1973: 435-439.

P 3. Kylix, fragmentary, red-figure (no inv. no.; Fig. 18a-b).
D. ba. 6.8. Five non-joining fragments of rim, base, and handle. Fabric reddish yellow (5 YR 6/7), without inclusions, well-fired. Smooth, hard surface.
Palmettes next to handles. Below rim, youth to left, holding strigil in the manner of the Fat Boy Group; in tondo, standing figure to right.
Beazley 1963: 1484-1494.

P 4. Bowl, black-glazed (inv. 1186; Fig. 19a-b).
D. r. 25.5-26, ba. 12.2; H. 8. Partially restored with some parts missing. Fabric reddish yellow (5 YR 6/6), without inclusions, well-fired. Smooth, hard surface. Glaze with metallic luster.
High foot, straight-profiled shallow body, outturned rim. Reserved band below rim and at junction of body and

foot. At tondo, two incised circles constricting irregular egg pattern. Band of palmettes connected with incised segments. Palmette stamp worn. On underside, alternating reserved and painted areas of diverse width. Related to the "Classical Type" of 350-325 BC.
Sparkes and Talcott 1970: 128-129 (350-325 BC); cf. Rotroff 1997: 157, 330, no. 867, pl. 72 (325-300 BC).

P 5. Bowl, base fragments, black-glazed (no inv. no.; Fig. 20a-b).
D. ba. 9. H. 2.4. Joining fragments mended. Fabric reddish yellow (5 YR 6/6), without inclusions, well-fired. Smooth hard surface. Glazed on both sides.
Flaring foot with groove on underside. At tondo, two incised circles constricting egg pattern. Band of nine-leaved palmettes connected with incised segments. Four bands of rouletting. All decoration carefully executed. The rouletting gives a t.p.q. of 390-380 BC and the groove pushes the date to 350-325 BC.
Sparkes and Talcott 1970: 30.

P 6. Bowl, fragment, black-glazed (no inv. no.; Fig. 21).
D. r. 20, H. 5.1. Fabric reddish yellow (7.5 YR 6/6), without inclusions, well-fired. Smooth, hard surface. Glazed throughout.
Outturned rim. A single palmette of nine leaves stamped carefully in tondo surviving.

P 7. Echinus bowl, rim fragment, black-glazed (no inv. no.; Fig. 22).
D. r. 13, H. 3.2. Fabric reddish yellow (5 YR 7/6), without inclusions, well-fired. Smooth, hard surface.
Rouletting inside gives t.p.q. of 390-380 BC.
Sparkes and Talcott 1970: 30.

P 8. Askos, plain (inv. 1184; Fig. 23a-b).
D. r. 8.5, ba. 13.1; H. 25.5. Fragments partially restored, some parts missing. Traces of fire on surface. Fabric reddish yellow (7.5 YR 7/6) with small inclusions of mica and sand, well-fired. Smooth, medium hard surface.
Duck askos with baggy body like an animal skin. Arched handle joining top of body with a protuberance on the external attachment, resembling a duck's tail. Pair of horizontally incised lines on body.
Robinson 1933: P42, P43, pl. 28; Robinson 1950: nos 448-453, 455, pls 170-171 (up to ca. 350 BC); Sparkes and Talcott 1970: no. 1734, pl. 80, fig. 14 (ca. 425-400 BC).

P 9. Amphora, Herakleia Pontika (inv. 1182; Fig. 24).
D. r. 11.5, ba. 8; H. 73. Traces of fire on surface. Fabric micaceous reddish yellow (5 YR 6/8), well-fired. Smooth, hard surface.
Long neck tapering upwards; outturned, well-defined rim. Finger stamp at the bottom of each handle.
Kassab-Tezgör et al. 2003: 169-170, no. 1 (400-250 BC).

P 10. Amphora, Mende ? (inv. 1188; Fig. 25).
D. r. 8.5, ba. 4.8; H. 65. Traces of fire on surface. Fabric micaceous yellowish red (5 YR 5/8), well-fired. Smooth, hard surface.
Well-defined shoulder, relatively short neck. No stamp of any kind.
Kassab-Tezgör et al. 2003: 173-174, no. 10 (fifth century BC).

NOTES

[1] We would like to thank Dr. A. Özdizbay and the staff of Kırklareli Museum. Our research was supported by the Scientific Research Projects Coordination Unit of Istanbul University (Project no. 265/23082004).

[2] For similar positioning of the tomb under the tumulus, see, Archibald 1998: 52, 155-156, 160-161; Delemen 2004: 16; Delemen 2006: 253; Filow 1934: 82; Işın and Özdoğan 2000: 335-336; Mansel 1940: 91, 94, 108.

[3] On *in-situ* cremation in Thrace, see Archibald 1998: 52-54, 64, 71, 153, 157; Filow 1934: 236; Öztürk 1998: 383.

[4] Bosses alternating with lotus flowers form a more intricate pattern on Achaemenid phialae; see, Abka'i-Khavari 1988: 92, 95-96, 100-103, 106-109, esp. 111, and e.g. F1c2, F1c10, F1c11, F1c15, F2c3, F2c6, F2c9, T2c10; Curtis 2000: fig. 62; Zournatzi 2000: fig. 11. Also see, Archibald 1998: 179-180, 265-266, figs 7.2-7.3, 11.3; Özgen and Öztürk 1996: nos 38-41; Pfrommer 1987: 43-53, 152-155, KTK 7, KTK 14, KTK 18, KaB A 12, KaB T 16.

[5] For fragmentary finds discovered in Thrace, see Archibald 1998: 204, 255 (with bibliography).

[6] For vases of the Black Thyrsos Painter and his workshop discovered in Thrace, see Reho 1990: 50-51, nos 62, 137-144, 436.

[7] For vases of the Fat Boy Group found in Thrace, see Reho 1990: 50-51, nos 150, 153-155, 161-166, 221-222, 426-428, 443, 469.

[8] For smaller, Hellenistic examples, see Rotroff 1997: 171.

[9] For bibliography on these two tumuli, see the first page of the present article.

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Fig. 1 - Kırklareli and vicinity. (Yılmaz 2000: 227)

Fig. 2 - Tumulus C at Yündolan near Kırklareli

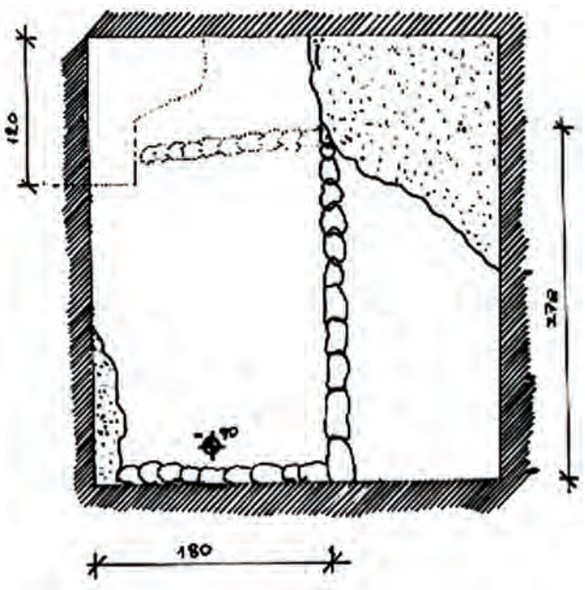

Fig. 3 - Cist grave, tumulus C at Yündolan (Archive, Kırklareli Museum)

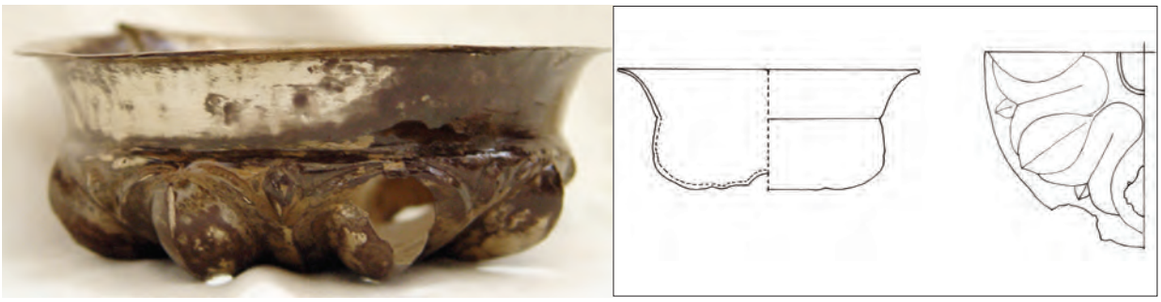

Fig. 4- a-b. M 1 silver phiale

Fig. 5- a. M 2 – M 3 silver phialae

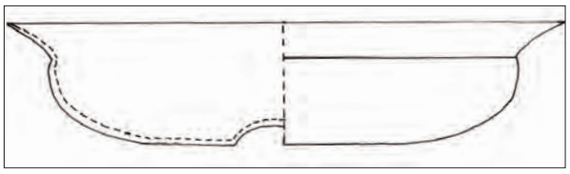

Fig. 5- b. M 2 silver phiale

Fig. 6- a-b. M 4 silver ornament

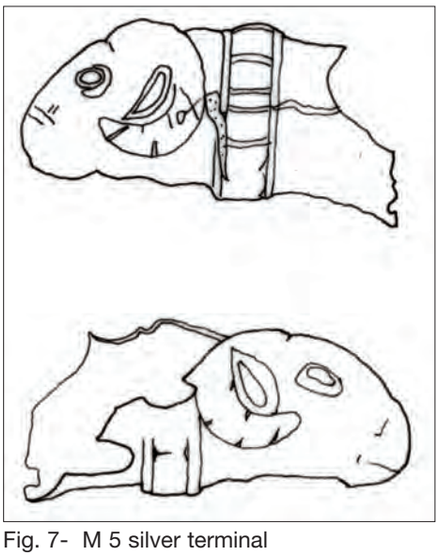

Fig. 7- M 5 silver terminal

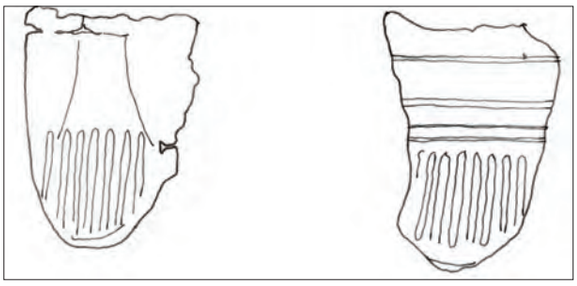

Fig. 8- M 6 silver terminal

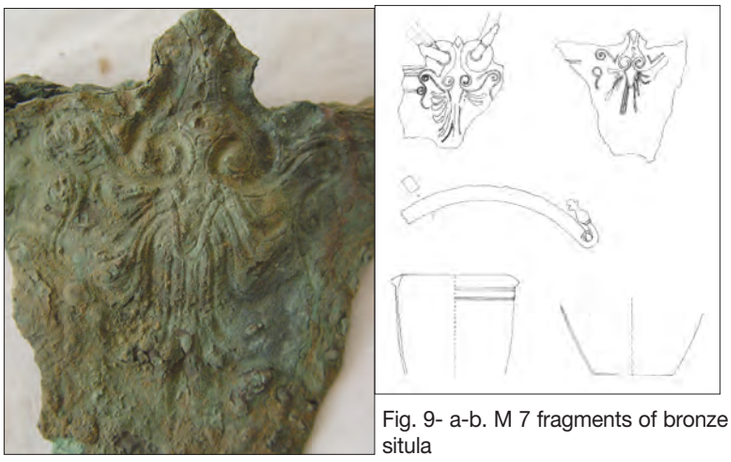

Fig. 9- a-b. M 7 fragments of bronze situla

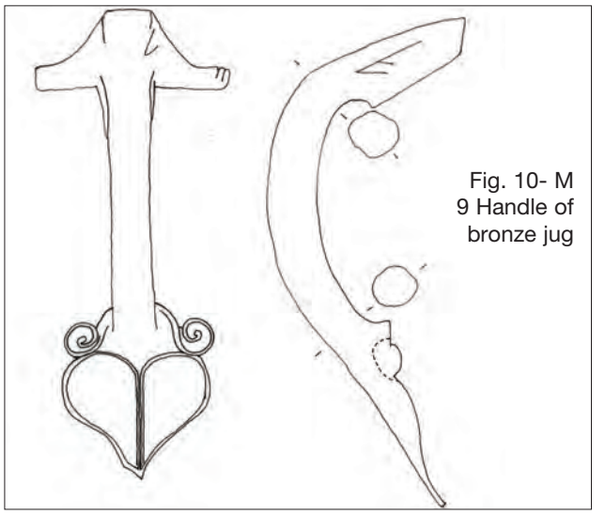

Fig. 10- M 9 Handle of bronze jug

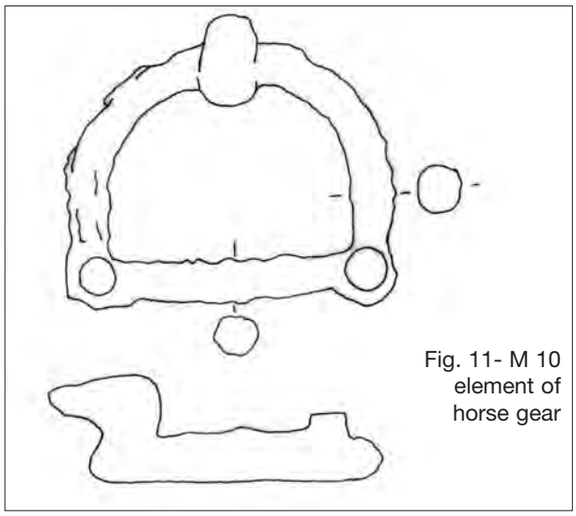

Fig. 11- M 10 element of horse gear

Fig. 12- a-c. M 11 fragment of compound cuirass with remnants of leather

Fig. 13- Fragment of compound cuirass (M 11) fused to spearhead (M 16)

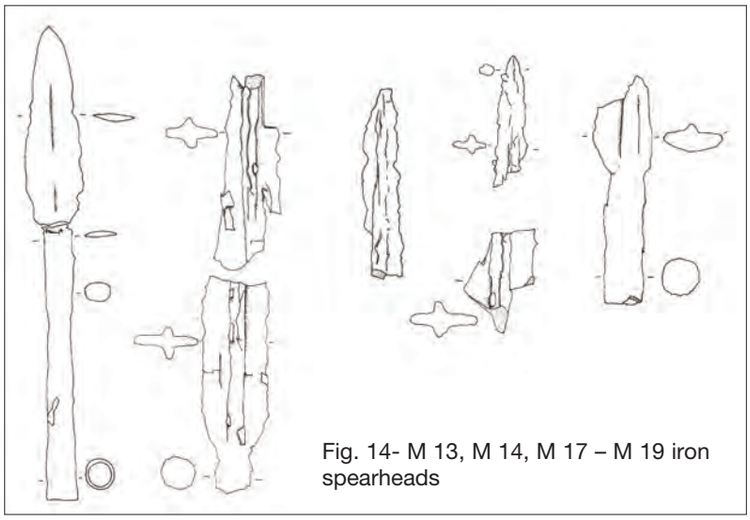

Fig. 14- M 13, M 14, M 17 – M 19 iron spearheads

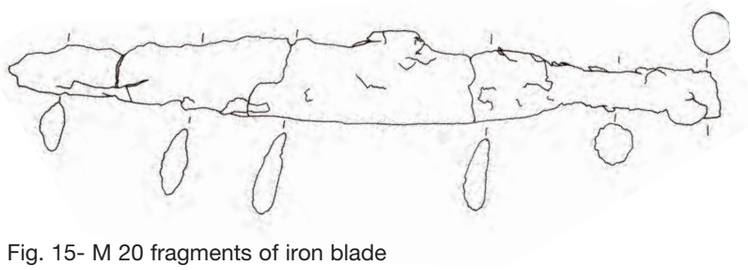

Fig. 15- M 20 fragments of iron blade

Fig. 16- a-c. P 1 red-figure bell krater

Fig. 17- a-b. P 2 fragments of red-figure lekanis

Fig. 18- a-b. P 3 fragments of red-figure kylix

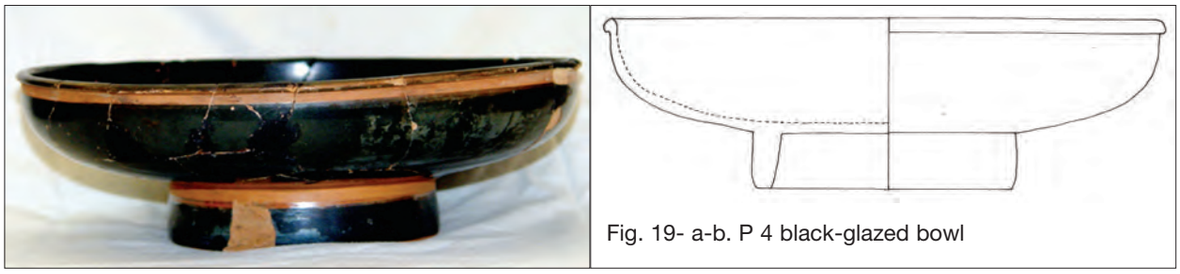

Fig. 19- a-b. P 4 black-glazed bowl

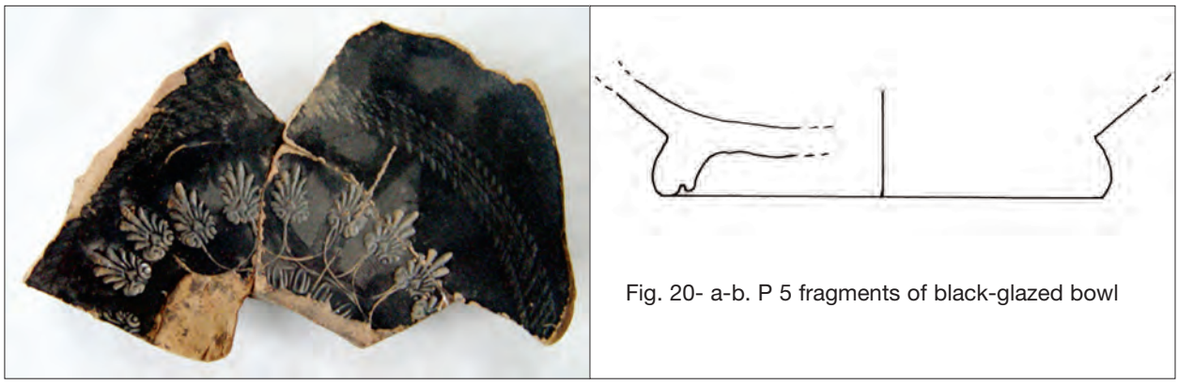

Fig. 20- a-b. P 5 fragments of black-glazed bowl

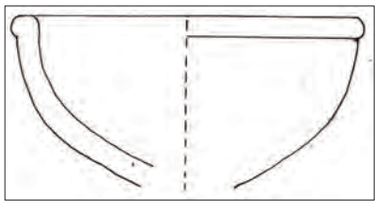

Fig. 21- P 6 fragment of black-glazed bowl

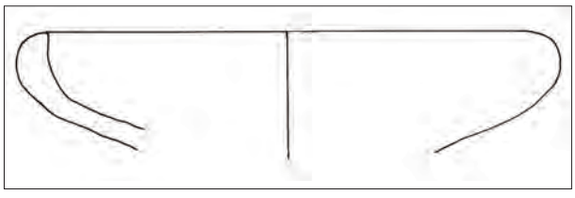

Fig. 22- P 7 fragment of black-glazed echinus bowl

Fig. 23- a-b. P8 askos

Fig. 24- P 9 amphora, Herakleia Pontika

Fig. 25- P 10 amphora, Mende (?)

THE DEĞİRMENTEPE TEMPLE AT SMYRNA / İZMİR

İZMİR/SMYRNA DEĞİRMENTEPE TAPINAĞI

Murat KILIÇ - Onur GÜLBAY

Keywords: Smyrna, Zeus Akraeus temple, temple of Hadrian, Değirmentepe

Anahtar Sözcükler: Smyrna, Zeus Akraios tapınağı, Hadrianus tapınağı, Değirmentepe

ABSTRACT

Intensive building activities and unplanned urban growth that gained pace by the 20th century has almost totally devastated what had remained of ancient Smyrna, once reputed as the pearly of Roman province of Asia. Likewise, the temenos of the monumental temple, once located at the Değirmentepe district of İzmir was no exception to this destruction. As late as 19th century the location of the temple was marked by the remains of its foundations and scattered fragments of marble; now they are replaced by modern tall apartment buildings. Accordingly, the present paper is based on the assessment of ancient literary sources, descriptions of ancient travelers and archaeological comparisons.

There is no certainty as to whom the temple, conveniently named as the Değirmentepe temple was dedicated to; while some claimed that it was dedicated to Asklepios, others suggested Zeus Akraios or Hadrianus. The paper considers that the temple was initially dedicated to Zeus Akraios, and that later, when the city gained the second title of neokoros was transferred to belong to the cult of Hadrian. The paper will also concern in bringing together all available information to discern the architectural features and the layout of its plan.

ÖZET

Roma Dönemi'nde Asia'nın incisi olarak anılan Smyrna antik kentine ait kalıntılar, özellikle 20. yüzyıldan itibaren başlayan çarpık yapılaşma ve yağmalama sonucunda neredeyse tümüyle yok olmuş durumdadır. İzmir'de Değirmentepe Mevkii'nde yer alan çok büyük boyuttaki bir tapınağa ait temenos da bu olumsuz süreçten etkilenmiştir. 19. yüzyılın ilk çeyreğinde yalnızca temel kalıntıları ile çevresine saçılmış mermer yapı parçalarının görülebildiği tapınağın yerinde günümüzde modern yapılar yükselmektedir. Bu nedenle çalışma, filolojik ve epigrafik kanıtlar ile seyyahların tanımlamaları ve arkeolojik karşılaştırmalar üzerine temellendirilmiştir.

Değirmentepe Tapınağı olarak adlandırılan tapınak, kimi araştırmacılara göre Asklepios, kimilerine göre Zeus Akraios, kimilerine göre de Hadrianus adına ithaf edilmiştir. Bu makale, Değirmentepe Tapınağı'nın ilk olarak Zeus Akraios'a adandığını, ikincil olarak kentin II. neokoros unvanını almasından sonraki tarihsel süreçte Hadrianus kültü ile ilişkilendirilerek yeni bir tapınımın geliştirildiği olasılığını irdelemektedir. Aynı zamanda mimari veriler doğrultusunda karşılaştırmalar yapılarak tapınağın olası planı hakkında öneride bulunulmaktadır.

INTRODUCTION

At present nothing remains of the ancient temple that was known to be located at Değirmentepe[1] in Smyrna; however, as late as the first quarter of the 19th century, the location of the temple could be discerned from the remnants of its foundation walls and scattered fragments of marble. Even though the information given by various travelers and the descriptions in ancient literary sources made it possible to determine its plan and various other details, there was no certainty as to whom the temple was dedicated. On this issue, three alternative suggestions were made: the first view, based on a mention of the temple by Pausanias (Pausanias: 7.5.9) suggested that the temple was dedicated to Aesclepius. The second view favoured the idea that it was a temple of Zeus Acraeus; while the third argued in support of the idea that it may have belonged to a temple constructed in honor of Hadrian, who gave to the city its second title of neokoros The temple's location, its architectural features, and the deity to whom it may have been dedicated are discussed in this paper in the light of information acquired up to the present.

THE SITE OF DEĞİRMENTEPE

The Site of Değirmentepe and the Observations of Researchers Concerning the Temple Remains

In relating the beauties of Smyrna Aristides mentions an avenue[2] and an attractive road[3] that passed from west to east from one temple to another and from one hilltop to another. According to Naumann and Kantar this road mentioned by Aristides is the ancient road[4] (Fig. 6) which in our day passes immediately in front of the Öğretmen Evi (Teachers' House) and which is remarkable for the beauty of its paving, while one of the hills may be Değirmentepe, and one of the temples, that of Zeus Acraeus (Naumann and Kantar 1950: 72).

Bürchner states that to the west of Mt. Pagus and separated from it by a narrow pass the lowest hilltop, 84 m high, was called Değirmentepe and that this hill may be the one that was called Coryphe[5] in ancient times (Bürchner 1929: 755-756). At the same time this writer adds in his notes that in modern Smyrna Değirmentepe was still and frequently called Pagus. Calder observes that the name Coryphe appears in a passage of Pausanias[6] and that according to the description there given it fits the northern slope of Değirmentepe, betweeen the mountain and the sea. However Calder also keeps in mind the possibility that the description Pausanias gives as *κορυφὴ ὄρουω* may also mean "the summit of Pagus" (Calder 1906: 95). Prokesch relates that Fauvel, reasoning from such clues as its proximity to the sea and the fact that it was located at the city limits, states that there existed a Temple of Aesclepius on Değirmentepe (Prokesch von Osten 1834: 62-63; Prokesch von Osten 1836: 522). On the other hand Texier interpreted as the remains of a Temple of Aesclepius a long foundation built of large stones and some marble masses which were uncovered as a result of excavations carried out in 1836 on the west slope of Mt. Pagus (Texier 2002: 142). Walter indicates that, as in Miletus and Pergamum, it is probable that a Temple of Aesclepius would be situated opposite a city gate and states that such a temple should be looked for around the Jewish Cemetery and Değirmentepe (Walter 1924: 232).

Arundell[7] reported the statements of Chishull and Dallaway and his thinking was later followed by Bürchner. Arundell and Bürchner were unable to reconcile Pausanias' description of the location of the Temple of Aesclepius with the Değirmentepe site, where there were such striking structural remains[8]. Nonetheless Bürchner insists it is a very attractive idea that a temple dedicated to Zeus Acraeus should be sited upon a magnificent height. To his mind the fact that each of the structural elements is of large dimensions is exactly in accordance with the splendor of the god (Bürchner 1929: 756).

In contrast to other researchers Fontrier mentions the existence of water channels consisting of large blocks bearing various marks among ruins on the west slope of Mt. Pagus; these ruins had been turned into a vineyard by constructing a tower in their center. Fontrier asks the question whether this could be the location of the Zeus Acraeus Temple (Fontrier 1907: 114), probably basing his reasoning on the water depots on Mt. Pagus and the water channels that he identified there; and, proceeding to an evaluation from this, he placed the site of the Temple of

Zeus Acraeus at the center of a triangle formed by the stadium, the theatre, and Kadifekale (Fig. 1). Explanations made in this connection are, first of all, inadequate on the subject of whether the name Coryphe definitely does or does not apply to Değirmentepe. For this reason the hill's modern name will be used when referring to the location of the temple. Secondly, the possibility of relating the ruins on Değirmentepe to the Temple of Aesclepius is a remote one. At the very least one would expect a nearby and constant source of water in a sacred area dedicated to Aesclepius, as is the case in other examples. Within the city limits of Smyrna only the springs on Mt. Pagus, the Baths of Agamemnon in Balçova, and the spring called Halkapınar in Bornova possess this characteristic, while the water of Değirmentepe was brought artificially to the hill via an aqueduct from Akpınar (Petzl 1987: no. 680, 681a-b; Weber 1899: 174).

The Temple of Aesclepius at Smyrna was probably under construction in the year 152 AD and by 165 AD the building work was still not finished (Comfort 1931: 313-314; Gurlitt 1890: 1, 59; Pausanias XVI; Waddington 1872: 213, 246), whereas by the year 79/80 AD the Değirmentepe Temple, dedicated to Zeus Acraeus, had already been standing for years (see: note 14). When one considers that Prokesch dated the ruins he observed to the Hadrianic or the Antonine period (Prokesch von Osten 1834: 62-63; Prokesch von Osten 1836: 522) and when one takes into account the proportions of the temple (Fig. 9) the probability that the sanctuary located on Değirmentepe was a Temple of Aesclepius becomes even weaker.

To Whom was the Değirmentepe Temple Dedicated?

The city coins of Smyrna show two different temples which might be related to Zeus Acraeus and Hadrian. On the reverse of some coins dated to the reign of Domitian (Fig. 2), there is no recognizable cult symbol, while on their obverse one sees the facade of a temple having eight unfluted columns and six steps (Klose 1987: taf. 6, R 61-63; Pick 1904: figs 20, 20a, 21). On the pediment of this temple, between two standing figures, is probably a seated Zeus[9]. The roof of this striking temple shows a resemblance to the Temple of Jupiter on coins from the time of Vespasian and Titus, and it is supposed that it pictures a temple built in Smyrna according to the Roman model. Pick's thought was that the deity to whom this temple was dedicated could only be Zeus (Klose 1987: 38-39; Klose 1996: 56-58; Pick 1904: 20).

In the reign of Hadrian, thanks to the interventions of Polemon[10], Smyrna acquired the title of neokoros for the second time (for the travel routes of Hadrian and the neokoros temples, see: Figs 7-9). According to Keil (Keil 1908: 108), Petzl (Petzl 1987: no. 697), Halfmann (Halfmann 1986: 191) and Schorndorfer (Schorndorfer 1999: 175) this title was awarded to Smyrna in 123 AD. But according to Klose the most probable datings are within the year 124 AD, either on Hadrian's birthday, 24 January, or on that of Augustus, 23 September, or on the new year of the Province of Asia, in the month of January (Klose 1987: 21). As for the erection of the statue of Hadrian, this probably happened in the year 129 AD when the cult of the emperor was linked to that of Olympian Zeus (Keil 1950: 57).

Immediately after the second neokoros title the citizens of the city of Smyrna expressed their gratitude by saluting Hadrian as "Olympian Zeus". They honored him with titles like *Ktistes*, *Soter,* "Founder of the City", "Its Saviour" and even "Saviour of Mankind". From this time on new games were held: the "*Hadrianeia Olympia*". Likewise, an additional title that the city began to use on its coinage was "*Hadriana Smyrna*" (Ascough 2005: 50; Birley 1998: 170; Cadoux 2003: 333; Dmitriev 2005: 251; Krause 1838: 224-227; Philostratus 1.25.1 (531); Price 2004: 420). The construction of a temple for Hadrian required the appointment of religious functionaries such as *theologoi* and *hymnodoi.* (see: note 16). The gratitude of the city was further expressed by its taking of the title *Hadriane* (Ascough 2005: 50; Burrell 2004: 43; Dmitriev 2005: 251; Magie 1950: 615).

On the reverse of city coins struck during the reign of Hadrian (Fig. 3) the facade of a hexastyle temple is seen (Klose 1987: 21; taf. 33, R 1-13). Although it is supposed that these coins show the second state temple, neither an emperor nor a deity is shown in it. Further, in the legend the word, , which first appears on coins struck for Caracalla, is absent (Pick 1904: 17). According to Klose it is more reasonable to identify this temple neither as a coin legend nor as a cult image, but rather as the representation of an imperial temple (Klose 1987: 21). At the same

time this researcher draws attention to the fact that on another variety of Smyrnaean coins from the reign of Hadrian the enthroned Zeus on the reverse, through the way he is depicted or through the epithet Acraeus, indicates the emperor (Klose 1996: 58). This last example suggests that beginning from the year 123/124 AD, when the city acquired the second neokoros title, the two cults may have been combined. As Boatwright also makes clear, throughout the reign of Hadrian and even before Hadrian's restoration of the Temple of Olympian Zeus, the *Olympieion*, in Athens, the emperor was united with Zeus *Olympios* (Boatwright 2003: 118). In Smyrna also Hadrian was identified with Zeus and the emperor was worshipped as the new Zeus, as was the case in many other cities (Klose 1996: 58). In the temples of Athens, Cyzicus, and Smyrna the imperial cult of Hadrian and the earlier existing local cult of Zeus were joined (Boatwright 2003: 160). In a later period a similar situation would be experienced with Smyrna's third neokoros title[11].

In the reign of Caracalla, on one group of the coins struck while Charidemos was *strategos* (211-214 AD) on the pediments of each of three temples having four columns on the façades, one sees the letters ΤΙ, ΑΔ and ΡΩ (Fig. 4)[12]. According to the order in which they are mentioned these temples characterize Tiberius, Hadrian, and Rome. Here the statues of the two standing and spear-holding emperors and the enthroned cult statue of Rome have all been placed within the temples to which they belong. When one thinks of the possibility that the coin's symbol of the temple belonging to Hadrian may represent the Değirmentepe Temple, the conclusion is that this sanctuary was dedicated not to Zeus, but to the emperor himself. Yet it is necessary to take a wider view of the matter. Following Smyrna's destruction by an earthquake in 178 AD, the restoration program undertaken by the Roman Empire ensured that the city was returned to its former glory, and Aristides, Marcus Aurelius, and Commodus were saluted as the new founders of the city (Aelius Aristides XX.5, XXI. 8, 12; Hemer 1989: 63; Thomas 2007: 141). In the Değirmentepe Temple, where joint worship of Zeus Acraeus and Hadrian had been performed, the direct worship of the emperor himself perhaps became one of the means by which the city expressed its gratitude towards Rome after these building activities.

On this point Burrell tries to prove that in Smyrna the cults of Zeus Acraeus and Hadrian were not joined but that, on the contrary, the enormous temples built in Smyrna, Cyzicus, and Ephesus were dedicated directly to the worship of Hadrian (Burrell 2003: 31-50). Burrell also mentions that the Zeus Acraeus Temple existed nearly forty-five years before Hadrian gave the neokoros title to the city and also that an inscription[13] concerning the repair of an aqueduct leading to the Zeus Acraeus Temple was found on the acropolis of Smyrna, Mt. Pagus (Burrell 2003: 42). However Burrell omitted an inscription which Petzl called '681 a' and which mentions the same repair work. '681 a' is the inscription that Weber found and it is *in situ*. Weber saw two inscriptions[14] on a wall belonging to an aqueduct leading to the Temple of Zeus, and showed the point at which the inscriptions were located as being a few hundred steps south of the temple area, to the left of an avenue leading to the area above Göztepe (Figs 5-6). According to the description given, the location of the remains of the aqueduct, and of the above-mentioned two inscriptions that Weber saw, is today on the southwest of the Değirmentepe hill in the area between Halil Rıfat Paşa Caddesi (Halil Rifat Pasha Street), the Dr. Selahattin Akçiçek Kültür ve Sanat Merkezi (the Dr. Selahattin Akçiçek Culture and Art Center) and the Kredi Yurtlar Kurumu (Student Loan and Housing Institution) (Fig. 6). Such being the case, one should have no doubt that the aqueduct in question led to Değirmentepe and that on the height of the hill there was a Temple of Zeus Acraeus.

The most important philological evidence linking the Zeus Acraeus Temple situated on Değirmentepe with the cult of Hadrian is the information given by Philostratus. He mentions that a temple located on a promontory was build with money donated by Hadrian: "*…in one day he lavished ten million drachmae on the city, and with this the corn-market was built, a gymnasium which was the most magnificent of all those in Asia, and a temple that can be seen from afar, the one on the promontory that seems to challenge Mimas*"[15]. The location which is mentioned in connection with the temple coincides with the position of Değirmentepe. However, Philostratus, like Tacitus in his description of Smyrna's first neokoros title (26 AD), is not clear on the subject of whether this temple may have been dedicated to Hadrian (Tacitus 4.56).

Between lines 33-42 of the inscription that commemorates Smyrna's second neokoros title one sees the donations made by Hadrian[16]. Here, besides the second neokoros title, the inscription records a festival which it may be possible to relate to a new temple, and also the appointment of functionaries relevant to the imperial cult. Yet no mention is made of a neokoros Temple or of a Temple of Hadrian.

The most important archaeological data linking the Değirmentepe Temple with the Emperor Hadrian are the dimensions of the building. The *Olympieions* in Athens (Gruben 1996: 226, fig. 173) and Ephesus (Jones 1993: 149-152; Karwiese 1995: 114-115; Scherrer 1999: 137-144) and the temples of Hadrian in Cyzicus (Barattolo 1995: 57-108) and Tarsus (Baydur and Seçkin 2001: fig. 27) provide comparative data on this subject (see: Figs 9-10). Further, one observes that, upon a temple architrave fragment which Fontrier found in the Jewish Cemetery there was an inscription[17] whose letters were carved 14 cm high. This letter height is the same as that of an inscription[18] dedicated to Hadrian on an architrave fragment found at Claros. If one keeps in mind the fact that a number of the building stones of the Değirmentepe Temple were used in the Jewish Cemetery, this suggests that the fragment which Fontrier found in Smyrna might be related to the Değirmentepe Temple.

The Temple's Architectural Features

On old maps of Izmir the area where the temple was located is traceable from the second half of the 18th century up to the end of the 19th (Anonymous 2006: 98-99, 102-105, 108-109). According to these maps the temple measured 50 x 100 m. The height of the columns exceeded 15 m; their upper diameter was 1,5 m and their lower one 1,8 m[19]. On the plan of Storari and Saad (Fig. 11) one observes that the temple has an east-west orientation and is a peripteral structure within a temenos. Yet in the 17th century engravings of Izmir nothing but the remains of windmills are visible on Değirmentepe (Fig. 13).

Prokesch mentions a foundation structure composed of granite[20] blocks and traces of column bases, together with scattered marble fragments upon a rectangular area belonging to this structure (Prokesch von Osten 1834: 62). According to him the temple was built in the Corinthian order and had 10 columns on the short and 23 columns on the long sides. The columns' lower diameter of 1,8 m is the same as in the *Olympieion* in Athens. This researcher states that the temple is datable to the time of Hadrian or the Antonines and that the only temple in Greece which exceeds this one in size is the *Olympieion* (Prokesch von Osten 1834: 62-63; Prokesch von Osten 1836: 522).

About a century later when Walter visited Değirmentepe he encountered only a single column fragment on the temple site; he noted as: "*In Prokesch von Osten's time the remains of the foundation structure were preserved to the height of the stylobate; these were used in the construction of a barracks*[21] *and a prison. So much so that even the building's location is no longer clear. Only a broken piece of an Ionic fluted column having the same dimensions as those in the Olympieion in Athens was nearby, standing alone on a corner of the avenue. Of course we shortly afterwards realized that this temple was not that of Aesclepius but rather a neokoros temple built for Hadrian*" (Walter 1924: 232).

Mehmet Taşlıalan and Thomas Drew-Bear mention that the Temple of Zeus located on Değirmentepe could be traced underneath the street network of a neighborhood built for Balkan immigrants in the 19th century (Taşlıalan and Drew-Bear 2006: 318). Didier Laroche states that the Değirmentepe temple must have been located on the city block immediately behind today's Kredi Yurtlar Kurumu (Student Loan and Housing Institution) on the Varyant street (see: Figs 6, 11-12). In fact the location of the east-west oriented temple that is seen on old maps really does coincide with this area and measurements taken on the city block yielded dimensions of approximately 50 x 100 m.

CONCLUSION

In the 1st century AD the Değirmentepe Temple, dedicated to Zeus Acraeus, stood in all its splendor. So important was its *temenos* for Smyrna that it had been felt necessary to construct an aqueduct from Akpınar to this sacred precinct (see: note 14).

Around 123/124 AD, following Smyrna's second neokoros title, it must have been thought that the most fitting place for the combined cult of Hadrian

and Zeus was the temple at Değirmentepe. The emperor and the city showed their respect and devotion towards Zeus, glorified with the epithet Acraeus, by preserving his memory on coins. The coins of Smyrna[22] which show the portrait of Hadrian on the obverse and a depiction of Zeus Acraeus on the reverse must be an indication of this. Another coin type which also seems to support this view, depicts the portrait of Hadrian on the obverse and, on the reverse, a six-columned temple containing no cult statue (Klose 1987: 21, taf. 33, R 1-13). The fact that the cult statue of the emperor was not depicted inside the temple may have stemmed from the devotion and respect felt towards Zeus Acraeus, or it may have been that the image of the temple itself represented the cult of the god. In either case these two coin types suggest that after the second neokoros title the names of Hadrian and Zeus Acraeus evoked the same concept, and both were worshipped in the same temple.

In 178 AD Smyrna was demolished by a huge earthquake[23]. The famous rhetorician, Aelius Aristides, wrote a letter to the emperor describing the destruction the earthquake had caused in Smyrna and the necessity of giving urgent assistance to the city. (Aelius Aristides XIX; Philostratus 2.9.2). The city's damaged buildings were extensively rebuilt by Marcus Aurelius, probably in conformity with the original ones (Philostratus 2.9.2). In this respect the best archaeological data are supplied by the Agora of Smyrna, where one observes that reinforcing measures were carried out by making additions to arches restored after the earthquake. Doubtless the temple on Değirmentepe was included in this program of restoration. The helping hand which the Roman Empire extended to the people of Smyrna and the Empire's provision of support for such a building program must have elicited various ways of expressing the city's gratitude to Rome. Could one of these be the abandonment of joint worship in the temple at Değirmentepe after the restoration, and its replacement with the direct worship of Hadrian himself? Contemplating on this line, it is plaucible to imply that in the last quarter of the 2nd or at the beginning of the 3rd century AD, Hadrian rose to the position of sole honoree of the Değirmentepe temple, where previously joint worship had been performed. The coin type of the Caracalla period must be indicative of this (see: note 12). Of the three temple depictions on the coin, in the one belonging to Hadrian the emperor's armored cult statue is to be seen as the sole dedicatee of the temple. If one keeps in mind this last view and attempts an evaluation, the historical development of cult at the Değirmentepe temple is revealed as follows:

1. In the last quarter of the 1st century AD the temple dedicated to Zeus Acraeus at Değirmentepe had already been standing for years.
2. When the city received the title of neokoros for the second time in 123/124 AD the Zeus Acraeus temple was probably designated as the new neokoros temple.
3. In the ensuing period the common worship of Zeus Acraeus and Hadrian developed.
4. After the restoration program which followed the earthquake of 178 AD probably Hadrian alone was worshipped in the temple at Değirmentepe.

Due to the modern city's having been built over it no remains of this temple are accessible today. Like the other three great neokoros temples (Ephesus, Cyzicus, Tarsus) it has been completely plundered. For this reason it appears impossible to make a detailed interpretation of the temple whose location can yet be surmised through epigraphical data and the sketches of former travellers. However, if it is necessary to make a guess that goes beyond the data of Prokesch, the planning applied to the other Hadrianic period neokoros temples in Anatola indicates that the Değirmentepe temple was pseudodipteral in plan, of the Corinthian order, and had eight columns on the facades. (Gülbay 2009: 88).

When one keeps in mind the historical process and the architectural evolution of the Değirmentepe temple, without a doubt the two names to which the temple could be dedicated are Zeus Acraeus and Hadrian. Thus the Değirmentepe temple may be thought of as the Zeus Acraeus/Hadrian Temple. Yet for the moment one should probably avoid a definite naming, using the term Değirmentepe Temple and awaiting future archaeological and philological confirmation.

NOTES

1 Above the present day Bahribaba Park, which was formerly a Jewish cemetery.

2 It is understood that this avenue was the one which stretched from the temple of Zeus Acraeus to the Temple of the Mother Goddess Sipylene; the latter is generally believed to have been located on the hill called Tepecik. See: Calder 1906: 104.

3 According to Ramsay the ancient road which came from Ephesus, unlike the railway or the modern road, did not pass over the eastern side of Mt. Pagus on its way north, but rather over the western face. The reason for this was that the ancient city was concentrated more on the western slope of Pagus than is the modern one. See: Aelius Aristides 17, 10; Cadoux 2003: 199; Ramsay 1881: 51.

4 The ancient road is on the same axis as the modern Eşrefpaşa Avenue.

5 Bilge Umar places Coryphe between Izmir and Balçova See: Umar 1993: 470.

6 "In my time the Smyrnaeans made a sanctuary of Aesclepius between Mount Coryphe and a sea into which no water flows." See: Pausanias 7.5.9.

7 Arundell states that Chishull locates the temple near the Baths of Diana, while Dallaway considers that a temple discovered near the Baths of Agamemnon conforms to the location of the Temple of Aesclepius as described by Pausanias.

8 Bürchner 1929: 755; Arundell 1834: 410; Wilson mentions that the large building located on Mt. Coryphe, the hill above the Old Jewish Cemetery, was identified as a temple of Jupiter or Aesclepius. See: Wilson 1895: 74.

9 The semi-autonomous and low value copper coins of Smyrna generally bear the inscriptions ZƐYC AKPAIOC, ZEVC AKPAIOC or ZƐVC AKPAIOC and the head of the god. Sometimes they have the inscription AKPAIOC or AKPAIOΣ and depict Nike and a seated figure holding a sceptre. See: Cook 1925: 873; Klose 1996: 56-58; at Magnesia on the Maeander and at Smyrna Zeus Acraeus was worshipped as the god of high places, that is, as the "Mountain-God". See: Şahin 2001: 11; for a statue of Zeus brought to France from Izmir around 1680, see: Cadoux 2003: 265.

10 Polemon was born at Laodiceia in Phrygia; he came to the schools of rhetoric in Smyrna as a youth. For details, see: Philostratus 1.25 (531-544).

11 No special temple was constructed for Caracalla, giver of the third neokoros title to Smyrna. Instead the already existing Temple of Rome was chosen for the cult of Caracalla. On this subject, see: Ascough 2005: 50; Burrell 2004: 51-53, 326; Cadoux 2003: 375; Doğer 2006: 121-122; Klose 1987: 22; Pick 1904: 22.

12 The depiction of three temples on the coins identifies the city as having received three times the title of neokoros (Klose 1987: 22, taf 46 R 11, 47 R 12, 13, 24-26; Klose 1996: 61, taf. 3, 9; Pick 1904: 22, fig. 24).

13 Petzl 1987: teil II, 1, 681b. It is not clear whether or not the inscription was found in situ.

14 The first of these inscriptions, dated to around 79/80 AD, bears the text: "From the aqueduct leading to (the temple of) Zeus Acraeus. - Under the rule of Proconsul Ulpius Trajan; from the periods when the Marci Junii – father and son – were strategos one after the other." See: Petzl 1987: teil II, 1, 680; Weber 1899: 174. The second inscription, dated to 110/111 AD, indicates that repairs were done forty years after the building of the facility and contains the phrase: "The Trajan Aqueduct repaired by Proconsul Baebius Tullus". See: Petzl 1987: teil II, 1, 681a-b; Weber 1899: 174.

15 Philostratus 1.25.2 (532). Mimas, which was mentioned by Philostratus, is the highest mountain of the peninsula on the south side of Karaburun, center of a sub-district of the Izmir province. See: Umar 1993: 573.

16 "…thanks to Antonius Polemon, for everything we have received from our lord Hadrian: in accordance with the decision of the Senate we have become neokoros a second time, a sacred competition, a workshop, theologians, hymnodes, 1.500.000 drachmas." See: Aytaçlar 2007: 120-121; Boatwright 2003: 157; Petzl 1987: teil II, 1, 697.

17 For the inscription ∑ε] βαστω Καισα [ρt on the architrave fragment, see: Fontrier 1898: 369; Fontrier 1900: 250; Petzl 1987: teil II, 1, 617A.

18 The height of the letters in the first line of this inscription has been shown to be 14,5 cm. See: Ferrary 2000: 373.

19 Meyer 2008: 335, 338. Storari, while describing the temple as being a rectangular structure constructed of white marble and having two colonnades and double porticoes, also gives the upper diameter of two of the columns as 1,5 m. See: Storari 1857: 35-36.

20 Andesite according to Bürchner's description. See: Bürchner 1929: 755.

21 Bürchner states that large quantities of the

temple's building stone were used in the construction of the Ottoman Barracks (the Yellow Barracks), built before 1825 and located south of the medieval S. Pietro Castle (Soğan Castle). See: Bürchner 1929: 755.

[22] For the city coins of the 2nd and 3rd centuries AD upon which Zeus Acraeus is depicted, see: Klose 1987: taf. 7-9.

[23] According to Cadoux the probable dates for the earthquake are the end of 177 or the beginning of 178, p. 361. See also: Naumann and Kantar 1950: note I, 107.

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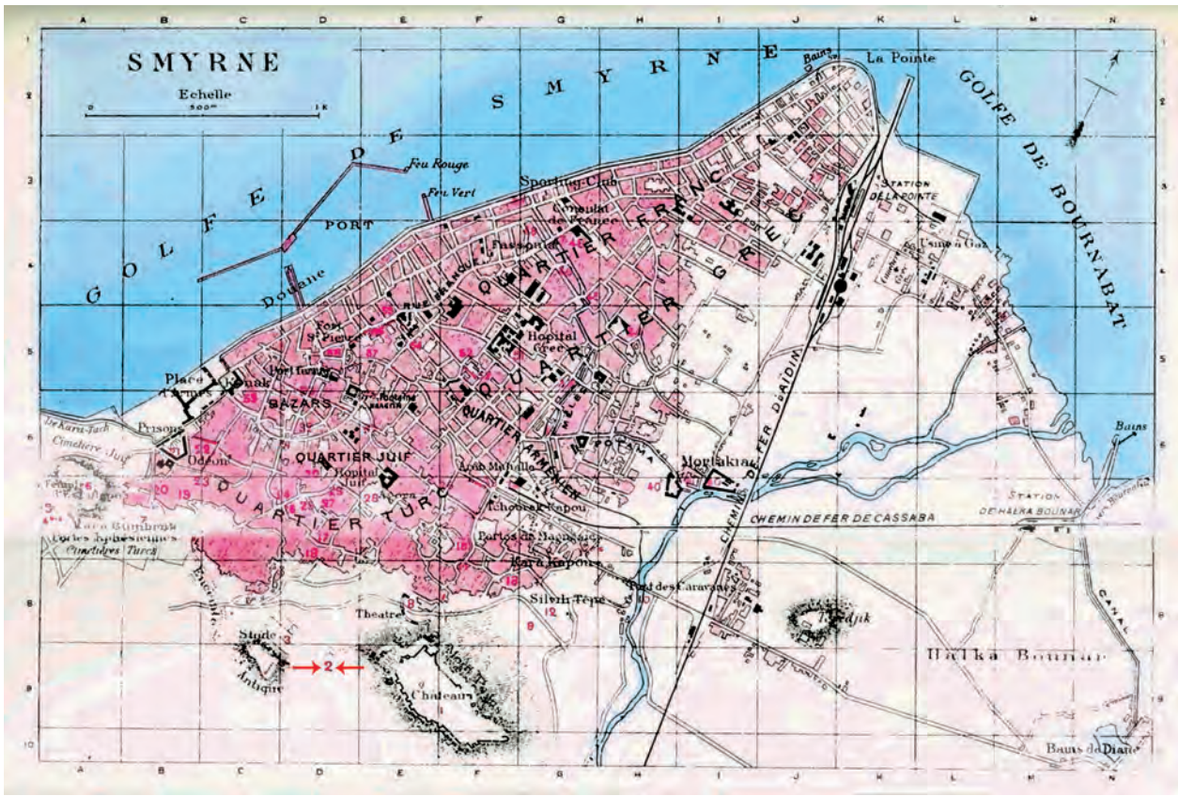

Fig. 1- The plan of Smyrna, the Zeus Akraios Temple (Fontrier 1907: pl. VIII).

Fig. 2- Smyrna coins of Domitian, Rev: the temple with eight columns (Klose 1987: taf. 6 R 61-63; Pick 1904: figs 20, 20a, 21).

Fig. 3- Smyrna coins of Hadrian, Rev: the temple with six columns (Klose 1987: taf. 33 R 2-4).

Fig. 4- Smyrna coin of Caracalla (Rev), (Klose 1987: taf. 47 R 12; Klose 1996: taf. 3, 9; Pick 1904: fig. 24).

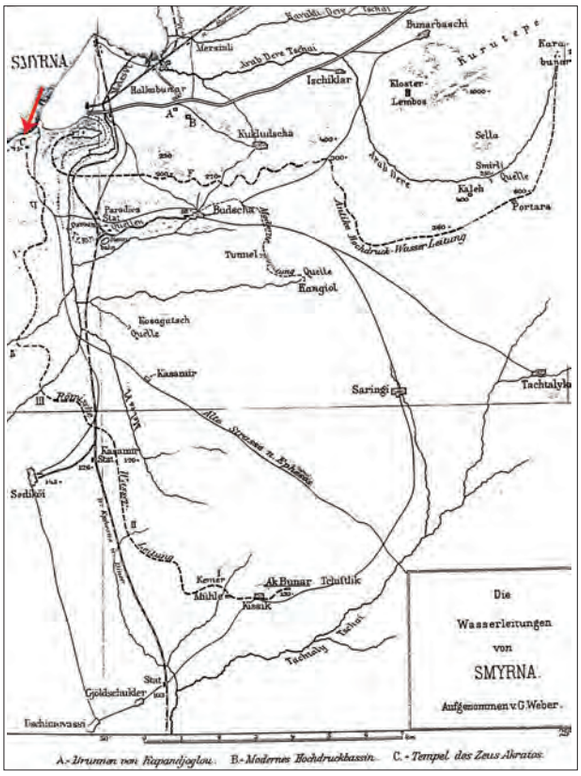

Fig. 5- The temenos of Zeus Akraios Temple and the area where the inscription was found (Weber 1899: I, taf. 2).

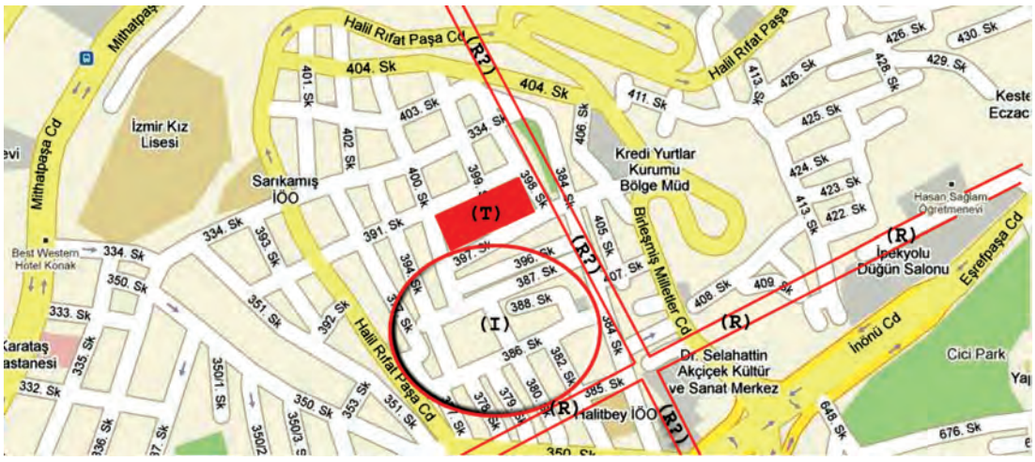

Fig. 6- The location of Değirmentepe Temple in Izmir. I: The area where Weber found the inscription about the aqueduct. R: the ancient road T: Değirmentepe Temple.

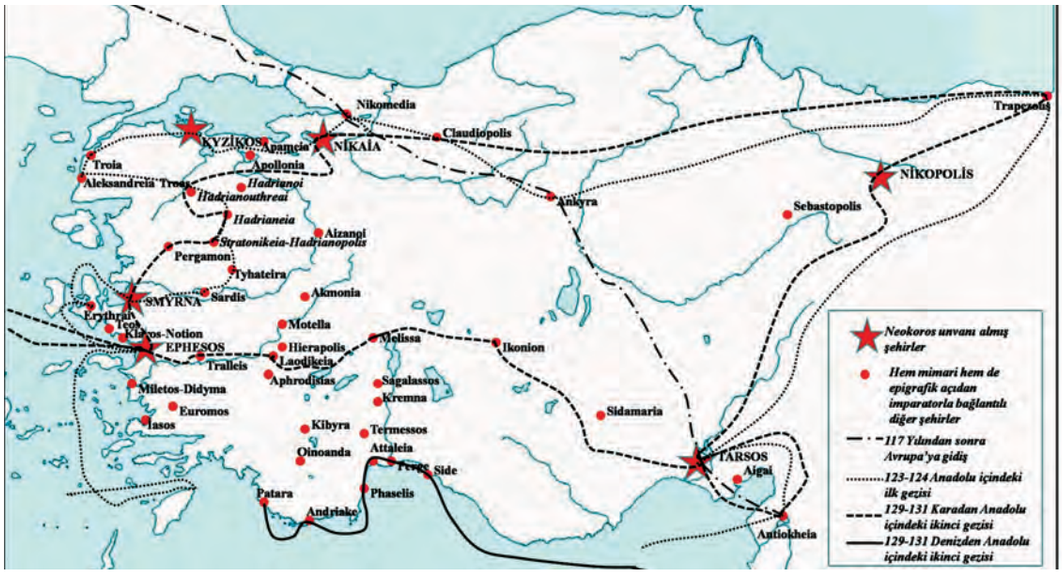

Fig. 7- The travel route of Emperor Hadrian and Neokoros Temples (Gülbay 2009: fig. 2)

Neokoros Temples		
Smyrna	Zeus - Hadrian	123/124
Ephesus	Zeus - Hadrian	130/2
Cyzicus	Zeus - Hadrian	123/124
Tarsus	Zeus? -Hadrian	128–130/134
Nicaea	Rome and Julius Caesar -Hadrian	123/124
Nicopolis	? - Hadrian	123/124 or 129/131

Fig. 8- Neokoros Temples (Gülbay 2009: tab. 3).

Orders	Proportions
Pyknostylos	1.5
Systylos	2
Eustylos	2.25
Diastylos	3
Araeostylos	3.5

Temples	Ratio	Orders	Proportions
Cyzicus	2.1	*Eustylos*	2.4
Smyrna	2	*Diastylos*	2.7
Ephesus	1.8	*Pyknostylos*	1.6
Tarsus	2.1	*Eustylos*	2.2

Fig. 9- The space ratios of the front columns according to Vitruvius and Neokoros Temples (Gülbay 2009: tab. 5).

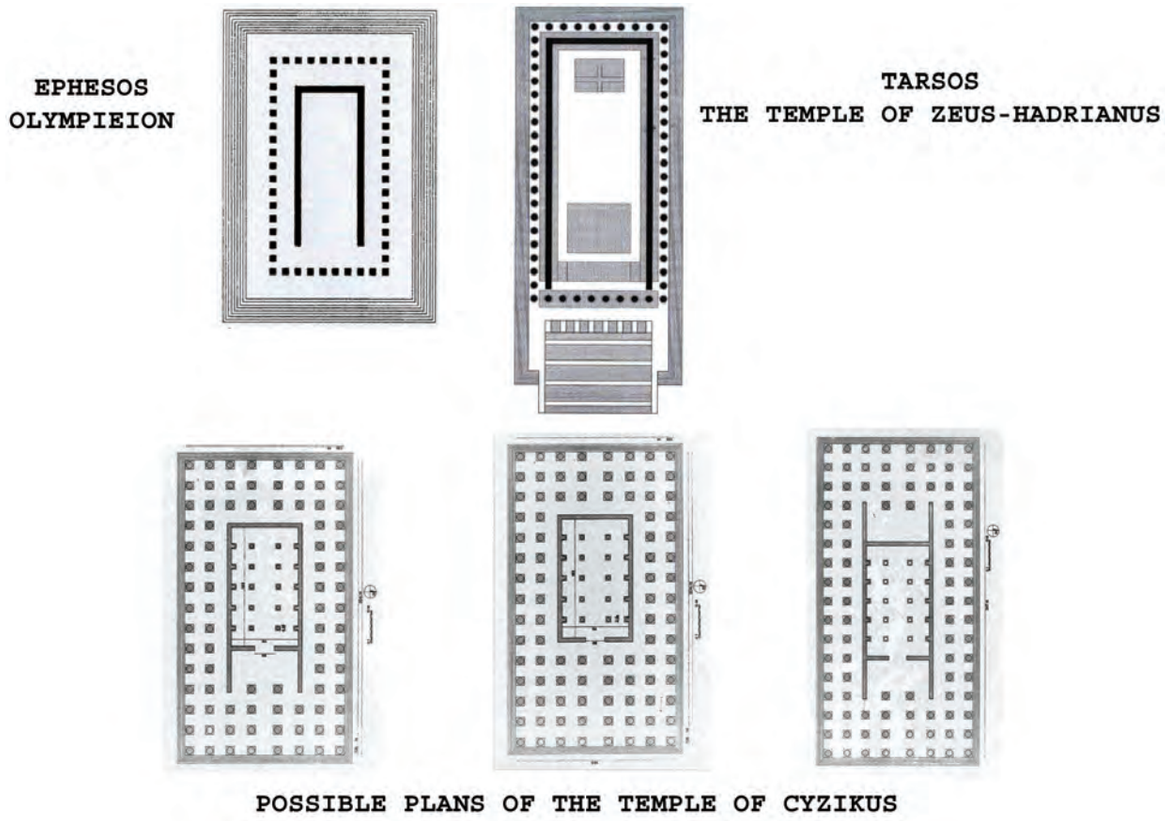

Fig. 10- The probable plans of Ephesus, Tarsus and Cyzicus Temples (for Olympieion see Karwiese 1995: abb. 151-153; for Tarsus see Baydur and Seçkin 2001: fig. 27; for different views on this temple, see Dinsmoor 1975: 283; Burrell 2004: 33; for Cyzicus see Barattolo 1995: figs 2-4.

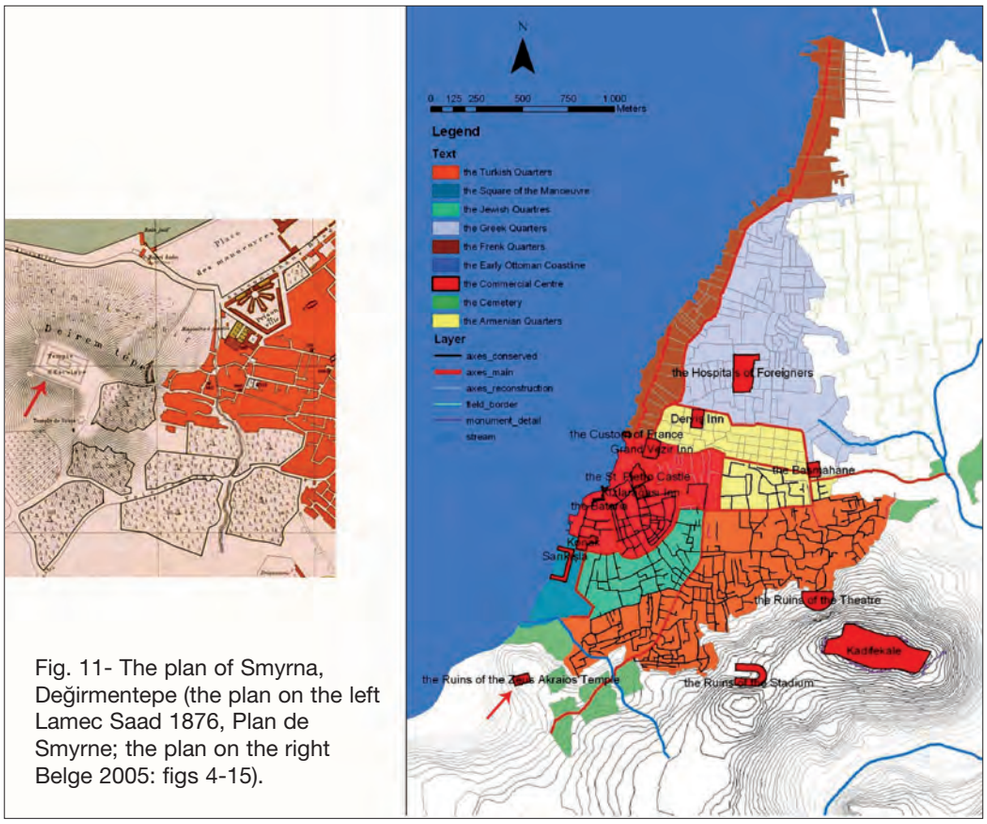

Fig. 11- The plan of Smyrna, Değirmentepe (the plan on the left Lamec Saad 1876, Plan de Smyrne; the plan on the right Belge 2005: figs 4-15).

Fig. 12- The position of Değirmentepe Temple (the plan: Didier Laroche)

Fig. 13- The Engraving of Izmir: The position of the Değirmentepe in 1685, (Izmir Fransız Kültür Merkezi, 2006, 71b)

URFA ÇEVRESİNDEKİ KERPİÇ KUBBELİ YAPILARIN ARKEOLOJİK AÇIDAN DEĞERLENDİRİLMESİ

EVALUATING THE MUD-BRICK DOMED STRUCTURES IN THE URFA REGION FROM AN ARCHAEOLOGICAL PERSPECTIVE

Zeynep ERES

Keywords: Mud-brick, domed structures, ethnoarchaeology, vernacular architecture, mound formation, Urfa, Suruç

Anahtar Sözcükler: Kerpiç, kubbeli yapı, etnoarkeoloji, kırsal mimarlık, höyükleşme, Urfa, Suruç

ABSTRACT

The custom of constructing false-domed mud-brick structures is a living tradition in a considerably large area from northern Syria to Urfa; in the past, such structures have attracted the attention of travellers exploring the region and are depicted in the travel books. Since the beginning of the 20th century, these domed mud-brick structures have been considered as a model in evaluating building remains with circular ground plans exposed through archaeological excavations carried out in the same region. Even though some scholars have considered domed houses as a continuing tradition from the Neolithic Period to the present, an overall assessment of the archaeological evidence indicates that besides the Pre-Pottery Neolithic and Halaf Period, these occur rather randomly with no indication of continuity. This study, in the framework of the Turkish Academy of Sciences TÜBA-TÜKSEK Project on the domed domestic architecture of the Suruç Plain, has revealed that the history of the present rural false-domed buildings is not very remote in time and that further archaeological investigation is needed in order to clarify their origins. Even though there have been numerous references to these buildings, no thorough documentation has previously been made.

The primary objective of this paper is to present a detailed assessment of the domed mud-brick structures of the Suruç region and to question the validity of correlating archaeological evidence with present day rural architecture. The domed building tradition in mud-brick, observed in Suruç, is studied in its technical, architectural, and structural features in order to define the ways it can be used as data in archaeological studies. During our study, a special emphasis has been given to documenting those structures that are partially or totally in ruin, so as to document the transformation process of these "modern" houses into "archaeological" deposits, rapidly forming mounds of their own.

ÖZET

Suriye'nin kuzeyinden Urfa'ya uzanan bir coğrafyada yer alan kerpiç bindirme kubbeli evler, ilginç biçimleniş özellikleriyle 17. yüzyıldan beri bölgede dolaşan bazı gezginlerin ilgisini çekmiş, seyahatnamelerde betimlenmiştir.

20. yüzyılın başlarında da arkeolojik kazılarla ortaya çıkartılan yuvarlak planlı yapı kalıntılarının değerlendirilmesinde kubbeli evlerin bir model olabileceği düşüncesiyle, söz konusu yapı sistemini bu bağlamda sorgulayan bilimsel araştırmalar başlamıştır. Her ne kadar birçok araştırmacı tarafından kubbeli evler tarihsel süreklilik içinde Neolitik dönemden günümüze uzanan geniş bir zaman diliminde değerlendirilmişse de, bazı yeni çalışmalar bu konuda soru işaretleri ortaya koymaktadır. TÜBA Kültür Envanteri projesi kapsamında Suruç Ovası kubbeli ev mimarisi üzerine yapılan incelemelerde de, günümüz kırsal yapılarının tarihsel geçmişinin çok eski olmadığı ve bunların kökleri üzerine de ayrıca arkeolojik çalışmaların gerektiği ortaya konmuştur. Bu makalede öncelikle arkeolojik kalıntılar ve günümüz köy yapıları arasında etnoarkeolojik bakış açısıyla kurulan ilişkiler sorgulanacak, ardından Suruç'ta saptanan kerpiç bindirme kubbeli yapı geleneği tarihsel süreklilik bağlamının ötesinde teknik mimari ve yapısal özellikleriyle incelenerek, arkeolojik çalışmalarda nasıl bir veri olarak kullanılabileceği tanımlanacaktır. Suruç kırsal mimarlık envanteri sırasında karşılaşılan çok sayıda harap ya da bütünüyle yıkılmış durumdaki yapı da, bu yapı sistemiyle üretilen evlerin nasıl bir arkeolojik kalıntıya dönüştüğünü belgeleyen örnekler olarak özellikle irdelenmiştir.

TARİHSEL SÜREKLİLİK BAĞLAMINDA YUVARLAK PLANLI YAPI KAVRAMINA GENEL BİR BAKIŞ

Harran'da bulunan kubbeli yapılar, kendine özgü masalsı kimlikleriyle eskiden beri gezginlerin, araştırmacıların ilgisini çekmiş, çeşitli yayınlarda konusu geçmiştir[1]. Bunun yanı sıra bu yapılar, zaman zaman da bilimsel kaygılarla değerlendirilmiştir. Özellikle arkeolojik kalıntıların yorumlanmasında Harran evleri önemli bir yer tutmuştur[2]. 1907 yılında H. Bulle, Yunanistan'daki Tunç Çağı yerleşmesi Orchomenos'da ortaya çıkan yuvarlak planlı yapıların restitüsyonu için, bölgeye çok uzak ve farklı bir coğrafi ortama sahip olan Harran'da çekilmiş bir fotoğraftan yararlanmıştır (Bulle 1907: lev. XI²)[3] (Res. 1).

Klasik mimaride kullanılan "tholos" terimiyle de anılan ve Akdeniz çevresinden Mezopotamya'ya, Anadolu'nun doğusundan Transkafkasya'ya çok büyük bir coğrafi alan içinde görülen yuvarlak yapı geleneği, bazı bölgelerde Neolitik dönemden Son Tunç Çağı'na kadar geniş bir zaman diliminde varlığını sürdürmüştür. Her ne kadar Neolitik dönemde yuvarlak plandan dörtgen plana geçiş, mimari bir gelişim süreci olarak çok sayıda arkeolojik kazı ile ortaya konmuşsa da (Özdoğan 1996), bu ilerleme sonrasında da yuvarlak biçimli yapılar tarihin çeşitli dönemlerinde bazı bölgelerde var olmuştur. 1,5-2 m'den 20 m'ye varan çapta farklı ölçekler; tek hacimli ya da bölümlenmiş çok odalı mekan kurgusu; ahşap dalörgü, kerpiç ya da taş mimari; barınma, depolama ya da kült amaçlı kullanım gibi çok farklı türleri ve dolayısıyla kendi içinde biçimsel zenginliği olan bu mimarinin[4] kazılarda çoğunlukla temel düzleminde saptanması, üst biçimleniş ile ilgili çözümü zor soruları her zaman için arkeolojinin gündeminde tutmuştur.

Oldukça eski tarihlerde kazılmış olan Khirokitia, yuvarlak planlı mimari konusunda önemli bir yer tutar. Çok sayıda yan yana bulunan ve dış çapı 9 m'yi bulan taş temeller için, 1960'lı yıllarda hazırlanan bir dünya kültür atlasında Harran evlerine benzeyen, ancak hemen zeminden eğrisel başlayarak kubbe formu oluşturan bir üst yapı önerilmiştir[5] (Piggott 1962: 44-45). 1997 yılında kazıyı yürüten arkeologlarca hazırlanan bir yayında ise, arkeolojik bulgulara dayanılarak bu yapıların kubbeli olmadığı vurgulanmış ve silindirik duvarlı düz damlı bir restitüsyon önerisi geliştirilmiştir (Le Brun 1997: 18-19).

Harran evlerinin tarihsel sürekliliği ve bu çerçevede yine aynı bölgede karşılaşılan arkeolojik kalıntılarla akrabalığı da sıkça yinelenen bir görüş olmuş, özellikle Halaf tholoslarının restitüsyonu için bu kubbeli mimariden esinlenen çeşitli çalışmalar üretilmiştir[6]. Ancak son yıllarda bu konuya şüpheyle yaklaşan araştırmalar da vardır. Akkermans'ın 2010 tarihli çalışması bu konuda önemli soru işaretleri ortaya koymakta ve arkeolojik kazılarla açığa çıkan temel düzlemindeki mimari kalıntıları incelemede günümüz kırsal mimarisinden yararlanmanın, aslında kolay bir reçete olmadığını bize tekrar anımsatmaktadır. Akkermans, Halaf dönemi tholosları ile günümüz kırsal yapıları arasında tarihsel bir bağ bulunmadığını, ayrıca tholosların düz ya da kırma çatılı olabileceğini gösteren ve üzerinde

ahşap izi olan kerpiç parçaları ile yapı içinde ahşap dikme izlerinin saptandığını belirtmektedir (Akkermans 2010: 26). Harran'ın geleneksel kubbeli yapılarının kare planlı dik duvarlı olduğu ve yalnızca üst örtünün kubbe biçimli olduğu da göz önüne alındığında, Halaf tholosları ile doğrudan bağlantı kurmak çok kolay değildir. Her ne kadar Harran'ın 20. yüzyıl başı fotoğrafı bazı kubbeli birimlerde dairesel planlı yapılara yönelik bir şüphe oluştursa da, Suruç'ta yine aynı dönemde çekilmiş iki fotoğrafta[7] kare biçimli altyapı üzerindeki kubbe örtü, bugünkü Suruç mimarisiyle aynılığı göstermektedir (Res. 1, 3). Dolayısıyla bugünkü Harran-Suruç kubbeli mimarisi ile Halaf tholoslarını özdeşleştirmek bir yanılsama oluşturabilir.

Arkeolojik kalıntılar ile günümüz kırsal mimarisinin akrabalığının sorgulanması, kubbeli mimariye yönelik mimarlık araştırmalarında, bu kez arkeolojik değerlendirmelerden yararlanılarak geliştirilen Neolitik dönemden günümüze uzanan tarihsel süreklilik olgusunun da tekrar düşünülmesi gerektiğini gösterir[8]. Yuvarlak, ya da kare planlı olsun, kubbeli mimari devamlılık açısından ele alındığında, çoğu araştırmacı Ninova Kouyunjik'teki Sennacherib Sarayı'nda bulunan ve MÖ 7. yüzyıla tarihlenen bir rölyefteki kubbeli mimari betimlemesini, bu bölgede söz konusu yapı geleneğinin sürekliliğini gösteren bir bulgu olarak tanımlar[9] (Res. 4). Ancak Harran Höyük kazılarında ortaya çıkartılan 12. yüzyıl İslam dönemi evleri (Yardımcı 2007: 43-61), plan ve duvar teknikleri açısından ele alındığında, bölgede bugün görülen kubbeli mimariyle benzeşmediği rahatlıkla söylenebilir. 17. yüzyılda Evliya Çelebi'nin Harran betimlemesinde ise Şeyh Yahya'nın büyük kubbe ile örtülü türbesi belirtilirken, kent dokusunun da harap durumuna dikkat çekilip (Kahraman ve Dağlı 1999: 97) bunların kubbeli olup olmadığına ilişkin bir bilgi verilmemesi, Harran'da bu dönemde kubbeli ev geleneğinin varlığına yönelik bir soru işareti oluşturmaktadır[10].

Her ne kadar araştırmacılar tarafından gezgin notları ya da bazı arkeolojik bulgulara dayanılarak Harran'ın bugünkü yerleşiminin tarihi ile ilgili çeşitli görüşler geliştirilmekteyse de, bölgenin 20. yüzyıl başı fotoğrafı ile 1960'lı yıllarda çekilen fotoğraflarında görülen farklılıklar düşündürücüdür. Eski fotoğrafta bazı evler yuvarlak planlı ve zeminden itibaren eğrisel örtülü gibi durmaktadır ve yapıların dış konturu girinti çıkıntılıdır (Res. 1). Oysa ki 20. yüzyılın ikinci yarısında çekilen fotoğraflarda ve mimari belgelemelerde bu yapılar kare planlı ve dik duvarlıdır, üzeri kubbe ile örtülüdür ve çoğu yapının dış konturu düzgün dörtgen biçimlidir (Akın 1985: lev. LIV-LV; Tekinel 1966: 132-134) (Res. 2). 20. yüzyıl başına ve ikinci yarısına tarihlenen ve hemen hemen aynı açıdan çekilmiş iki fotoğraf arasındaki önemli farklar, kırsal mimarinin kısa zamanda hızla değişebildiğini göstermektedir. Yüzyıl başında çekilen fotoğrafta yapıların çevresinin eski yapı kalıntılarıyla çevrili olması ve ayaktaki yapıların bir moloz yığını üzerinde konumlanmış görüntüsü de, bu tarihten bir süre önce yerleşmede büyük farklılıkların olduğunu ortaya koymaktadır. 1940'lı yıllarda Harran'da bir kerpiç kubbe inşaatını gözlemleyerek yayımlayan Brice ve Dönmez, bir kubbenin üç saat içinde örüldüğünü bildirmişlerdir (Brice ve Dönmez 1948). Suruç envanter çalışmasında bir kubbe ustası ile yapılan görüşmede; usta, bir yardımcı ile bir günde iki kubbe örebildiğini ve bir kubbenin ortalama 50 yıl, iyi bakımla 100 yıl kadar ömrü olduğunu belirtmiştir (Eres 2005: 65). Kerpiç kubbeli yapı inşaatı oldukça hızlı bir biçimde ve köyün yakın çevresinde kolaylıkla bulunan malzeme ile gerçekleştirildiğinden büyük bir maliyet oluşturmamaktadır. Bu bağlamda köylülerin zaman içinde haraplaşan yapı birimlerini onarmak yerine, evin diğer kısımlarına yeni birimler eklemesi, daha kolay bir inşaat yöntemi olmaktadır. Bu da kerpiç kubbeli mimarinin bulunduğu bir kırsal yerleşmede mimari dokunun kısa zaman içinde önemli ölçüde değişebileceğini göstermektedir. Bu araştırmada az sayıda veri ile ancak bir "sorun" olarak tanımlayabildiğimiz bu devingen durum, günümüz kırsal mimarisinin yakın geçmişteki köklerini ortaya koymak için de arkeolojik araştırma gerekliliğini göstermektedir ve henüz bu konu üzerinde çalışılmaya hiç başlanmamıştır.

Arkeolojik çalışmalarda aynı bölgede bulunan benzer nitelikteki yerel mimari geleneklerden yararlanmanın yanı sıra, çok farklı coğrafyalardaki ilkel yapı örneklerinin kullanılması da sıklıkla başvurulan bir araştırma yöntemidir. Nitekim Bulle de çalışmasında Batı Afrika'daki Mousgoum yerlilerinin yuvarlak planlı ve yerden başlayan konik biçimli yapılarından da bahsetmiş (Bulle 1907: 38-39), ancak Harran evlerinin Orchomenos'da ortaya çıkartılan yapı kalıntılarına daha çok benzediğini, dolayısıyla daha yararlı bir örnek oluşturduğunu vurgulamıştır. Oysa ki bu tarihte henüz Harran yapıları ayrıntılı bir biçimde incelenmiş değil-

dir. Ziraat Mühendisi O. Tekinel'in Urfa köy işletme binalarını incelediği 1966 tarihli çalışmasında yer alan Harran ve Suruç kubbeli yapı topluluğu çizimleri, bu bölgedeki erken mimari belgelemelerdir. G. Akın'ın 1985 tarihli doktora çalışmasında bulunan dokuz yapıdan oluşan yerleşme planı da Harran'ı açıklayan önemli bir çalışmadır[11]. Akın'ın arkeolojik verilerle bağlantıları da sorguladığı bu çalışmada, doğru rölövelerle ortaya somut bir biçimde konan; kare biçimli mekanların birbirine ulanmasıyla tümevarım yöntemiyle oluşturulan yapılar, yuvarlak yapıların yanı sıra "bitişken mimari"nin tarihsel sürekliliği bağlamında da değerlendirilmiştir (Akın 1985: 55-57)[12].

TÜBA Türkiye Kültür Envanteri projesi kapsamında gerçekleştirilen Birecik-Suruç kırsal mimarlık envanteri çalışması[13] ile Suruç İlçesi'nde bulunan toplam 230 adet kırsal yerleşme belgelenmiş ve böylece varlığı bilinen ama hiçbir zaman ayrıntılı bir biçimde incelenmemiş olan Suruç Ovası kerpiç kubbeli mimarisi, yayılım alanı, yerleşme dokusu, plan ve biçimleniş özellikleri, işlevsel kurgusu, yapı malzemesi ve sistemi açısından oldukça ayrıntılı bir biçimde ortaya konmuştur[14]. Özünde bir envanter çalışması olan bu araştırmada dikkati çeken bir durum, Suruç'un içinde bulunduğu koşullar olmuştur. Suruç günümüzde yoğun göç veren bir bölgedir ve bu nedenle yerleşmelerin bazıları kısmen, bir kısmı da bütünüyle terk edilmiş durumdadır. Binyıllar boyunca çeşitli topluluklara ev sahipliği yapmış bu topraklarda artık büyük ölçüde harap, yıkılmaya yüz tutmuş ya da çoktan kalıntı haline dönüşerek toprağa karışmış çok sayıda yapı bulunmaktadır. Tarihi değerliliği olan geleneksel evlerin korunması ve geleceğe aktarılması açısından hüzünlü bir ortam oluşturan bu durum, aynı zamanda kubbeli yapıların haraplaşarak yıkılma ve ardından yapı molozuna dönüşme sürecini, adeta bir deneysel arkeoloji çalışmasının yaşayan uygulaması gibi gözler önüne sermiştir.

Suruç Ovası çalışması sırasında bu makalenin yazarı tarafından kerpiç kubbeli yapıların yıkılma süreci üzerine yapılan gözlemlerin, mimari ve yapısal özelliklerle bağlantılı olarak irdelenmesinin, arkeolojik kalıntıların değerlendirilmesine katkıda bulunulabileceği düşünülmüştür. Bu çerçevede bu makalede, önce söz konusu yapı geleneği mimari ve yapısal özellikleriyle tanıtılacak, böyle bir yapının temel düzleminde bulunması durumunda nelerin gözlemlenebileceği sorgulanacak, ardından yıkılma süreci ve oluşan molozun niteliği tanımlanacaktır.

Suruç'ta ustalarla yapılan görüşmelerden yola çıkılarak kubbeli yapıların yaşının genelllikle 100 yılı pek aşmadığı varsayılabilir. Yukarıda da belirtildiği gibi, bu yapı geleneğinin tarihsel kökeni de, arkeolojik bulgu ve belgelere dayalı olarak kesin bir biçimde saptanmış değildir. Bu nedenle bu çalışmada Suruç'ta bulunan bindirme kubbeli yapılar, bölge ve tarihsel süreklilik bağlamından çok teknik açıdan incelenmiştir. Bunun için rölövesi çıkarılmış çok sayıda örnek yapının çözümlenmesiyle, bunların genel biçim özellikleri, mekanların büyüklüğü, biçimi, bir araya gelişi, duvar kalınlığı gibi özellikleri ortaya konmuştur. Böylece bu yapı sistemi ile üretilebilecek yapı tipleri tanımlanmış, diğer bir deyişle bu yapı tekniğinin kapasitesi, sunduğu olanaklar saptanmış, böylece gerçekleştirilmesi olanaklı olamayacak plan-biçimleniş özellikleri de bir şekilde belirlenmiştir.

Günümüzde bu yapılar kısmen kullanıldığından ve daha da önemlisi geleneksel kırsal yaşam biçimi tüm yönleriyle sürdürülmediğinden, yapıların plan işleyişini anlamak çok kolay olmamış, ancak az sayıda örnekte bu kurgu saptanabilmiştir. Bu da geleneksel bir köylü ailesinin yaşam döngüsünü ayrıntılı bir biçimde irdelemek için yeterli olmadığından, yalnızca temel ilkelerin tanımlanabildiği söylenebilir. Bu nedenle bu yapıların kültürel ve işlevsel oluşumundan çok, teknik özellikleri bazında arkeolojik kalıntılara yönelik sorgulanması daha sağlıklı bulunmuştur. Konuyu bu bakış açısıyla ele aldığımızda denilebilir ki, Suruç kerpiç bindirme kubbeli yapı sistemi bir veri bankası olarak farklı coğrafyalardaki farklı dönemlere ait arkeolojik kalıntıları değerlendirmede de yararlı olabilir. Burada ilginç olacak ve bu çalışmayı ileriye götürecek gelişme, kuşkusuz günümüzde benzer yapı geleneklerinin bulunduğu farklı coğrafyalardaki yerel mimari geleneklerin[15] de benzer yöntemlerle incelenmesi ve bunların karşılaştırılmasıdır.

Yapıların teknik mimari özellikleri kadar yıkılma süreci ve oluşan molozun niteliği de arkeolojik kazılar için önemli bir bilgi kaynağıdır. Kalavasos-Tenta kazısında bulunan yuvarlak planlı bir yapı için geliştirilmiş olan iki farklı restitüsyon önerisinden[16] her birinin doğal yollardan yıkılması durumunda ortaya çıkacak kalıntı ve moloz birikintisi göz önüne alın-

dığında, önemli farklılıkların olması beklenir. Dolayısıyla bir yapı molozunun niteliği de, yapının kendisi ile ilgili bilgi verebilir. Arkeolojik katmanların üst evreler tarafından tesviye ya da temel inşaatı gibi nedenlerle bozulması, sık rastlanan bir durumdur. Ancak yine de etnoarkeolojik çalışmalarda yapı molozunun ayrıntılı incelenmesi ile, tıpkı mimari biçimleniş çözümlemelerinde olduğu gibi, bir yapı sisteminin ortaya çıkartacağı molozun özellikleri ya da nelerin beklenmemesi gerektiği üzerine fikir edinilebilir. Konu bu açıdan ele alındığında Suruç kırsalında bulunan farklı haraplık derecesindeki çok sayıda yapı, yıkıntı biçimi, yayılımı ve moloz kalınlığı açısından geniş bir örnekleme sunmaktadır.

Akdeniz'den Transkafkasya'ya çok geniş bir coğrafyada görülen çeşitli çaplarda ve farklı yapı malzemelerinin kullanıldığı, farklı işlevleri olan yuvarlak mimarilerin restitüsyonu, halen büyük bir sorundur. Yakın dönemde Azerbaycan'da Aruchlo'da ortaya çıkarılan yuvarlak planlı ve dik duvarları 1,2 m'ye kadar korunmuş yapılar, 20 cm kalınlığında oldukça ince ve standart olmayan kerpiç bloklarından oluşan duvarlarıyla bu konuda yeni sorular oluşturmuştur[17].

Farklı bölgelerde, geniş bir zaman diliminde karşılaşılan ve farklı özellikleri olan yuvarlak planlı yapıların yorumlanmasında, günümüz yerel mimari gelenekleri kuşkusuz önemli ipuçları verir. Afrika'dan İran'a, Hindistan'dan Çin'e uzanan coğrafi alanda bazı alt bölgelerde çeşitli yuvarlak planlı mimariler halen bulunmaktadır. Yuvarlak planlı silindirik ve düz damlı[18], zeminden başlayarak kubbesel örtülü[19] ya da silindirik duvarların konik biçimli çatı[20] ile örtüldüğü farklı örnekler vardır[21]. Günümüze kadar Suruç kubbeli yapıları arkeologlar tarafından fazla tanınmasa da, Harran'ın ve Suriye'nin kubbeli evleri çeşitli yuvarlak planlı yapı kalıntılarını değerlendirmede önemli bir esin kaynağı olmuştur. Oysa ki gerek Harran, gerek Suruç'un kubbeli evleri dörtgen planlıdır. Bu bağlamda bu bölgelerde gerçekleştirilecek etnoarkeolojik çalışmaların, yuvarlak yapı sorununa yönelik doğrudan çözüm oluşturması beklenemez.

Banse, yuvarlak planlı ve kubbesi zeminden başlayan yapı türünü "asal tip" olarak nitelendirmiş; yine yuvarlak planlı ve tepesi kesik konik biçimli formu ikinci aşama; bir ayak yüksekliğinde dik duvarı olan kubbeli yapıyı üçüncü aşama; bir insan boyu yüksekliğinde dik duvarı olan ve üzeri kubbe ile örtülü yapıyı da en gelişkin ve konforlu yapı olarak tanımlamıştır (Banse 1912: 176-177). Gabriel ve Rathjens de Suriye araştırmalarında Banse'nin "asal tip"inden bahsetmekle birlikte, bunların hiçbir zaman tek başına bulunmadığını, diğer yapılarla birlikte bir aile evinin parçası olduğunu ve ev olarak kullanılmadığını belirtmiştir (Gabriel ve Rathjens 1955: 237-238). Copeland da Suriye'de kubbeli ve kare planlı ev yapılarına göre genellikle daha küçük ölçekli olan yuvarlak planlı ambar yapılarının fotoğraflarını yayımlamıştır (Copeland 1955: lev. VIId). Layard'ın 1853 yılında yayımlanan gezi kitabında da Halep çevresinden bir köy çiziminde evler kare planlı ve kubbeli olarak betimlenmiştir (Res. 5) (Layard 1853b: 112). Yuvarlak planlı ve zeminden kubbeli olarak başlayan yapıların iç mekanının insan ölçeği açısından zorlayıcı boyutları göz önüne alındığında, günümüzde Türkiye ve Suriye kubbeli köylerinde bu tür yapıların barınma için yeğlenmediği söylenebilir. Suruç envanter çalışmasında da yalnız ambar, tezeklik, kümes gibi küçük ölçekli ek yapıların, tekil yuvarlak biçimlenişli olduğu gözlemlenmiştir (Res. 6) (Akın vd. 2003: 60, res. 6).

Kuşkusuz Suruç mimarisi üzerine etnoarkeolojik gözlemler, esas olarak Schmidt'in ortaya koyduğu "düzgün bitişken mimari" çerçevesinde yararlanılabilir verileri ortaya koymaktadır[22]. Ancak yine de bir kubbenin yıkılma sürecini onu taşıyan duvarlardan bağımsız olarak irdelemenin de, yuvarlak planlı yapılara yönelik belli fikirleri oluşturabileceği düşüncesiyle, bu çalışmada bazı kurgusal denemeler de yapılmıştır.

SURUÇ OVASI KERPİÇ BİNDİRME KUBBELİ MİMARİ GELENEĞİ[23]

Türkiye'de Suruç Ovası'nda ve Harran'da gözlenen bindirme kubbeli mimari geleneği, Kuzey Suriye'de Halep, Humus ve Hama bölgesini de kapsayan geniş bir alanda birbirine benzer bir mimari dil oluşturmaktadır. Bu bölgede 1900'lü yılların başında incelemeler yapan Banse, en yoğun kubbeli yapı bütünlüğünün Suruç Ovası'nda bulunduğunu bildirmiştir (Banse 1912: 175). Banse, çalışmasında ele aldığı bölgeyi kubbeli mimari dağılımı açısından dört alt alanda tanımlamıştır. Bunlar; Suriye'de Humus'un

güneyindeki El Kuseyyir'den başlayarak kuzeyde Han Şeyhun'a uzanan güney grubu, Halep'in ortasında yer aldığı ve kentin güneybatısındaki Kınisrin, doğusundaki Sfire ve kuzeyindeki Aktarin arasında yer alan Halep grubu, Suruç Ovası grubu ve Harran çevresidir. Banse, Harran'ın güneyindeki Suriye'nin sınır yerleşmesi Tel Abyad'dan kuzeyde Urfa'ya kadar olan bütün köylerin kubbeli olduğunu belirtmiştir. 1966'da Toprak ve İskan Genel Müdürlüğü'nün Urfa İli köy envanter etütleri üzerinden geliştirilen çatı biçimi tablosuna[24] göre, Suruç köylerinin %78'inde, Suruç'un doğu komşusu olan ve o dönemde Harran'ın bağlı bulunduğu Akçakale İlçesi köylerinin %62,4'ünde kubbeli mimari vardır. Akçakale'nin kuzeyinde yer alan merkez ilçeye bağlı köylerin de %27,6'sında kubbeli mimari bulunmaktadır. Suruç'un batı komşusu Birecik ve Harran'ın doğusunda Viranşehir'deki köyler ise bütünüyle düz damlı yapılardan oluşmaktadır. Dolayısıyla bu dönemde Türkiye sınırları içinde Suruç'tan başlayarak Harran'ın doğusuna kadar geniş bir alanda kubbeli yapı geleneğinin söz konusu olduğu söylenebilir.

TÜBA kültür envanteri çalışması kapsamında Suruç'ta bulunan 230 kırsal yerleşmeden 139'unda kubbeli yapı saptanmıştır[25]. 2002 yılı çalışmaları sırasında Gaziantep - Şanlıurfa karayolunun güneyinde yer alan köylerdeki kubbeler sayılarak, alanda 2760 adet kubbe saptanmıştır. Harran İlçesi çalışma alanı içinde olmamakla birlikte, bu yerleşme ve yakın çevresinde yapılan gözlemlerden Harran dışındaki köylerde artık kubbeli yapı geleneğinin pek devam etmediği görülmüştür[26]. Harran, Suruç'tan ayrı bir ovada yer almanın ötesinde, mimari açıdan da önemli farklılıklar içermektedir[27]. Suriye kubbeli yapıları da bu araştırmanın konusu olmamakla birlikte, yapılan yayın taramasından bunların biçimlenişinde bazı farklılıkların olduğu anlaşılmaktadır. Dolayısıyla Banse'nin Suruç alt grubu olarak tanımladığı ve TÜBA çalışmasında envanteri çıkartılan alan, mimari açıdan belli bir dil birliği olan bir coğrafi bölge biçiminde tanımlanabilir. Bu bağlamda Suruç Ovası, kerpiç bindirme kubbeli yapı sisteminin anlaşılması açısından önemli bir laboratuvar alan işlevi görmektedir.

20. yüzyıl başından beri kerpiç kubbeli mimari üzerine gözlem ya da inceleme yapan araştırmacılar, özellikle bu ilginç mimari biçimlenişin nedenleri üzerine yoğunlaşmış ve temel etken olarak fiziksel çevre koşullarını tanımlamışlardır[28]. Düz dam yapmak için gerekli olan ağacın bölgede yetişmemesi birincil neden olarak görülmüştür. Kubbeli mimarinin görüldüğü alanların ortak özelliği olan ovalık alanların nitelikli kerpiç yapımına uygun lös toprağı ile kaplı olması da, bu tür yapıların inşaatını kolaylaştıran bir etken olarak değerlendirilmiştir. Araştırmacılar aynı zamanda kubbeli evlerin sağladığı yaşam koşulları üzerine de görüş belirtmişlerdir. Yapı malzemesi olanaklarının tanımladığı bu mimari biçimleniş, karasal iklim koşullarının söz konusu olduğu ve yazları çok sıcak geçen bölgede oldukça rahat bir iç mekan sağlamaktadır. Kubbenin eğrisel yüzeyi güneş ışınlarını yansıtmakta ve kalın kerpiç duvarlar da yalıtım işlevi görerek yazın içerisinin göreli olarak serin kalmasını sağlamaktadır. Kubbenin en üst noktasında bırakılan bir delik sayesinde de kapıdan giren hava mekan içinde yukarı çıkarak hava dolaşımı oluşturur. Kışın ısınmak amacıyla mekanın ortasında yakılan ateşin dumanı da yine bu delikten çıkar ve oda çok fazla dumana boğulmaz. Dolayısıyla bu bölgede geleneksel çiftçi yaşam biçiminin söz konusu olduğu dönemlerde kubbeli mimari, köylüler için oldukça rahat yaşam olanakları sunmuştur. Ancak 1960'lı yıllarda bölgede ziraat araştırmaları yapan Tekinel, bu tür yapıların çağın beklentilerine uygun yaşam koşullarını sağlamaktan uzak olduğunu belirtmiştir[29]. Suruç Ovası mimarlık envanteri sırasında yapılan gözlemler de, günümüzde artık kubbeli yapıların barınma amaçlı kullanımının yeğlenmediğini göstermiştir. Özellikle 1956 yılında Birecik Köprüsü'nün yapılmasından sonra karayoluyla uzaktan ağaç getirmek kolaylaşmış ve köylüler düz damlı ev inşa etmeyi yeğlemişlerdir. Bu nedenle günümüzde Suruç'ta çoğu yapı topluluğunun içinde düz damlı yapılar da bulunmaktadır ve bu tip konut yapıları daha saygın kabul edilmektedir.

Çalışma Alanının Genel Özellikleri

Alüvyal karakterdeki Suruç Ovası'nın çevresi farklı özellikler gösteren platolar ile çevrilidir. Batıda, Fırat Nehri'ni sınırlayan kalker sırtın devamında yer alan hafif dalgalı, yumuşak kalkerli arazi, Suruç'a yaklaştıkça yükselir ve engebeli bazalt arazi niteliğini alır. Bu sert plato kademeli bir inişle Suruç Ovası'na açılır. Ovanın kuzeyinde engebeli bazalt nitelikteki plato vardır. Bu plato kuzeye doğru giderek yükselir ve dağlık bir alan oluşturur. Suruç Ovası'nın doğusu ise, batıdaki gibi kademeli biçimde yükselen, ancak yumuşak kalkerli nitelikteki bir plato ile sınır-

lanır. Bu platonun doğu bitiminde de Harran Ovası yer alır. Güneyde Türkiye sınırından sonra da Suruç Ovası, Suriye içinde devam eder.

Suruç İlçesi'nde bulunan 230 kırsal yerleşmenin 24'ü 50 hanenin üzerinde orta ölçekli, gerisi küçük ölçekli yerleşmelerdir. Ovanın güneyinde yapı topluluklarının daha seyrek olarak konumlandığı dağınık yerleşme tipi hakimken, orta kesimde toplu yerleşme tipi ağırlık kazanmaktadır. Bölge genelinde dikkat çekici bir durum, yerleşme yeri seçiminde ağırlıklı olarak tarihöncesi höyüklerin üzerinin yeğlenmiş olmasıdır. İlçenin ova kesiminde yer alan 123 yerleşmenin 70 tanesi höyük üzerindedir. Küçük ölçekli höyüklerin üst kesimi bütünüyle köy ile örtülüdür. Büyük höyüklerde ise yerleşme höyüğün güney yamacından başlayıp ovaya doğru yayılmaktadır.

Suruç Kerpiç Bindirme Kubbeli Yapı Sistemi

Kerpiç bindirme kubbe, iç açıklığı 4 m'yi geçmeyen kare ya da kareye yakın dikdörtgen biçimli mekanların örtülmesinde kullanılır. Mekanı sınırlayan kerpiç beden duvarları dikey olarak 1,5-2 m kadar örüldükten sonra duvar köşelerine denk gelen kerpiçler duvara 45 derece açıyla çapraz bir biçimde konulur[30]. Bundan sonra duvar köşesindeki her sırası duvardan içeri 1-2 cm iç mekana taşırılarak yerleştirilmeye başlanır. Bu şekilde her kerpiç sırası alttaki sıradan biraz içeri doğru taşırılarak eğrisel hatlı duvar örgüsü devam eder. Böylece 8-10 sıra sonra pandantif oluşur ve artık kare plandan dairesel biçimli kubbe kasnağına geçilmiş olur. Bundan sonra yine taşırma sistemiyle kubbe örülmeye başlanır (Res. 7). Kubbenin üst kesimlerindeki kerpiç sıralarında yukarıdan gelen kerpiç yükü azaldığı için biraz daha fazla taşırma yapılır. Bu nedenle kubbenin boy kesiti yarım daire değil parabolik biçimli olur. Kubbenin tepe noktasında 20 cm kadar çapı olan bir delik bırakılır. Bu boşluk hem baca görevi görür, hem de içeriye ışığın girmesini sağlar. Harran'da aydınlanmaya yardımcı olması için kubbenin ara kesimlerinde küçük boşlukların bırakıldığı kubbeler de vardır, ancak Suruç'ta böyle bir uygulamayla karşılaşılmamıştır. Bir kubbenin duvar bitiminden tepe noktaya kadar örülmesi için 25-30 sıra kerpiç kullanılır. Kubbenin alt kesimlerinde kerpicin uzun kenarı duvara dik yerleştirilerek kubbe kenarı kalın tutulurken, üst kesimde kerpiç çevrilerek dar kenarı duvara dik yerleştirilir. Böylece kubbe kenarı inceltilmiş ve kubbenin alt kesimine inen ölü yük azaltılmış olur. Yapı ustaları ile yapılan görüşmelerden bir kubbede 500 ila 700 arası kerpiç kullanıldığı ve bu sayının en fazla 1000'e kadar çıktığı öğrenilmiştir. Kubbenin dış yüzeyi kesinlikle çamur harcı ile sıvanır. Çoğu yapıda iç yüzeyin de sıvandığı gözlenmiştir.

Kerpiç, taş ya da tuğla gibi yapı elemanlarının merkeze göre ışınsal olarak dizildiği kubbe sisteminden farklı olan bu yapı sistemi, mimarlık terminolojisinde "yalancı kubbe" (*pseudo-dome*) olarak da adlandırılır. Bilindiği gibi gelişmiş (gerçek) kubbe sistemi ile açıklığı 30 m'ye varan anıtsal kubbeleri inşa etmek olanaklıdır. Ancak yapı elemanlarının birbiri üzerine yatay biçimde taşırılarak yerleştirildiği, diğer bir deyişle "bindirme tekniği" ile inşa edilen bu tür kubbede her bir yapı elemanı yukarından gelen dikey ölü yükü aynı şekilde taşıyarak bir alt sıraya aktardığı için, geniş açıklıkları geçmek mümkün değildir[31]. Bindirme kubbeli yapı sisteminin sağladığı mekansal olanaklar daha sınırlı olmakla birlikte, bu mimari gelenek ışınsal kubbe geliştirildikten sonra da varlığını sürdürmüştür ve günümüzde halen kırsal alanda kullanılagelmektedir. Bunun nedeni bir yandan yukarıda da kısaca açıklandığı gibi bu geleneğin gözlendiği bölgelerde coğrafi koşulların zorlaması, bir yandan da gelişmiş kubbe inşaatı için ahşap iskele, kalıp gibi malzemeler ile uzmanlaşmış ve çok sayıda usta gerekirken, bindirme kubbenin kalıpsız bir biçimde köylerde yetişen yerel ustalar tarafından inşa edilebilmesidir.

Suruç'ta üç tür bindirme kubbe ile karşılaşılmıştır. Bunlardan en bilineni düz duvar üzerinde yarım daire kubbe gibi başlayarak konik biçimli sonlanan tiptir. Ancak Suruç'ta en fazla görülen tip kesik kubbedir. Bunun için kubbe belli bir yüksekliğe kadar örüldükten sonra, ortaya çıkan kısa açıklık üzerine ağaçlar dizilip, üzerine sap ve toprak serilerek bir nevi düz dam elde edilmiş olur. Böylece büyük açıklık geçmeye uygun geniş kesitli uzun ağaç bulmanın mümkün olmadığı bölgede, kısa ve ince ağaçlarla dam oluşturulmaktadır. Bazı yapılarda da kubbenin pandantifini oluşturacak kadar kerpiç örülüp elde edilen dairesel alanın üzerinin düz dam biçiminde örtüldüğü gözlenmiştir. Suruç'ta birçok örnekte farklı kubbe tiplerinin bir arada kullanıldığı gözlemlenmiştir[32] (Res. 8, 12).

Kubbeli yapıların temelinin taştan olması yeğlenmekle birlikte, taş bulmanın zor olduğu yerlerde

doğrudan kerpiç ile de temel hazırlanır. Duvar kalınlığı bir, iki ya da üç kerpiç kalınlığında olur. Çoğunlukla bir kubbeli birimin beden duvarlarının bir kerpiç kalınlığında yapıldığı, her birimin ayrı beden duvarlarının olduğu ve dolayısıyla yan yana bitişen birimlerde duvarların iki kerpiç kalınlığında olduğu gözlenmiştir (Res. 10). Bölgede farklı boyutlarda kerpiç ile karşılaşılmışsa da, en çok 25 x 50 x 10 cm ölçülerinin kullanıldığı görülmüştür[33]. Bu ölçülere bağlı olarak duvarlar bir dizide kullanılan kerpiç sayısına göre, 50, 100, 150 cm kalınlığında olmaktadır[34]. Ovanın özellikle platolara açılan taşlık zeminli kesimlerinde moloz taş duvarlı kubbeli yapılarla da karşılaşılmıştır. Beyaz kireç taşının çamur harcı ile örüldüğü duvarlar çoğunlukla 60-70 cm kalınlığındadır ve kerpiç duvar gibi her iki yüzeyi de çamur sıvalıdır (Res. 9).

Kubbeli yapılarda yağmur suyunun yapıya hasar vermeden akıp gitmesi ve yan yana gelen kubbelerin arasındaki boşluklarda suyun göllenmemesi için toprak dolgu yapılarak en yakın beden duvarına doğru meyil verilmiştir (Res. 10). Beden duvarı bitiminde de çoğunlukla oluklu kiremitten ya da ahşaptan bir oluk konularak suyun, duvar yüzüne değmeden yapı dışına akması sağlanır. Yapının hemen dışında duvar kenarında suyun bekleyerek zemin tarafından emilmesi yapı temeli açısından tehlikeli oluşturduğundan, bu kısımda yapı duvarının yaklaşık ortasına denk gelen yükseklikte dışarı doğru eğimli bir biçimle toprak yığılarak su biraz daha uzaklaştırılır. Bu toprak dolgu nedeniyle de kubbeli yapılar dışarıdan bakıldığında, sanki dikey duvarı olmayan doğrudan yerden başlayan kubbeler dizisiymiş gibi görünür (Res. 11).

Ovada bulunan toprak kerpiç yapımına çok elverişli olduğundan, kerpiç çamuru hazırlamak için köyün hemen çevresindeki topraklar kullanılır. Saman ve su ile karıştırılan toprak bir gün dinlendikten sonra kalıplara dökülür. Elde edilen kerpiç, hem duvar hem kubbe yapımında kullanılır. Kubbede kullanılacak kerpiçlere özel bir işlem yapılmaz. Sıva da benzer biçimde köy çevresindeki topraklardan yapılır. Eğer yerleşme höyük üzerinde ise, höyüğün toprağı sıva için özellikle tercih edilmektedir. Bu tür yerleşmelerde kubbe üzerinde arkeolojik nitelikli çakmaktaşı, çanak çömlek kırığı gibi malzemeler sıklıkla görülür.

Biçimleniş Özellikleri

Kubbeli yapılar, iç açıklığı yaklaşık 4 m kadar olan kare biçimli küçük hacimlerin yan yana bitiştirilmesiyle oluşturulur. Her bir kubbeli mekanın bir "birim" olduğu bu yapı türünde, kullanıcıların gereksinimlerine göre istenilen sayıda kubbeli modül birbirine eklemlenebildiğinden ve her bir kare mekanın dört yanına da yeni birimler ulanabildiğinden, istenilen büyüklükte ve biçimlenişte ev oluşturulabilir. Bu yapı sisteminde evin baştan tasarlanarak tek seferde inşa edilmesi gerekmediğinden, ilk uygulamadan sonra gereksinimlere bağlı olarak yeni kubbeli birimler eklenerek ev büyütülebilir (Res. 13). Kubbeli bir ev, bir ailenin barınmasının yanı sıra kendisine ve pazara yönelik besin üretimi ve depolaması için gerekli olan işlik, ambar, samanlık, ahır gibi tüm farklı işlevsel birimleri bünyesinde barındırır. Suruç'ta farklı ölçeklerde yapılarla karşılaşılmıştır. Yan yana üç kubbeli mekandan oluşan ve ortadaki mekandan içeri girilerek iki yandaki hacimlere ulaşılan tip, en küçük ölçekli asal plan tipi olarak tanımlanabilir (Res. 13: I. birim). Ailenin büyüklüğüne ve üretim hacmine bağlı olarak 120 kubbeye varan çok büyük yapılarla da karşılaşılmıştır[35]. Bu tür yapılarda dış kontur genellikle girinti çıkıntılıdır. Yapının birden fazla girişi vardır ve çoğu kubbeli birim birbirine kapı açıklıklarıyla bağlandığından iç mekan kurgusu labirenti andırır[36] (Res. 14). Suruç'ta az sayıda görülen bir diğer biçimleniş ise, bir doğrultu üzerinde birbirine bitişik, ancak ara bağlantısı olmadan bir araya gelmiş olan yapı dizisidir (Res. 13).

Suruç'ta bir ailenin kullandığı farklı işlevleri olan tüm mekanlar, çoğunlukla tek bir yapı içinde düzenlenmiştir. Yerleşmelerde yapı ya da duvarlarla sınırlandırılmış bir kapalı avlu sistemi pek görülmez[37]. Bu tür çok işlevli bir yapı içinde dolaşım için ayrılmış özel alanlar yoktur. Her bir kubbeli hacim diğerine kapı açıklığı ile bağlanır. Bu açıklığın genişliği 1 m kadardır ve genellikle duvarın ortasında yer alır. Bunun nedeni kubbeyi taşıyan duvarların köşe birleşim noktasını zayıflatmamak olmalıdır. Kubbeli birimler arası geçiş, mekanların işlevlerine göre ayarlanmaktadır. Bazı mekanların dört duvarında da kapı bulunurken, bazı mekanlarda ise yalnız bir tane kapı vardır. Yapının iç mekanlarını birbirine bağlayan bu geçişlerin yanı sıra, bazı mekanlar da işlevleri ile bağlantılı olarak evin ana giriş kapısından ayrı olarak dışarıya kendi kapılarıyla da açılırlar. Örneğin konuk odası, ahır, samanlık ve işlik-mutfak biriminin genellikle dışarıya açılan kendi kapıları vardır. Bir

hane, geleneksel kırsal yaşam kültürü gereği büyük aile evi olduğu için, genellikle birden fazla sayıda konut birimini içerir. Farklı konut birimleri, yapı bütünü içinde yapının farklı kısımlarına dağılmış olabilir. Her birinin dışarı açılan kendi kapısı bulunur. Bazen konut kısmında dışarı çıkma yapan bir ocak da bulunur. "Ekmeklik" olarak adlandırılan ve ailenin haftalık ekmeğinin üretildiği mekanda da dışarı çıkma yapan bir ocak kısmı vardır. Bunun yanı sıra bazen bu yapıya eklenmiş biçimde kubbeli küçük bir yıkanma mekanı da bulunur (Res. 15).

Bölgede büyük önem taşıyan ve "oda" olarak adlandırılan konuk ağırlama birimleri ise, gerek iç düzen, gerek dış cephe özellikleriyle diğer mekanlardan farklılaşmaktadır. Erkek konuk ağırlamaya yönelik "selamlık" niteliğindeki bu yapı birimleri, o evin prestij mekanı olduğu için, dış cephe genellikle daha özenli, bezemeli dolayısıyla dışarıdan dikkat çekici olmaktadır. Geleneksel konuk ağırlamada insanların karşılıklı birer sıra halinde dizilmesi yeğlendiğinden, uzun dikdörtgen mekan gereksinimi vardır. Bu nedenle konuk odası için kare biçimli iki kubbeli birimin arasındaki duvar tümüyle kaldırılıp, onun yerine kubbe altında iki ya da üç kalın ahşap kiriş kullanılarak iki kubbeli mekan birleştirilip 1:2 oranında dikdörtgen bir iç mekan elde edilir (Res. 16).

Bindirme Kubbeli Yapı Sistemi İle Mekan Yaratma Olanakları

Her bir kubbeli mekanın bir birim olarak kullanıldığı bu yapı sistemi ile, geniş bir zaman dilimi içinde eklemelerle farklı mimari biçimlenişler oluşturulabilir. Yapıların dış biçimi düzgün dörtgen bir geometriye sahip olabileceği gibi, girinti çıkıntılı, aralarda avlu niteliğinde sınırlandırılmış yarı açık ve gölgeli mekanların bulunduğu hareketli cephesi olan kütleler de yaratılabilir (Res. 12). Dolayısıyla dış biçimleniş açısından bu mimari farklı olanaklar sunmaktadır.

Buna karşılık iç açıklığı 3,5-4 m'yi geçmeyen ve dört tarafı taşıyıcı nitelikteki duvarlarla sınırlandırılmış hacimler ile yaratılabilecek mekan zenginliği sınırlıdır. Bir yapıyı oluşturan ve birbiriyle aynı mekansal özelliklere sahip olan kubbeli birimler, farklı işlevler için kullanılmıştır. Bu nedenle de bir mekanın biçim özelliklerini değerlendirerek işlevini anlamak çok kolay değildir. Ayrıca bir ailenin yaşam döngüsüne göre zaman içinde de birimlerin işlevi değişebilir. Suruç'ta dikkati çeken en farklı mekan biçimlenişi ile "oda" olarak anılan konuk ağırlama hacimlerinde karşılaşılmıştır. Bazı yapılarda da ambar, samanlık gibi işlevi olan birimlerde bu uygulama görülmekle birlikte, bu mekanların özgün işlevinin de konuk odası olabileceği unutulmamalıdır. Kubbeli mimaride iki hacmi bu şekilde birleştirmek olanaklıdır, ancak Suruç'ta hiçbir örnekte üç ya da daha fazla kubbeli birimin benzer biçimde yan yana dizilerek uzun dikdörtgenlerin ya da büyük karemsi mekanların oluşturulduğu gözlenmemiştir. Dolayısıyla bir kubbenin ancak bir kenarının ahşap kirişler ile taşınabildiği, diğer üç duvarının yığma duvar olmasına özen gösterildiği söylenebilir. Bu çerçevede bindirme kubbeli mimari ile kenar boyu 4 m'yi geçmeyen sınırlı bütüncül mekanların oluşturulabildiği, büyük bir tek hacim yaratmanın olanaklı olmadığı rahatlıkla söylenebilir (Res. 15). Ancak buna karşılık birbirine eklemlenebilen birimler sayesinde, kapı açıklıklarıyla da mekanlar birbiriyle bağlantılandırılarak büyük ve işlevsel çeşitliliği olan yapılar oluşturulabilmektedir.

Suruç genelinde her zaman için bu tür büyük yapıların bir aile evi ya da işletmesi olarak yeğlendiği gözlenmiştir. Ancak kubbeli yapı sistemi ile, her bir modülün diğerinden bağımsız olarak konumlandırılmasıyla bir yapı topluluğunun oluşturulduğu farklı bir yerleşme dokusu kurgulamak da olanaklıdır. Örneğin yuvarlak planlı ve kubbeli mimarisi olan Mousgum ya da Matakam yerlilerinin yerleşmelerinde her bir kubbeli birim bağımsız olarak konumlanmakta ve bu yapılardan birkaçı bir araya gelerek bir gruba ait yapı topluluğunu oluşturmaktadır (Fraser 1968: 53-54). Her ne kadar Suruç'ta böyle bir yerleşme kültürü söz konusu olmasa da, kerpiç bindirme kubbeli yapı sistemi ile teknik olarak bu tür yerleşme dokularının oluşturulabileceği açıktır.

Suruç'ta belgelenen yapıların büyük çoğunluğunda duvar iki kerpiç kalınlığında, yaklaşık 1 m'dir. Bazı yapılarda 3 kerpiç kalınlığında 150 cm'lik duvarlarla da karşılaşılmıştır. Bu nedenle bir yapıda duvarlar neredeyse mekan büyüklüğüne yakın bir alanı kaplamaktadır. İç açıklığı 3,5 x 3,5 m beden duvarları 1 kerpiç kalınlığında (50 cm) olarak standart bir kubbeli birimin 2 x 2 toplam dört adetinin yan yana gelerek bir yapıyı oluşturduğu varsayılırsa, bu yapının kapladığı alan 9 x 9 (81 m^2), iç mekanların toplam alanı 3,5 x 3,5 x 4 (49 m^2) olacak, dolayısıyla toplam duvar alanı 32 m^2 ve duvarların yapı yüzeyi içinde kapladığı alan oranı %40 olacaktır.

Yapılarda fazla açıklık da bulunmaz. Hem beden duvarları, hem de iç duvarlar taşıyıcı nitelikte olduğu için, yapılarda mekanları birbirine bağlayan geçitler ve dışa açılan kapılar dışında açıklık yoktur. Ancak bazı konuk odalarında küçük pencerelerin bulunduğu gözlenmiştir. Dolayısıyla bu yapı sistemi ile oluşturulan yapıların büyük ölçüde masif olduğu ve mimaride duvarların alan ve hacim açısından önemli bir yer tuttuğu söylenebilir.

Bu yapı sisteminde dikkat çekici bir nokta da, her bir kubbeli birim kendi duvarları ile komşu birime ulandığından, bir yapının iç duvarları 2–3 kerpiç kalınlığında olurken, dış beden duvarlarının tek kerpiç kalınlığında olabilmesidir (Res. 15). Normal koşullarda kagir köy yapılarında çatıyı taşıyan beden duvarlarının iç duvarlara göre kalın olması olağandır, hatta iç duvarlar kimi zaman yalnız mekanı bölme amaçlıdır. Ancak bu mimaride tersi bir durum söz konusudur. İç duvarlar iki kubbeli birimi taşıdığından daha da kalındır.

Haraplaşma ve Yıkılma Süreci

Biçimleniş ya da yapı sistemi özellikleri farklılaşsa da bütün kerpiç yapılar, varlıklarını ancak düzenli bakımla sürdürebilirler. Bunun için hasat mevsimi sonunda ağustos, eylül aylarında saman ve toprakla hazırlanan çamur sıva ile yapıların içi ve dışı baştanbaşa sıvanır. Bakımsız kalan yapılar ise kısa sürede haraplaşmaya başlar. Suruç'ta artık geleneksel yapıların kullanımının tercih edilmediği ve ekonomik zorluklar nedeniyle bölgenin göç vermesine bağlı olarak kerpiç yapıların büyük çoğunluğunun bakımsız kaldığı gözlenmiştir. Bu nedenle alan çalışması sırasında bir köy yapısının haraplaşma süreciyle ilgili ayrıntılı gözlem yapma olanağı olmuştur.

Buna göre eğer bir aile halen geleneksel yaşam biçimini sürdürüyorsa, sahip olduğu kubbeli yapıyı ya da yapıları ahır, depo gibi üretime yönelik işlerde kullanmakta ve barınma için, günümüzde artık kolay ve ekonomik bir şekilde inşa edilebilen, düz damlı kerpiç ya da briket evi yeğlemektedir. Bu durumda kullanılmakta olan kubbeli yapıların özellikle dış cephesinin sıvanmasına önem verilmekle birlikte, yapı içinde özenli bakım yapılmaz. Ailenin tarım ve hayvancılığa dayalı ekonomisini eskine göre daha düşük bir kapasiteyle devam ettirmesi durumunda, sahip olunan evin tüm kubbeli birimleri kullanılmadığından, yapının işlevsiz kalan kısmına düzenli bakım yapılmaz. Bu nedenle yapının kullanılan kısmı bakımlı bir biçimde varlığını sürdürürken, diğer kısımları haraplaşma sürecine girer.

Ailenin bütün üyeleri başka bölgelerde mevsimlik işçi olarak çalışıp, kendi köyünde yalnız iş dışı zamanlarında bulunuyor ve evi barınma amaçlı kullanıyorsa, yapının kullanılan kısmına bakım yapılmakta ve ev boş bırakılacağı zaman bu mekanların kapı ve pencereleri kerpiç ile örülerek yapı bütünüyle kapatılmakta, hiç kullanmayan kısımlar da yine haraplaşmaya terk edilmektedir (Res. 17). Ailenin kubbeli evini terk etmesi durumunda, yapının tümü bakımsız kalarak haraplaşma sürecine girmektedir. Benzer biçimde bir köy bütünüyle terk edilmişse, yerleşimin tümü yıkılma sürecine girmektedir.

Bir kubbeli birimin bakımsız kalması durumunda önce dış yüzeyi kaplayan çamur sıva, yağmur kar gibi hava koşulları nedeniyle eriyerek yüzeyden akmakta, sıcak dönemde de çatlayarak parçalı hale gelmekte ve dökülmektedir. Kubbede kerpiçler yere paralel yerleştirildiğinden ve her bir kerpiç sırasının biraz mekan için girmesi nedeniyle alt sıradaki kerpiçlerin üst yüzeyi kısmen açıkta kaldığından, sıvası kalkan yüzeylerde su buralardaki kerpiç derzlerinden yapı içine kolayca girmektedir. Zaman içinde tıpkı yüzey sıvası gibi kerpiç blokları da düşmeye başlamakta, böylece kubbe yıkılma sürecine girmektedir. Yıkılma kubbenin tepe kısmından başlayarak aşağı doğru devam eder (Res. 18). Yapının beden duvarlarının da bu süreçte sıvası döküldüğünden, yan yüzeylerden içeri su girmeye başlar ve duvar zayıflar. Bindirme kubbe zaman içinde bütünüyle mekanın içine doğru yıkılırken (Res. 19), gelişmiş kubbeden farklı olarak kubbe eteğinde dışarı doğru açılma baskısı olmadığından, beden duvarlarına yanal yük gelmez, bu nedenle bu duvarlar serbest bir biçimde ortada kalır. Özellikle kubbenin bütünüyle yıkıldığı kısımlarda bu duvarların üst yüzeyinin de açığa çıkması yıkımı hızlandırır. Duvar suyu içine aldıkça, hem mekan içine hem de dışına doğru parça parça yıkılır (Res. 20). Duvarın alt kesiminde dış yüzün inşaat aşamasında suya karşı yarıya kadar toprak dolguyla doldurulmuş olması, yıkılma sürecinde de kubbe molozunun iç tarafta birikmesi nedeniyle, duvarın kökü iki taraftan da desteklenmiş olur. Bu nedenle de çoğunlukla duvarın bir tarafa doğru bütünüyle yatarak yıkılması gibi bir durum söz konusu olmaz. Duvarı oluşturan kerpiçler yapının çevresinde yaklaşık 2 m genişliğinde bir alana yayılır (Res. 21).

Bindirme Kerpiç Kubbeli Yapı Molozunun Arkeolojik Araştırmalar Açısından Değerlendirilmesi

Bindirme kerpiç kubbeli bir yapının arkeolojik olarak temel düzleminde açığa çıkarıldığını varsaydığımızda, birbirine eş küçük kare ya da iki karenin bileşimi olan ince uzun dikdörtgen hacimlerin bir araya gelmesiyle oluşmuş bir mimari biçimleniş söz konusu olacaktır (Res. 14). Böyle bir altyapının duvar ve örtü sisteminin nasıl olması gerektiği ise, kuşkusuz çözümü çok alternatifli bir sorudur. Bu bağlamda kubbeli bir ev bütünüyle yıkıldığı zaman ortaya çıkan molozun niteliğinin tanımlanması, arkeolojik kazılarla açığa çıkan kalıntıların yorumlanmasına yönelik önemli bilgiler sağlayabilir. Suruç'ta karşılaşılan adeta bir höyüğe dönüşmüş yapı ya da yerleşme birimlerinin biçim ve hacim özellikleri incelenerek, bir kubbeli evin oluşturduğu höyük dolgusu saptanmaya çalışılmıştır (Res. 22). Bunun için alanda yapılan incelemelerin yanı sıra ustalardan elde edilen bilgiler de derlenerek, kuramsal olarak bir kubbeli hacmin yıkılması durumunda oluşacak molozun kaplayacağı alan ve yüksekliği tanımlanmıştır (Res. 23). Buna göre:

Yaklaşık 2 m duvar yüksekliği olan ve üzerinde konik biçimli bir kubbenin yer aldığı bir yapı yıkıldığı zaman, kubbeyi oluşturan kerpiçler bütünüyle mekan içine düşerken, beden duvarları içe ve dışa yayılır. Bu durumda bir kubbenin yaklaşık 700 kerpiçten oluştuğu, mekan açıklığının ortalama 3,5 x 3,5m olduğu ve duvar kalınlığının 100 cm olduğu standart bir yapının moloz yüksekliği hesaplandığında, mekan içinde yaklaşık 1,2 m yüksekliğinde bir toprak birikintisi ve yapı dışında yaklaşık 72,25 m^2 alana yayılan ortalama 50 cm yüksekliğinde bir toprak birikintisi ortaya çıkar[38]. Dolayısıyla yapının bulunduğu alanda en yüksek noktaya ulaşan 8,5 x 8,5 m^2 büyüklüğünde üstü kesik tepe biçimli bir toprak yığıntısı oluşur (Res. 23). Yıkılma sürecinde kerpiç beden duvarlarının iki tarafı da toprak ile dolduğundan, ancak temel hizasında duvar hatları varlığını koruyabilir. Düz damlı mimariyle kabaca bir karşılaştırma yapmak gerekirse, aynı büyüklükteki bir düz damlı yapıdan ortaya çıkacak kerpiç molozunun hacminin çok daha küçük olmasının yanı sıra, bu tür yapılarda beden duvarları çoğunlukla dışa doğru açılarak bütünüyle yıkıldığından, molozun biçimsel özellikleri de farklı olacaktır (Res. 24).

Yapının kesik kubbeli olması durumunda içteki yığıntı biraz daha azalacak ve moloz içinde ağaç kirişler bulunacaktır (Res. 25). Ağacı saran kerpiç çamuru üzerinde de bunların negatif izleri bulunur. Yapının bir yangın yaşamaması durumunda bu ağaçlar zaman içinde çürüyerek yok olur ve kerpiç de yağmurda eriyerek toprağa dönüştüğü için ahşap izleri zamanla yok olur. Ancak yapının bir yangın geçirmesi durumunda, kerpicin sertleşerek tuğla gibi dayanımının artmasına bağlı olarak üzerindeki ahşap izleri de kalıcı olur.

Suruç'ta oldukça çok sayıda taş duvarlı kubbeli yapı ile de karşılaşılmıştır. Bu yapıların yıkılması sürecinde, çamur harçlı moloz taş duvarın su alması nedeniyle harç zamanla erir ve taşlar etrafa saçılmaya başlar. En son aşamada yapının içine ve dışına doğru harç toprağı ile karışık düzensiz taşlar yığılır (Res. 26). Ancak yapının temel hizasında taş duvar varlığını koruyabilir.

Her ne kadar Suruç'ta dairesel planlı ve zeminden başlayan kubbe biçimli bir ev ile karşılaşılmamışsa da, arkeolojik kazılarla ortaya çıkan yuvarlak planlı yapılar için düşünülen restitüsyon önerilerinden yola çıkarak, Suruç'ta elde edilen verilerle bir düşünsel çalışma da yapılabilir. Buna göre 3,5 m çapındaki bir kubbenin yıkılma biçimi, bütünüyle yapı sınırlarını takip edecek biçimde mekan içine olacak ve moloz yüksekliğini doğal olarak kubbe yüksekliği, diğer bir deyişle kullanılan kerpiç sayısı tanımlayacaktır. Bölgedeki ustaların beyanına göre en nitelikli kubbe için 1000 kadar kerpiç kullanıldığı bilgisinden yola çıkıldığında; yaklaşık 12,5 m^3 hacmindeki kerpiç, yapının dıştan 15,9 m^2 tutan alanı içinde ortalama 80 cm'lik bir moloz yığıntısı oluşturacaktır.

SONUÇ

Bu araştırmada Suruç Ovası kerpiç bindirme kubbeli yapılarının mimari ve yapısal özelliklerini çözümleyerek, arkeolojik araştırmalara bir veri sunmak amaçlanmıştır. Çalışmanın sonunda gelinen noktada, günümüz köy mimarisinin bu konuda yararlı bir kaynak oluşturduğu görülmüş, ancak yeterli teknik incelemeler yapılmadan kurgulanacak varsayımların yüzeysel, hatta hatalı olma olasılığının yüksek olduğu da anlaşılmıştır. Özellikle son yüzyıllar içinde biçimlenmiş kırsal mimarlık ürünleriyle arkeolojik kalıntıların ilişkilendirilmesinde tarihsel süreklilik bağlamında yorumlamalarda bulunmak, o bölgedeki geçmişin toplumsal, ekonomik, kültürel vb. yapılanmalarının bütün

yönleriyle ayrıntılı bir biçimde bilinmemesi durumunda önemli soru işaretleri oluşturmaktadır. Bu büyük kuşkular bu çalışmayı, esas olarak, geleneksel köy yapılarını yapısal özellikleriyle arkeolojik kalıntıların değerlendirilmesine katkıda bulunmak doğrultusunda şekillendirmiştir. Ancak gelecekte, bugün artık haraplaşmakta olan ve arazideki gözlemlerimize göre bir kısmının zaten olasılıkla eski köy yerleşimleri üzerine kurulduğu anlaşılan köylerin kazıyla alt evrelerinin ortaya çıkartılması, belki tarihsel süreklilik bağlamında daha ilginç sonuçlar doğurabilir.

Suruç Ovası araştırmaları sırasında gözlenen yıpranmış ve yok olmaya yüz tutmuş köy yapıları ve hatta köyler, etnoarkeolojik araştırmalar açısından yararlı bir bilgi birikimini gözler önüne serse de, artık bölgede geleneksel mimarinin sürekliliğinin olmaması düşündürücü bir konudur. Bölgenin zorlayıcı ekonomik ve toplumsal koşulları nedeniyle bazı evler ve yerleşmeler terk edilirken, varlığını sürdüren yerleşmelerde de yeni yapılaşmada beton ya da briket gibi modern malzemeler tercih edilmektedir. Günümüzde birkaç yaşlı usta dışında kubbe yapımını bilen kimsenin kalmamış olması, kerpiç kubbeli yapı geleneğinin yakında baştan keşfedilmesi gereken bir arkeolojik değer haline dönüşme tehlikesini gündeme getirmektedir. Bu çerçevede Suruç'ta yaptığımız gözlemler, arkeolojik kalıntılara yönelik bir veri bankasını oluşturmanın yanı sıra, bu yapıların korunması ve restorasyonu gündeme geldiğinde uygulama sürecinde gerekli olacak bilgi birikimine de katkı sağlamaktadır.

KATKI BELİRTME

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NOTLAR

1 1911'de kubbeli yapılarla ilgili bir alan çalışması ve kaynak araştırması yapan Banse, bu konuda kendinden önceki gezginlerin görüşlerine yer vermiştir (Banse 1912: 173). Benzer biçimde Copeland de çalışmasında her ne kadar gezginlerin kubbeli mimariye yeterince ilgi göstermemiş olduklarına dikkat çekse de, 17. yüzyılın ikinci yarısına kadar giden bir zaman diliminden gezgin notlarını aktarmıştır (Copeland 1955: 21). Kubbeli mimariyi doktora çalışmasında ayrıntılı bir biçimde inceleyen Akın, bu ilginç biçimlenişlerin kişilerde uyandırdığı etkiyi, Fellini filmlerine kadar uzanan geniş bir yelpazede örneklemiştir (Akın 1985: V [dipnot 60]).

2 Bindirme kubbeli yapılar, kare planlı bir mekanın üzerinin eğrisel bir örtü ile kapatılmasıyla oluşturulur. Kubbe kerpiç, taş ya da tuğla ile örülebilir. Harran'da tuğla, Suruç ve Suriye'de kerpiç, İtalya'nın Trulya bölgesinde ise taş kubbe geleneği vardır. Bu çalışma esas olarak kerpiç bindirme kubbe sistemine odaklanmıştır. Bu yapı sisteminde her bir kerpiç sırası alttakinden biraz iç mekana taşırılarak mekan açıklığı azaltılır. Böylece mekanın üzeri örtülene kadar 25-30 sıra kerpiç örülür ve böylece parobolik biçimli bir kubbe elde edilmiş olur.

3 Bulle bu yayınında iki fotoğraf kullanmış ve bunları yayımlanmasına izin verdiği için Delitzsch'e teşekkür etmiştir. Bunlardan biri bir yapı grubunun yakın plan çekimidir ve hangi yerleşme olduğu belirtilmemiştir. Diğerinin ise Harran olduğu kalıntılardan dolayı kesindir. Ancak Delitzsch kendi yayınında yalnızca yakın çekim yapı fotoğrafını kullanmıştır (Delitzsch 1903: 10).

4 Örneğin, Güneybatı Asya ve Kıbrıs'taki Neolitik dönem yuvarlak planlı yapı tiplerini değerlendiren çalışma için bkz. Peltenburg 2004; Ürdün'deki Neolitik dönem yuvarlak planlı yapılarıyla ilgili olarak bkz. Kuijt 2004; Suriye'deki Neolitik dönem yuvarlak yapı mimarisi için bkz. Stordeur ve Abbès 2002; Azerbaycan Neolitik dönem yuvarlak yapıları için bkz. Hansen vd. 2006, Hansen vd. 2007; Azerbaycan Kalkolitik dönem yuvarlak yapıları için bkz. Schachner 2001; Ermenistan İlk Tunç Çağı yuvarlak yapıları için bkz. Areshian 2005; Kafkaslar'da İlk Tunç Çağı yuvarlak yapıları için bkz. Sagona 1984.

5 Khirokitia'nın 1936-1946 yılları arasındaki kazı çalışmalarını derleyen yayınında da restitüsyon önerisi kubbeli yapı biçimindedir (Dikaios 1953: 20).

6 Bir Halaf tholosu canlandırma çizimi için bkz. Piggott 1962: 63; Aurenche da Yakındoğu'nun MÖ 4. bin mimarisi üzerine hazırladığı yayında çeşitli araştırmacıların bu konudaki görüşlerini derlemiştir (Aurenche 1981: 150-153).

7 Fotoğraflardan biri, Suruç çevresinde gezi yapan H. W. Hicks tarafından 1909'da National Geographic'de yayımlanmıştır (Anonim 1909: 187). Diğeri yüzyıl dönü-

münde Kapusen Rahiplerinin hazırladığı bir kartpostaldır (Köker 2005: 634).

[8] (Akın 1985: 12, 15, 54-57; Özdeniz vd. 2000: 204), Gabriel ve Rathjens de kubbeli mimariyi bölgenin otokton yapı geleneği olarak tanımlar (Gabriel ve Rathjens 1955: 247).

[9] Layard'ın çizimini yayımladığı rölyefi (Layard 1853a: lev. 17) değerlendiren araştırmacılar: Akın 1985: 12; Banse 1912: 179; Oppenheim 1899: 103; Smith 1971: 62, fig. 91.

[10] Özdeniz de bu konuya dikkat çekmektedir (Özdeniz vd. 2000: 205).

[11] Son yıllarda Harran evleri üzerine mimari belgeleme çalışmaları artmaktadır (Özdeniz vd. 2000); Harran ve Suriye kubbeli yapıları için bkz. Coockson 2010: 73-87.

[12] Böylece Schmidt'in bitişken mimari kavramı günümüzden somut verilerle desteklenmiştir (Schmidt 1963).

[13] 2000-2002 tarihleri arasında Prof. Dr. Günkut Akın ve Prof. Dr. Nur Akın yürütücülüğünde gerçekleştirilen Birecik-Suruç Kırsal Mimarlık Envanteri çalışmasında bu makalenin yazarı da yürütücü yardımcısı olarak görev yapmıştır. Bu araştırma kapsamında Birecik ve Suruç ilçelerinde yer alan bütün köy ve köyaltı niteliğindeki kırsal yerleşmeler belgelenmiş ve her türlü geleneksel yapı saptanmıştır. Çalışma raporları TÜBA tarafından yayımlanmıştır (Akın vd. 2002; Akın vd. 2003). Bu makalede yalnız Suruç Ovası kerpiç kubbeli yapı geleneğinin söz konusu olduğu yerleşmeler konu edilmiştir.

[14] Günümüzde Türkiye ve Suriye topraklarında paylaşılan Suruç Ovası'nın Türkiye'de yer alan ve ovanın esas büyük kesimini oluşturan kısmı, bu çalışmada ele alınmıştır. Suriye'de bulunan yerleşmeler üzerine de çeşitli araştırmalar yapılmakla birlikte, Türkiye kesimi ilk kez bu envanter araştırması ile ayrıntılı incelenmiştir.

[15] İran'ın Kahsan, Chupanan, Kerman, Mashad gibi çok farklı bölgelerinde (Farassat 1983), Afganistan'da (Aurenche 1977: 64, fig. 160) ve Orta Mısır'da (Coockson 2010: 86-87), Suriye-Türkiye kubbeli yapıları ile benzeşen dörtgen planlı dik duvarlı üzeri kubbe ile örtülü kerpiç yapı gelenekleri vardır.

[16] 3-3,5 m çapında 30-40 cm kalınlığında taş temelleri bulunan yuvarlak biçimli yapı için biri düz damlı diğeri bindirme kubbeli olmak üzere iki öneri geliştirilmiştir. Her iki öneride de bir ara kat bulunmaktadır. Düz damlı öneride ara kat ahşap kirişler üzerinde ince bir döşeme olarak, dam da yine ahşap kirişler üzerinde ve kalın toprak örtülü olarak tanımlanmıştır. Kubbe örtülü öneride ise ara kat yine ince bir ahşap döşemeden oluşurken, bindirme kubbe kerpiçten yapılmıştır. Her iki öneride de yapının dikey kerpiç duvarları vardır (Todd 1998: 40).

[17] Bu konuda ayrıntılı bilgi veren Aruchlo kazı raporları için bkz. Hansen vd. 2006; Hansen vd. 2007.

[18] Örneğin Gana'da bulunan yapılar bkz. Courtney-Clarke 1990: 38-40.

[19] Kamerun'da Mousgoum yerlilerinin evleri arkeolojik araştırmalar açısından da en fazla başvurulan örneklerdir (Dujarric 1997). Güney Etiyopya'da Dorze Evi olarak anılan yapılar (Yitbarek 1997: 2020) ya da Hindistan'ın güneyinde Neelgiri Hills bölgesinde Toda evi olarak anılan yapılar (Anonim 2001: 3).

[20] Nijerya platosunda bulunan Matakam yerlilerinin evleri (Engard 1997: 2068) ya da kuzeybatı Hindistan'da Kutchch bölgesinde Bhunga evi olarak anılan yapılar (Anonim 2001: 9-10).

[21] Farklı biçimleniş özellikleri olan yuvarlak planlı yapı tiplerini bölge bilgilerini içerecek bir biçimde tipolojik olarak değerlendiren araştırma için bkz. Oelmann 1927: 22-40.

[22] Schmidt çalışmasında Suriye'den bazı kubbeli yapı örneklerinin de şematik planlarını vermiş, ancak esas olarak arkeolojik yapılar üzerinde durmuştur (Schmidt 1963: 13-15).

[23] Daha önce de belirtildiği gibi bu çalışmada Suruç Ovası'nın Türkiye sınırları içinde kalan kesimi ele alınmıştır.

[24] Toprak İskan Genel Müdürlüğü'nün çalışması, ziraat mühendisi O. Tekinel tarafından doktora tezi alan araştırması sırasında güncellenmiştir (Tekinel 1966: 98).

[25] TÜBA kültür envanteri çalışmasıyla ortaya konan sayısal dökümler için bkz. Akın vd. 2002; Akın vd. 2003.

[26] Kişisel gözlemlerimizin yanı sıra, N. Yardımcı tarafından yapılan Harran Ovası yüzey araştırması, her ne kadar höyükleri belgeleme amaçlı olmasa da, bu çalışmada yayımlanan ve üzerinde köy yerleşimi bulunan çok sayıda höyük fotoğrafı incelendiğinde, kubbeli mimarinin bulunmadığı görülmektedir (Yardımcı 2004).

[27] Harran evleri düzgün dörtgen biçimlenişleriyle Suruç yapılarından farklılaşmaktadır. Kubbe yapımında da kerpiç değil, Harran Höyük'ten getirilen tuğla malzeme devşirme olarak kullanılmıştır (Brice ve Dönmez 1948: 135).

[28] Suriye ve Türkiye kubbeli yapılarına yönelik çeşitli görüşler bildiren gezginlerin de çalışmalarını derleyerek daha teknik bir bakış açısıyla kapsamlı bir biçimde fiziksel çevre koşullarını tanımlayan araştırma için bkz. Gabriel ve Rathjens 1955.

[29] Tekinel çok sayıda yapıyı bu gözle inceleyerek sorunları dile getirmiştir (Tekinel 1966: 105-121).

[30] Bazı yapılarda duvar köşelerine çapraz bir biçimde kısa ahşap kirişler, az sayıda yapıda da köşeye taş levha

konulduğu gözlenmiştir.

31 Bindirme kubbe ve gerçek kubbe sistemi ile ilgili ayrıntılı bilgi için bkz. Heinrich 1971.

32 Banse'nin çalışmasında da her ne kadar fotoğraf kullanılmamış olsa da, çizimlerden konik ve kesik konik örtülü yapıların bir arada kullanıldığı anlaşılmaktadır (Banse 1912).

33 Bölgede saptanan diğer kerpiç ölçüleri: 57 x 34 x 9 cm (Canlıca ve İncirlitepe Köyü); 48 x 30 x 8 cm (Eskice Köyü); 32 x 24 x 10 cm (Bostancılar Köyü).

34 Kerpiç boyutları, sıva ve harç kalınlığına bağlı olarak bu rakamlar biraz farklılaşabilir. Burada yaklaşık ölçüler verilmiştir.

35 Özellikle Karaköy'de saptanan bu tür büyük yapılar, çok etkileyici olmakla birlikte, büyük ölçüde yıkık olduğundan çizim belgelemesi yapılamamış, kubbe sayısı saptanmıştır.

36 G. Akın, Harran evlerini değerlendirdiği çalışmasında "labirent" kavramına değinmiştir (Akın 1985: 55-57).

37 Harran'da ise çoğunlukla bir avluyu sınırlayan birkaç kubbeli yapı, bir aileye ait evi oluşturur (Akın 1985: lev. LIV, res. 1.5).

38 Yapının hemen beden duvarı dışında dışa doğru eğimli toprak dolgu bulunduğundan bu alanda toprak yüksekliği biraz fazlalaşır.

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Res. 1 - 1900'lü yılların başında Harran
(Bulle 1907: lev. XI²)

Res. 2 - 20. yüzyıl dönümünde Kapusen Rahiplerinin hazırladığı bir kartpostalda Suruç (Köker 2005: 634)

Res. 3 - 1960'lı yılların ortasında Harran
(M. Özdoğan Arşivi)

Res. 4 - Layard'ın hazırladığı Ninova Kouyunjik'te bulunan bir rölyef çizimi; geri planda dağ eteğinde kubbeli bir yerleşme betimlemesi (Layard 1853a: lev. 17)

Res. 7 - Yıkık durumdaki kerpiç bindirme kubbe, Taşlıkuyu Köyü

Res. 5 - Layard'ın çizimi; Halep çevresinden bir köy (Layard 1853b: 112)

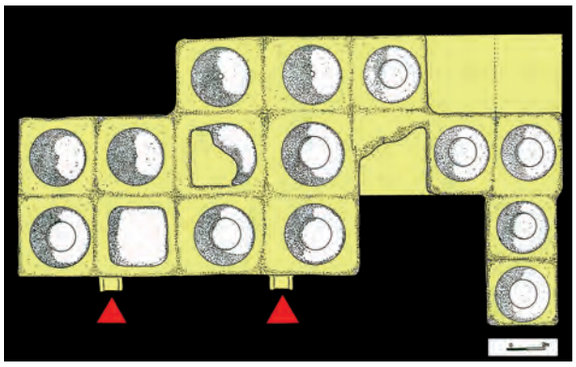
Res. 6 - Yuvarlak planlı konik kubbeli bir kümes yapısı, Çengelli Köyü

Res. 8 - Tam kubbeli ve çeşitli yüksekliklerde kesik kubbeli birimlerden oluşan bir yapı, Özgören Köyü

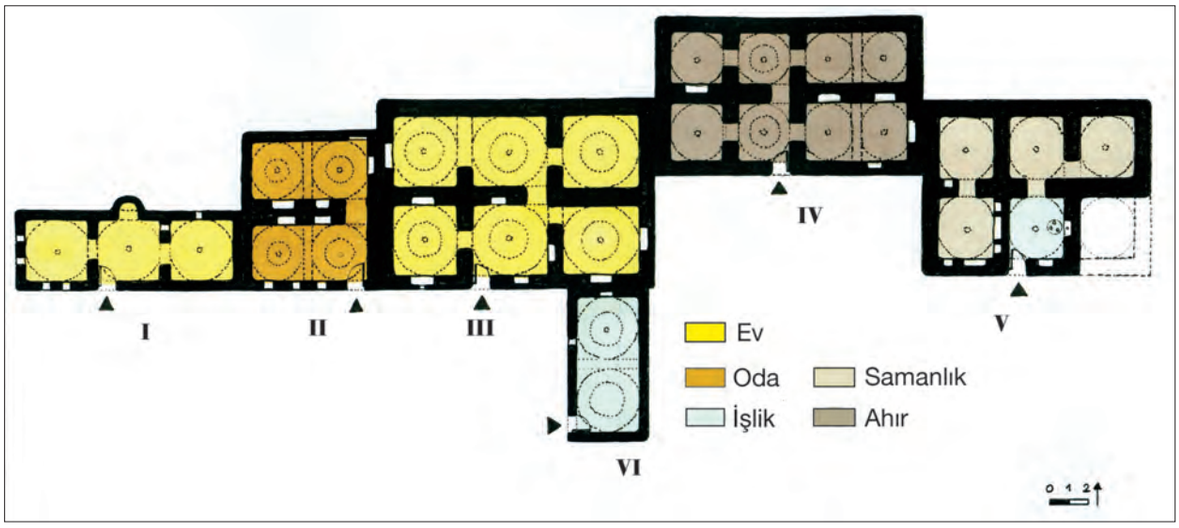
Res. 9 - Taş duvarlı kubbeli yapı, Büyük Ağaçlı Köyü

Res. 10 - Her biri kendi beden duvarlarıyla birbirine bitişen kubbeli birimler ve kubbeler arasındaki toprak dolgu detayı, Atyolu Köyü

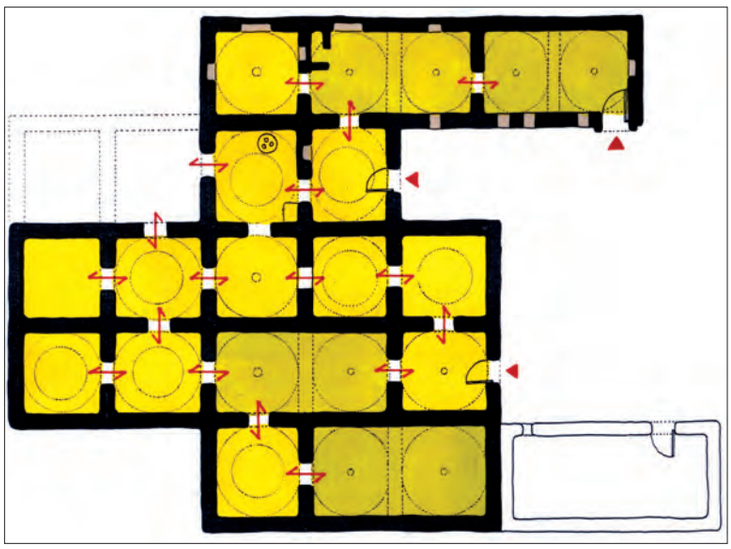
Res. 11 - Beden duvarları dışında toprak dolgu, Yatırtepe Köyü



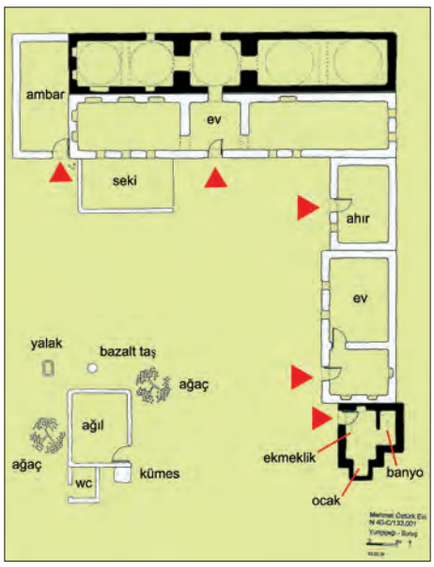
Res. 12 - Bir aile evi durum planı, Alanyurt Köyü



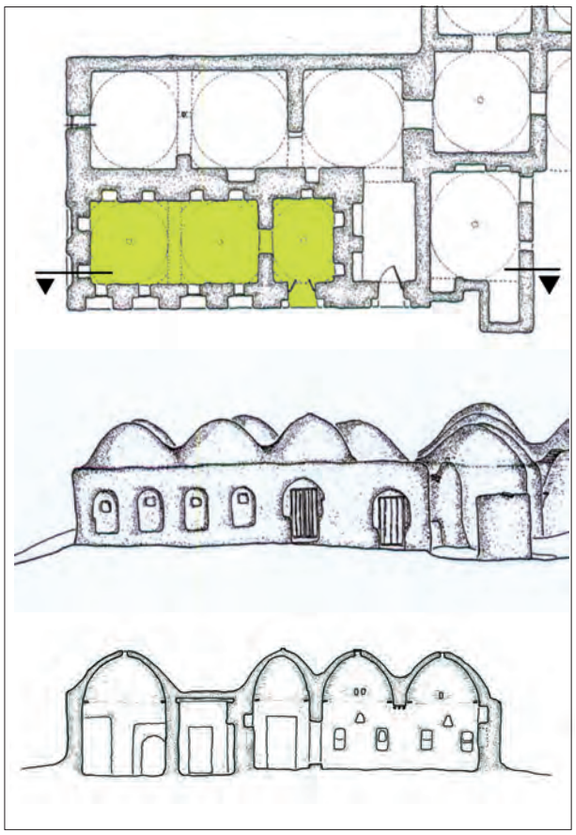
Res. 13 - Bir aile evi planı, Saygın Köyü



Res. 14 - Bir aile evi planı, Küçük Sergen Köyü



Res. 15 - Bir aile evi planı, Yurtçiçeği Köyü



Res. 16 - Bir evde yer alan oda mekanı, Yatırtepe Köyü

Res. 17 - Mevsimlik göç nedeniyle açıklıkları kapatılarak bırakılmış yapı, kullanılmayan kısma bakım yapılmamaktadır, Alanyurt Köyü

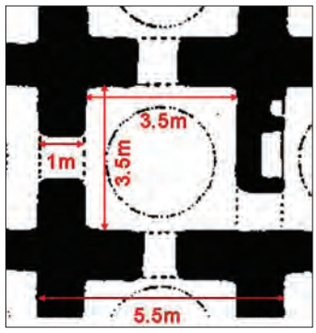
Res. 18 - Kubbeleri yıkılmakta olan bir yapı, Karaköy

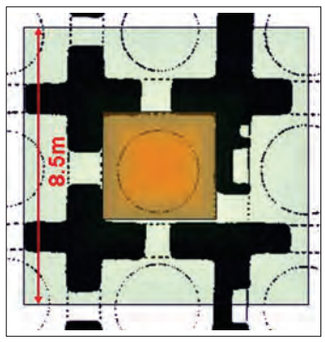
Res. 19 - Kubbeleri bütünüyle yıkılmış, duvarları yıkılmakta olan bir yapı, Saygın Köyü

Res. 20 - Beden duvarları yıkılmakta olan bir yapı, Üveycik Köyü

Res. 21 - Höyükleşme sürecine girmiş bir yapı, Gölcük Köyü

Res. 22 - Höyükleşme sürecine girmiş bir yerleşme birimi, Boztepe Köyü





	Hacim		Alan	
Bir kerpiç	25 cm x 50 cm x 10 cm	0.0125 m^3		
Bir kubbe	700 kerpiç x 0.0125 m^3	8.75 m^3		
Bir mekanın duvarları	18 m^2 x 2 m	36 m^3		
Kubbeli bir mekan			3.5m x 3.5 m	12.25 m^2
Duvar molozunun yayılımı			8.5m x 8.5 m	72.25 m^2
			Moloz Yüksekliği	
Bir mekan içine yıkılan kubbenin molozu			8.75 m^3/12.25 m^2	0.70 m
Duvar molozu (mekanın içine ve dışına dağılan moloz)			36 m^3 / 72.25 m^2	0.50 m
			+	
Mekan içinde toplam moloz yüksekliği				1.20 m

Res. 23 - Tek kubbeli bir yapının oluşturduğu moloz; Eres 2010: 280'den yararlanılarak hazırlanmıştır.

Res. 24 - Yıkılmakta olan kubbeli yapılar ve dışa yatarak yıkılmış düz damlı ev duvarı, Karaköy

Res. 25 - Yıkılmakta olan kesik kubbeli yapı, Küçük Ziyaret Köyü

Res. 26 - Yıkılmakta olan taş duvarlı kerpiç kubbeli yapı, Aşağı Ataklar Köyü

ÖZEL KONU:

TRANSKAFKASYA ARKEOLOJİSİ

SPECIAL SECTION:

ARCHAEOLOGY OF TRANSCAUCASUS

Antonia SAGONA
Special Section Editor

PAST AND PRESENT DIRECTIONS IN THE ARCHAEOLOGY OF THE TRANSCAUCASUS

TRANSKAFKASYA ARKEOLOJİSİNDE GEÇMİŞ VE GÜNCEL YÖNELİMLER

Antonio SAGONA

Keywords: Caucasus, archaeological policies, Marxist archaeology

Anahtar Sözcükler: Kafkasya, arkeoloji politikaları, Marksist arkeoloji

ABSTRACT

From the perspective of Anatolia, the Transcaucasus (or the southern Caucasus) has always been viewed as a region of primary significance. Yet for a variety of reasons the archaeology of this region has remained elusive, accessible for the most part by syntheses in Western languages. This paper outlines the major trends in archaeological thought in the Transcaucasus before and after glasnost (openness) and perestroika (restructure). It concludes that contemporary archaeology in the region, sampled by the papers in this issue, has much to offer Near Eastern and Eurasian archaeology in general, and Anatolian archaeology in particular.

ÖZET

Ermenistan, Azerbeycan ve Gürcistan'ı kapsayan Transkafkasya, Avrasya ile Yakındoğu'nun arasında bir ara bölge niteliği taşır. Soğuk Savaş döneminde bölgede Sovyetler Birliği tarafından yürütülen çok sayıda çalışma, Batı dünyasından soyutlanmış ve kopuk olarak gerçekleştirilmiştir. Bölgedeki ülkelerin bağımsızlıklarını kazanmasıyla yeni bir süreç başlamış, çalışmalar farklı bir boyut kazanmıştır; TÜBA-AR bu sayısıyla bölgede yapılan önemli araştırmaları tanıtmayı amaçlamıştır. Her ne kadar bu dosya, bölgede süren araştırmaların tümünü ayrıntılı olarak kapsamasa da, en azından ortaya çıkan bilimsel sonuçları ve bunların kültür tarihine olan katkılarını yansıtılmaya çalışılmıştır. Transkafkasya arkeolojisinin tarihsel süreç içindeki yeri en iyi bir şekilde Leo Klejn ve Adam Smith tarafından değerlendirilmiştir.

SOVYET ARKEOLOJISI: 1917-1991

1871'de kurulan Kafkas Arkeoloji Komisyonu arkeolojik çalışmalarda önemli bir başlangıç noktası sayılabilir. 1881'de Tiflis'de yapılan 5. kongrenin ardından yapımına başlanan müzeler kadar yayımlanmaya başlayan arkeoloji dergileri, arkeolojinin ön plana çıkmasının göstergeleridir. 1917'de sosyalist devrimin ardından arkeoloji kurumsal açıdan büyük bir değişim geçirmiş ve Marksist bir bakış açısı içinde değerlendirilmeye başlanmıştır; bu süreçte arkeolojinin tarihsel olguları yansıtmaktan çok politik bir araç olarak kullanılma kaygısı ağır basmıştır. Bu kapsamda St. Petersburg'da Nikolai Marr'ın başkanlığında kurulan Maddi Kültür Tarihi Akademisi, o yıllarda Batı arkeoloji düşünce sistemi içinde ağırlık kazanan insan odaklı yayılımcılık, göç ve kültürel değişim kuramlarının yerine Marksist bakış açısına göre farklı bir yaklaşım benimsemiştir. Söz konusu yaklaşımda göç olgusu besin ve üretim ekonomilerinin gelişim aşamalarının yansıması olarak ele alınmaktadır.

Stalin'in başa gelmesiyle birçok bilim adamının çalışmalarına son verilmiş, dolayısıyla, arkeologlar devletin de önerileri doğrultusunda kuramsal değerlendirmeye yönelmeden yalnızca veri tanımına yönelmiş, arkeolojik çalışmaların sayısı hızla artmıştır. Her ne kadar zaman zaman arkeoloji etnik köken arayışında politik bir araç olarak da kullanılmışsa da, süreç içinde göç ve yayılma olgusu yeniden benimsenerek Marr'ın geliştirmiş olduğu kuramlara karşı çıkılmıştır. Sovyet Birliği döneminde arkeologlar hızlı gelişen yapılaşma sürecinde yoğun olarak kurtarma kazısı yapma olanağı bulmuşlardır.

1970'li yıllar Batı arkeolojisinde kuramsal ya da veriye dayalı belgeleme yapan yaklaşımlar arasındaki karşıtlığın belirleştiği, tartışmaların arttığı bir dönemdir. Sovyetler Birliği'nin son dönemlerinde arkeolojide birbirinden farklı iki yaklaşım belirginleşmiştir; bunların biri kalıplaşmış kuram ve görüşleri benimserken, diğeri ise daha yeni kuram ve görüşlere yönelmiştir. İlk görüşü benimseyen arkeologlar, arkeolojiyi ve buluntuları tarihsel süreçte özellikle etnik köken arayışına yönelik olarak ele alırken, diğerleri yenilikçi bir yaklaşım kaygısıyla bilimsel arkeometrik analizlere ağırlık vermişlerdir. Bu bağlamda Sovyet arkeolojisinde yontmataş ve maden teknolojisini inceleyen önemli araştırma birimleri ortaya çıkmıştır. Aynı şekilde geçmiş toplumların doğal çevre ortamları içinde değerlendirilmesine ağırlık verilmiş ancak eldeki çevresel verilerin kültür tarihini anlamaktaki sınırlılığı göz ardı edilmiştir.

Sovyetler Birliği'nin yıkılmasından sonra yeni bir yapılanma sürecine girilmiş, ancak yeni birimlerin gerek duyduğu parasal kaynağın sağlanması gecikmiştir. Her ne kadar Sovyetler'in eski akademisi St. Petersburg ve Moskova olmak üzere iki ayrı birime ayrılmışsa da, yeni oluşan Kaskas cumhuriyetlerindeki yapılanma daha sınırlı ölçüde olmuştur. Örneğin Gürcistan'da arkeolojik çalışmalar Ulusal Müzenin başkanlığı altında devam etmiş, Sovyetler Birliği zamanindaki yarı özerk arkeolojik kazılar tek kurum altında birleşmiş, araştırmalar daha denetimli bir yasal süreç içinde ilerlemeye başlamıştır. Belki de bu değişimin en olumlu tarafı TÜBA-AR'ın bu sayısında da görüldüğü gibi yerli ve yabancı arkeologlar arasında güçlü bir iletişimin başlamış olmasıdır.

INTRODUCTION

The modern lands comprising the Transcaucasus – Armenia, Azerbaijan and Georgia – together cover an area no more than 200,000 sq km, approximately 1/4 the size of Turkey and 1/8 the size of Iran, their two southern neighbours. Essentially an isthmus connecting the Near East with the vast expanse of the Eurasian steppes, these relatively small pieces of real estate collectively exerted from time to time a profound influence on the cultural development of surrounding regions. At the same time, they spawned distinctive complexes, which appear to have travelled little further than the Transcaucasus itself. Yet any attempt to access the multiplicity of its archaeological cultures may well cause some dismay.

The history of archaeology in the Transcaucasus, like that of the other former socialist countries of the Soviet Union, was formed in response to specific and complex socio-political and economic conditions. The course of Soviet archaeology was neither smooth nor straight. During the Cold War the academic isolation of Soviet researchers and their Western counterparts prompted some to refer to the archaeological potential of the Soviet Union in general, and Russia in particular, as the 'Great Unknown' (Struve 1955). Even now, 20 years after *perestroika*, most western researchers have only a vague understanding of the accomplishments of Soviet archaeology. Although the archaeology of the Transcaucasus is no longer a *great* unknown, it nevertheless remains a rather shadowy and elusive area for many Near Eastern archaeologists.

This special issue of TÜBA-AR showcases some of the exciting research that is currently being carried out in the region. Although only a small representation, it is hoped that these papers will serve to promote academic discourse and engagement. To help the reader appreciate these new developments, a few brief words on the accomplishments of Soviet archaeologists will serve as an historical backdrop. The

summary that follows draws heavily on the studies of Leo Klejn, who over more than three decades has sought to demystify Soviet archaeological thought for Western researchers (Bulkin et al. 1982; Klejn 1977, 2001). For a history of archaeological discoveries and intellectual traditions in the Transcaucasus, especially Armenia, readers are directed to Adam Smith's excellent appraisal (Smith 2005: 234-251; see also Gamkrelidze 2004 for early work in Georgia, and Kohl 2007 for short biographical sketches of key researchers).

MILESTONES IN SOVIET ARCHAEOLOGY: 1917–1991

If we look at the history of archaeology in Russia from its formative stages through the Russian Revolution to the collapse of the Soviet Union, we can discern some clear trends in archaeological thought. Even though pre-revolutionary archaeology in Russia was, as in many places, very much an antiquarian pursuit, the foundation of both the Imperial Archaeological Society (est. 1851) and the Imperial Archaeological Commission (est. 1859) oversaw the fledgling stages of professional investigations (Klejn 2001). The establishment of the Caucasus Archaeological Committee in 1871 was a significant turning point in archaeological activities. In that same year, Austrian researcher Friedrich Bayern began investigations at Samtavro near Mtskheta (see article by Sagona et al. in this volume), as did E. Yeritsov at the cemetery site at Akner in Armenia (Smith 2005: 238). In Azerbaijan, Valdomar Belk, a German, drew attention to the mountainous region of Gedabej (Guliyev n. d.)[1]. A welter of activities ensued, especially after the Imperial Archaeological Commission held its 5th congress in Tbilisi in 1881 (Virchow 1882). Around this time, chronology became a serious concern. These were most clearly expressed in the studies of Jacques de Morgan, who, for the first time, compared the material remains from the Transcaucasus with those in the greater Near East and Aegean (de Morgan 1889). Whereas private collections of antiquities were fashionable, grand museums like the Hermitage were established to house an emerging body of antiquities which were the subject of discussion in archaeological periodicals and congresses. In the Caucasus, the Russian Imperial Geographic Society established, in 1852, a museum for its Caucasian Department, which was re-named the Caucasian Museum in 1865, and is now known as the Simon Janashia Museum of Georgia, Tbilisi. Despite these many activities, the late nineteenth century saw no major advances in conceptual or analytical paradigms comparable to those in Western Europe, especially Scandinavia (Klejn 2001: 1127-1132).

From the time of the 1917 Revolution to about 1924 archaeology experienced major institutional change, if not thinking. Tsarist organizations such as the Archaeological Commission and the Moscow Archaeological Society, seen as the playground of the wealthy, could do little in arresting the dramatic slump in fieldwork and research. Antiquarianism continued until the late 1920s, when a new generation of young archaeologists attempted for the first time to explain material culture in terms of Marxist social history. These first attempts to find social value in the remains of the past saw a sharp reaction against earlier empiricism. Typological studies, it was said, turned artefacts into fetishes. For this revolutionary generation, bristling with political ideals, the emphasis was on the here and now. Antiquities, it was thought, needed to elucidate issues on historical economics and production, rather than be seen as objects from a remote past. To that end, even the term archaeology was avoided in preference to 'the history of material culture'.

Out of this ferment and thinking emerged the powerful Academy for the History of Material Culture in St. Petersburg, headed by Nikolai Marr, which replaced the Archaeological Commission. Marr, a linguist by training, became known as the founder of 'the theory of stages' or 'Japhetic theory' (Matthews 1948)[2], which explained socio-cultural changes as fundamental economic transformations. He rejected notions of migrations, cultural adaption, and diffusionism because they were seen as pandering to Western European humanism, and not serving Marxist political ideology and the concept of pre-class societies (Bulkin et al. 1982). Even clear instances of population movements were explained as developmental stages in the subsistence and productive economies of the same communities. Though this school of thought created a simplistic framework to interpret human behaviour, it did, nonetheless, focus attention for the first time on indigenous developmental change and the role of technology in ancient societies. These tumultuous times had a tremendous impact on developments in Armenia, Azerbaijan,

and Georgia, which were incorporated into the Soviet Union in 1922. The Yerevan State Museum (est. 1919) and the Azerbaijan State Museum of History (est. 1920) were among the institutions founded.

With Stalin's rise to power and his subsequent tyrannical rule, many intellectuals perished. Archaeologists turned their attention to 'facts', and were well advised by the State to explain material culture (sources) in terms of history and not to stray into theory. Accordingly, a period of historical materialism ensued. New methods were developed that were used to infer social relations from material culture. Out of this milieu emerged what is arguably the greatest legacy of Soviet archaeology, namely the introduction in the 1930s of lithic microwear and taphonomic analysis spearheaded by the work of Sergei Semenov on Palaeolithic tools. Throughout that decade there was a voracious appetite for archaeological data and knowledge. Expeditions proliferated, as did publications, including the foundation of *Sovetskaya Arkheologiya*, which became the most prestigious archaeological periodical of the USSR (Beliaev et al. 2009).

It was also during the late 1930s that Soviet archaeologists became captivated with the archaeology of the outlying regions of their Union, the Caucasus among them. Discoveries such as the spectacular Trialeti kurgans by Boris Kuftin (Kuftin 1941), and investigations at the Urartian fortress at Karmir Blur by Boris Piotrovskii (Piotrovskii 1950) presented researchers with a cultural diversity that was difficult to accommodate into the 'theory of stages'. Although Kuftin was himself exiled from St. Petersburg to Tbilisi, he went on to make one of the most enduring contributions to Caucasian archaeology. Using a culture-historical approach, he defined a number of archaeological cultures and produced a coherent regional periodisation for the southern Caucasus. His articulation of the Kura-Araxes horizon and Trialeti assemblages, in particular, formed the basis of subsequent investigations on the late prehistory of the region.

The great and threatening stress that the various peoples of the USSR faced during this period and the ensuing decades was expressed by a surge of studies that resulted "*…in a growth of national self-consciousness, the expression of national pride and the fostering of the best indigenous traditions*" (Bulkin et al. 1982: 276). In archaeology this was expressed through ethnogenesis, a theoretical framework used to examine the ethnic origins of the various nationalities starting from their prehistoric roots. Concepts such as ethnicity, migration, and continuity were back on the agenda, and Marr's 'theory of stages' was pushed into the background until it was finally rejected in 1950. Ancient material culture suddenly had a direct link to contemporary communities because it was seen as a tangible expression of the productive activities of ancestral societies.

By the late 1950s, new forces began to shape archaeological theory. The growth of infrastructure projects throughout the USSR prompted another legacy. Just as Soviet researchers had pioneered forensic analysis in the 1930s, so too did the Soviet state introduce aspects of what we now call Cultural Resource Management, by requiring construction companies to fund salvage excavations of archaeological sites threatened by building activities. Expeditions ballooned in the 1960s and 1970s in excess of 500 expeditions a year with a commensurate publication output of 3,000 studies a year. In the Transcaucasus, a number of fundamentally important sites were investigated: Kvatskhelebi (Dzhavakhishvili and Glonti 1962) and Shualveris Gora (Dzhaparidze and Dzhavakhishvili 1971) in Georgia, Kültepe (Abibullaiev 1959) and Shomutepe in Azerbaijan (Narimanov 1965) in Azerbaijan, and Artik (Khachatrian 1979) and Mestamor (Khanzadian 1995) in Armenia to mention but a few. As research standards improved across all disciplines in the 1960s, so too did self-evaluation. Scientific objectivity gradually began to replace the subjectivity that had fuelled the ethnogenetic paradigm. Yet these useful studies remained compartmentalised. Rarely were they dovetailed with material culture into persuasive accounts of cultural change. Even so, major themes emerged during this period and included the earliest agricultural settlements (the so-called Shulaveri-Shomutepe culture), copper and bronze metallurgy; and, in Georgia, the distinctiveness of its western lowlands (ancient Colchis of the Graeco-Roman authors) was becoming increasingly apparent.

The period of détente in the 1970s broadened the intellectual perspectives. Intensive debates, especially between those who adhered to historical materialism and those who saw value in the emerging field of sociology, resulted in a more sophisticated theoretical framework that was not adverse to views

expressed in the West. In the decade before the collapse of the Soviet Union, archaeology had differentiated itself into a number of categories that have been divided into two groups. One group continued to pursue established traditions, whereas the other sought new approaches. Briefly, they have been summarized as follows (Bulkin et al. 1982):

Group I (Traditional)

Archaeological history:
Harking back to one of the earliest phases of Soviet archaeology, researchers of this category firmly believed that archaeology came under the umbrella of history. Narrative histories such as the multivolume *Archaeology of the USSR* provided a broad yet quite detailed sweep of regional surveys. Historical methods, it was argued, were appropriate for the interpretation of archaeological artefacts. Critics of this approach pointed to the lack of understanding or engagement with specialized approaches such the analyses of archaeological science. The historicisation of archaeology, it was said, lent itself to impressions rather than detailed examination of the evidence.

Archaeological ethnogenetics:
In the USSR, an approach developed that very deliberately addressed the question of origins through the identification of 'ethnic indicators' that linked past and present communities. This proposition of 'ethnogenesis' was applied most vociferously to the origins of the Scythians and Slavs (Artamanov 1971), though it also found favour in the Transcaucasus (Dzhaparidze 1976). Conceptually, it essentially assumes that the development of human behaviour has been somehow fossilised, enabling ethnic indicators to be transmitted over the millennia. Soviet ethnographers were the harshest critics of this approach and their research all but debunked this paradigm. At the same time it intensified the debate over whether ethnicity is retrievable from archaeological cultures.

Archaeological sociology:
A derivative of archaeological history, this approach developed in an attempt to explain the complex societies of the Caucasus and central Asia. Championed by V. M. Masson, researchers readily accepted the approaches defined by Western archaeologists such as Vere Gordon Childe, Robert Braidwood and Robert McC. Adams. Influenced by neoevolutionism and the early applications of 'new archaeology', especially systems theory, these archaeologists were most interested in explaining sociopolitical processes and structures. Their critics argued that, on the whole, this approach did not adequately link material culture with theory.

Group II (Innovative)

Descriptive Archaeology:
According to Bulkin, Klejn and Lebedev, "*the term 'descriptive' is not used simply in the sense of seeking to describe, or limiting itself to the description of, archaeological data but implies a strictly objective tendency that is based on factual materials*." (Bulkin et al. 1982: 228). As such, it is distinguished from normative archaeology, but is akin to David Clarke's analytical archaeology (Clarke 1968). Opponents of this approach have argued that the objectives are too narrow, and that its adherents have not been able to translate their formalist results into past human behaviour.

Archaeotechnology:
As a reaction against the subjectivity of the humanist (historical) and typological (descriptive) approaches to archaeology, researchers following the lead of S. A. Semenov and E. N. Chernykh believed that the best way forward in explaining the past was through materials analysis. They viewed the application of new scientific methods to extract the constituent elements of artefacts as the most objective approach to studying cultural dynamics. Soviet archaeology invested much effort into archaeotechnology and developed sophisticated centres for the analysis of stone tool industries and ancient metallurgy (Chernykh 1992)

Archaeological Ecology:
This approach shares many similarities with the functionalist ecological approach of Grahame Clark and some later New Archaeologists. Like Clark, this group of Soviet archaeologists believed that the primary function of culture was survival, and, in turn, this was influenced to a certain degree by the constraints of the natural environment (Bulkin et al. 1982: 283). Ancient communities and their material manifestations were seen as products of an ever-changing interaction with ecology. Yet this multi-disciplinary school of Soviet archaeology differed from

its Western counterparts by stressing productive forces in their framework of socio-cultural relations.

Sequential and theoretical Archaeology
The final and most embracing category of Soviet archaeology proposes an overarching theoretical framework that draws on many of the above approaches, but does not over emphasise any one aspect. Leo Klejn is the leading representative of this group, whose adherents believe that archaeologists must above all appreciate the limits of the archaeological record. The complexity of the past, they argue, can be unlocked only if there is an appropriate bridge that links material culture with human behaviour. Whereas this group stresses that the diachronic nature of archaeological cultures needs to be transformed into a meaningful developmental sequence, it also believes that cross-regional connections are imperative.

As Bruce Trigger aptly observed
(Trigger 1989: 242):
Soviet and Western archaeology have developed in ways that contrast with each other. Yet over time both appear to have come to address the same range of problems.

ARCHAEOLOGY IN THE CAUCASUS SINCE PERESTROIKA

The collapse of Communist rule and the painful transition to capitalism and democratization brought with it some major transformations in the organization of academic and funding of academic centres. Within Russia, archaeological research was markedly decentralized, and various local centres emerged. The Institute of Archaeology, with its headquarters in Moscow, was divided in two independent institutes: one based in St. Petersburg, whereas the other remained in Moscow, changing its name back to the Institute for the History of Material Culture (IHMK), by which it was known before 1956. With the radical economic changes, financial support for archaeology from the government decreased.

The changes in the southern Caucasus were no less dramatic. In Georgia, for instance, a major restructuring has seen the administration of archaeological research come under the umbrella of the Georgian National Museum. The patchwork of semi-autonomous archaeological expeditions that characterised archaeology in the Soviet Georgia has given way to a centralized system. More broadly, as its website states:

The establishment of the Georgian National Museum is considered to be the beginning of structural, institutional, and legal reforms in the field of cultural heritage. The reform envisages introducing modern management schemes and establishing a homogeneous administration system. This initiative aims at elaborating a coherent museum policy, improving the safety conditions for preserved collections, strengthening the education policy in the museum field, and coordinating academic and museum activities.
(Georgian National Museum http://www.museum.ge/web_page/index.php)

One of the most positive aspects of post-*perestroika* archaeology is the collaboration and dialogue that now exists with foreign researchers as the papers collected in this volume amply show. Several themes have emerged in the last twenty years. First, there are new methodologies and trajectories. The Project ArGATS, co-directed by Ruben Badalyan and Adam Smith, one of the first major collaborative ventures, introduced new techniques to explore the concept of landscape archaeology in Armenia. Initially focused on the Late Bronze Age period and the dynamics that existed in the centuries before the rise of Urartu, the project has since extended its parameters to earlier periods. Landscape archaeology is also examined by Jessie Birkett-Rees, who, through a combination of field survey and evidence from earlier excavations (legacy data) from the Tbilisi-Mtskheta region, demonstrates the value of studying the human past as part of a dynamic landscape. The re-interpretation of early data also forms the subject of Giorgi Bedianishvili's and Catherine Bodet's paper that re-constitutes materials from Koban Tombs 9 and 12, arguably the most significant of graves from the Koban cemetery, which are now housed in a number of museums in France. The Samtavro project is also concerned with the re-interpretation and preservation of legacy data, but it is doing so with fresh evidence provided by renewed excavations.

Boris Gasparyan's wide-ranging overview of the Lower Palaeolithic in Armenia provides a significant benchmark for future fieldwork. Given the proximity of Dmanisi to Armenia, it is surely a matter of time

before Armenian researchers discover a comparable sequence extending back into remote prehistory. The Neolithic period, a major focus during the Soviet period in the 1960s and 1970s, has re-emerged as a field of research in the Transcaucasus. The report on the settlement of Aknashen-Khatunarkh by a multi-national team is a significant contribution to our understanding of the early agricultural communities in the Plain of Ararat. Equally, important is paper by Bertille Lyonnet and Farhad Guliyev, who report on the latest Neolithic and Chalcolithic discoveries in western Azerbaijan, linking them with comparable discoveries in Georgia and Armenia. Catherine Marro and her Azerbaijani colleagues (Bakhshaliyev, Sanz, and Aliyev) report on a most intriguing site - the vast salt mine of Duzdagi in Nakhichevan. With usage extending back to the middle of the 4th millennium BC, the most obvious question to ask is 'Why did the ancients need so much salt?' Finally, a team from Tel Aviv University in collaboration with the Institute of Archaeology and Ethnography, Yerevan, use ceramic technology to compare vessel manufacture from Bet Yerah (Israel) with those from Aparan (Armenia), with fascinating results. Their ongoing research is a major contribution to the question of migration during the Kura-Araxes period.

To this sample of current archaeological field projects should be added many others that are listed in Table 1[3]. As can be seen, every period from the Palaeolithic to the mediaeval period is under investigation. The collective evidence that is gradually accumulating together with genuine multi-national collaboration augurs well for archaeology in the Transcaucasus and, in turn, for Anatolia.

NOTES

[1] I would like to thank sincerely Ferhad Guliyev for sending me his unpublished manuscript on the history of archaeological research in Azerbaijan.

[2] The term 'Japhetic', derived from Japheth, the name of one of the sons of Noah, was applied to the Kartvelian (Georgian) languages. It was Marr's belief that 'Japhetic languages' were sub-stratum languages, which predated Indo-European languages.

[3] I would like to express my gratitude to Ruben Badalyan (Armenia), Ferhad Guliyev (Azerbaijan) and Giorgi Bedianishvili (Georgia) for providing me the information in this Table. It would have been virtually impossible to compile it without their assistance.

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Table 1: Current archaeological excavations in the Transcaucasus

ARMENIA

Palaeolithic

Site	Collaboration	Director(s)
AGHITU-3	Armenian-German	Boris Gasparyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), and Andrew Kandel, University of Tübingen
Hovk, Yenokavan	Armenian- Irish-British	Boris Gasparyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), Ron Pinhasi (University College Cork, Ireland; Roehampton University, London, United Kingdom)
Kalavan-1	Armenian-French	Boris Gasparyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), and Christine Chataigner (Maison de l'Orient et de la Mediterranée, Lyon)
Lori Plateau and Javakheti Range	Armenian-Russian	Stepan Aslanyan (Center of Strategic and Political Investigations, Saint-Petersburg), Ashot Piliposyan (Ministry of Culture, RA)
Lusakert-1, Nor Geghi-1	Armenian-Irish-American	Benik Yeritsyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), R. Pinhasi (University College Cork), and D. Adler (University of Connecticut).
Debet	Armenian- American	Boris Gasparyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), Ch. Egeland (University of North Carolina, Greensboro, USA)

Neolithic and Chalcolithic

Site	Collaboration	Director(s)
Aknashen	Armenian- French	Director(s) Ruben S. Badalyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), C. Chataigner (Maison de l'Orient et de la Mediterranée, Lyon)
Aparan depression (sites of Kmlo, Kuchak, Gegharot, and Tsaghkahovit)	Armenian-French	Boris Gasparyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), and C. Chataigner (Maison de l'Orient et de la Mediterranée, Lyon)
Areni	Armenian-American-Irish	Boris Gasparyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), G.Areshyan (Cotsen Institute of Archaeology UCLA), and R. Pinhasi (University College Cork).
Gododzor	Armenian-French	Pavel Avetisyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia), and C. Chataigner (Maison de l'Orient et de la Mediterranée, Lyon)

Bronze and Iron Ages

Site	Collaboration	Director(s)
Agarak (Early Bronze Age settlement)	Armenian	Pavel Avetisyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Aghavnatun (Middle Bronze Age, Late Bronze Age, and Early Iron Age cemetery)	Armenian	Levon Petrosyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
ArAGATS Project	Armenian-American	Ruben S. Badalyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia) and A. T. Smith (University of Chicago)
Aramus (Urartu)	Armenian-Austrian	Hayk Avetisyan (Yerevan State University) and W. Allinger-Csollich (Innsbruck University)
Erebuni (Urartu-Achemenian)	Armenian -French	Ashot Piliposyan (Ministry of Culture, RA), S. Déschamps (University of Rennes 1)
Erebuni (Urartu-Achemenian)	Armenian-American	Felix Ter-Martirosov (Institute of Archaeology and Ethnography, Academy of Science/ Yerevan State University, Armenia), D.Stronach (University of California, Berkeley)

Karashamb (Late Bronze Age cemetery)	Armenian	Firdus Muradyan and Vardui Melikyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Lori Berd (Middle Bronze Age, Late Bronze Age, and Early Iron Age cemetery)	Armenian	Seda Devedjyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Mets Sepasar (Early Bronze Age settlement & Medieval)	Armenian	Larisa Yeganyan (Regional Museum of Shirak, Gyumri)
Nerkin Naver (Middle Bronze Age cemetery)	Armenian	Hakob Simonyan (Ministry of Culture)
Sevan regional survey	Armenian-Italian	Simon Hmayakyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia) and R. Biscione (Institute for the Aegean and Near Eastern Civilizations, Rome)
Shengavit (Early Bronze Age)	Armenian- American	Hakob Simonyan (Ministry of Culture), M. Rothman (Weidner University)
Teghut (Iron Age cemetery and Medieval settlement)	Armenian	Seda Devedjyan and Suren Hobosyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Tsaghkalanj (Early Bronze Age cemetery)	Armenian	Firdus Muradyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Tsaghkasar (Early Bronze Age settlement)	Armenian	Pavel Avetisyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)

Classical, Hellenistic and Roman Periods

Site	Collaboration	Director(s)
Armavir	Armenian	Inessa Karapetyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Artashat	Armenian	Zhores Khachatryan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Tigranakert (Artsakh)	Armenian	Hamlet Petrosyan (Yerevan State University).
Yervandashat	Armenian	Felix Ter-Martirosov (Institute of Archaeology and Ethnography, National Academy of Science/ Yerevan State University)

Medieval Period

Site	Collaboration	Director(s)
Dvin (settlement)	Armenian	Aram Kalantaryan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Getap	Armenian	Husik Melkonyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Yeghegis	Armenian	Husik Melkonyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Tsaghkadzor - Iron Age cemetery and Medieval settlement	Armenian	Husik Melkonyan (Institute of Archaeology and Ethnography, National Academy of Science, Armenia)
Haykadzor	Armenian	Hamazasp Khachatryan (Regional Museum of Shirak, Gyumri)
Yerazgavors	Armenian - French	Hamazasp Khachatryan (Regional Museum of Shirak, Gyumri) and J.-P.Mahe (CNRS)

AZERBAIJAN

Neolithic, Chalcolithic and Early Bronze Age

Site	Collaboration	Director(s)
Goytepe	Azerbaijani-Japanese	Farhad Guliyev (Institute of Archaeology and Ethnography, Baku), Yoshihiro Nishiaki (Japan, Tokyo University)
Mentesh Tepe	Azerbaijani-French	Farhad Guliyev (Institute of Archaeology and Ethnography, Baku), Bertille Lyonnet (CNRS, Paris)
Ovchulartepesi	Azerbaijani-French	Veli Bakhshaliyev (Azerbaijan Academy of Sciences, Nakhchivan Branch, Dept. of Archaeology), Catherine Marro (CNRS, Lyon)
Kamiltepe	Azerbaijani-German	Tevekkul Aliyev (Institute of Archaeology and Ethnography, Baku), Barbara Helwing (Deutsches Archäologisches Institut, Eurasia Abteilung)

Iron Age

Site	Collaboration	Director(s)
Oglankala	Azerbaijani-American	Veli Bakhshaliyev (Veli Bakhshaliyev (Azerbaijan Academy of Sciences, Nakhichevan Branch, Dept. of Archaeology), Safar Ashurov (Institute of Archaeology and Ethnography, Baku), Lauren Ristvet (University of Pennsylvania)
Karacamirli (Achaemenid)	Azerbaijani-German	Ilyas Babayev (Azerbaijan Academy of Sciences), Florian Knauss (Staatliche Antikensammlungen und Glyptothek, München)

GEORGIA

Palaeolithic

Site	Collaboration	Director(s)
Dmanisi	Georgian	David Lordkipanidze (Georgian National Museum) Partners from Spain, Switzerland, and the USA
Dzudzuana	Georgian- Israeli-American	Tengiz Meshveliani (Georgian National Museum Ofer Bar-Yosef, (Harvard University) and Anna Belfer-Cohen (Hebrew University)
Sagvarjile	Georgian	Nikoloz Tushabramishvili (Georgian National Museum and Ilia University-Tbilisi)

Neolithic and Chalcolithic

Site	Collaboration	Director(s)
Arukhlo	Georgian-German	Guram Mirtskulava (Georgian National Museum, Tbilisi) and Sven Hansen (Deutsches Archäologisches Institut, Eurasia Abteilung)

Bronze and Iron Ages

Site	Collaboration	Director(s)
Chobareti Early Bronze Age settlement and cemetery) Salvage archaeology	Georgian	Khakha Kahiani (Georgian National Museum, Tbilisi)
Gudabertka (Early Bronze Age settlement)	Georgian	Gogi Mindiashvili (Georgian National Museum, Tbilisi)

Guraklian Gora (Bronze Age and some Hellenistic period graves and settlement) Salvage archaeology	Georgian	Guram Kvirkvelia (Georgian National Museum, Tbilisi)
1. Guraklian Gora. (Early Iron Age and Hellenistic graves and settlement) 2. Urbnili (Medieval period settlement) 3. Vardzia(Middle Bronze Age Kurgan) 4. Orta (Middle Bronze Age Kurgan) Four sites in close proximity; salvage excavations	Georgian	Vakhtang Licheli (Javakhishvili University)
Nakulbakevi (Early Iron Age and Early Medieval, with some Early Bronze Age)	Georgian	Mikho Abramishvili (Georgian National Museum, Tbilisi)
Sakdrisi and Balich-Dzedzvebi (Early Bronze Age mining site and settlement)	Georgian-German	Irine Gambashidze (Georgian National Museum, Tbilisi), and Tomas Shtodner and Andreas Hauptman (Bochum, Bergbau Museum)
Santa Middle Bronze Age Kurgan	Georgian-German	Goderdzi Narimanishvili (Georgian National Museum, Tbilisi) and Ingo Motsembeker (Deutsches Archäologisches Institut, Eurasia Abteilung)
Tbilisi-Akhalkalaki road salvage project (multi-period, including Bronze and Medieval)	Georgian	Goderdzi Narimanishvili, Revaz Davlianidze, and Bidzina Murvanidze (Georgian National Museum, Tbilisi)
Treligorebi (Late Bronze Age and Iron Age settlement)	Georgian	Giorgi Bedianashvili (Georgian National Museum, Tbilisi)

Classical, Hellenistic and Roman Periods

Site	Collaboration	Director(s)
Nokalakevi (Late Hellenistic onwards; ancient Archaeopolis)	Georgian-British	David Lomitashvili, (Georgian National Museum, Tbilisi) and Ian Colvin (Cambridge Archaeological Unit)
Pichnvari (Classical)	Georgian-British	Michael Vickers (Oxford University) and M. Kakhidze (Batumi Museum)
Samtavro (Late Roman and Medieval cemetery)	Georgian-Australian	Vakhtang Nikolaishvili (Georgian National Museum, Tbilisi), and Antonio Sagona (The University of Melbourne)
Vani	Georgian	Darejan Kacharava (director), and Dimitri Akvlediani and Guram Kvirkvelia (all from the Georgian National Museum)

Medieval

Site	Collaboration	Director(s)
Kutaisi and its adjacent area. (Gelati, Bagrati), Motsameta)	Georgian	Omar Lanchava and Ronald Isakhadze (both from Kutaisi Museum)
Nekresi (Monastery complex)	Georgian	Nodar Bakhtadze (Georgian National Museum, Tbilisi)

LANDSCAPE ORGANIZATION AND RESOURCE MANAGEMENT IN THE LOWER PALAEOLITHIC OF ARMENIA

ALT PALEOLİTİK ÇAĞ'DA ERMENİSTAN'DA DOĞAL ÇEVRE VE HAMMADDE KAYNAKLARINDAN YARARLANMA

Boris GASPARYAN

Keywords: Natural environment, landscape-climatic displacements, life-supporting conditions, Lower Palaeolithic, raw material sources, Armenia

Anahtar Sözcükler: Doğal çevre, iklimsel ortam değişimi, sürdürülebilir yaşam koşulları, Alt Paleolitik, hammadde kaynakları, Ermenistan

ABSTRACT

This article is a preliminary attempt to explain the settlement of Armenia in the Lower Palaeolithic period, and to estimate the factors that played a decisive role in the 'exploitation' of specific ecological niches and natural landscapes. In recent years, new and highly interesting finds and sites of the Lower Palaeolithic have reinvigorated study in this field. A number of projects have focused on the study of the environment, the sources of raw material, and reconstructions of the palaeogeographical situation and ancient climate. Although many questions remain-cultural frontiers, seasonality, the character of hunting specializations of specific fauna-we remain hopeful that excavations planned for 2010-2011 at the newly discovered Lower Palaeolithic sites in the gorge of the Debed River and in the Ararat Depression may augment our understanding on these matters.

ÖZET

Bu yazı, Ermenistan'ın Alt Paleolitik Çağ kültürleri ve bu dönemde farklı çevresel ortamların nasıl kullanılmış olabilecekleri konusunda yapılan çalışmaları ele almaktadır. Ermenistan ve çevresinde çok sayıda yanardağ bulunması, bölgenin Alt Paleolitik Çağ yaşamı açısından belirleyici olmuştur. Pliosen ve Pleistosen yanardağ oluşumlarının sonucunda büyük vadilere inen lav akıntılarının oluşturduğu doğal setler, vadi sistemleri içinde çok sayıda göl oluşmasına neden olmuştur. Farklı ve karma çevresel ortamlara sahip olan Ermenistan'ın su kaynaklarının yanı sıra bazalt, andezit, tüf taşları ve benzer püskürük kayaçlar gibi hammadde kaynakları açısından da zengin oluşu, Alt Paleolitik Çağ insanları için önemli bir çekim odağı oluşturmuştur. Özellikle su kaynaklarının yaygın olması, aynı zamanda bu bölgenin hayvanlar açısından da uygun bir ortama sahip olduğunu öngörebiliriz.

Ermenistan'da bulunan Alt Paleolitik buluntu yerlerinin dağılımı, özellikle kaynaklara yakınlık, jeolojik ve çevresel koşullar açısından değerlendirilmektedir. Henüz bu döneme tarihlenen buluntu yerlerinde korunmuş organik kalıntı bulunmamışsa da, polen ve sedimentasyonu inceleyen mikromorfolojik araştırmalar yapılmaktadır.

Mevcut bilgilerimize göre, Alt Paleolitik Çağ'ın Acheul öncesi ya da İlk Acheul evrelerinde obsidyen kullanılmamıştır. Ermenistan'da bu döneme ait olan aletler, kayaçların sertlik derecesi ve taş türü seçiciliği olmaksızın tümüyle çaytaşından biçimlendirilmiştir. Acheul'un son evreleriyle birlikte obsidyenin yoğun olarak kullanılmasıyla, hammaddede belirgin bir seçicilik olduğu görülür.

INTRODUCTION

While the relationship between the natural environment and human society is a fundamental concern for anthropology, it is this very relationship that is often the most difficult for archaeologists to reconstruct. A consideration of such a system of relations between the social organism and the environment demands a synthesis of data from many scientific disciplines. The absence of integrative methodological approaches and the fragmentary nature of regional records on paleoenvironments and human occupation present serious difficulties for modeling the mechanisms that regulated such relations in the ancient past. These difficulties often result in environmental factors being overstated or understated. Overstatements usually ignore the potential of humans to adapt to extreme environmental conditions. Even when relatively complete landscape-climatic and cultural-historical data exist, many of the suggested interpretations remain hypothetical. In fact, attempts to identify any social structure in the context of its surrounding life-supporting space are met by the barriers of the archaeological sources themselves or, more correctly, the incompleteness of their preservation and level of study. The number of deeply stratified sites, while providing an opportunity to observe the development of ancient cultures over long periods of time, is very limited. Even when such sequences are discovered, most studies focus on associated lithic material because organic artifacts are poorly preserved, missing completely, or 'lost' because of outdated field techniques. As a result, our understanding of the technological level of social practices that played such a decisive role in human/environmental interactions remains incomplete.

There is no doubt that the accumulation of social practices by early humans in the direction of technical-technological progress resulted in an artificial anthropogenic environment that widened the place of humans in the landscape and, in fact, became part of the geographic setting itself. Bringing to light the relative influence of natural factors on the development of society, and of society's attempts to harness natural resources, is a marker of objectivity for archaeological work in this area. Throughout the social and biological development of humans, the role of natural factors also changed and the level of human influence on nature was becoming more complicated. (Gerasimov and Velichko 1974: 7-16; Golovanova and Doronichev 2005: 3-4; Guryev 1973: 227-261; Lazukov 1974: 17-20; Nestrukh 1970: 272-282; Semyonov 1966: 242-251).

Natural-climatic factors played their part in the development of the industrial-economic life-ways of ancient societies. The main component of the environment is (was) the climate; indeed it is the most perceptible influence on ancient economies. Its influence is not direct, but is manifest through changes in temperature, water resources, and floral and faunal resources. The impact of climate lessened with the use of natural shelters (protected hills, gullies, grottoes and caves) and, later, artificially heated dwellings, through the controlled use of fire and the ability to make clothes from skins. Nevertheless, palaeogeographic reconstructions by various experts for the different stages of the Palaeolithic differ sharply, even though they are often based on the same data. Numerous attempts by researchers to correlate natural changes (*e.g.*, stages of glaciations and warmings) with developments in the Stone Age (*e.g.*, human physical type and material culture) have not provided definitive results. The most significant reconstruction is recorded at the Pleistocene/Holocene boundary, when radical environmental changes coincided with the movement of society into the Neolithic period and a food-producing economy. Recent investigations show, however, that this transformation was not fully synchronic with climatic change and, further, that natural factors played a supporting rather than determinant role in the process. Most experts consider social-economic developments as the driving force in neolithisation. Nevertheless, it is also clear that without the corresponding resource base (presence of wild relatives of cereals, animals suitable for domestication, *etc*), the given process would never

have taken place (Aurenche et al. 2001: 1199-1201; Gerasimov and Velichko 1974: 7-16; Lazukov 1974: 17-20; Masson 1970: 73-79).

The implements of production played a central role in the development of early human material culture, establishing the so-called technosphere, which is both the main 'weapon' to resist the environment and the 'engine' of technical-technological progress. These tools were mainly from non-organic raw materials (different types of rocks and minerals) and comparatively stable organic materials (tusk, antler, bone, wood), both of which were able to withstand temperature and mechanical loads to various degrees. Raw materials of stone, owing to their natural qualities (specific gravity, hardness, density, *etc.*), were able to impart form on other implements, including those also made from stone. Thus, organic materials could only be used in the economy after being processed by stone tools, which form the technological bases of Stone Age industries. Although stone raw material was accessible in nearly every territory occupied by early humans, its physical qualities differed from region to region. These differences influenced noticeably the progress of Palaeolithic tool-making techniques. Hence the shapes and sizes of concretions, slabs, and pebbles of silicified and volcanic rocks defined to a considerable extent the shapes of half-finished and finished implements (Grigorev 1968: 141-164; Semyonov 1968: 11-13; Semyonov 1974: 41-44; Semyonov 1989: 111-116).

As a result, the ecological niche chosen by early humans for assimilation depended not only on the existence of favorable life-supporting conditions (*i.e.*, concentration of biological resources for hunting and gathering activities), but also on the presence of high quality raw material sources, geomorphological elements and a topography conducive to habitation, as well as many other factors. This means that any attempt by a human social group to assimilate fully into a specific area must have begun with short-term stays and 'reconnaissance,' which after solving the problems of environmental optimization were then followed by seasonal or longer-term habitation. Modern investigations should focus on those factors that laid the basis for 'solutions' to environmental optimization. What factor was most important for determining where in the landscape early humans could ultimately establish long-term occupation of a region? Was it the existence of floral and faunal resources, sources of non-organic raw materials for tool-making, water resources, convenient relief and/or a protected landscape? Or was preference given to those regions that contained all of these qualities? How deliberate were ancient inhabitants in their recognition of such problems, and how much did empirical experience and knowledge influence community members in their utilization of local resources? And, finally, how much area was a given society able to keep under constant, seasonal, or short-term 'control'? Although answers to these questions are very difficult to acquire, they remain at the center of attention of Stone Age archaeologists.

This summary is only a preliminary attempt to ascertain (1) the natural laws that lay at the base of early humans' assimilation of the territory of Armenia in the Lower Palaeolithic period and (2) the factors that played a decisive role in the 'exploitation' of specific ecological niches and natural-landscape zones by ancient populations. A fresh look at these questions is warranted given that recent investigations in Armenia have unearthed new and very interesting materials and sites of the Lower Palaeolithic, which reflect on early human habitation environments, sources of raw material, reconstruction of the paleogeographical situation and climate. Similar studies, which set the stage for these new developments, were carried out in the 1970s (Abrahamyan and Eritsyan 1971; Arakelyan 1970; Eritsyan 1970, 1976; Karapetyan 1983; Lyubin 1971, 1984, 1989, 1998).

Over the last decade, a series of new publications has appeared in which significant progress is being made in the study of different aspects of vital activities, lifestyle, social organization and cooperation, behavior strategies, chronological boundaries, and cultural transformations during transitional periods such as the Lower to Middle Palaeolithic, the Middle to Upper Palaeolithic, and the Mesolithic. All of these studies are contributing to adaptive models both for individual regions and for the Caucasus in general (Adler 2002; Adler 2009; Adler and Tushabramishvili 2004; Adler et al. 2006a; Adler et al. 2006b; Adler et al. 2009; Bar-Oz et al. 2004; Bar-Oz et al. 2009; Bar-Yosef et al. 2006; Gabunia et al. 2000; Golovanova and Doronichev 2005; Liagre et al. 2009; Lyubin and Belyayeva 2006; Meshviliani et al. 2007; Pinhasi et al. 2008). Given the state of Palaeolithic research in Armenia, it is clear that as the number of sites discovered and ecological niches sampled increases within ever smaller study areas,

the more complete occupational models will be. Again, the results of these new observations of the Stone Age of Armenia are still preliminary, as many of the analyses of materials from recent excavations are still ongoing.

Armenia is formed by a complex combination of folded ranges, volcanic shield massifs, deep valleys, high mountainous plateaus, and intermountain depressions. As a result of Quaternary tectonic movements, most of this landscape formed during the Upper Pleistocene, even though reconstructions indicate that the landscape was relatively stable throughout most of the Pleistocene and during the Holocene. The Lesser Caucasus and volcanic highland of Armenia are strongly distinguished not only by their morphology but also by their genesis. The mountain chains of the Lesser Caucasus form the watershed of the Kura and Araxes Rivers and from an orographic perspective are clearly divided into zones of the outer and inner ranges. They are characterized by dismembered, contrasting mountain-hollow relief with ranges of asymmetric construction. The volcanic highland is represented by a landscape of recently extinct volcanic activity where, together with relic forms of volcanism, fresh edifices exist.

Volcanism in the territory of Armenia is the most important palaeogeographic factor, as it has determined the specific character of natural conditions in the region. This volcanism is divided into three stages of activity: (1) from 17 to 10 million years ago, (2) from 5 to 4.5 million years ago, and (3) from 2.8 to 0.1 million years ago. The diversity of volcanic processes allows Armenia to be considered a classic case of young volcanism, the results of which are manifest in magnificent volcanic edifices (*e.g.*, Aragats and Ararat) and entire highlands (*e.g.*, Gegham, Vardenis, Javakhetian). The eruption centres of the newest volcanoes are preserved quite well and are indicated by repeated outbursts of lava flows that covered vast areas. The thickness of these flows varies between 2-3 m up to 30-40 m and, in some cases, 100 m or more. The current position of these lavas was determined largely by the incline of the ancient relief on which the flows were originally spread. Volcanism decreased considerably in the Holocene (Abrahamyan and Eritsyan 1971: 180-181; Antonov et al. 1977: 50-60; Aslanyan 1985: 14-19; Baghdasaryan 1962: 23-53; Gabrielyan 1964: 7-10; Kharazyan 1973: 83-88; Kozhevnikov et al. 1977: 45-61; Lazukov 1989: 211-220).

As a result of intensive Plio-Pleistocene volcanic activity, the many large valleys and their tributaries were dammed up by lavas, which resulted in the formation of lakes of various sizes. These Plio-Pleistocene lakes are now represented by large highland plains or depressions (Fig. 1:1-2). Most of the alluvial, lacustrine-alluvial, and lacustrine deposits of the intermountain depressions are of volcanogenic-sedimentary origin, and their accumulation is closely related to the formation of the vulcanite (Figs 3:1; 5; 6:1, 3). These deposits include sections that sample a considerable amount of the Upper Pliocene and Pleistocene and a diversity of lithological *facies* peculiarities, most of them with abundant floral and faunal remains (Figs 3:2; 4-8). Among the most extensive lacustrine depressions are Ararat, Lori, Shirak, Vorotan, Sevan, Pambak, and Aparan. Many of these lacustrine basins were probably connected through a network of rivers (Gabrielyan and Dumitrashko 1962: 492-514; Kozhevnikov et al. 1977: 45-61; Paffenholts 1964: 393-402; Sayadyan 1977: 86-90).

Regarding the palaeoclimatic situation, the Pleistocene of Armenia experienced transitions from warm-humid to humid-cold and, eventually, to dry-warm periods. Besides global climatic cycles, the elevation of tectonic uplift also had a significant effect on glaciations in the region. Large-scale uplifts, particularly beginning during the Late/Middle Pleistocene, brought many of the Upper Pliocene volcanic massifs-Aragats, Gegham, Vardenis Highlands-above the snow line. This resulted in considerable glaciations among the separate mountain massifs of Armenia, and massive glacial cirques formed on the tops of Aragats, Spitakasar, Geghasar and the other high-altitude parts of the volcanic highland. The size of these glaciers was reduced substantially with cyclic warming of the climate and with the reduction of the intensity of tectonic uplift (Gabrielyan and Dumitrashko 1962: 492-514).

As the preceding discussion indicates, the geological development of the territory of Armenia in the Pleistocene was closely tied to volcanism and tectonic and glacial processes. These processes in turn defined the dynamics of change in local natural conditions. The latter, of course, played a decisive role not only in the occupation of our region by early

humans, but also defined the contrasts in physical-geographical conditions (including modern ones).

The diversity and abundance of natural resources namely, sources of first-class raw materials, water and food (flora and fauna) resources, and the original composition of morphological elements of regional and local relief, thus become the stimuli that attracted Palaeolithic communities. The importance of natural resources for the earliest stages of human social development cannot, of course, be completely understood in relation to modern ideas. Moreover, the search for concepts about how these resources were assimilated must recognize that generalized estimates do not necessarily correspond to the landscape conditions of more local areas. Based on our understanding of the adaptive strategies of modern hunting and gathering peoples, however, it is possible to identify the main factors that may have determined the settlement of the Armenian territory by early humans and their abilities to deal with the following different types of landscape-ecological conditions.

a) Landscape-spatial resources are represented by a combination of geomorphological elements of the relief and local climatic conditions, the joint distribution of which plays an important role in the location of human habitations. Humans from remote prehistory would have developed strategies to cope with an incalculable number of geodynamic aspects of landscape. These aspects include protection from natural cataclysms (earthquake, volcanic activity, flood, landslide), the influence of unfavorable climatic factors (wind, precipitation, low temperature), and topographic aspects of landscape (accessibility, full visual scope, protection from external attacks, potential for the organization of different types of industrial-economic activities). The accumulation of related social experiences would have allowed individuals to choose the most favorable spaces to fulfill different social demands.

We should remember that Armenia is a mountainous country with a multi-tiered geomorphological structure and strong variations in relief. The complicated combination of folded, folded-bouldered, and volcanic mountains, alluvial plains and high mountainous plateaus, narrow and deep river valleys, and lacustrine depressions have created great diversity in natural climatic, hydrogeographic, soil, floral, and faunal conditions. This whole complex is related to the principle of vertical zoning, which in turn influences the character of economic activities. The territory of Armenia is also well endowed with natural cavities of different size and origin (*e.g.*, grottoes, rock-shelters, and caves). For example, in many of the basaltic, andesitic/basaltic, and tuffogenic formations many shallow niches are formed, and the country's numerous karstic systems form deep multi-gallery caves and passages. Such cavities, as a general rule, tend to be associated with convenient morphological elements such as the sides of river canyons and accessible gorges and the lower reaches of hills and breaks; these often served as shelters for ancient populations. The rich mosaic of landscapes in Armenia would have guaranteed a diversity of vitally important elements of natural architecture attractive to early humans.

b) Water resources are among the most important factors for biological organisms. The presence of large intermountain lacustrine basins in combination with insular mountains, numerous smaller lakes, and a very well developed and dynamic river system speaks directly to the abundance of water resources in Armenia, both during the Plio-Pleistocene and today. In addition, because of rock-jointing, lavas are good precipitation receptacles. In areas of lower relief where these lavas contact the basement rock, there are springs with excellent water quality. In fact, the mineral water springs of Armenia are historically well-known, and Lake Sevan is the biggest pure water body in the whole of the Middle East. The abundance and distribution of water resources also determines the richness of other biological resources such as vegetation cover and animal populations.

c) Non-organic natural resources of life-supporting or industrial resources: Stone would appear to have been at the centre of the development of Stone Age peoples' industrial-economic activities. The territory of Armenia is rich in rocks of volcanic, magmatic, sedimentary, and metamorphic origin. Many of the outcrops and exposures of these resources were utilized by populations over very long periods during not only the Palaeolithic, but more recent (including historic) times. Some of the sources of workable stone, for example obsidian and dacite, became systematically exploited over time. Quartzite, limestone, felsite tuff, sandstone, flint, dacite, basalt, and obsidian were the most popular

raw materials and served as the basis for local lithic industries from the beginning of the Late Acheulian up to the Iron Age (Arakelyan 1970: 173-183; Karapetyan 1983: 75-84; Lyubin and Belyayeva 2005: 107-110).

Basaltic, andesite-basaltic, and andesitic lavas are the most important of the volcanic sources for raw material. The lava flows that produced these rocks, which are present in the southern spurs of the Javakhetian Range, Mount Aragats, the Gegham and Vardenis Ranges, and throughout much of southern Armenia, are very widespread and therefore play a critical role in stone tool economies over time. Volcanic tuff and tuff lavas are also widespread. The cycles of Upper Pliocene-Pleistocene volcanism were also accompanied by eruptions of acidic magma of pumice, rhyolitic-dacite and obsidian types. The products of the obsidian eruptions are well-preserved in the form of extrusive cones in Armenia: *e.g.*, Mount Arteni, Hatis, Spitakasar, and Gutanasar. There are eight large sources of obsidian deposits known throughout Armenia, including outcrops with different coloration and quality that are concentrated in northwestern, central, and southeastern parts of the country (Figs 1; 9-11) (Karapetian et al. 2001: 189-220; Kharazyan 1973: 83-88).

The territory of Armenia is also rich with deposits of limestone and travertine, quartzite, felsite tuff, outcrops of silificated limestone, petrified wood, and other siliceous rocks (flint, chalcedony, jasper, agate, *etc.*). The latter group is common in the north of Armenia and is represented by boulders, pebbles, amygdule, and concretions that range in size from several centimeters to 0,5 m in diameter (Figs 1; 12).

Sourcing studies of raw material, which can address issues of historical utilization and accessibility, features of exploitation, and patterns of circulation (spreading and exchange), has been carried out only for obsidian located in Armenia and the Caucasus. These investigations used modern methods of source identification, but only for the Chalcolithic-Bronze Age period sites (Badalyan et al. 2001: 373-378; Badalyan et al. 2004: 437-465; Barge and Chataigner 2003: 172-179; Chataigner and Barge 2005: 405-410; Cherry et al. 2008: 3-6). The study of obsidian sources in the context of Palaeolithic stone implements is still in its infancy in Armenia. The same situation is found with the study of flint and siliceous rock outcrops. Other varieties of raw materials have not yet been studied from this perspective. Nevertheless, it is possible to affirm that for the Palaeolithic inhabitants of Armenia, high quality raw materials were readily available in most areas and even when such resources were absent, suitable substitutes could be found relatively close-by (Chataigner and Barge 2005: 405-410).

d) Biological resources: A rich literature exists on the reconstruction of biological resources in Plio-Pleistocene Armenia. Most of the data are contained in the sections of the above-mentioned lacustrine deposits as well as in the cultural deposits of stratified Palaeolithic sites. The richest and most well-preserved biostratigraphic data derive from the thick diatomite deposits of southwestern Armenia in the basin of the upper Vorotan River. In the scientific literature, those deposits are referred to as the Sisian Diatomite Suite. The sections of the Vorotan group contain large amounts of imprints and other traces of the organs of higher plants (sprouts, leaves, fruit, seeds, *etc*), mushrooms, insects, fish, shells of ostracods (seed shrimp), plankton forms of animals, and skeletal remains of mammals (Figs 3:2; 4-8). Preliminary study of the pollen diagrams, the palaeofloristic and palaeofaunistic materials (currently, around 200 plant and animal taxa have been identified), stratigraphic correlations between separate localities, and dating of the chronological boundaries and phases of palaeolake development now permits reconstruction of the paleoenvironment and ancient climate in the basin of the Vorotan River (Bruch and Gabrielyan 2002: 41-48; Gabrielyan et al. 2004: 44-46). Studies of this kind allow a more definitive idea of the habitation conditions for early humans and the estimation of the available biological resources within various study areas. For example, the fossil plant traces include those of many edible species (Gabrielyan and Gasparyan 2003: 23-29), and the lacustrine deposits of Armenia contain abundant skeletal remains of Quaternary large mammal fauna (Nurnus, Yerevan - Ararat Depression; Gyumri - Shirak Depression; Shirakamut, Lermontovo - Pambak Depression) (Aslanyan 1958: 143-148; Avakyan 1959). Caution must be taken, however, in interpreting such biostratigraphic data as evidence for food resources. Most of these finds are not located in archaeological contexts and thus their dating is not well defined, and, most importantly, no direct evidence of their exploitation (*e.g.*, butchering

marks) by early humans has been identified.

Overall, the preliminary estimation of natural resource distribution during the Plio-Pleistocene of Armenia suggests the presence of quite favourable conditions for habitation and for the development of material culture of early humans. It is now of utmost importance to identify and analyze specific data concerning the utilization by early humans of the above-mentioned resources and how these resources were assimilated into land use patterns during various periods of the Lower Palaeolithic.

REVIEW OF ARCHAEOLOGICAL SOURCES

Until recently, the Lower Palaeolithic sites of Armenia were represented only by a series of open-air sites, located either near high mountainous sources of stone raw materials, particularly obsidian and dacite (the Late Acheulian groups from Arteni, Gutanasar, and Hatis), or on the surfaces of river terraces attached to areas of outcrops of nearby raw materials (the Late Acheulian groups from Hrazdan and Kasakh; Map 1). As noted by early researchers, the location of Lower Palaeolithic sites was mainly recorded on the slopes of hills attached to extrusive cones and on the surfaces of river terraces, where both isolated artifacts and higher concentrations of finds were present (Lyubin 1961: 466-471; Panichkina 1950: 15-22). Attempts by groundbreaking researchers such as Panichkina, Lyubin, and Ghazarian during the last century to discover more or less securely stratified sites of Lower Palaeolithic age were unsuccessful. During the last few years, especially after the discovery of the Dmanisi site in Georgia, such investigations have been reenergized and are beginning to bear fruit. Many projects, realized through joint expeditions of the Institute of Archaeology and Ethnography of the National Academy of Sciences of the Republic of Armenia and several foreign universities and scientific centres[1], are now discovering and excavating new sites, including those of Lower Palaeolithic age. Studies of these sites are still in progress, and excavations of many newly discovered sites are planned in 2010-2011.

Traces of the country's earliest inhabitants were recorded in 2009 in the canyon of the lower Debed River (Fig. 13). Here, on the surfaces of terraces formed by Pliocene-aged basalts, commercial basalt mining trenches at several sites (Ptghavan, Haghtanak, Ayrum) have revealed thick deposits of sediments that contain primitive cores of non-regular forms and archaic flakes and pebble tools (choppers, choppings, pebble points and picks) made from quartzite, limestone, felsite tuff, dacite, and andesite-dacite (Figs 18:1; 20:1; 21:1-2; 24:1, 3). The excellent state of preservation of the archaeological materials and the stratigraphic position of the sediments to which the artifacts belong leave little doubt that future excavation will reveal a new cradle of early, pre-Acheulian sites.

Finds of very similar implements were made during test excavations in 2009 on the front slope of the karstic cave Areni-1 in the Arpa River canyon of southern Armenia (Figs 1; 14:1-2). Here, at the base of the test trench at a depth of nearly 4 m, around 40 implements made from marl rocks, sandstone, diorite, and limestone tuff were discovered. These implements, which are very archaic in form, are represented by pebble cores, rough and thick flakes (both large and small), and pebbles with traces of direct usage and knapping. Some of the artifacts are examples of classic pebble tools: choppers (Fig. 21:1-3). Unfortunately, the finds from Areni were not discovered *in situ*. They were found in Unit 5, which was formed during the early stages of the Holocene and displaced on the formations of the Last Glacial Maximum (Figs 13:3; 14). The appearance of the artifacts in the described layer is a result of erosion of the Arpa River's ancient terrace surface, which was originally the platform near the entrance of the cave. The overall good preservation of the implements from Areni and the presence of small flakes (*i.e.*, knapping debris) and unidentified fossilized bone fragments (they clearly differ from the bones of the Medieval and Chalcolithic periods existing on the site) show that the Lower Palaeolithic material here did not suffer from intensive transfer and erosion. It is quite likely that excavations of the front platform will open parts of the ancient terrace where the Lower Palaeolithic cultural remains are preserved in their original context.

Very archaic-looking pebble implements have also been found at the Mushakan-1 open-air site in the valley of the Shoraghbyur River (a tributary of the Hrazdan) near Yerevan. The area of the site is cut off by low hills and gullies on the northeastern end of the Ararat Depression (Fig. 1). Mushakan-1 occupies a flat-to-somewhat-curved surface of a hill

around 1,5 ha in size, where silificated pebbles are exposed and the majority of the stone implements were recovered. In addition to surface collection, the naturally exposed sections at the base of the hill were cleaned and examined. A series of test trenches were excavated near the highest concentrations of stone implements; however, very little archaeological material was uncovered. The majority of the archaeological materials are therefore from the surface collections. The artifacts obtained from the exposed sections were lying without any trace of a cultural layer[2]. The Mushakan collection contains more than 5500 lithic pieces from different types of raw material. Among them are examples from magmatic (flint, jasper, chalcedony, serdolite, agate, quartzite), sedimentary and volcanogenic-sedimentary (limestone, marl, felsite, sandstone, silificated limestone), intrusive (grano-diorite, diorite), and volcanic (basalt, dacite, tuff) rocks. The technomorphological indices of the Mushakan lithic assemblage are characteristic not only of different epochs of the Stone Age, but also the Bronze and Iron Ages. The local silificated raw material, which consists of variously sized pebbles, was used over a very long time period. For example, the sickle inserts known from the Bronze and Iron Age sites of the Ararat Depression are prepared from the Mushakan flints. It is possible to separate tools belonging to the Lower Palaeolithic period (around 8 per cent of the whole collection) by typological means in the Mushakan-1 assemblage. They are represented by samples of classic pebble tools—choppers, choppings, pebble points, cleavers, picks, *etc* (Figs 18:2; 19:1, 3), as well bifacial forms (bifaces, unifaces and handaxes, Fig. 27:2, 4). Mushakan-1 therefore appears to have been a workshop for processing different types of silificated pebble-shaped raw materials within the limits of the Ararat Depression.

During recent years, single isolated finds as well as high concentrations of pebble tools and other Lower Palaeolithic implements of very archaic form were recorded at the northern edge of the Ararat Depression. These sites are attached to the chain of low hills of the pre-mountainous zone on the southern edge of the Aragats massif near its junction with the Ararat Depression (Voskevaz, Agarak, Aghavnatun, Tsaghkalanj, Aruch, *etc*) (Fig. 1). The tools are represented by choppers and choppings as well as by bifacial implements (cleavers, protohandaxes, and handaxes) prepared mainly from basalt and dacite with usage of very archaic methods of secondary shaping (Fig. 24:2). Similar finds of basalt, dacite, and pumice pebbles are known from the limits of the Kotayk Plateau on the slopes of Mount Hatis in the valley of the Akunk River (Fig. 25:1-2). Preliminary mapping of the find locations suggests that early human land use was tied in some way to the edge of an Early Pleistocene lake that existed in the Ararat Depression. Unfortunately, the discovery of stratified Lower Palaeolithic sites in this part of Armenia will be extremely difficult because 1) many of the sites were exposed to intensive erosion and 2) the deposits linked to early human habitation in the Ararat Depression were later buried by younger lava flows.

The only known open-air site in the region that apparently has not suffered from these factors is Aghavnatun-1 (Fig. 1). The area of that site is formed by the Upper Pliocene andesite-dacite and dacite lavas that are spread with tuffs and tuff lavas (Figs 13:1; 14; 15:1). The Quaternary andesitic-basaltic lavas bypassed the area of the site without covering it. The southernmost limits of the tuff cover, starting from the foothills of Aragats, gradually changes into the Ararat Depression. The beds of the tuff covers are cut through by shallow valleys and canyons where, on both sides of the dried-up river beds among sections of redeposited loose sediments, around 160 lithic implements made from low quality dacite were collected. Dacite raw material is present in the area in the form of massive pebbles, boulders, and rolled slabs. The majority of the artifacts are massive cores and flakes without any traces of secondary processing, and pebble tools—choppers, choppings, and cleavers (Fig. 25:1-2). Bifacial tools are present as well, including lightly knapped handaxes without traces of additional thinning of the working profiles (Figs 13:3; 14-15). In general, the Aghavnatun complex of stone implements is distinguished by its massive and archaic character. It is most likely that the site is the result of a small group from an Early Acheulian population occupying the banks of a river draining into the Pleistocene lake of the Ararat Depression and settling down directly on the surface of the tuff plateau. The majority of the implements from Aghavnatun are well preserved and the presence of small flakes and irregular pieces and unfinished products opens the possibility of finding cultural remains in an undisturbed context.

The newest groups of sites of the Acheulian tradition are located in Shirak and Lori Depressions and in the canyon of the Debed River (Fig. 1). In Shirak, sites are known exclusively from surface collections of both single finds and concentrations of Lower Palaeolithic artifacts (Haykazdor, Lanjik, Horom, Shirakavan, Beniamin, Keti, Jajur, Krasar, Hovasar, Ghazanchi-1, Aghvorik-1-2, Tavshut-1, *etc.*). The finds are attached to the terraces of the Akhuryan River or deposited on the surfaces of low hills located near its tributaries and their palaeobeds. The most noticeable concentration of stone implements was recorded near the obsidian deposits of Aghvorik (Yeni Yol), where an abundance of pebble-origin dacite deposits exist as well. The geological context of the Acheulian materials of Shirak has not yet been studied in detail. It remains possible that the sites can be correlated with the faunal assemblages of nearby Middle Pleistocene palaeolakes. It is also possible that *in situ* sites exist in the area, given the generally good preservation of the surface finds. The Lower Palaeolithic tools in the Shirak Region (choppers, choppings, pick type tools, cleavers, handaxes (Fig. 26:3-4), unifaces, massive side-scrapers *etc*) were prepared mainly from dacite and basalt of pebble origin. Obsidian implements are rare for this time period (Fourloubey et al. 2003: 6-8).

Extremely interesting results were also recorded within the limits of the Tashir Plateau and the Lori Depression in Northern Armenia, mainly in the area of the southeastern slopes of the Javakhetian Range, which includes the basin of the Dzoraget River (a western tributary of the Debed). The publications report the discovery and excavation of two *in situ* Acheulian sites: Muradovo (part of the Blagodarnoye-1 group), which preserves pre-upper Acheulian implements in the lowermost levels, and the Upper Acheulian site of Dashtadem-3. Two other sites, Karachachskiy and Kurtanskiy Karyeri (mine), have not been reported on in detail, but hold much promise for future excavations, given the depositional context of the lithics. There are now about 25 known open-air sites with rich surface collections (a total of about 900 artifacts, including 320 handaxes) of Late Acheulian lithics (*e.g.*, Paghaghbyur-1-5, Dashtadem-1-2, 4-10, Noramut-1-2, Blagodarnoye-1-4, and Sevjur-1-2) (Fig. 1). The majority of the materials belong to the Late Acheulian phase of the Levallois tradition, although some finds show stronger patination and were prepared using a more primitive knapping technique (large and massive handaxes and picks, beak-type, cleaver-type, and transverse tools).

The open-air site of Dashtadem-3 is located on the upper part of a wide rocky promontory formed by one of the tributaries of the Tashir River. In the trench (the depth of sediments varies from 0,5 to 1 m) 1874 dacite artifacts were excavated (201 are tools). The typological content of tools from Dashtadem-3 (bifacial forms and handaxes, side-scrapers, scrapers, Levallois points, beak-type, notched, nuclear tools, knives, *etc*) suggests a Late Acheulian phase. The Muradovo site is located in the transitional area between the foothills of the Javakhetian Range and the Lori Depression. In the trench, where the thickness of the deposits is around 1,5 m, five units or horizons were identified. A total of 134 stone implements made from dacite and other local volcanic rocks were excavated from all the horizons combined. There is inter-level variation in raw material use and techno-morphological characteristics. Units 1-2 contain Late Acheulian material (Levallois cores, blades and flakes accompanied by bifaces) and units 3-5 contain earlier materials (non-Levallois flaking with more use of slab-shaped fragments as half-finished products, choppers, picks, primitive side-scrapers, beak-type, and denticulated tools). The few finds (around 40 total) from Karakhachskiy and Kurtanskiy Karyeri differ from Dashtadem-3 and Muradovo in their raw material and tool representation. The pre-Acheulian materials of these sites include cores, flakes, choppers, picks, primitive and thick side-scrapers and scrapers, and chisel-type and combined tools, all with an absence of handaxes. These artifacts are made from hornblende andesite-dacite and other local volcanic rocks (Aslanyan et al. 2007: 142-154; Lyubin and Belyaeva 2006: 41-43; Kolpakov 2009: 3-39).

Recently, Acheulian sites have also been discovered along the lower reaches of the Debed River, and the preliminary results are very exciting. During a survey in 2009 near the village of Bagratashen, while cleaning a section of deposits of the river terrace, Late Acheulian and Mousterian stone implements were discovered in what appears to be an undisturbed, *in situ* context. Excavations in 2010 will seek to reveal one of the more promising Lower Palaeolithic archaeological resources in Armenia. Raw material usage at

Bagratashen-1 is also a dacite of pebble origin (Figs 1; 28:1).

Beginning in 2004, studies of Late Acheulian open-air sites in central Armenia, all of which are located near deposits of obsidian, were renewed. In parallel with the study of known open-air sites on the southern and southeastern slopes of the Hatis Volcano, new concentrations of Late Acheulian materials have been discovered and investigated (Figs 13:3; 14-15; 16:1). In addition to detailed mapping and recording of each site and the context-its artifacts, analyses of the shapes, natural qualities, and quantitative reserves of utilized raw material, and techno-morphological analyses of the lithic assemblages-an attempt was made to correlate the archaeological sites with the Quaternary lacustrine deposits of the Kotayk Plateau and with the local palaeogeographic situation in general. The large amount of finished products from the sites (Figs 13:3; 14-16; 27:1; 28:4) and location of lithic concentrations along the shores of the Kotayk palaeolake suggest that the Hatis group of open-air sites functioned exclusively as workshops. Although the presence of long-term camps in the area where hunting activities were organized is possible, this has yet to be demonstrated.

One Late Acheulian site located not far from an obsidian source was recorded in 2008 in the canyon of the Hrazdan River north of the Nor Geghi village (Figs 1; 13:3; 14-16; 17:1). Nor Geghi-1 is located on the side of the right bank of the river and is an open-air stratified site. The low-energy Middle Pleistocene alluvial deposits have resulted in significant deposits. The sites are sandwiched between two layers of basaltic flows, which provides an opportunity to obtain a relatively clear chronological picture (OSL and Ar/Ar dating samples are currently being processed). Although the 2-meter-thick basalt causes difficulties for horizontal studies of the site, all the visible sections of the site, which total about 200 m in length, were cleaned and excavated during 2008-2009 (Figs 13:3; 14-17). The total thickness of the alluvial deposits at the site is around 2 m, and five horizons can be identified. The first horizon, which lies just under the basalt contact, is strongly saturated by volcanic ash and is archaeologically sterile (0,1-0,15 meters). The content of volcanic ash decreases gradually throughout the second to fourth horizons (with a total thickness of 0,7-1,1 m), and by the fifth horizon ash is absent. Stone implements appear in the second through fourth horizons with the highest concentration in the second and third horizons. The sediments of the site are completely decalcified, which probably explains the absence of preserved faunal material. The *in situ* lithic assemblage of the site (which excludes the implements collected from both the surface of the slope in front of the exposed sections and the disturbed parts of the site) is represented by more than 1000 implements, all of which are made from obsidian. Preliminary study reveals a mix of techno-typological elements spanning the Late Acheulian (triangular and ovate bifaces, large, thick flakes) and Early Mousterian (Levallois blades, denticulated and truncated-faceted implements) periods. Nor Geghi-1 is the first stratified Lower Palaeolithic site in Armenia, and it holds great potential for understanding technological and cultural adaptations during the transition from the Lower to Middle Palaeolithic. Preliminary studies of the site indicate that its inhabitants settled down on the bank of the palaeo-Hrazdan. Local obsidian from the Gutanasar deposits was used, although some samples originate from the Hatis sources. Site occupation continued until one of the nearby volcanoes became active. The record of such a palaeogeographic situation in Nor Geghi-1 is a good example of the influence of natural factors on the conditions of habitation by early humans (Adler et al. 2009: 125-126).

Concluding the review of the Lower Palaeolithic sites of Armenia, we can now discuss the peculiarities of their distribution on the landscape and begin to answer questions about the relationship between surrounding resources and their management by members of ancient social groups. Currently, there are no known Lower Palaeolithic sites in Armenia with any kind of organic preservation, although pollen diagrams and micromorphological analyses of the sediments for a number of sites are in progress. Nevertheless, the accumulated material permits some preliminary conclusions in this context. Within Armenia it is possible to identify several regions with a concentration of pre-Acheulian and Acheulian sites: the canyons of the Debed, Akhuryan, Hrazdan, and Arpa Rivers, the northern edge of the Ararat Depression, the eastern and northern limits of the Shirak Depression, and the western and southwestern limits of the Lori Depression (Fig. 1). The Lower Palaeolithic sites in these regions are associated with the surfaces of old river terraces (Ptghavan, Haghtanak, Bagratashen, Areni-1, Haykadzor,

Arzni, Dashtadem-3, Nor Geghi-1) or the surfaces of low hills along the banks of Lower and Middle Pleistocene lakes of the intermountain depressions (Mushakan-1, Aghavnatun-1, Horom, Beniamin, Keti, Jajur, Muradovo, Paghaghbyur-1-5, Dashtadem-1-2, 4-10, Blagodarnoye-1-4 and others), or they are in the direct neighborhood of obsidian and other raw material sources (Mushakan-1, Aghvorik-1, Hatis, Arteni, Gutanasr groups). The elevation of the Lower Palaeolithic sites varies from 450-600 m (Debed River canyon) to 900-1500 m (Ararat Depression, canyons of Hrazdan and Arpa Rivers) to 1600-2500 m (canyon of the Akhuryan River, Shirak and Lori Depressions) above sea level. Such altitudinal variability in the distribution of sites cannot be interpreted uncritically as an ability of ancient groups to fully exploit a variety of ecological niches. It would also be unwise to explain such apparent diversification through the existence of warmer climatic conditions, which would have muted vertical variation in landscape-climatic zones. It is true that the climate of Armenia during the initial stages of the Pleistocene was warmer and more humid, and this certainly contributed to the formation of a rich mosaic of Pleistocene landscapes-lacustrine basins, on the banks of which mainly deciduous forests were spread, at some places alternating with shrub brushwood and the sections of mountain steppes with dry continental, moderate, and, sometimes, subtropical climates (Bruch and Gabrielyan 2002: 41-48; Gabrielyan et al. 2004: 44-46). This sort of diversity would certainly enhance the ability of early humans to colonize the region. It must be realized, however, that the ancient relief underwent numerous and noticeable vertical modifications and concomitant displacements and modifications to landscape-climatic zones. This of course implies that the modern geographic situation in the vicinity of the site cannot necessarily be used to reflect the local conditions of habitation during the Pleistocene.

Another pattern, namely that most of the Lower Palaeolithic sites of Armenia are attached to water palaeo-resources (*i.e*., rivers and lakes), cannot be solely explained by the human need to settle down near water supplies. Water sources also attracted animals that would have been the focus of hunting activities. Ambushing concentrations of animals as they arrived for watering would certainly have been a successful hunting strategy. The potential of success for such a strategy is at least suggested by finds of many skeletal remains from large mammals in lacustrine deposits throughout Armenia. Early human occupation of lake-margin habitats is well known from other Lower Palaeolithic sites in Africa and Asia, and this landscape organization continued to be successful during later epochs of the Palaeolithic (Gasparyan et al. 2003: 30-37; Gasparyan et al. 2004: 49-50). The most convenient places for habitation may in fact have been areas where small rivers drained into lakes. The strategy of settling specific areas, be it on river banks, near lakes, and other parts of the relief, is not a casual one. It is likely that specific areas were chosen to keep the vicinity of the site under visual control. It is also interesting to mention here that Lower Palaeolithic cave sites are as yet unknown.

Concerning the question of stone utilization, it is possible to conclude from the given review that during the early stages of the Lower Palaeolithic (pre-Acheulian and early phases of the Acheulian) the use of obsidian is not recorded. The ancient inhabitants of Armenia preferred to use pebbles, regardless of the raw material type (volcanic, sedimentary, *etc*) and hardness, which is consistent with the earliest stages of material culture. Among the most decisive factors were the convenient sizes of the initial raw material and more or less acceptable mechanical qualities needed to produce sharp and smooth working edges. Meanwhile, the slab- (Figs 18:3; 20:2; 21:1-3; 25:3) as well as boulder- and rounded-shaped types of pebbles were used in parallel (Figs 18:1-2; 19:1-3; 23; 24:3; 25:1-2). The initial size of the pebble determined mainly the quality and the size of the finished implement. There does not appear to be any established approach to the utilization of particular raw material sources during the initial phases of occupation. The Lower Palaeolithic inhabitants of Armenia utilized mainly local raw materials, which were transported and shaped (rolled), either through river activity or earlier geological process, to the site vicinity. In terms of raw material diversity, there are sites with both mono- and poly-raw material industries. The most popular raw material for the pre-Acheulian and Acheulian populations of Armenia was dacite. This widespread raw material, found around Mounts Argats, Hatis (Figs 9:2-3; 10-11) and in the Shirak and Lori Depressions, exists in pebble form in the vicinity of many of the described archaeological sites. The second most popular material is rocks of volcanic origin: basalt, andesite, andesite-dacite, and other local

volcanic rocks. Volcanic rocks are also used in poly-raw material industries, although flint, quartz, limestone, and felsite tuff are found in abundance as well (*e.g.*, Debed River sites). At Mushakan-1, local flint sources, limestone, marl, felsite, sandstone, silificated limestone, grano-diorite, and diorite are among the most frequent raw materials for tool preparation. In the case of Areni-1, where volcanic rocks are absent, marl rocks, limestone tuff, sandstone, and diorite from the Arpa River were obtained and utilized.

With the developed or Late Acheulian, we witness changes in the utilization of raw material. Importantly, the wide usage of obsidian begins and other raw materials are present in small proportions (although at many sites in the Shirak and Lori Depressions dacite continues to play an important role). Some specific obsidian sources begin to be exploited systematically (*e.g.*, Arteni, Gutanasar, Hatis) and obsidian pebbles from these deposits that are washed out by the Hrazdan and Kasakh Rivers and their tributaries are also utilized extensively. Pre-Mousterian industries have not yet been located near the remaining obsidian deposits in the country. The importance of the initial shape and size of raw materials decreased with the production of Late Acheulian bifaces and other tools on flakes, as the ability of early humans to transform stone into various technocomplexes became more fully controlled. (Figs 26:2-3; 27:1, 4; 28:3-4). Nevertheless, at the open-air sites of the Hatis and Gutanasar groups (and others) the shapes of some artifacts were adapted to the natural shapes of the initial obsidian raw material (Figs 26:4; 27:2; 28:1-2). The basis for the assimilation of new varieties of raw material, their industrial-economic meaning, and the role of their natural characteristics in modeling artifacts of subsequent generations is still in need of further study. Regardless, the preceding review indicates that ancient populations in Armenia never faced any serious problems of accessibility to stone raw material.

This preliminary study of the principles of the colonization of ancient landscapes and the management of resources by the Lower Palaeolithic populations of Armenia shows that biological resources probably played a more important role during the early phases of occupation of a specific territory. The strategy of early humans would then have been relatively straightforward: 'We are here; where are our food resources located?' The other factors impacting the organization of life-ways probably played a secondary role as they were more or less always accessible. Other issues, such as how frontiers were defined by different social groups, the duration and seasonality of occupation, the degree to which specific animals were hunted and the impact of early humans on their local populations, remain open. It is obvious, however, that natural cataclysms often forced out groups of early populations from their places of habitation, as can be seen through the example of the Nor Geghi-1 open-air site.

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NOTES

1 From 1999 to 2009 the Institute of Archaeology and Ethnography of the National Academy of Sciences of the Republic of Armenia is realizing the following joint expeditions for study of the Lower-Palaeolithic sites in Armenia: Armenian-French expedition (directors B. Eritsyan, B. Gasparyan and Christine Chataigner, Maison de l' Orient et de la Mediterranee, Lyon), Armenian-British-Irish expedition (directors B. Gasparyan and R. Pinhasi, Roehampton University, University of Cork), Armenian-American expedition (directors B. Eritsyan and D. Adler,

University of Connecticut), Armenian-American expedition (directors B. Gasparyan and C. Egeland, University of North Carolina), Armenian-Austrian expedition (directors B. Gasparyan and D. Schaefer, University of Innsbruck), Armenian-American expedition (directors B. Gasparyan and G. Areshyan, University of California), Armenian-German expedition (directors B. Gasparyan and A. Kandel, Tuebingen). The study of Palaeolithic sites in Armenia is being realized also by the expedition of the Institute of History of Material Culture of the Russian Academy of Sciences, St. Petersburg. Thanks to the long-term activities and efforts of the listed expeditions, the Palaeolithic sites of the Kasakh River canyon and the Aparan Depression, the Hrazdan River canyon, the Ararat Depression and the Kotayk Plateau in Central Armenia, the Aghstev River canyon and its tributaries, the Akhurian River basin and the Shirak Depression, the Debed River basin, the Lori Depression and the Tashir Plateau in Northern Armenia and, finally, the Arpa and Vorotan Rivers canyons in Southern Armenia were discovered and studied.

[2] The site was discovered in 1994 and studied by B. G. Eritsyan in 2001-2004.

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Fig.1- Lower Palaeolithic Sites and raw material resources of Armenia (1: 2,000,000).

Fig. 2- 1. The Lori Depression, which was a lake in the Plio-Pleistocene period; 2. The Ararat Depression, which was a lake in the Plio-Pleistocene period.

Fig. 3- 1. Section of lacustrine deposits in the Ararat depression located near Musaler village; 2. Middle Pleistocene lacustrine deposits around Shamb, containing large quantities of fossils (Vorotan group of localities).

Fig. 4- 1–2. Middle Pleistocene lacustrine deposits around Shamb, containing large quantities of fossils (Vorotan group of localities).

Fig. 5- 1. Section of lacustrine deposit near Ltsen (fossil locality Ltsen-1, Vorotan group); 2. Section of lacustrine deposit near Darbas (fossil locality Darbas-2, Vorotan group).

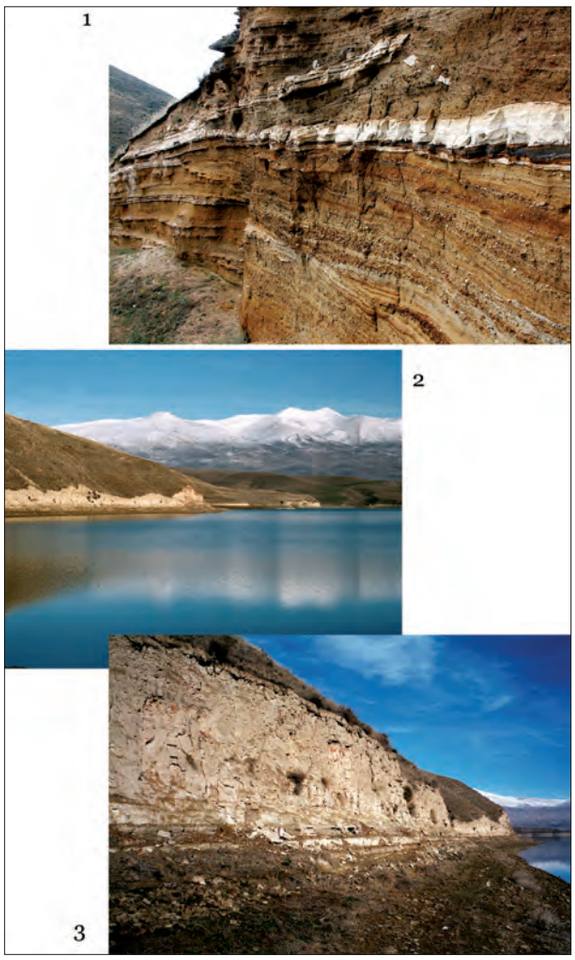

Fig. 6- 1. Section of lacustrine deposit near Darbas (fossil locality Darbas-3, Vorotan group); 2–3 Section of lacustrine deposit near Tolors (fossil locality Tolors-2, Vorotan group).

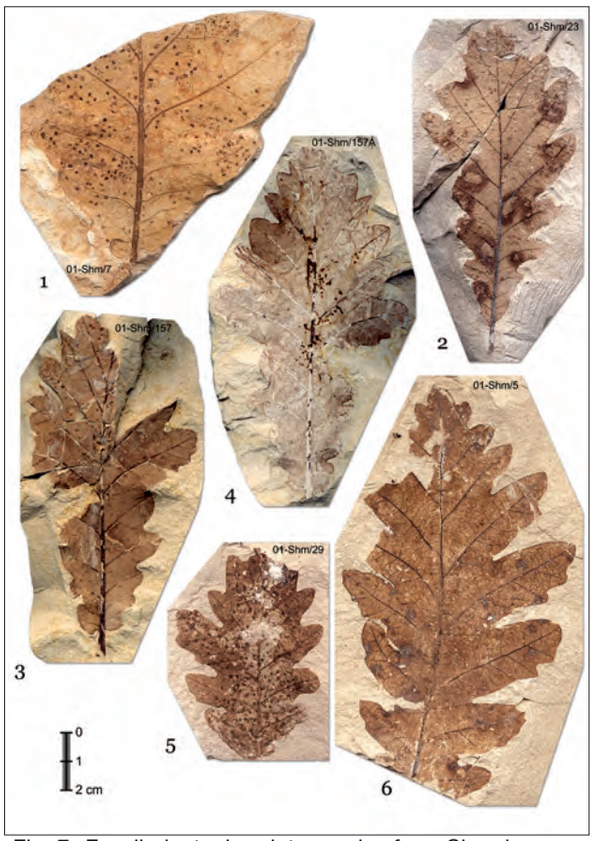

Fig. 7- Fossil plants, imprint samples from Shamb.

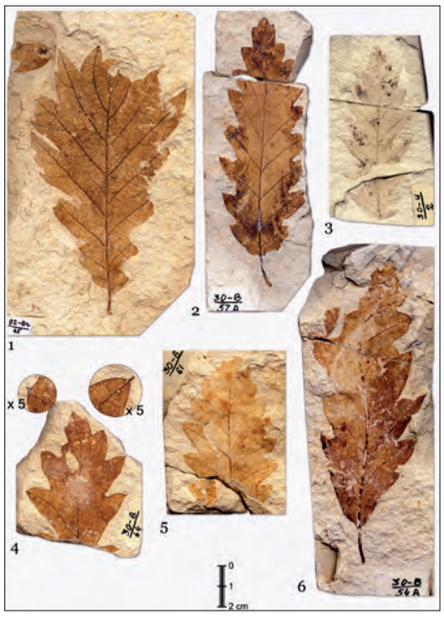

Fig. 8- Fossil plants, imprint samples from Uyts.

Fig.9 1. Arteni volcano from southwest; 2. Obsidian outcrops on the slope of Gutanasar volcano; 3. Hatis volcano from southeast.

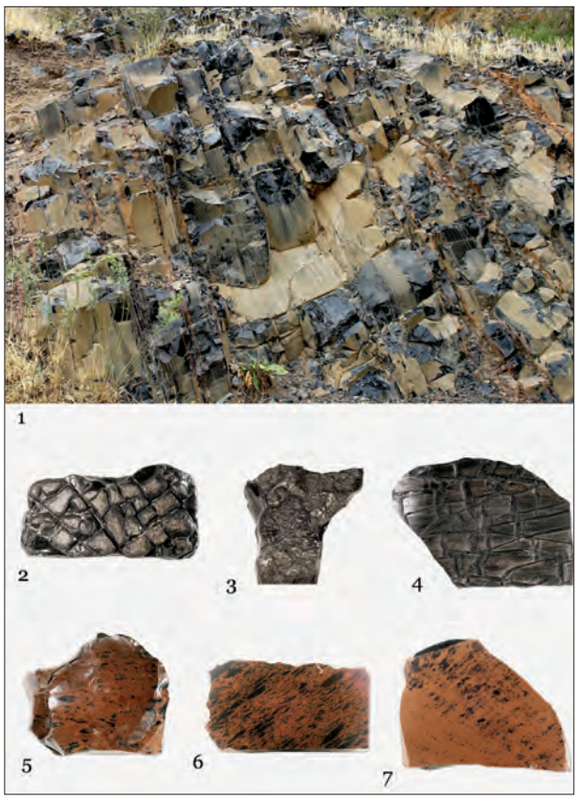

Fig.10- 1. Obsidian outcrops on the slope of Hatis volcano; 2-7 Obsidian samples from Hatis volcano.

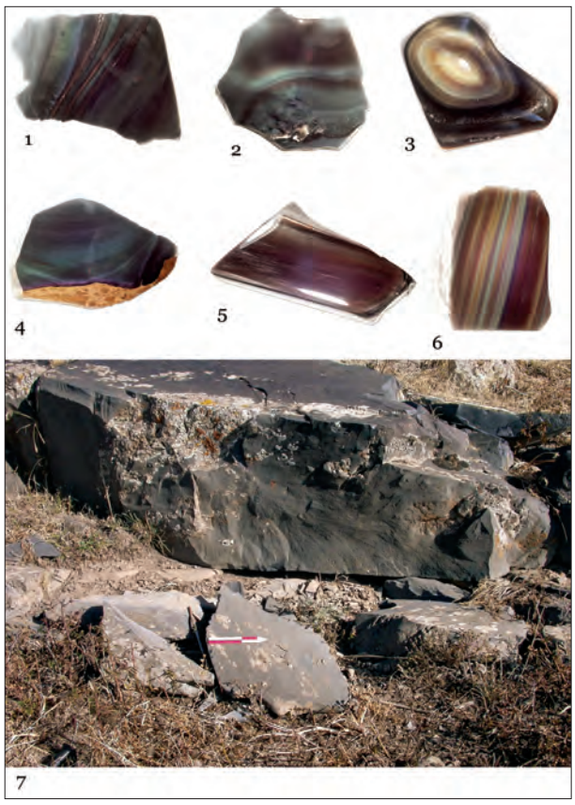

Fig.11- 1. Obsidian samples from Hatis volcano; 2. Huge block of dacite from Hatis volcano.

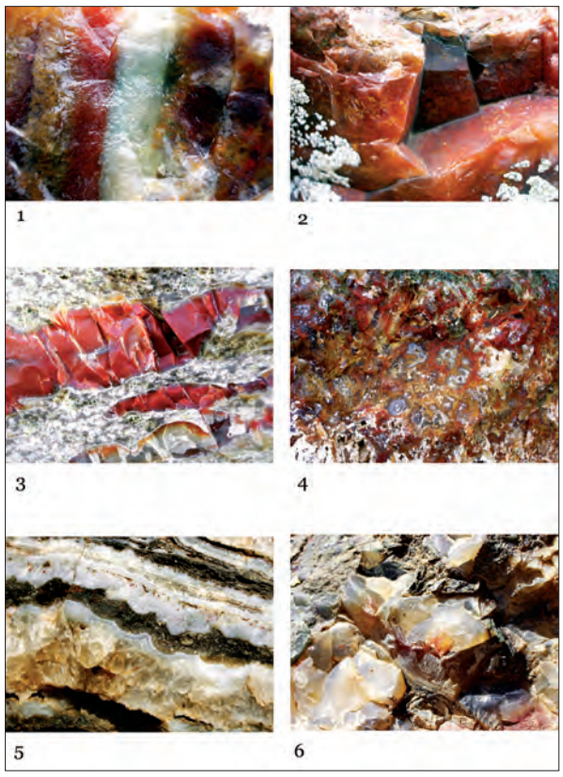

Fig.12- 1–2 Flint sample from the Tashir deposit; 3. Flint sample from the Sarigyugh deposit; 4. Jasper sample from the Metsavan deposit; 5. Agate sample from the Tsater deposit; 6. Chalcedony from the Sarigyugh deposit.

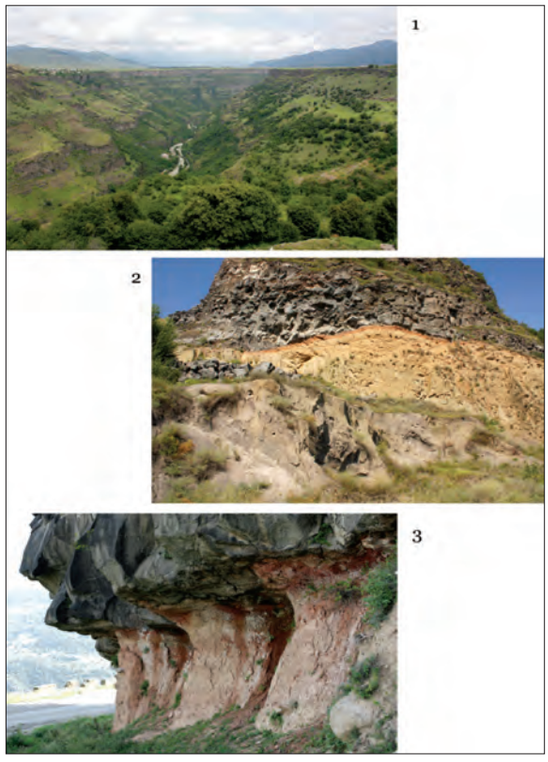

Fig.13- 1. Canyon of the Debed River in its lower flow, near the village of Odzun; 2. Section of Aeolian sediments in the Debed River canyon covered by a Pliocene basalt flow, near the village of Chochkan; 3. Section of Aeolian sediments in the Dzoreget River burnt by basalt flow.

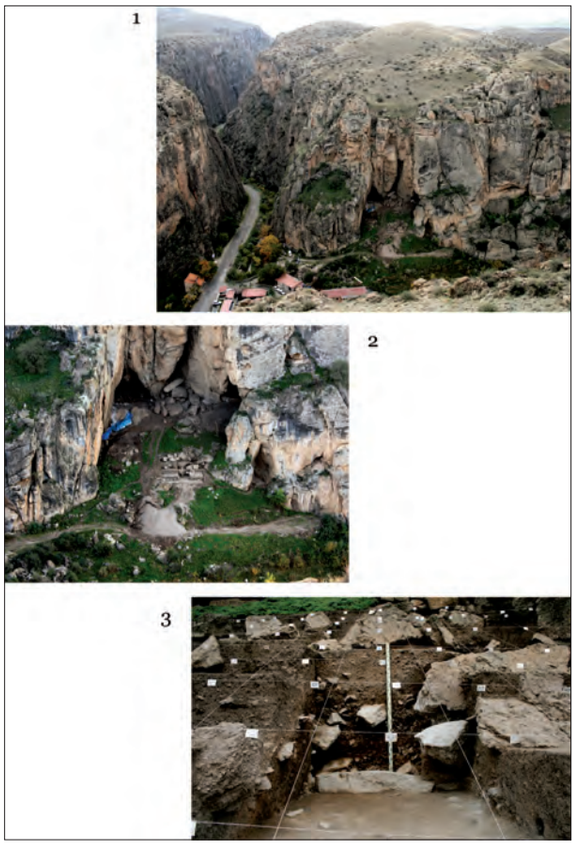

Fig.14- 1. The Arpa River canyon with Areni-1 cave in the background; 2. The entrance to Areni-1 cave site, where test excavations were carried out; 3. Trench N-5 on the slope in front of the Areni-1 cave, where pebble tools were excavated.

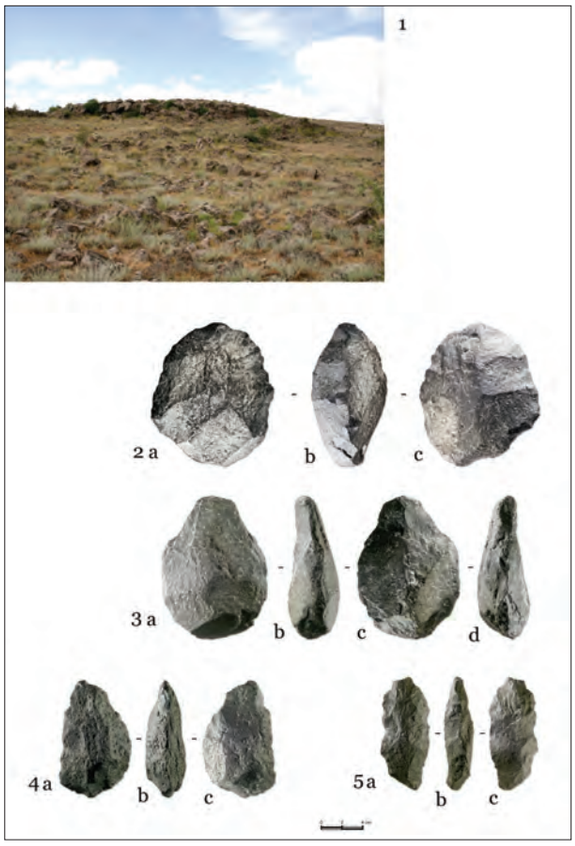

Fig.15- 1. Aghavnatun-1 open-air site from the south, with a tuff plateau in the background; 2-4. Acheulian handaxes from Aghavnatun-1.

Fig.16- 1. Kotayk Plateau from the south, with Mt Hatis in the background; 2. Concentration of Late Acheulian tools on the slope of Mt Hatis, near the obsidian source; 3-4. Acheulian handaxes from Mt Hatis.

Fig.17- 1. Canyon of the Hrazdan River in its middle stream; 2. Section of Nor-Gheghi-1 covered by a basalt flow.

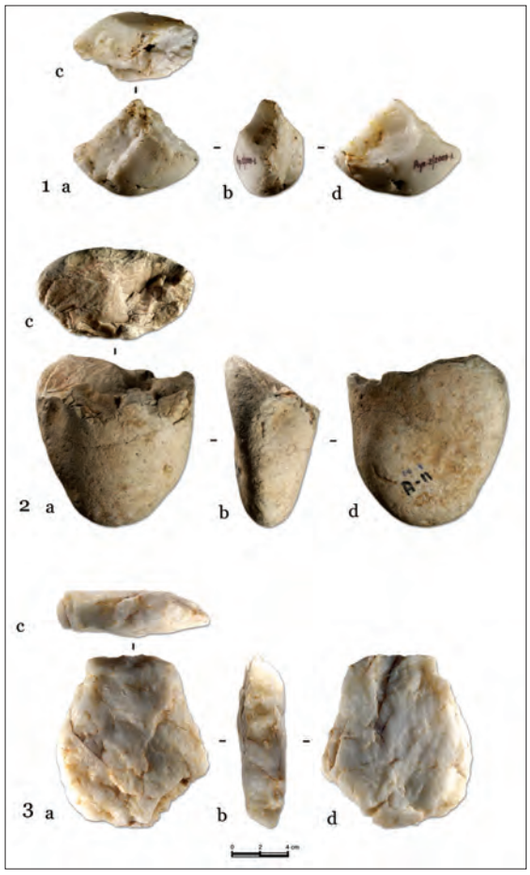

Fig.18- 1. Pebble point (Aryum-2); 2. Chopper (Mushakan-1); 3. Transverse handaxe (Tsilkar-1).

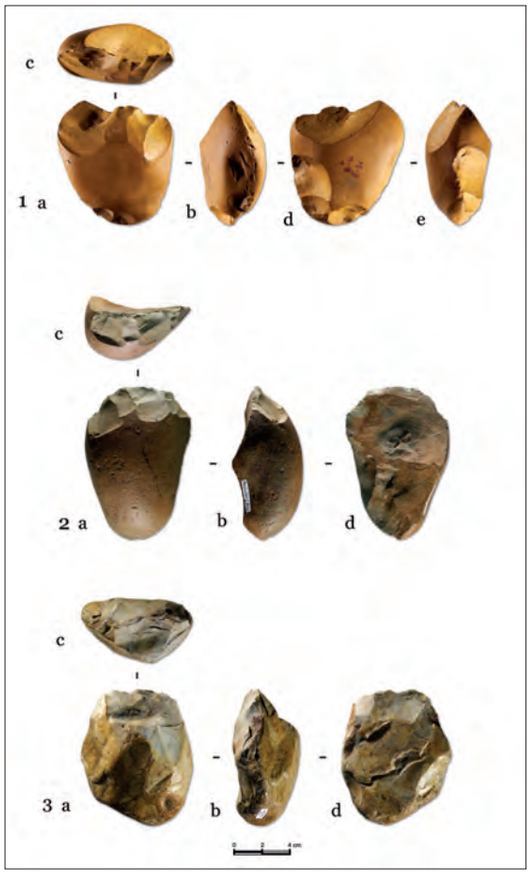

Fig.19- Flint choppers (Mushakan-1 site).

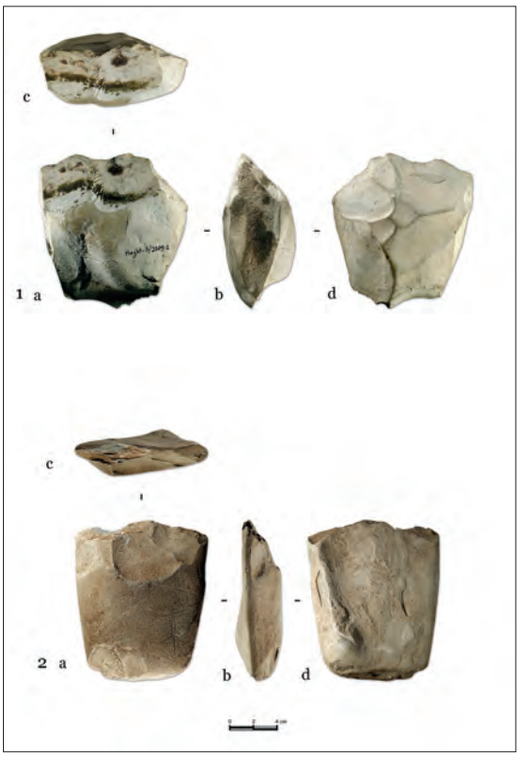

Fig.20- Limestone choppers from Haghtanak-3 (no.1) and Ria-Taza-5 (no. 2).

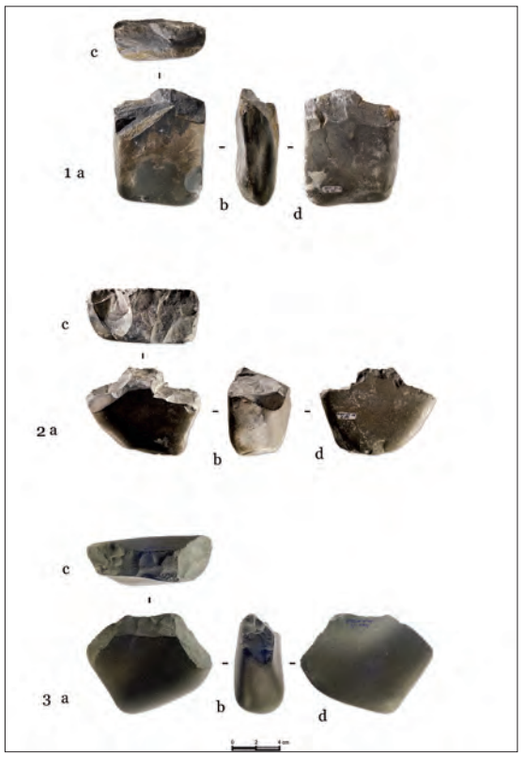

Fig.21- Marl choppers (Areni-1 cave).

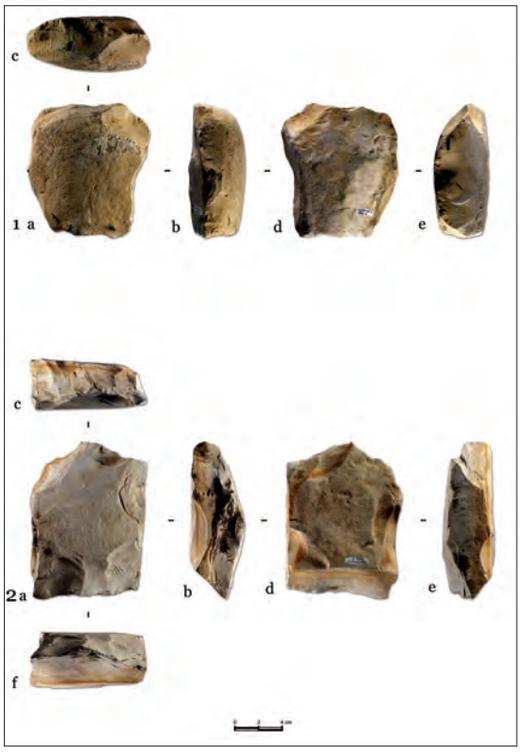

Fig.22- Felsite tuff chopper (no. 1) and chopping (no. 2) from Haghtanak-2.

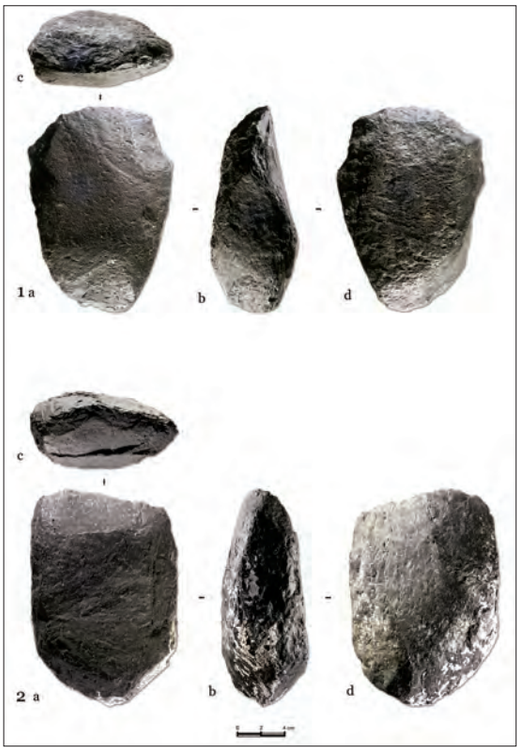

Fig.23- Dacite choppers from Aghavnatun-1.

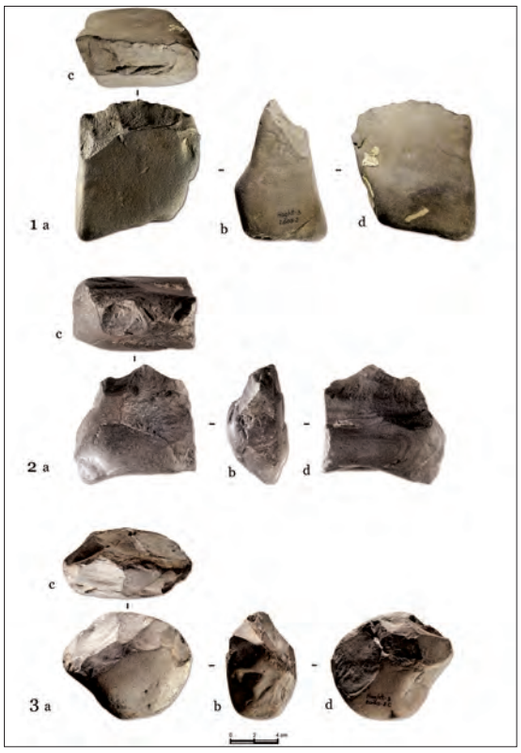

Fig.24- Andesite-dacite and dacite tools: 1. Chopper (Haghantank-3); 2. Choppings (Voskevaz); 3. Choppings (Haghantank-3).

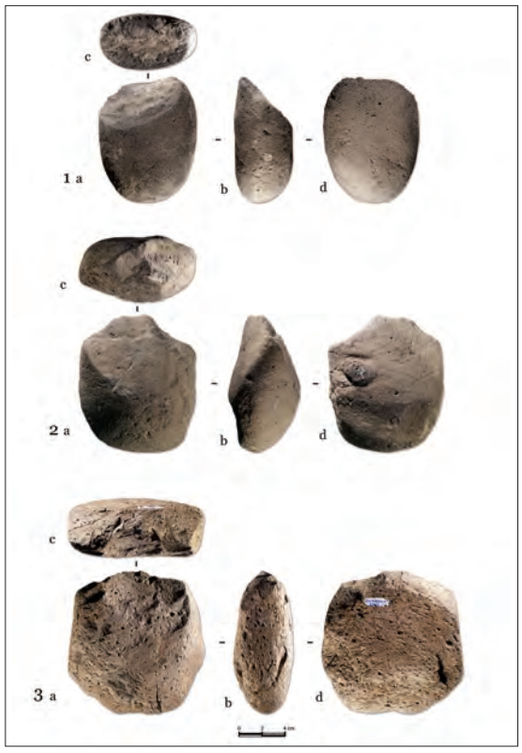

Fig.25- Andesite-basalt and andesite choppers from the Hatis group (nos 1&2) and Berdavan.

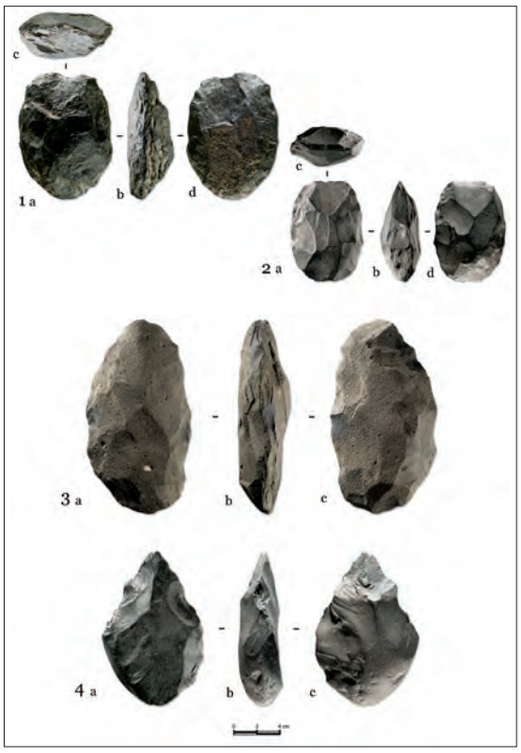

Fig.26- Dacite tools: Cleavers from Aghavnatun-1 (no. 1) and Beniamin-1 (no. 2), and handaxes from Tavshut-1 (no. 3) and Haykadzor-1 (no. 4).

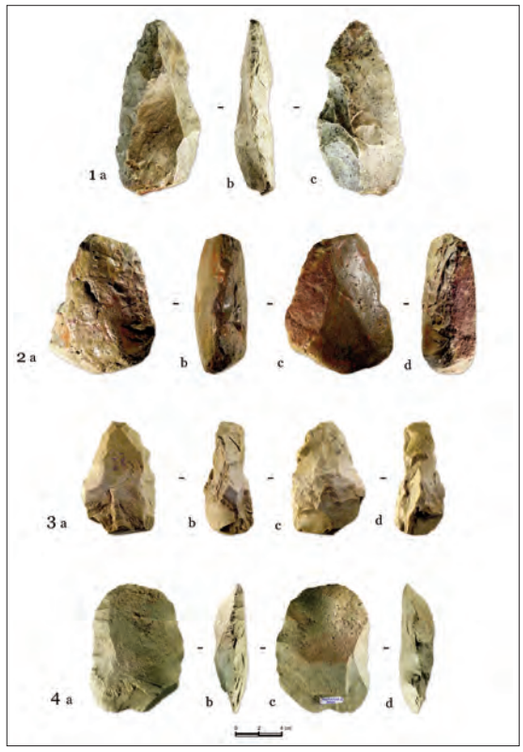

Fig.27- Bifaces from the Hatis group (no.1) and Mushakan-1 (nos 2–4).

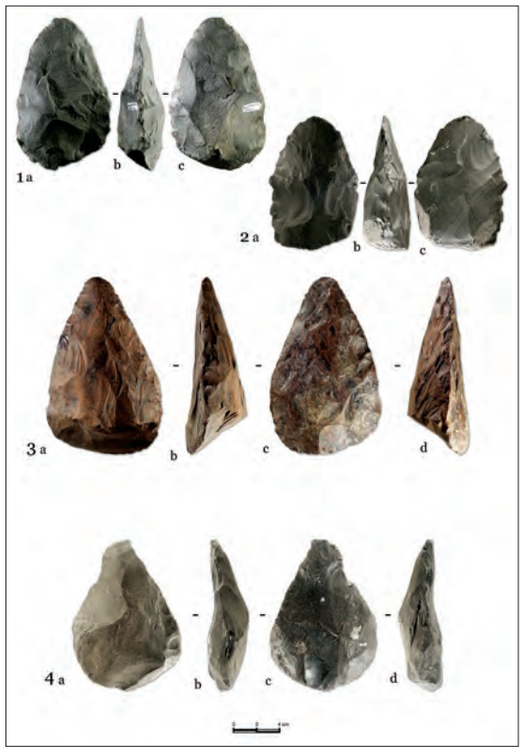

Fig.28- Dacite (no. 1) and obsidian (nos 2–4) handaxes from Bagratashen-1 (no. 1), Saralanj-2 (no. 2), Kuchak-1 (no. 3) and the Hatis group (no. 4).

THE SETTLEMENT OF AKNASHEN-KHATUNARKH, A NEOLITHIC SITE IN THE ARARAT PLAIN (ARMENIA): EXCAVATION RESULTS 2004-2009

AĞRI OVASI, ERMENİSTAN KESİMİNDE NEOLİTİK BİR YERLEŞİM AKNASHEN KHATUNARKH: 2004-2009 KAZILARININ SONUÇLARI

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Keywords: Late Neolithic, Early Chalcolithic, Armenia, Southern Caucasus
Anahtar Sözcükler: Son Neolitik, İlk Kalkolitik, Ermenistan, Güney Kafkasya

ABSTRACT

This paper presents the preliminary results of the excavations (2004-2009) of Aknashen-Khatunarkh, a Neolithic site in the plain of Ararat. More than 300 m^2 has been excavated of this tell, which is about 100 m in diameter and 3,5 m in height. The cultural layer, more than 4 m thick, was subdivided preliminarily into five horizons, the upper one (I) belonging to the Early Chalcolithic and the others (II-V) to the Late Neolithic. A series of ^{14}C dates enables dating the Neolithic horizons to the first half of the 6^{th} millennium.

On the basis of a multidisciplinary study of artefacts (obsidian chipped stone-more than 22.000 pieces, antler and bone industry, ground stone, pottery, etc) and of floral and faunal remains, the main features of the material culture and economic life of this Late Neolithic settlement are brought to light. The culture represented at Aknashen-Khatunarkh has many common characteristics with contemporary cultures in the southern Caucasus (Shulaveri-Shomutepe culture, and Kültepe of the Nakhchevan).

ÖZET

Ermenistan'ın Neolitik ve Kalkolitik dönem kültürleri yakın zamanlara kadar yalnızca farklı höyüklerde yapılan küçük çaplı kazı çalışmalarından biliniyordu. 1999-2004 yılları arasında Ermeni-Fransız ortak projesi olarak Arastashen yerleşiminde yürütülen kazı çalışmaları, tabakalanmış Neolitik ve Kalkolitik dönem dolgularıyla, MÖ 6. ve 5. binyılda görülen kültürel ve ekonomik gelişmeleri değerlendirmemize olanak sağlayan anahtar bir yerleşim durumuna gelmiştir. Ağrı (Ararat) Ovası'nda, Sev Jur vadisinde, deniz seviyesinden 838 m yükseklikte bulunan Aknashen-Khaturnarkh/Aknashen, 100 m çapı ve 3,5 m yüksekliği olan bir höyük yerleşimidir. Geniş çaplı yürütülen çalışmalarda 313 m^2'lik bir alan kazılmıştır.

Çanak çömlek üzerinde yapılan değerlendirmelere göre en üst tabaka (I) Kalkolitik, bunun altında bulunan tabakalar ise (II-V) Neolitik döneme ait olmak üzere höyükte beş ana evre belirlenmiştir. Bunlardan en alt evreyi temsil eden tabaka V, sadece A açmasında ayrıntılı olarak kazılmıştır. Yapılan toprak analizleri, höyükte hem insan etkili, hem de doğal etkenlerle oluşmuş dolguların incelenmesine olanak sağlamıştır.

7 no'lu açmada hocker pozisyonunda gömülmüş olan bir çocuk iskeleti üzerinde yapılan değerlendirmelerin, gömütün olasılıkla Neolitik döneme ait olduğunu ortaya koyması, bunun şimdiye kadar Ermenistan'dan bilinen en eski gömüt olması açısından önem taşımaktadır.

Radyokarbon ölçümleri için höyükten alınan 24 örneğin 18 tanesi Neolitik dolgulardandır (Tablo 1). Höyükte bulunan 7000'den fazla çanak çömlek parçası içinde yalnızca 9 tanesinin ithal mal olduğu belirlenmiştir. Höyükte bulunan 22485 tane yontmataş bulgunun % 96'sı obsidyenden oluşur; çakmaktaşı ve kuvartz gibi hammaddelerden yapılmış alet ve yonga sayısı ise oldukça düşüktür. Kaynak analizine göre yerleşimde bulunan obsidyenler 10 ayrı kimyasalın bileşimini içermekte ve obsidyenlerin büyük bir kısmının 3 ana kaynaktan temin edildiği anlaşılmaktadır. Yontmataş aletlerin büyük bir kısmını dilgi üzerine yapılan aletler oluştururken, yongaların sayısı özellikle Kalkolitik dönemde oldukça azalmıştır. Özellikle alt tabakalarda çok sayıda öğütmetaşı ve bunlar ile ilişkili olarak sıkıştırılmış toprak kenarları, çakıl döşeli tabanları olan ocak yerleri bulunmaktadır. Öğütmetaşları genelde bazalt ve tüf gibi püskürük kayaçlar, ayrıca az sayıda granit ve kireçtaşından da yapılmıştır. Öğütmetaşlarının yanı sıra çok sayıda vurgu taşı da bulunmaktadır. Bakır ve taştan küçük boncuklar, gerdançeler, delinmiş hayvan dişleri, deniz kabukları süs eşyaları arasında sayılabilir. Bakır, Neolitik tabakalarda da kullanılmıştır. Kazıda çıkan çok sayıdaki kemik ve boynuz aletlerin arasında bız ve deliciler çoğunluktadır.

Hayvan kemiklerinin analizinde balıklar, sürüngenler, kuşlar ve memeli hayvanlardan oluşan 30 farklı hayvan türü belirlenmiştir. Evcilleştirilmiş hayvanlar arasında başta keçi ve koyun olmak üzere, sığır, domuz ve köpek yer almaktadır; ancak yabani hayvanlardan da yararlanıldığı kuşkusuzdur. Tablo 8'de de görüleceği gibi bitki analizleri de zengin bir çeşitlilik göstermektedir. Karbonlaşmış ağaç kalıntıları arasında genelde dere yataklarında yetişen ağaç türleri yoğunluktadır.

Sonuç olarak, Aknashen-Khatunarkh yerleşimi, MÖ 6. ve 5. binyıllarda sadece Ermenistan değil, tüm Güney Kafkaslar için kesintisiz tabakalanmasıyla önemli bir yerleşim yeridir. Alt tabakalarda (V-IV) sıkıştırılmış çamurdan yapılmış yuvarlak planlı yapılar, zengin bir kemik ve yontmataş buluntu topluluğu olan ve çanak çömlek üretiminin ilk evrelerini tanımlamamızı sağlayan önemli katmanlar kazılmıştır. Alt tabakalardan itibaren evcilleştirilmiş bitki ve hayvan türleri bulunmaktadır. Neolitiğin son evrelerinde (III-II) çanak çömlek kullanımı artmakta, taş ve kemik aletler ise azalmaktadır. Bu dönemde göçebe yaşama geçiş olabileceğini gösteren bazı izlere rastlanılmıştır. Kalkolitik dönemde (I) çanak çömlekte saman katkıda büyük bir artış izlenmekte, Sioni kültürünü andıran ağız, tutamak ve bezemeli parçalar bulunmaktadır. Bu sayede Aknashen-Khatunarkh çanak çömleği, Son Neolitik ve İlk Kalkolitik arasındaki geçiş evresi hakkında önemli verilere ulaşmamızı sağlamaktadır. Vurgulanması gereken iki önemli unsur ise: a) evreler arası geçişin yavaş ve uzun sürdüğü, b) bir devamlılık olsa da genel olarak bakıldığında dönemler arasındaki farklılıkların da belirgin olduğudur.

INTRODUCTION

In the succession of cultures that were present in Armenia, the least known periods are without any doubt the Neolithic and the Chalcolithic. In general, the level of study of these periods is far behind in comparison to other cultural phases in the archaeological sequence of Armenia, but also in relation to the same periods in the southern Caucasus. Until recently, these periods were known in Armenia only through a series of complexes that are isolated both chronologically and culturally, most of which had been discovered and studied in the 1960s to the 1980s on the Ararat plain, in the lower basin of the Kasakh River, a left tributary of the Araxes (Tsaghkunk, Aratashen, Verin Khatunarkh/Aknashen, Teghut, Ada-Blur), and towards the southeast (Masisi-Blur and Artashat).

With the exception of Artashat, established on a

rocky hill, these sites are small artificial tells (*blur* in Armenian) from 1 to 3 ha in surface area and as high as 4 m. The fragmentary character of the information available has not permitted the construction of a chronological sequence for the material culture within the 7th/6th to the middle of the 4th millennium BC, nor to characterize the main stages in the development of the production economy.

A new stage in the study of the Neolithic and Chalcolithic cultures of Armenia was reached with the excavations of the settlement of Aratashen, carried out by the Armenian-French mission between 1999 and 2004. This work has enabled the systematic study of an early farming settlement, a sedentary and stratified village with quite well-defined architectural features; the site, a new archaeological complex for Armenia, has enabled the establishment of a stratigraphic sequence covering several phases of the Neolithic and the Chalcolithic. The preliminary publications of Aratashen (Badalyan and Lombard et al. 2004; Badalyan et al. 2007; Palumbi 2007) are today practically the only source for the culture and economy of the 6th-5th millennia in Armenia.

This situation has made it necessary to verify and complement the data from Aratashen by systematic excavation of other similar sites, in order to constitute a representative base that enables extending research on the Neolithic and Chalcolithic cultures of Armenia. With this goal in mind, the settlement discovered at Aknashen (previously Verin Khatunarkh), 6 km southeast of Aratashen, was chosen (Fig. 1:1).

THE SITE AND THE FIELDWORK

The site of Aknashen-Khatunarkh is located in the Ararat Plain, in the basin of the Sev Jur (Metsamor), at an altitude of 838 m, in the province (*marz)* of Armavir (6 km south of Echmiadzine, on the northeast periphery of the village of Aknashen). The site is an artificial hill (*blur*), circular in plan, 100 m in diameter (a surface area of about 0,8 hectares), with a flat top rising about 3.5 m above the plain (Figs 1:2.2). In 1969-1972, 1974-1977, and 1980-1982, R. M. Torosyan carried out excavations in the west sector of the tell on a surface area of about 400 m^2. The results of this work were not published[1].

A new stage in the excavations of Aknashen-Khatunarkh was realized in 2004-2009[2] within the Armenian-French program of study on the Neolithic and Chalcolithic cultures in Armenia, in a logical continuation of the excavations of the neighboring site of Aratashen. Between 2004 and 2009, excavations were carried out in the eastern sector at Aknashen-Khatunarkh, with test Trench A on the north side and test Trench B on the south side (both 6 x 4 m in surface area). On the top of the mound 10 squares were excavated (Trenches 1 to 10), 4,5 x 4,5 m each, lying in two parallel series, the whole reaching 26,5 m in length (on a west-east axis) and 10 m in width (on a north-south axis) (Fig. 2:2). The total excavated zone thus covers 313 m^2.

Test Trench A was excavated to a depth of 475 cm in relation to absolute 0; in this trench, the cultural layer was 415 cm thick (compared to the hill's relative height of 3,5 m). The cultural layer continues beyond this depth, but the high level of the water table does not allow further excavation. In Trench A, the occupation layer is partly disturbed by an intrusive tomb of the Late Bronze Age.

Stratigraphy and Architecture

The cultural layer once excavated, being relatively thick and on the whole well stratified, was subdivided preliminarily into five horizons (I to V). The lower horizon (V) has so far been studied only in test Trench A. In test Trench B, Tr. 9 and Tr. 10, only Horizon I has been excavated thus far. The preliminary typological analysis of the material, mainly pottery, has enabled attribution of the upper horizon (I) to the Chalcolithic and the underlying horizons (II-V) to the Neolithic.

Horizon I, with an average thickness of 0,7 m, is represented in test Trench A by an undisturbed Chalcolithic layer, whereas in Trenches 1 to 8 and in test Trench B this level was covered by a medieval occupation[3] , later destroyed by a sub-contemporary cemetery. In Trenches 1 to 8 and in Trench B, 117 individual sub-rectangular graves without funerary objects were discovered, as well as two tombs of the Late Bronze. The tombs intrude into the cultural layer to a depth of 120 to 205 cm. In this level, no Chalcolithic architectural vestiges have been found. However, this level does contain a large quantity of Chalcolithic objects, mainly lithic industry in obsidian and pottery. Some of these objects were recovered *in situ,* as 'islands' in their original positions; this

is the case for an assemblage consisting of three shaft-hole axes/adzes and an obsidian blade (Trench 3) (Fig. 3:1) and the large vessel found in test Trench B. Horizon I is characterized by a high percentage of chaff-tempered pottery (68 per cent).

Lower down, between 130/145 cm and 180/190 cm, lies *Horizon II*, with an average thickness of 0,6 m. This horizon, which is disturbed by intrusive tombs, is represented by surfaces of beaten earth-partly preserved floors, by *pisé* walls with fragments of bricks, and by structures that are oval or circular in plan. The pottery material of Horizon II is characterized by an abrupt decrease in the production of chaff-tempered pottery (which changes from 68 per cent in Horizon I to 30 per cent here) and by the predominance of grit-tempered pottery (the group Grit I reaches 60 per cent and the group Grit II 10 per cent).

Horizon III, ranging from 0,3 to 0,4 m thick (between 180/190 and 220 cm in depth), also destroyed in places by late intrusions (medieval and contemporary) in the form of rubbish pits, is represented by *pisé* walls and by cellular structures, containing grit-tempered pottery *in situ*. The proportions of the different groups of pottery in Horizon III are on the whole similar to those of Horizon II (Chaff - 24%, Grit I - 57%, Grit II - 19%). This horizon is also scattered with structures made with pebbles, hearth remains, and piles of material *in situ*. In particular, there is a group of three nuclei in obsidian (Fig. 3:2), clearly associated with a structure in pebbles, which contains fragments of querns.

In *Horizon IV*, unlike the overlying horizons, the architectural remains present relatively clear contours (Fig. 4:1-2). In Trenches 1-2 and 4-5, the main elements in the plan are two circular structures built from *pisé*, one 5 m in diameter on the interior and the other about 4,5 m in diameter. The walls, 25 to 50 m thick, are preserved to a height of 35 to 40 cm, in places to 55 cm. The constructions are contiguous and probably correspond to different phases of this horizon.

Against the external face of the first construction, on the west side, lie two semi-circular 'buttresses'-65 x 55 cm and 125 x 65 cm-symmetrically placed on each side of the entrance. Within the building, in a north-south direction, a low rectilinear wall rises ('pylon' ?), resting against the internal face of the south wall; this low wall, 2,2 m long and 30-35 cm wide in the part visible, divides the southern half of the building into two parts. In this construction, two floor levels were revealed. The upper floor lies at a depth of between 220 and 230 cm; a considerable quantity of material was found on its surface-obsidian artefacts, compact heaps of bones, three flat bone objects with a perforation in the upper part (pendants or tools), a tool made of deer antler, two awls/punches, discoid beads, a small celt, and ground stone artefacts.

On the lower floor (between 235 and 253 cm in depth) there are linked two structures, which are situated approximately at the centre of the building: a cylindrical *pisé* structure between 57-60 cm in diameter, containing several pebbles and a stone tool, and a shallow pit, 80 x 85 cm in diameter, filled with burned earth, pebbles, tools made from pebbles, obsidian artefacts and faunal remains. A nucleus in obsidian and a bone tool lay on the floor.

At a depth of 250-259 cm, the south part of the interior space of the house is coated with a layer of beaten earth, which covers a pile of clay blocks in the southeast corner and in the central part of the dwelling. A pit 80 cm in diameter was dug north of this pile in the layer of beaten earth, and was filled with black and orangey burned earth, which contained a few scattered pebbles, a bone palette and a large flint object (nucleus?). In the construction situated in Trench 5, at a depth of 245-260 cm, a floor was revealed on which much material was found *in situ*: a cluster of faunal remains, three nuclei of obsidian, a bone palette, a bone tool made on a palette with a toothed edge, four bone awls, an oval handstone and a cluster of obsidian blades.

Further down, 274-280 cm below the datum, there was another layer of beaten earth that extended around the building and inside it. In the middle of this layer a figure-eight shaped pit was dug (measuring 2,10 x 1,5 m), composed of two sections and filled with black and orangey burned earth, as well as fragments of whitish clay blocks. The space around these constructions was filled with features that conformed to no clear plan, mainly sections of platforms of beaten earth, certain of which continue in the baulks.

In Horizon IV, the quantity of pottery decreased by half in comparison with the overlying horizon (III).

The majority of ceramics (85 per cent) comprised grit-tempered fragments.

Horizon V, based on the evidence from Trench A, comprised five 'sub-horizons': V-1, between 290 and 348 cm deep; V-2, between 348 and 370 cm; V-3, between 370 and 400/410 cm; V-4, between 400/410 and 420 cm; and V-5, between 420 and 475 cm.

Sub-horizon V-I was destroyed by an intrusive tomb of the Late Bronze Age. Of the original arrangement only part of a building in *pisé*, circular in plan, survived, continuing in the north baulk of the trench. The building measured 230 x 160 cm with a wall between 35 and 40 cm thick. The wall is preserved to a maximum height of 25 cm, and lies above a layer containing many blocks of charred clay. In the south part of the trench a hearth stain was found, scattered with organic material, fragments of burned bone and obsidian artefacts (25 pieces); the central part of this hearth-a circle 1 m in diameter-was 30 cm deep. The flotation of the fill produced a large quantity of archaeobotanical material.

Sub-horizon V-2 produced several structures, including a pit 90 cm in diameter, filled with charred earth, of which the bottom is lined with blocks of black and orange clay, as well as a cluster of pebble and bone fragments. A nucleus and a series of large blades were also discovered here *in situ*; to the south lay a saddle-shaped basalt quern (34 x 13-17 cm) surrounded by five to six pebbles. Flotation recovered a rich sample of plant remains. Near the south wall of the trench a cluster of charred sheep/goat bones-almost exclusively fragments of mandibles-were found in a small pit measuring 40 x 30 cm, together with obsidian artefacts. To this same level corresponds the upper limit of an oval structure (1 x 0,66 m) built from pebbles, which are arranged in four to five courses, measuring 45 cm in thickness, and surrounded by a clay border 10 to 15 cm wide; in all, this structure contains 42 complete ground stone tools and pebbles, and 57 fragments. One of the ground stone tools is a saddle-shaped quern (43 x 16-19 x 5,5 cm). All the stones had been heated red-hot right through, and have a smoke blackened layer.

Below 370 cm (*sub-horizon V-3*), the entire surface of the trench was covered with ashy stains, saturated with organic material, small fragments of charcoal and burned bones.

In *sub-horizon V-4,* in the northwest part of the trench, part of a construction was brought to light: a curved *pisé* wall, 25 to 30 cm thick. Inside this building are oval structures also in *pisé* measuring 35 x 43 cm and 25 x 50 cm, as well as a structure made of pebbles on a clay platform. In the building were found, most notably, the scapula of a large mammal, a spoke-shave and a sherd of painted pottery. In the northwest corner, a *pisé* feature (50 x 75 cm) with rounded corners was filled with burned earth, organic matter, and fragments of charred bone. Inside and outside the dwelling, close to the east wall, were hearth remains, measuring 50 to 120 cm in diameter.

Perpendicular to this wall, on the east side, was a rectilinear wall built in the same manner. The space that extends to its north is strewn with burned earth and bones. In particular, a skull, mandible and other bones of a sheep/goat were found *in situ*.

The central and southern parts of the trench produced oval structures (48 x 52, 32 x 68, 54 x 90 cm) with walls 2 to 3 cm thick in a burned orangey clay (Fig. 4:3). The flotation of this material also produced a large quantity of archaeobotanical remains.

Below a depth of 420 cm (*sub-horizon V-5*), excavations were carried out in a limited sector of 0,8 x 0,8 m at the foot of the south wall of the trench. The water table appeared at 453 cm, which made the continuation of the excavations practically impossible. However, in this deep trench, it was possible to reveal part of a *pisé* construction, circular in plan.

On the whole, Neolithic architecture at Aknashen-Khatunarkh consists of circular buildings 4 to 5 m in diameter built in *pisé*. In terms of technique of construction and plan, this architecture is similar to that of Level II at Aratashen. However, at Aratashen, some structures used 'mud bricks' and a lighter mortar, as at Arukhlo in Georgia (Hansen et al. 2007) and the sites of the Shulaveri-Shomutepe culture. At Aknashen-Khatunarkh, mudbrick fragments were found at various points on the site, but no brick wall has yet been discovered.

GEOARCHAEOLOGY: ANTHROPOGENIC DUST ANALYSIS AND NEOLITHIC ACTIVITIES

The first geoarchaeological observations and sampling occurred during the 2009 excavation season. They

concerned sedimentary units of Horizon IV (UF 6b to 8) in the central part of the tell (Trenches 1, 4-5).

The sampling method used is a twofold one: (1) many micro-samples which enable determination of the different types of anthropogenic particles[4] , and (2) blocks of undisturbed sediments which allow observation of the relations between the different constituents of the soil. The sampling at Aknashen-Khatunarkh, although the quantities necessary for the analysis are very small, is particularly difficult because of the high level of bioturbation that has occurred. On a large scale the sedimentary units are clearly perceptible (Fig. 5:1), but at the centimetric scale of sampling, the undisturbed sedimentary layers are rare. Our samples were thus not taken from clearly defined sectors, but from different points, which appeared to be the most favourable in the sections available. In this preliminary report on anthropogenic sedimentation, only the more general features will be presented.

The most striking characteristics that emerge from the study of the 15 samples analysed are the very good preservation of anthropogenic dust; the abundance of siliceous phytoliths; the scarcity (often absence) of wood ashes (or POCC, Brochier and Thinon 2003); the unusual abundance of siliceous freshwater algae (diatom frustules and chrysophyte stomatocysts); and the variable, but often high, proportion of faecal spherolithic carbonated particles (Brochier 1983; Brochier et al. 1992) from domestic livestock dung (mainly sheep and goats).

Despite the small number of samples observed, the rareness of POCC is somewhat surprising considering the usual high production rate and easy dispersion of these silt-sized particles in and around inhabited zones. No taphonomic phenomenon may be invoked in this case, since much more alterable particles (such as faecal spherulites) are perfectly preserved. Only a few examples of POCC, attributable to angiosperms (wood, leaves or bark) without any possible specific assignment, were observed. This unexpected observation, *if confirmed by the analysis of more numerous samples*, argues against a long and year-round presence of a large agropastoral community at the time of the Horizon IV deposition.

Numerous siliceous phytoliths occurred as isolated particles (a usual phenomenon in accumulations of decayed dung); floral epidermis (chaff) phytoliths of cereals are extremely rare and, up to now, do not support cereal grains processing on or near the tell. The lack of other types of siliceous epidermis (from grass leaf or culm for instance) raises questions about the nature of roofs.

Associated with siliceous phytoliths and widespread discontinuous phosphatic crusts, the abundance of faecal spherolithic carbonated particles gives a strong pastoral character to these deposits. The thickness of the spherulite-rich layers, observed outside the circular walls of buildings, shows that the dung accumulations were important, and that rearing was an important activity at the site. As a consequence, the existence of dung accumulations, slowly or quickly mineralized by biochemical processes or burning (Fig. 5:2) respectively, points to the inhabitants' lack of interest in this kind of crop fertilizer.

These first geoarchaeological examinations of the sediments from Aknashen-Khatunarkh emphasize the high quantity of the sub-products of herding in the sedimentary record, a phenomenon which, in itself, is not really unexpected in a Neolithic site. From a geoarchaeological point of view, in Horizon IV the domestic signal remains surprisingly weak, as if this settlement had a strictly pastoral vocation.

Discovery of a Child Burial

During the 2008 campaign at Aknashen-Khatunarkh, a child burial[5] was found in the northeastern part of Trench 7 (UF 5, F2) (Fig. 2:2), north of a curvilinear wall.

At the time of discovery[6] , the limits of the burial pit could not be recognized; it might thus be assumed that the pit was refilled with the earth taken off while it was dug. The individual was in a clay matrix; some of the bones were therefore taken out in blocks of soil, waiting for further excavation in the laboratory. The biggest block included the skull, the mandible, and the upper part of the vertebral column, as well as a few bones from the upper limbs.

In 2009, all the blocks of soil were carefully excavated in the laboratory. While excavating the human remains, the exact position of each bone element or fragment of an element, its anatomical orientation as well as relation to other bone elements, were recorded according to the methods of archaeothana-

tology (Duday 2006). The data collected in the field were then combined with those recorded in the laboratory so as to describe the body position.

The age at death of the child was estimated at between 5.25 and 7 years, based on the degree of dental maturity. The method of Moorrees and his colleagues (Moorrees et al. 1963), which enables evaluation of the stages of dental formation and resorption, was used.

The body was lying on its left side, in a flexed position, presenting three-quarters of the back. The skull was crushed. The position of the upper limbs could not be identified, except for the right arm, which laid on the trunk. The thighs were flexed at a right angle to the trunk and the legs were flexed at the thighs. The axis joining the pelvis to the top of the skull followed an east-northeast - west-southwest orientation, the head facing the north-northwest (Fig. 6).

A broken copper or bronze ring (Fig. 6) was uncovered under the left temporal bone. Two pieces of obsidian were found in the pelvis area but it is not clear if they were associated with the body or just included in the filling of the burial pit, since the matrix contained inclusions among which were other pieces of obsidian, a few sherds and fragments of animal bones.

CHRONOLOGY

The absolute chronology of the site of Aknashen-Khatunarkh is based on a series of 24 radiocarbon dates (Tab. 1). Eighteen of these (all those of Horizons V and IV and three dates from Horizon III) belong to the first half of the 6th millennium cal. BC, which enables dating of the Neolithic horizons of the settlement. Moreover, the diversity of the dates from Horizon III within the limits of the 6th millennium suggest either the possibility of a chronological subdivision of this horizon, and thus the necessity to refine the internal stratigraphy, or that samples LY-13664 and Poz-22746 belong to intrusions (Tab. 1). The late (medieval and modern) dates UGAMS-4083,-4084 and-4085 are also evidence that Horizon III in Trenches 7 and 8 was highly disturbed by intrusions from different periods (for example, the 'rubbish heap' containing modern grape seeds). Owing to the lack of samples, the dating of the Chalcolithic Horizon (I), and thus the complexes containing chaff-tempered pottery, remains a problem.

POTTERY

Excavations at Aknashen-Khatunarkh have produced 7196 pottery sherds, of which 6340 belong to Neolithic and Chalcolithic levels (88 per cent of the whole), nine of them being probably imported.

To classify the Neolithic and Chalcolithic pottery of Aknashen-Khatunarkh, we have used the traditional technological method, based on visual examination of the characteristics of the paste, and comparisons with contemporary material from the site of Aratashen (Arutyunyan 2008; Palumbi 2007); in addition, a petrographic analysis was carried out[7] on 125 samples (Arutyunyan and Mnatsakanyan 2010). The results of the study of the Aknashen-Khatunarkh pottery enable a division into three groups:

1. Pottery with organic temper-chaff-tempered-2918 sherds (46 per cent of all the Neolithic and Chalcolithic pottery)
2. Pottery with mineral temper-grit-tempered I-2643 sherds (42 per cent)
3. Pottery with organic and mineral temper-grit-tempered II-770 sherds (12 per cent)

The distribution by horizons of Neolithic and Chalcolithic pottery is represented in Fig. 7. The chaff-tempered production, which makes up the absolute majority in Horizon I, has not been found in association with any structures or buildings, because of disturbance by the intrusion of late tombs. Only in Trench B was there found *in situ* a large conical vessel (a 'basin' 50 cm in diameter), with a decoration on the edge of the rim consisting of four groups of three almond-shaped protuberances (Fig. 9:2/23).

In the underlying horizons, the proportion of chaff-tempered pottery clearly decreases. At the same time, in Horizons II and III, the quantity of grit-tempered I and grit-tempered II pottery increases. Moreover, in Horizon III, grit-tempered I pottery was found *in situ* inside buildings made of *pisé*. In Horizon IV, the total quantity of pottery is reduced by half; most of the sherds (largely grit-tempered I and grit-tempered II productions) are concentrated in the ruins of *pisé* buildings. Horizon V, brought to light only in Trench

A, had been disturbed by an intrusive tomb of the Late Bronze Age, which probably accounts for the presence of pottery in this horizon.

Chaff-tempered ware

The clay is tempered by organic inclusions, probably chopped straw, cereal residue, animal excrement. For the thin-walled vessels (between 0,3 and 1,2 cm thick), the temper is fine or coarse, for the medium-sized or large vessels (between 1,3 and 2 cm thick), a sandy temper is added to the organic temper. The density of organic temper varies between 10-12 per cent and 30-37 per cent (rarely as much as 45-48 per cent). In the mineral fraction, dolerites, dacites, and andesites predominate, with a low representation of ancient rocks (granite, quartzite, epidozite, quartzitic porphyry) (Fig. 8:4-6). The use of grog (chamotte) is of limited importance and is combined with the use of particles of ancient rocks (Arutyunyan and Mnatsakanyan 2010).

Most of the sherds presented evidence that the vessels had been carefully made. The surface often preserved marks of burnishing or traces of combing, the latter being characteristic of the Chalcolithic pottery of the region. The colour of the internal face is distinguished from the exterior surface only by a lighter tone-these are different nuances of reddish-pink, brown, and gray. Patchy areas on the sherds and contrast between the gray-black core and the surface colours are evidence of low and irregular firing, between 450 and 600° C (Arutyunyan and Mnatsakanyan 2010).

The shapes of the chaff-tempered pottery are varied: a) bowls with vertical or flared sides, sometimes with slightly rounded shoulders and a rim cut at a right angle, or sharp or turned inward (Fig. 9:2/21); b) closed globular vessels (Fig. 9:2/20); c) pots with a relatively small or medium neck (Fig. 9:2/22, 24); d) large vessels in the shape of basins (Fig. 9:2/23). As for the bases of the vessels, only a few fragments provide evidence that they were rounded, or sometimes flat (in particular the large basin).

The plant-tempered pottery is decorated with protuberances of conical form, almond-shaped or pinecone-shaped (Fig. 9:2/1-4), with perforations beneath the rim (Fig. 9:2/1-4), notches on the rim (Fig. 9:2/17-18), or geometric motifs incised on the shoulder (Fig. 9:2/17-18). The applied knobs, which appear in Level VI of Shulaverisgora (Dzhavakhishvili and Dzhaparidze 1975: figs. 11:1, 17:3), in the first phase of the Shulaveri-Shomutepe culture, are a widespread form of decoration at the sites of this culture, as well as in the plain of Ararat (Sardaryan 1967: pl. XL:1-2, 4-5, 3), and have a long existence, up to the Late Chalcolithic of Tsiteli Gorebi (Varazashvili 1992: pl. VIII:1-7; X: 7-8; XI:1-10, 11) and in the Early Bronze Age.

The pottery decorated with perforations is known at sites of the Late Chalcolithic, attributed to the first half of the 4th millennium: Teghut (Torosyan 1976: pl. V:4-5), Tsopi (Kiguradze and Sagona 2003: 91) and Ginchi (Gadzhiev 1991: Fig. 24). However, these are mainly “frying pan” types, whereas at Aknashen-Khatunarkh and Aratashen (Palumbi 2007: figs 2:3-5; 3:1-2; pl. 2:7) perforations decorate cups and bowls.

Decoration of straight or oblique notches on rims, widespread during the Chalcolithic at sites of the Sioni culture (Menabde and Kiguradze 1981: figs 2-3), appears on the pottery of Level II at Shulaverisgora (second phase of the Shulaveri-Shomutepe culture-first half of the 6th millennium BC) at the same time as incised decoration, the chevron motif and applied protuberances (Dzhavakhishvili and Dzhaparidze 1975: figs 17:2, 4; 54:20-21), elements which are all present on the Neolithic pottery of western Georgia (Dzhaparidze 1989: figs 68-69).

Grit-tempered I ware

The paste of this pottery group contains coarse mineral temper (from 14-20 per cent to 35 per cent), sometimes with very large inclusions (up to 0,5-0,9 cm), resulting in a surface covered with star-shaped cracks. The mineral inclusions consist of palaeovolcanic andesites, acid effusive rocks and their tuffs, old granites, quartzites, and also neovolcanic olivine basalts, andesites, ryodacites, and vitroclastic tuffs (Arutyunyan and Mnatsakanyan 2010: Fig. 8:1,3). Grog (chamotte) was also used as temper (Fig. 8:2).

The vessels were formed using coils 2 to 10 cm wide and wider (depending upon the dimensions of the vessel). The pottery is very compact, with a bumpy surface where the coils of clay join. The thickness of

the sides is more or less standard, 0,5-1/0,9-1,2 cm, independent of the dimensions of the vessel. The colour of the surface varies from pink through reddish-brown to gray and black with spots. The sherds in cross-section have only one colour, rarely two or three colours. The firing temperature was also around 450-600° C (except for some sherds that were fired at a temperature up to 700-750° C).

The mineral-tempered pottery consists of cylindrical or barrel-shaped vessels with a wide flat bottom and a bulge at the base, shoulders that are sometimes rounded, a simple rim-cut at a right angle, rounded or sharp (Fig. 9:3/1, 4, 6, 8-14). The large and the small vessels belong to the same types. The impressions of spiral basketry on the base, so characteristic of the Shulaveri-Shomutepe culture (Dzhavakhishvili and Dzhaparidze 1975: fig. 48:6-7) are represented by only two examples (Fig. 9:3/7). Sometimes on the bases and the lower parts of the walls, on the external face, are impressions of straw, grains, or fine sand. The pottery is not decorated. However, there are some large applied lugs, conical or cylindrical in shape (Fig. 9:3/2, 3, 5, 14), which have analogies in the southern Caucasus, in particular to the plant-tempered pottery of Kültepe I of Nakhichevan (Abibullaev 1982: pl. X:1; XI:12), of Chalagantepe (Narimanov 1987: fig. 46), of Alikemektepesi (Munchaev 1982: pl. XLV:2), and on the mineral-tempered pottery of Arukhlo (Chelidze and Gogelia 2004: pl. XXXVI:2 ; XXXVIII:6-7; Hansen et al. 2006: abb. 39; Hansen et al. 2007: abb. 26).

Grit-tempered II ware

In this group, the main temper is grog (chamotte), unfired clay and sand, in proportions ranging from 5-11 per cent to 18-24 per cent, to which a small quantity of organic matter is added. The surface of the sherds is carefully smoothed, slipped, and burnished. As for Grit-tempered I production, the thickness of the walls of the Grit-tempered II pottery varies from 0,5-1 to 0,9-1,2 cm. Generally the external and internal surfaces are the same colour-nuances of brown to gray-black; in section, most of the sherds bear the same colour.

In terms of typology and the surface treatment, this pottery is similar to both chaff-tempered and the grit-tempered I: hole-mouth pots and bowls, flat-bottomed with a rounded junction from base to body and often straight walls (Fig. 9:3/16-19) (a fragment of a vase of this type was found *in situ* within a *pisé* structure at a depth of 268 cm in Trench A, Horizon IV, Fig. 9:3/18); low-collared jars with a smooth transition from body to neck (Fig. 9:3/15), more developed shapes than those in the chaff-tempered group. The pottery of this group is not common in the plain of Ararat, but it has very precise parallels in the pottery of Arukhlo (Hansen et al. 2006: abb. 33; Hansen et. al. 2007: abb.18) and on other sites of the Shulaveri group.

The pottery of Aknashen-Khatunarkh, whether plant-tempered or mineral-tempered, because of its morphological and techno-typological characteristics is typical of contemporary sites of the plain of Ararat, and especially of the nearby village of Aratashen:

1. Ceramics from Aknashen-Khaturnarkh with organic temper is similar to that of Level 0 of Aratashen; in general, the chaff-tempered pottery of the two sites is identical; however, the firing of the pottery at Aratashen was carried out at a higher temperature and the surfaces worked more carefully.
2. Pottery of the grit-tempered I group of Aknashen-Khatunarkh corresponds above all to its counterpart of Level I at Aratashen; but at the latter site no in situ grit-tempered I vessels were found, as is the case for Horizon III at Aknashen-Khatunarkh; in its technological characteristics, the pottery of Aknashen-Khatunarkh is distinguished from that of Aratashen by a more standardized composition of the paste and by a lesser proportion of mineral temper; at Aratashen, the pottery is characterized by great variability in its content.
3. Grit-tempered II pottery, also found in situ at Aknashen-Aratashen in Horizons III and IV, is represented at Aknashen only by a few very fragmented sherds (Levels 0 and I).

Painted pottery

Besides the common pottery production, nine sherds of high quality were found in Horizons III-V, made of pure homogenous clay, finely mixed. They belong to painted vessels of two types (Fig. 9:1/1-9): 1) with a geometric decoration, painted in black, or blackish with an olive green tint, or olive green, on a

gray-beige background; 2) with a geometric decoration painted in red on a reddish-yellow background. These sherds are best compared in fabric, decoration (and shape, for the carinated pieces, Fig. 9:1/7-8) with the Samarran pottery, traits of which spread over a large part of the northern Fertile Crescent in the first quarter of the 6th millennium BC (Shimshara in northern Iraq, Hakemi Use in southeastern Turkey, Sabi Abyad Levels 6-4 in northern Syria) (Le Mière and Nieuwenhuyse 1996; Mortensen 1970; Tekin 2005).

PRELIMINARY ANALYSIS OF THE OBSIDIAN ARTEFACTS

The six excavation campaigns up to now at Aknashen-Khatunarkh (2004-2009) recovered 22,485 lithic artefacts (whole, complete and fragmentary). Almost all these objects were obsidian (99.6 per cent), apart from 96 that were fashioned from flint, dacite, quartz, or jasper. This is an analysis-in-progress on the lithics, especially those found in the 2009 campaign. A complete and detailed publication of this material will be produced at the end of the excavations.

Obsidian procurement

In order to determine the sources of the raw material, neutron activation analysis was carried out on 50 obsidian samples (J. Blackman, NIST-10 samples, E.Pernicka, Kh.Meliksetyan, Curt-Engelhorn-Zentrum Archäometrie, Mannheim - 40 samples). According to the analysis, ten different chemical compositions are present in the obsidian used. However, the quantity exploited at the respective deposits differed: three sources provided 86 per cent of the raw material (Fig. 10). The main volume of obsidian (48 per cent) comes from Arteni deposits (Mets Arteni and Pokr Arteni), located about 55 km northwest of the settlement (on the southwestern periphery of the Aragats massif); the second most used source (32 per cent) is the complex at Gutansar (Gutansar, Jraber, Fontan, Nurnus, Alapars) about 50 km to the northeast (on the western foothills of the Gegham Highland); the third source (6 per cent) is the volcano Hatis, south of Gutansar, about 45 km from Aknashen-Khatunarkh. The last seven chemical compositions are mainly represented by single specimens-one from the Geghasar volcano (in the southern Gegham Highland); one sample had a very approximate localisation in the Kars-Akhuryan deposit; two samples belong to unidentified deposit TCUNK 3; and three samples are not clustered. Thus, the inhabitants of Aknashen-Khatunarkh practiced the poly-sources model of raw obsidian procurement (Badalyan, Chataigner and Kohl 2004: 459-460), which is attested at many other Neolithic-Early Bronze Age sites in the Ararat valley, particularly in the neighbouring and contemporary settlement of Aratashen. Moreover, both sites exploited the same key deposits (Arteni, Gutansar, Hatis), the only difference being their respective percentages: Arteni obsidian was more favoured at Aratashen (62 per cent) than at Aknashen-Khatunarkh, whereas the quantity of Gutansar (and Hatis) obsidian is lower (19 per cent) (Badalyan et al. 2007: 43).

Typology and technology

Tables 2-5 present the inventories for each horizon of the lithic material from Aknashen-Khatunarkh studied up to now (*debitage*, cores, flake tools and blades, and raw blades). These inventories will continue to evolve as we carry out analysis on the whole of the collection, but this sampling is reliable for revealing certain tendencies, because it is based on the examination of several thousands of artefacts (37 per cent of the total collection up to now).

The Horizon I inventory is the only one which is not dated from the Neolithic period; it belongs to the Chalcolithic. Broadly, it comprises fewer products than the Neolithic horizons. As far as flake tools are concerned (Tab. 3), a total of 24 were inventoried and the result does not indicate a really notable difference between the Neolithic and Chalcolithic horizons. Even if this sampling is modest, there are more flake tools in Horizon I than in the Neolithic Horizons III and IV.

With regard to raw laminar elements (Tab. 4), which are often used (in an early agricultural context) or intended to be used without retouch, even though the Chalcolithic phase is the one with the lowest number of these artefacts, they are nevertheless well represented, despite the absence of whole blades.

The same phenomenon is apparent for blades (Tab. 5), though there are fewer specimens. There

is no innovation here either, and there is a notable absence of the blades in the Chalcolithic horizon. In addition, if one takes into account that the majority of the blades are initially intended to be used without retouch, the total number of potential blade tools (excluding the distal sections) is to be read as follows for the different horizons: 758 (V), 561 (IV), 652 (III), 1382 (II), 503 (1). Bearing in mind they have been identified in very limited quantity, at the moment the end-scrapers on blades are present only in the two most recent horizons of the site, the only exception being an end-scraper on flakes discovered in Horizon IV.

With regard to the evolution of lithics, it is interesting to note certain preliminary observations: *debitage* (Tab. 2) is clearly less common in the Chalcolithic level, which may indicate a fall in lithic production during this period (which is also shown by a reduction in the number of lithic categories).

Horizon IV does not contain any whole blade cores, but there are nevertheless four fragmentary examples. This same level contains fewer tools in general than the other horizons. Furthermore, if one integrates the raw segments of blades that were often used, it hardly exceeds Horizon I. On the other hand, Horizon II dominates in every category. But before concluding a decline or an increase in the importance of lithics for a given level, it will be necessary to augment our current inventories.

The major part of Aknashen-Khatunarkh tools were manufactured from sections of long blades possibly for a specialized function: 95 per cent of the potential tools of Horizon I are blades, 96 per cent for Horizon II, 97 per cent for Horizons III and IV, and 93 per cent for Horizon V. We described in detail the method of manufacture of this material in two of our preceding publications on the Armenian Neolithic (Badalyan et al. 2007; Chabot et al. 2009), and on Northern Mesopotamia, where this knapping method is systematized from the 4th millennium (Anderson et al. 2004; Chabot 2002; Chabot and Eid 2007).

Table 6 draws up the inventory of the knapping techniques recognized on some specimens of long blades and well-preserved cores. It can seem surprising initially that a limited number of diagnoses can be made, but it is important to keep in mind the fact that most of these objects were found in a context of use, and that the raw or retouched tools are in most cases used sections of blades. Thus they are rather short and their proximal ends, which had a certain convexity because of the presence of the bulb, are often damaged. However, it is precisely this part of the object, which contains the majority of the marks, which makes it possible to diagnose a knapping technique.

Certain specimens of nucleus and long blades are illustrated here (Fig. 11). It is normal to find blades manufactured by indirect percussion (Fig. 11:2/1-2) on a site where pressure with lever (Fig. 11:3) is attested. Indeed this technique is part of the knapping method which ultimately makes it possible to manufacture blades by pressure with a lever (see Anderson et al. 2004; and as revealed by experimental work of J. Pelegrin: Chabot 2002). We are certain that other specimens will appear in the remainder of the inventory. The unforeseen events of conservation result in the fact that we have few of these blades analysed up to now. Several specimens exist with characteristics that might be observed as much on segments manufactured by indirect percussion as by pressure, and therefore we cannot decide which manufacturing technique was used. Thus the goal of this analysis is not to diagnose each specimen, but to reconstruct the activities present at the village and the technological level of this population.

Table 6 makes it possible to observe that pressure with lever (Fig. 11:3) is attested for now in the three most recent horizons of the site. This testifies to very elaborate technical knowledge dating back as early as the Neolithic of Aknashen-Khatunarkh, as is also the case in the nearby village of Aratashen.

However, the presence of blades manufactured by indirect percussion in the oldest horizons of the site cannot automatically mean that pressure flaking was also known there (blades made by indirect percussion can also be obtained independently). For the moment, this technique is seen only from Horizon III. On the other hand, pressure flaking at Aratashen is attested at the beginning of the 6th millennium for several specimens (Chabot et al. 2009), which means it is one of the oldest sites where a certain systematization of this technique is attested. In the Near East, the production of Canaanean blades is sys-

tematized only at the end of the Uruk period (Anderson et al. 2004). So considering these two Armenian sites are so close, culturally speaking it would not be surprising to identify such tools in the oldest levels of Aknashen. These knapping methods and techniques will be described and analyzed in detail in the final publications of Aratashen and Aknashen-Khatunarkh.

The presence of pressure flaking using a crutch (small pressure) (Fig. 11:2/3-4) is not surprising either. Some cores attested this technique. It is possible that these are old lever pressure cores, which would have been recycled at the end of their course, when they became too small to continue knapping with the lever. The same phenomenon is well known at Aratashen; as yet, however, no workshop has been found so far. Even if several types of waste and *debitage* products are present, no significant concentration was identified. It is also possible that knapping activities were carried out in another sector of the site. So far, since the blades found show intensive use, they seem to have been mostly discovered where they were used well after they were first crafted in a workshop. Given the types of lithic products found, it is nevertheless mysterious not yet to have found an area where knapping activities occurred; they must, at least in part, have taken place in the vicinity.

Functional analysis

As we have just stressed, the preliminary examination of this material reveals that it is found especially in a context of use, since both raw segments of blades and retouched ones show traces of use. We recently undertook functional analysis at high magnification of some samples of blades discovered in the fall of 2009. We selected tools from every level, representative of the great majority of the material of Aknashen; that is, sections of long blades obtained by means of the three knapping techniques we just discussed.

So far all ten samples examined show traces related to agricultural work, which is hardly surprising in this Neolithic context and for this kind of material, especially knapped, which have standardized elements and often used without retouch. In this respect, Aknashen-Khatunarkh proves to be a typical Neolithic site, where great concern was given to the manufacture of homogeneous blades. The tools presented in Fig. 12 are the best examples to illustrate these agricultural functions. These include: harvesting (sickle blades) (Fig. 12:1-2); stripping (that is, harvesting with a blade in hand; Fig. 12:3); and threshing (with the threshing sledge; Fig. 12:4). These consists of the following stages: threshing the harvest in order to chop the straw and to separate the grains from their husks (these operations have been described in detail elsewhere, particularly in Anderson et al. 2004).

The marks characteristic of the harvest are indicated in Fig. 12, on two blades discovered in Horizon II, one of which was manufactured by applying pressure with crutch while standing (Fig. 12:2), and the other by indirect percussion/punch (Fig. 12:1). These marks are well represented by fine striae that are parallel to the edge, and sheen often seen on the sharp edge. It is probable that this function will be attested on all the levels. For the moment the sampling that has been analyzed also allowed us to observe these same marks, obtained by small pressure, on a blade from Horizon III, and on another specimen of Horizon II, but knapped by pressure using a lever. So every knapping technique used for the *debitage* of long blades seems to have provided blades that were cut in segments and then assigned to this task.

The traces characteristic of stripping (Fig. 12:3)-mainly stigmas in the form of perpendicular scratches all the way along the active edge-are caused by the collected plants and a motion comprised of the harvester firmly wedging the seed head between his thumb and the blade in hand, then pulling it toward himself; this way all the kernels are detached (see detailed description in Méry et al. 2007). There exists in only a few types of plants a seed head fragile enough to be collected this way: einkorn wheat, emmer wheat, and hulled barley (Méry et al. 2007). The last two types were identified at Aknashen-Khatunarkh (Hovsepyan and Willcox 2008).

Up to now, this harvesting technique was observed on two specimens. One of the blades shown here is dated to the Chalcolithic (Horizon I) and was probably manufactured by pressure flaking with a crutch; the other specimen is dated from the oldest horizon (V) and was knapped using indirect percussion. Even if our samples are relatively limited for the moment, it is nevertheless possible to see that this

kind of agricultural work was practiced in the most recent level and the oldest level of the site, and with the help of two different techniques of *debitage*.

Finally, three segments of blades show use-wear that can possibly be attributed to threshing sledge (*tribulum*). These stigmas are heavy patterns of scratches in all directions, that nonetheless show an overall parallel orientation to the edge.. The blade presented here (Fig. 12:4) comes from Horizon II but its technique of manufacture could not be understood (there was a mixture of lever and indirect percussion attributes). Two segments from Horizon V also carry such traces; one was knapped by pressure with a crutch, whereas the other was knapped by indirect percussion. Contrary to the use-wear left by the harvesting motion, the parallel scratches here are not fine dotted lines and the sheen is absent along the cutting edge. Also, the distribution of the traces is not solely along the edge, but is also observed inside both faces of the tool and then fades away little by little. This distribution coincides with what we already described for such obsidian tools found at Aratashen (Chabot et al. 2009) and for long blades from Northern Mesopotamia (Anderson et al. 2004; Chabot 2002; Chabot and Eid 2007).

The site of Aknashen-Khatunarkh contains an important quantity of obsidian tools, the homogenous morphology of which reveals a search for standardization. The aim of those who made these blades seems to have been to obtain relatively robust and regular flat segments of blades. That form was probably required for a functional purpose. The samples we have analyzed so far show that this functional goal might have been agricultural activities, but our ongoing research will surely reveal other key functions for other tools from this *corpus*. Furthermore, the technological advance in the making of such standardized material, found in great quantity as early as the Neolithic (6th millennium), is the most outstanding aspect of this lithic culture, as is also the case in the neighbouring village of Aratashen. But this raises a very difficult question to answer at this stage: Is such a great quantity of segments commensurate with the needs of such modest villages? Is it possible that a large proportion of these blade segments were traded or redistributed in an exchange network? Thus it will be very interesting to find if among all this material, a large number of raw blades show no traces of use.

GROUND STONE

On the site of Aknashen-Khatunarkh, ground stone tools are abundant, especially in the lower horizons. For the most part, they were found *in situ* in association with buildings in *pisé* or in the filling of structures in pebbles; some of these structures, where stones have been heated, were probably cooking pits. Most of the **material** used for objects associated with grinding, pounding and abrading is volcanic in origin (basalt, lava, tuff, etc.) and local in provenance; sedimentary and metamorphic rocks (sandstone, limestone, granite, etc.) play a secondary role for these tasks. Soft rocks (serpentine, sandstone, schist) were used for grooved stones and shaft-hole axes/adzes; siliceous rocks, green or black in color, were reserved for making polished axes.

The **grinding material** consists mainly of saddle-shaped querns, flat querns and bread-shaped handstones. The saddle-shaped querns are more frequent in the lower horizons (V-III), suggesting a chronological evolution similar to that observed in the Shulaveri-Shomutepe culture in Georgia (Hamon 2008: 109). The **pounding tools** consist of cylindrical pestles and massive mortars; a multi-facial pebble mortar (Horizon IV) with circular cavities on four of its faces is very similar to artefacts from the lowest levels of Aratashen (Levels IIc-IId). Among the **percussion tools**, a grooved hammer-stone, from the upper strata of the tell (Trench A, UF 1), has no parallel at Aratashen, but does have parallels with different sites of the southern Caucasus of the late phase of the Shulaveri-Shomutepe culture (Khramis Didi Gora; Hamon 2008: 104, fig. 19:d-g) and in that of Kültepe of Nakhichevan (Abibullaev 1982: 58, pl. IV:11).

In addition to several polishing and abrading tools, four **grooved abraders** have been found. Two of them belong to the lowest level (Horizon V) of Trench A; they are both made of ophicalcite (serpentinite), sub-rectangular in shape with several transverse grooves (Fig. 13:1/3-4). In the Neolithic and Chalcolithic of the Near East such stones with several grooves are rare. The closest parallels come from Tilki Tepe Level III, a context of the middle Halaf (in the mid-6th millennium) in southeastern Turkey (Korfmann 1982: 104, 106; figs 19:5; 20:3-5).

The other two grooved stones come from Horizon II, a transition phase between the Neolithic and the Chalcolithic. One is a basalt pebble, ovoid in shape (length 6,6 cm) with a faint transverse groove clearly V-shaped in profile (Fig. 13:1/1). The second, in ophicalcite (5,7 x 2,3 cm), presents on its rounded upper part a wide transverse (oblique) groove in a U-shape (Fig. 13:2/2-3). It is similar to the grooved stones found at Aratashen (Levels IId-IIb) and at sites of the Shulaveri-Shomutepe culture in the basin of the Kura (Shulaveri, Imiris Gora) (Badalyan et al. 2007). Such artefacts with a transverse groove are also characteristic of eastern Mesopotamia and the Zagros from the 11th millennium onward (Zawi Chemi, Karim Shahir, Jarmo, and so on), whereas in the Levant and western Mesopotamia, the groove generally lies along the longitudinal axis of the tool. According to ethnographic data, the stones with a U-section groove may have been used as shaft-straighteners or bead polishers, whereas the stones with a V-section groove may have served for the shaping of bone artefacts, arrow points, awls, etc. (Solecki and Solecki 1970).

Four *axes or celts* in polished stone (Fig. 13:2/4-7) were found at Aknashen-Khatunarkh, all in Horizon IV. Trapezoidal in form and measuring 5,9 to about 8 cm in length, they are in green or black siliceous rock. Three shaft-hole axes/adzes in siliceous stone have been found together *in situ* in Horizon I (Fig. 3:1); the proximal part of a similar artefact comes from another trench, in the same horizon. These artefacts, whose hafting is perpendicular to the cutting edge, belong to two variants: the smallest one (length 11 cm) is a 'perforated celt', with a cutting edge symmetrical in section (Fig. 13:2/1); the two biggest (length 15 cm and 19,4 cm) have an asymmetrical cutting edge with an upper surface that is convex and the opposite surface concave (Fig. 13:2/2-3). Such artefacts are quite rare in the Neolithic Near East: a hoe-like implement with a large perforation near the butt has been found at Matarrah, in northern Iraq (7th millennium) (Braidwood et al. 1952: 21) and another at Yarim Tepe I dating to the beginning of the 6th millennium (Munchaev and Merpert 1981: fig. 36:2). In the southern Caucasus, some perforated celts have been found on sites of the Shulaveri-Shomutepe culture (Shulaveri, Level IV) (Kiguradze 1986: fig. 11:33); however, the closest parallels to the Aknashen-Khatunarkh artefacts come from Kültepe of Nakhichevan (lower level), where four 'shaft-hole adzes' (lengths 13 to 18 cm) have been found (Abibullaev 1982: pl. IV:1-3, 13). According to the excavator, these tools could have served as hoes for turning earth, but not as axes for cutting wood, as the working edge carries no trace of removals due to blows, even though it is highly worn (Abibullaev 1982: 56-57).

Several *weights* in vesicular basalt, circular in shape (4 to 7 cm in diameter, 1,5 to 3,5 cm thick), have a double-beveled perforation in the centre. The smaller ones were probably used for weighting looms and the larger ones to make digging sticks heavier. A biconical artefact in basalt (about 7 cm in diameter) found in horizon III has a median ridge that is remarkably worked. This artefact may be a preform for a spindle whorl or a mace-head (?).

For the ground stone assemblage, the transition between the Neolithic (Horizons V-II) and the Chalcolithic (Horizon I) is manifested by the appearance of new categories of artefacts (shaft-hole axes/adzes and grooved hammer-stone), which have parallels on the sites of the latest phase of the Shulaveri-Shomutepe culture and in the lower level of Kültepe I of Nakhichevan. The existence of relations between this latter site and Aknashen-Khatunarkh, suggested by the pottery (chaff-tempered ware, globular jars with low necks, horizontal lugs, protuberances on the rim) is thus reinforced.

SMALL FINDS

At the site of Aknashen-Khatunarkh, the ornaments are varied, unlike at Aratashen, where (besides copper beads) only small discoid beads of whitish color were found. Such beads in white antigorite, with a diameter between 3,5 and 5,5 mm, are also present in all the horizons of Aknashen-Khatunarkh; in addition there are:

1. An obsidian pebble, flat and discoid in shape (2,7 cm diameter), with a cavity made in the centre of one of the faces (Horizon IV); is it possible that this is an unfinished pendant?
2. Animal teeth (wild boar, fox, dog, ox), perforated or grooved, found in Horizons II to V (Fig. 14:1/1-6); perforated tooth pendants were used in the Near East as early as the beginning of the Neolithic at Shanidar Cave in the Zagros (Solecki et al. 2004)

3.A discoid bead in bone (Horizon III) and tubular beads made from bird bones (Horizons IV-III) (Fig. 14:1/9); such tubular beads are very common beginning in the Proto-Neolithic in the Zagros (Shanidar cave) and in the Pre-Pottery Neolithic A of the southern Levant (Beidha) (Kirkbride 1966: 203-204; Solecki et al. 2004: 203).
4.A large fish vertebra perforated in the centre (Silurus - catfish) (Horizon III) (Fig. 14:11/7).
5.A pendant made from a marine shell, Conus sp., perforated at the apex (Horizon III) (Fig. 14:1/8). Among the many varieties of Conidae, the closest species to this pendant appears to be Conus inscriptus that lives in the Red Sea. In the Near East, the use of Conus shells as ornaments can be traced back to the Levantine Pre-Pottery Neolithic (Hayonim Terrace, Jericho), where Mediterranean and Red Sea Conus are found (Reese 1982), and in southeastern Anatolia (Körtik Tepe), where the origin of the species is not stated (Özkaya and Coşkun 2009: fig. 6). From the PPNB-PPNC onwards, there is an increase in shell quantities, owing to the increased exploitation of shells from the Red Sea (Bar-Yosef 2005: 181). For example, the Red Sea *Conus ebraeus* has been found in graves at Chalcolithic sites throughout Mesopotamia (Tello, Tepe Gawra) (Gensheimer 1984).

METAL

The Neolithic levels at Aknashen-Khatunarkh have produced two copper artefacts, several examples of copper ores, and a fragment of lead ore.

In Horizon IV, in the tomb discovered in Trench 7, a broken copper or bronze ring was uncovered under the skull (Fig. 6). In the lowest horizon (V), a fragment of a highly oxidized copper sheet bead was found in a hearth among faunal remains and broken obsidian artefacts (Trench A, UF 10, F. 5). This type of bead belongs to a tradition known on Neolithic sites of the northern Near East between the beginning of the 8th millennium and the end of the 6th millennium, when they disappeared (Schoop 1999). In the southern Caucasus, such beads are attested for the 6th millennium at sites belonging to the Shulaveri-Shomutepe culture Khramis Didi Gora, Gargalar Tepesi, Chalagantepe (Kavtaradze 1999: 69) and in Aratashen Level IIb, where 57 examples were found together (Badalyan and Lombard et al. 2004: 52, fig. 8)·

Several fragments of green malachite and a few of blue azurite (copper carbonates) were found in horizons IV-II, in different parts of the site, the largest pieces of malachite (19 g each) coming from Horizon IV (Fig. 14:2/1-2). Copper ore is found at many locations in eastern Turkey, northwestern Iran, and the southern Caucasus, the nearest deposits being in northwestern and southeastern Armenia (Alaverdi and Kapan regions). However, only an analysis of lead isotopes will enable precise determination of the origin of the copper ores found at Aknashen-Khatunarkh. In the Near East, the use of blue and green copper ore for beads, pendants, and pigments is attested for the 11th-9th millennia at early agro-pastoralist sites such as Shanidar Cave and Zawi Chemi in northeastern Iraq, Hallan Çemi and Çayönü in eastern Turkey, and Rosh Horesha in the southern Levant (Roberts et al. 2009). For the 7th-6th millennia, such copper ore fragments are well attested on northern Mesopotamian sites Hassuna, Yarim Tepe I, *etc* (Stech 1999).

Malachite and azurite were also found at Aratashen, but not galena (lead sulfide), of which a large fragment (22 g) was found at Aknashen-Khatunarkh in Horizon III (Fig. 14:2/3). Fragments of lead ore were discovered at different Near Eastern sites of the 8th to 6th millennia, from central Anatolia (Çatal Höyük) to northeastern Mesopotamia (Jarmo, Hassuna Ia, Yarim Tepe I, Arpachiyah) (Schoop 1995), but much more rarely than copper ore. Galena was perhaps used for eye paint, a practice that survives in fact to the present day. In Armenia, the main deposits of galena are located in the northwest, Kadzharan region and in the southeast, Kapan region (Matveev et al. 2006; Melkonyan and Akopyan 2006).

BONE INDUSTRY

At Aknashen-Khatunarkh, 378 objects (whole or fragmentary) in bone, horn, and antler have been found, of which only four (three awls and one edged tool) come from Horizon I (Chalcolithic). In the Neolithic horizons the number of artefacts increases from Horizon II to Horizon IV; Horizon V (Trench A), with a density of 40 tools for 24 m^2, is the richest.

A majority of the objects are awls or punches (Fig. 15:7/9); however, their percentage decreases

from Horizon II (83 per cent) to Horizon V (50 per cent). The rest of the bone, horn, and antler artefacts from the Neolithic horizons belong to a large variety of types (although most of the types are represented by a few objects). R. Christidou is currently carrying out a functional analysis of the bone industry; we present below some of the most characteristic types.

Tools of 'dibble' type, consisting of a goat horn of which the proximal part is perforated to be fitted with a handle (Fig. 15:10; length 9,7 cm), are present in Horizon II. With them is a fragment of a bone arrow with a point having a lozenge-shaped section (Fig. 15:5). A similar example from Horizon IV consists of a point having a triangular section followed by a cylindrical tang. Horn dibbles and bone arrows have parallels in Level II of Aratashen.

In Horizons III-IV, the variety of types increases: beveled tools, made from deer antler or goat horn (Fig. 15:1/2), and wide palettes, made from the shoulder blades (*scapulae*) of large ruminants, of which one example has a toothed edge (Fig. 15:14). In Horizon III a finely carved spoon (3 x 3,8 cm) was found (Fig. 15:12); it is similar to the spoons from the lower level of Aratashen (in particular from IIb).

In Horizon IV, the bone assemblage includes shafts of cylindrical section pointed at their two extremities (bipoints) (Fig. 15:16; 13,5 cm long and 0,6 cm in diameter), which evoke pins for clothes rather than tools, a bone blade made from a rib (15 cm long and 1,8 cm wide) with perforations at both ends (Fig. 15:11), and flat piercing tools made from a rib with perforation at one end (Fig. 15:3-4). The function of a series of artefacts (Fig. 15:1-2) remains unclear.

The industry in bone, horn and deer antler from Aknashen-Khatunarkh is very similar to the assemblage from Level II of Aratashen. And both are doubtless close to the Shulaveri-Shomutepe culture, which developed at the same time in the neighbouring basin of the Kura.

FAUNAL REMAINS: NEOLITHIC SUBSISTENCE ECONOMY AT AKNASHEN-KHATUNARKH

As studies of fauna and archaeozoological data are not very numerous for the Neolithic and Chalcolithic periods in Armenia, the faunal material from Aknashen-Khatunarkh is of great significance. This material provides new information on the subsistence modes of the Neolithic societies in the Ararat plain during the first half of the 6th millennium BC, and the comparative study with the neighbouring site of Aratashen[8] (about 6 km away) gives elements for understanding how these settlements functioned.

Methods

The recovery of the bone remains was mainly by hand; certain sediments were sieved for the archaeobotanical studies, but the fauna from sieving was not abundant and very fragmentary. The anatomical and taxonomical determinations for the mammals were carried out using the works of Schmid (Schmid 1972), Fernandez (Fernandez 2001), and Brugal (Brugal 2009). The discrimination between goat and sheep is based, on the one hand, on analysis of the post-cranial elements (Boessneck et al. 1964; Clutton-Brock et al. 1990; Prummel and Frisch 1986), and on the other hand, on the dental remains determined according to the criteria established by Payne (Payne 1985), Helmer (Helmer 2000), Halstead et al. (Halstead et al. 2002). The dates for dental eruption are based on the data in Schmid (Schmid 1972); the estimates of age according to dental wear are based on the work of Payne (Payne 1973) and Helmer (Helmer 2000) for the Caprinae. The kill-off profiles for the Caprinae have been established based on the heights of dental crowns (see Helmer et al. 2007).

Inventory of species

At Aknashen-Khatunarkh, the excavation is in progress. The analysis presented here includes the faunal material recovered between 2005 and 2009, in trial Trenches A and B and in the Trenches 1-8. At the present time, about 13,000 remains of fauna have been studied, among which more than 5900 have been determined to taxonomic level (45 per cent of the total number of remains). Horizons II, III and IV have produced between 1600 and 5000 fragments; however, the sub-phases of Horizon V (V-1 to V-5) have produced less than 1000 fragments (Tab. 7). Horizon I and sub-phase V-5 do not appear in the figures as the number of remains is very low (fewer than 140 fragments).

Some 30 taxa have been identified: four fish- the common carp (*Cyprinus carpio*), the tench (*Tinca tinca*), undetermined Cyprinids and a catfish (*Silurus glanis*)- an amphibian, a reptile (the tortoise), a bird (*Otis tarda*), a micromammal, and some 21 species of mammal. The domestic species are Caprinae, *i.e.* sheep (*Ovis aries*) and goats (*Capra hircus*), cattle (*Bos Taurus*), pig (*Sus domesticus*) and dog (*Canis familiaris*). The wild taxa are numerous: aurochs (*Bos primigenius*), wild boar (*Sus scrofa*), horse (*Equus ferus*), red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), gazelle (*Gazella* sp.), bear (*Ursus arctos*), wolf (*Canis lupus*), fox (*Vulpes vulpes*), wild cat (*Felis sylvestris*), a small mustelid (*Mustela* sp.), hare (*Lepus* sp.), beaver (*Castor fiber*), hedgehog (*Erinaceus* sp.) and wild Caprinae, i.e. mouflon (*Ovis* cf. *orientalis*) or wild goat (*Capra aegagrus*) (Tab. 7). In comparison with Aratashen (Badalyan et al. 2007), more wild species are observed in Aknashen-Khatunarkh (among others: horse and hedgehog).

Comparison of the frequencies of the domestic and wild animals on Aknashen-Khatunarkh and Aratashen shows a predominance of domestic species in all the sub-phases (Fig. 16:1) and an animal economy that clearly relied on herding. Overall in the two occupations, the frequencies of wild fauna are low and are slightly higher than 10 per cent only in Horizon Kha III and II, and Horizon Ara IIb (Vila et al. in press).

Frequencies of domestic species

At Aknashen-Khatunarkh the frequencies of Caprinae are very high and clearly dominate those of other domestic species from the earliest sub-phases to the latest sub-phases (Fig. 16:1). The Caprinae herds consisted mainly of sheep at Aknashen-Khatunarkh. Goats represent, depending on the sub-phase, from one-third to one-eighth or less of the herds. The remains of pig are very rare. The remains of dog are few on the site throughout the occupations.

A change is observed in the frequencies of the Caprinae between the horizons: they decrease with the increase of those of cattle over time. This is very clear at Aknashen-Khatunarkh beginning in Horizon Kha IV (Fig. 16:1). At Aratashen, the same phenomenon, although less marked, appears beginning with Horizon Ara IIa. Comparison of the earliest horizons (Kha V-IV and Ara II) with the latest horizons (Kha III-II and Ara I) clearly shows the change, with an increase in the exploitation of cattle in the latest horizons of both sites (Badalyan et al. 2007; Vila et al. in press).

Frequency of wild species

Wild fauna is present in all horizons of Aknashen-Khatunarkh. Its contribution increases gradually between the most ancient (5 per cent) and most recent (12-13 per cent) levels (Fig. 15:1). Hunting at Aknashen-Khatunarkh, as much in the earliest horizons (Kha V-IV) as in the latest (Kha III-II) is not very selective and does not concern any particular species. The major difference between Aknashen-Khatunarkh and Aratashen in the faunal spectrum concerns the proportions of the wild taxa found on the two sites (Badalyan et al. 2007; Vila et al. in press). Comparison between the earliest horizons (Kha V-IV) and the latest horizons (Kha III-II) shows that the proportions of Cervidae and rodents are less while those of suids, aurochs and equids (horses) are higher; the proportions of other taxons, small ruminants (gazelle, roe deer, wild Caprinae, etc.) and carnivores, do not vary.

If we consider the limited number of the remains of wild taxa, the anecdotal aspect of hunting activity is almost constant on both sites (Vila et al. in press). It must be noted, however, that this hunting concerns a very large spectrum of species: among these the large mammals, and dangerous species such as the aurochs, the wild boar, the red deer, the bear, and the wolf.

There is very little evidence for hunting birds or for fishing. The fish remains found on the two sites belong to local freshwater species: carp (*Cyprinus carpio*), tench (*Tinca tinca*) and catfish (*Silurus glanis*). Thus far the sizes of the individuals fished are medium and large. For example in the case of the catfish, its size corresponds to 1,5 m for a weight of 30 kg. These dimensions are not particularly characteristic of all the fish caught, as most of the material currently studied comes from samples taken directly by eye and by hand.

Herding and exploitation of Caprinae

The animal economy of Aknashen-Khatunarkh was based upon the herding of sheep and goats, sheep

being predominant during the entire duration of the occupation. Thus a study of age at slaughtering was carried out first of all to analyse the types of exploitation of the Caprinae. Age profiles of sheep and goats together were established to define the main orientations of the breeding strategies, with the knowledge that goats are less frequent on the site.

It is necessary to add that at Aknashen-Khatunarkh the age profiles at slaughter are based on the dental remains analyzed up to 2007. At Aknashen-Khatunarkh, the profiles suggest consumption of the tender meat of young animals (classes C and D after Payne 1973). At Aratashen, the more varied profiles of ages at slaughter suggest a more complex exploitation of the animals as the age classes absent at Aknashen-Khatunarkh are present at Aratashen: the very young animals and the juveniles (classes A and B) and the older breeding animals (class HI) (Figs 15:2; 16:1). All the age categories of a herd appear at Aratashen and thus all the stages of exploitation of the animals (Vila et al. in press). This is not the case for the horizons of contemporary occupations at Aknashen-Khatunarkh. A certain number of questions are to be asked in view of these differences. Are they due to a difference of function between the two sites? Should they be interpreted in terms of a difference in the status of the occupants of the sites or rather in terms of seasonality or at least periodicity of occupation? Could Aratashen have been, unlike Aknashen-Khatunarkh, occupied year-round, as suggested by the presence of very young and very old individuals? The presence of very young animals and juveniles suggests that lambing took place on the site of Aratashen. To attempt answers to these questions, isotopic analyses as well as studies of seasonality based on teeth will be carried out.

The comparison between Aknashen-Khatunarkh and Aratashen, occupied during the same periods of the Neolithic, shows that they share a large number of similarities in the exploitation of animals. Both had an animal economy based on herding with a predominance of Caprinae (especially sheep) exploited for their meat. At the end of occupation, on both sites, we observe the same change in the orientations of herding with an increase in the exploitation of cattle. Also on both sites, hunting does not appear to have had an important function in the food economy. Other activities such as fishing and hunting of birds have left only a little evidence. The frequencies, although low, of wild species are evidence of an exploitation of the plain with its fluvial network (beaver, fish) and the more distant mountains (wild goats), as well as the coexistence of forested and wooded zones (red deer, roe deer, wild boar, bear, wild cat) with less wooded and probably drier zones (gazelles). At Aknashen-Khatunarkh, the appearance of horses in the late levels also marks an important difference between the two sites.

The age profiles of the Caprinae that constituted the base of the animal economy also illustrate differences whose interpretation is essential for comprehension of the occupation of these two sites, and are probably evidence of their relationship and their function, linked to their geographical proximity. These different but almost complementary exploitations raise the question of rhythms of occupation. We may ask whether we are observing the effects of a system of herding with a sharing of the herd (females and juveniles on one side, young adults and adults on the other), which would correspond to a system of division of tasks.

The excavations at Aknashen-Khatunarkh have not been completed, and the faunal remains being analysed or to be recovered will add to the present data. The continuation of the study will certainly provide more elements that will confirm or invalidate these initial results and will contribute above all to the interpretation of the occupation of this site.

PALAEOETHNOBOTANICAL ANALYSES

Mostly charred plant macro-remains, that is, seed material and charcoal, some of which were mineralized and desiccated, were recovered from cultural deposits on the site either by flotation (mesh size 0,25 mm) or wet-sieving (mesh size 1 mm), during the excavation seasons of 2005-2008. Seventy-two samples of sediment, approximately 780 L in volume, were processed. Horizon I produced only a few finds. Most of the material came from Horizons II-V. In general, the richest from an archaeobotanical viewpoint is Horizon V.

Sediments were sampled from hearths, floors, contents of structures, etc. Besides plant remains, numerous impressions enclosed in building clay were also examined. The plant impressions visible in building clay and pottery represent chaff used as a

tempering material. Identifications of the samples recovered were conducted using a comparative seed reference collection and the relevant literature (Dobrokhotov 1961; Takhtajyan 1954-2001; Takhtajyan and Feodorov 1972; Zohary and Hopf 2000).

Already 42 flowering plant taxa have been identified in the archaeobotanical material from the site of Aknashen-Khatunarkh (Tab. 8). Most of the plant impressions concern cereal chaff (e.g. glumes of free-threshing wheat), capsules of alyssum and camelina and pods of lentil. Almost all pieces of building clay contain numerous impressions of cereal chaff and/or capsules of alyssum. Impressions of cereal grains, pulse seeds, pods of unidentified legumes, caper seeds, monocotyledon stems and leaves of dicotyledonous plants were found in building clay as well. These impressions sometimes contained carbonized or desiccated remains, some of which were very fragile and not resistant to contact with the air. The pieces of unbaked clay also fell apart after drying.

The following cultivated cereals were identified from the impressions and floated carbonized material: free-threshing wheat (*Triticum aestivum/turgidum*), emmer (*T. turgidum* ssp. *dicoccum* [= *T. dicoccum*]); naked barley (*Hordeum vulgare* var. *nudum*); and hulled barley (*H. vulgare*). Naked wheat and barley are predominant. Two species of cultivated pulses: small-seeded lentil (*Lens culinaris* ssp. *microsperma*); and bitter vetch (*Vicia ervilia*) were recovered, preserved in the same way as the cereals. The naked wheats, emmer, barley, lentil, and bitter vetch are traditional Armenian cultigens (Stoletova 1930). These cultigens belong to the Neolithic Near East crop assemblage (Zohary and Hopf 2000).

Capsules of crucifers recovered from site were identified as desert alyssum (*Alyssum desertorum)*; and small-capsule false-flax (*Camelina microcarpa*; *Brassicaceae*) having oleiferous seeds. Except for false-flax and alyssum, other oil-producing plants were not recorded at Aknashen-Khatunarkh or neighbouring Aratashen. The presence and concentration of large quantities of alyssum and false-flax threshing waste (impressions of open capsules within building clay) suggest that these cruciferous plants were used (gathered or cultivated) at prehistoric Aknashen-Khatunarkh and Aratashen for their oleiferous qualities (Hovsepyan and Willcox 2008).

Seeds and fruits of the following weedy and wild plants were found at Aknashen-Khatunarkh (Tab. 8): *Buglossoides arvensis* (= *Lithospermum arvense)*; *Lithospermum officinale* (Boraginaceae)*, Rumex cf. crispus, Polygonum aviculare* (Polygonaceae)*, Amaranthus sp.* (Amaranthaceae), *Chenopodium sp.* (Chenopodiaceae), *Vicia sp., Medicago sp.* (Fabaceae), *Capparis spinosa* (Capparaceae), *Bromus sp., Setaria sp.* (Poaceae), *Thlaspi sp., Brassica/Sinapis sp.* (Brassicaceae), *Galium sp.* (Rubiaceae), *Calystegia sepium* (Convolvulaceae), *Ranunculus sp.* (Ranunculaceae), *cf. Silene* (Caryophyllaceae), *cf. Cuscuta sp.* (Cuscutaceae), cf. *Rubus sp.* (Rosaceae).

The identified plant species have a comparatively diverse ecology. They tend to spread almost everywhere and infest mainly fields of annual crops (*e.g.* cornfields; Dobrokhotov 1961). They are known as semi-desert, steppe, and meadow elements (Mkrtchyan 2003; Takhtajyan 1954-2001; Takhtajyan and Feodorov 1972). The identified weeds now grow in the vicinity of the site and infest crops, mainly fields of cereals. *Medicago sativa* is also cultivated here in large areas.

The finds of hygrophilous plants: *Bolboschoenus* and *Carex* (Cyperaceae; Tab. 8), indicate the presence of wetlands not far from the settlement in the Neolithic period. Several bio-mineralized fruit stones of *Celtis sp.* (Ulmaceae) and a single carbonized fruit stone of *Elaeagnus* cf. *angustifolia* (Elaeagnaceae) were recovered among the remains of woody plants at Aknashen-Khatunarkh.

Preliminary charcoal studies

For the moment only three taxa were identified among the few poorly preserved charcoal fragments recovered: willow (*Salix sp.)* and unidentifiable willow family (Salicaceae gen. sp.); tamarisk (*Tamarix sp*.; Tamaricaceae); unidentifiable monocotyledon herb (Monocotyledones fam. gen. sp.). Species of *Salix* grow in moist soils, usually along rivers. Moisture is necessary for this tree and its presence is another indication of a river near the Neolithic settlement of Aknashen-Khatunarkh. Salicaceae gen. sp. is also probably willow, but poor preservation prevents observation of the anatomic details necessary for genus identification. *Tamarix* prefers a hot climate and grows very

well in deserts and semi-deserts with saline-alkaline soils, where the level of ground water is high. Species of both genera, *Salix* and *Tamarix*, grow today in the environs of the site. Monocotyledones fam. gen. sp., an undetermined monocotyledon herb, could be *Phragmites australis*, which grows along rivers, on the banks of lakes, in marshlands, etc., but again because of poor preservation of the charcoal remains and the anatomical similarity of most monocotyledon plants, identification was not possible, even to genus. In addition to the above, there are also very small (less than 2 mm) charcoal fragments, which it was possible to identify only as flowering plants (Angiospermae). All the above taxa identified in the charcoal from Aknashen-Khatunarkh were also identified in Aratashen (by H. Pessin; see Badalyan et al. 2007: 58-59).

The complex of cultivated plants of Neolithic Aknashen-Khatunarkh is similar to that of Aratashen (Tab. 8). Even the types of archaeobotanical materials preserved and the plants most commonly used in building are similar in these neighboring settlements. *Chenopodium*, *Bolboschoenus* and *Capparis* are found on both sites. The archaeobotanical materials of Aknashen-Khatunarkh are better preserved and thus it is taxonomically richer. The poor preservation conditions at Aratashen do not allow more objective and complete conclusions concerning the similarities or differences in weeds and wild vegetation between Aknashen-Khatunarkh and Aratashen.

The main crops at the Neolithic settlement of Aknashen were cereals, but the cultivation of pulses and oil-producing plants also had an important place in the plant economy. Naked wheat (*Triticum aestivum/turgidum*), emmer (*T. dicoccum*) and naked and hulled barleys (*Hordeum vulgare*) were cultivated as well. Pulses, small-seeded lentil (*Lens culinaris* ssp. *microsperma*) and bitter vetch (*Vicia ervilia*) were cultivated. Two cruciferous (*Brassicaceae*) plants, desert alyssum (*Alyssum desertorum*) and small-capsule false-flax (*Camelina microcarpa*) were probably used for oil and possibly cultivated at prehistoric Aknashen-Khatunarkh. The weeds and wild grasses at Aknashen-Khatunarkh during the Neolithic were almost the same as those today. The presence of cyperaceous plants (e.g. *Bolboschoenus* and *Carex*) indicates that wetland ecosystems were also present in the vicinity of the settlement in the Neolithic period. Presence of *Celtis*, *Elaeagnus*, *Salix,* and *Tamarix* species at the site of Aknashen-Khatunarkh suggests the existence of rare xerophile forests near the Aknashen-Khatunarkh and Aratashen settlements in Neolithic period.

CONCLUSION

The site of Aknashen-Khatunarkh is of major interest for the study of the cultures of the 6^{th}-5^{th} millennia BC, not only for Armenia, but for the whole of the southern Caucasus, because it is the first site to present clearly a continuous stratigraphic sequence covering the phases of the Late Neolithic and the Early Chalcolithic.

Indeed, the transition between these two phases was until now very poorly known for the central and eastern part of the southern Caucasus. In the plain of Ararat, at the nearby settlement of Aratashen, the upper layers of the tell, corresponding to this phase of transition, were destroyed. In the basin of the Kura and the steppes of Azerbaijan, the end of the Shulaveri-Shomutepe culture (at the beginning of the 5^{th} millennium BC) (Kavtaradze 1999: 71-72) is marked by the abandonment of almost all the sites and the establishment of new villages belonging to the Sioni culture in more diversified environments, valleys but also high plateaus.

At Aknashen-Khatunarkh, the lower horizons (Horizons V-IV) with circular architecture built in *pisé*, a rich bone tool and lithic industry, and the very beginnings of a pottery production characterized by grit temper, belong to the 'Aratashen-Shulaveri-Shomutepe' culture. Agriculture (mainly *Triticum aestivum* and *Hordeum vulgare*) and stockbreeding (sheep and goats represent about 90 per cent of the herd) are developed. An evolution is probably taking shape in economic strategy, since Horizon V (even if reached only in a restricted area) is by far the richest from an archaeobotanical point of view, whereas in Horizon IV a strong pastoral character is evidenced by the geomorphological analysis.

In the later horizons of the Neolithic phase (III-II), pottery increases rapidly with a clear predominance of Grit-tempered ware (70 per cent or more), whereas ground stone and bone artefacts decrease in quantity and variety (80 per cent of the bone tools

are awls). Herd exploitation is marked by an increase in cattle and evolution towards more milk and wool production (according to the slaughter ages). These elements suggest a gradual modification of the life towards more pastoral and mobile economy.

The Chalcolithic horizon (I) is characterized by a sharp change in the pottery production: Chaff-tempered pottery becomes predominant (68 per cent); this ware often preserves traces of combing and is decorated with perforations beneath the rim, knobs and notches on the rim; some features are characteristic of the Sioni culture (Kiguradze and Sagona 2003: 50, fig. 3.6-3.8; 3.13).

Therefore, the settlement of Aknashen-Khatunarkh sheds new light on the transition between the Late Neolithic and the earliest stage of the Chalcolithic. Two factors stand out: a) change is gradual and seamless, with no break between the two phases; b) despite overall cultural continuity, there are important developments in the variety and quantity of objects, especially those associated with subsistence economy, indicating a profound evolution in the way of life.

NOTES

[1] For preliminary information, see Torosyan et al. 1970. Some lots chosen from the lithic industry and the faunal remains were studied and published: See Korobkova 1987: 143 and 145, tab. 35; Mezhlumyan 1972: 166, annex 2. The objects are kept in the historical and ethnographic museum of Echmiadzine.

[2] Also participating in the fieldwork were H. Sargsyan (2005 to 2009), the architect and author of drawings (Figs. 4:1, 9-2-3, 13, 15), A. Hayrapetyan (2005) and S. Melkonyan (2006, 2008), to whom the authors express their sincere gratitude. We would like, too, to acknowledge Kh. Meliksetyan, A. Karakhanyan and R. Melkonyan (Institute of Geological Sciences, National Academy of Sciences, RA) for the definition of rocks and minerals and J. Leclerc (Canada) for the drawings of obsidian (Figs. 11,12). We are grateful to the French Ministry of Foreign Affairs for the funding of the archaeological mission “Caucasus”.

[3] The sample UGAMS-2290 from Tr. 6 UF 5, dated to 840 ± 40 BP or 1151-1271 cal. AD, corresponds to the age given by the medieval pottery, based on analogies.

[4] After dissociation of the silt-sized elements in hydrogen peroxide (110 vol.), these were placed in suspension in distilled water, sampled using a syringe after 25 seconds of settling and deposited on a glass slide. This length of sedimentation enabled the recovery of the dusty fraction of the sediment. The water was then evaporated on a hotplate. Canada balsam, whose refraction index is perfectly adapted to the observation of these objects, was used as mounting medium. The examination, determinations, and quantifications were carried out using a petrological microscope at a magnification of 400 (Brochier 2002).

[5] Bone samples from the buried individual have been sent to the Center for Applied Isotope Studies (University of Georgia, USA) for radiocarbon dating.

[6] Fieldwork was performed by M. F. Marshall (University of Chicago).

[7] The petrographic analysis of 250 samples from the sites of Aknashen-Khaturnakh and Aratashen was carried out in the laboratory of the Institute of Geological Sciences of the Academy of Sciences of Armenia, thanks to grant no. 2007-RC-004 awarded by the association Project Discovery.

[8] The horizons at Aknashen-Khatunarkh are referred to as Kha II to Kha V in the text, the tables and the figures, while the horizons at Aratashen are referred to as Ara I and Ara II, in order to avoid confusion between the names of the sites, which are quite similar phonetically, and to simplify the reading of the figures. According to the objects and the similarity in dates, it would seem that the earliest horizons of Aknashen-Khatunarkh (Kha V and Kha IV) are approximately contemporary to horizon II of Aratashen (Ara II). Horizons II and III of Aknashen-Khatunarkh (Kha II and Kha III) could be attributed to the period immediately after, thus generally contemporary to horizon I of Aratashen (Ara I).

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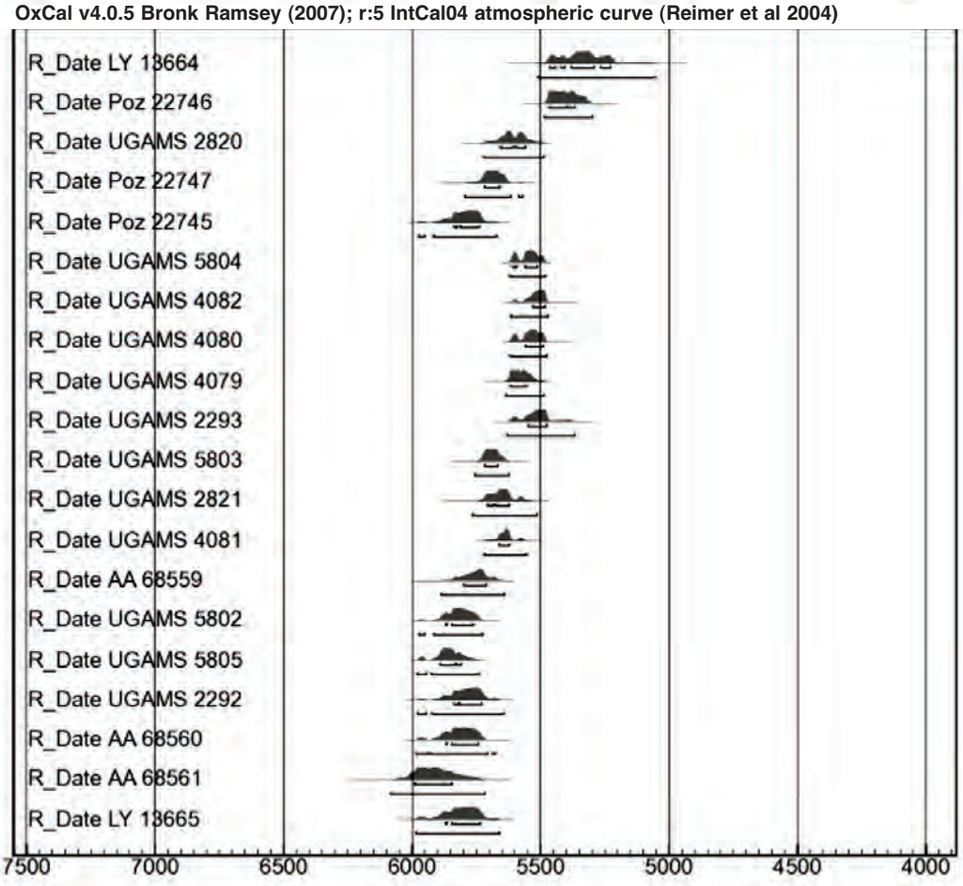
Trench. UF	Lab. code	BP	BC cal. 1 sigma	BC cal. 2 sigmas
Horizon III				
Trench A. UF 6	LY-13664	6350± 70	5465-5228	5511-5054
Trench 3. UF 6a	Poz-22746	6420±40	5468-5367	5487-5299
Trench 6. UF 6b	UGAMS 2820	6690±50	5658-5560	5723-5486
Trench 4. UF 6	Poz-22747	6790 ±40	5718-5659	5796-5569
Trench 1. UF 6	Poz-22745	6910±40	5837-5739	5975-5671
Horizon IV				
Trench 4. UF 8b	UGAMS 5804	6600±25	5608-5513	5621-5481
Trench 6. UF 7a	UGAMS 4082	6560±30	5531-5482	5617-5471
Trench 3. UF 7b	UGAMS 4080	6590±30	5558-5490	5620-5477
Trench 3. UF 7b	UGAMS 4079	6640±30	5618-5556	5636-5486
Trench A. UF 8	UGAMS 2293	6550±50	5550-5476	5629-5367
Trench 4. UF 7a, str.8	UGAMS 5803	6800±30	5718-5667	5756-5624
Trench 3. UF 7a F.7	UGAMS 2821	6740±50	5707-5623	5766-5515
Trench 5. UF 7a	UGAMS 4081	6720±30	5662-5621	5721-5555
Trench A. UF 7	AA-68559	6868±40	5800-5712	5888-5641
Trench 1. UF 8	UGAMS 5802	6940±30	5870-5760	5975-5725
Trench 5. UF 8a	UGAMS 5805	6970±25	5893-5810	5981-5740
Horizon V				
Trench A. UF 10	UGAMS 2292	6900±50	5837-5731	5980-5644
Trench A. UF 10/F5	AA-68560	6930±44	5868-5743	5984-5676
Trench A. UF 11	AA-68561	7035±69	5991-5846	6085-5717
Trench A. UF 12	LY-13665	6920±55	5871-5734	5986-5661

OxCal v4.0.5 Bronk Ramsey (2007); r:5 IntCal04 atmospheric curve (Reimer et al 2004)



Tab. 1: Radiocarbon dates.

Horizon	*Debitage*	*Pyramidons* / bases of prismatic cores	Micro-flakes	Micro-fragments	Flake cores	Blade cores	**Total**	Fragments (not accounted in inventory)	Core fragments
I	50	3	4	26	3	2	**88**	219	12
II	350	3	9	81	6	4	**453**	717	22
III	128	2	11	5	2	4	**152**	168	2
IV	148	3	1	23	5	0	**180**	168	4
V	169	3	1	7	4	7	**191**	191	7
Total	845	14	26	142	20	17	**1064**	1463	47

Tab. 2: Obsidian - Debitage and cores.

Horizon	Retouched	Denticulated	Notches	Fine toothed / posteriori	Burins	Pointed	End-scrapers	Scrapers	**Total**
I	15	2	1	5	0	0	1	0	**24**
II	38	1	6	8	6	1	4	1	**65**
III	18	0	0	1	0	0	0	0	**19**
IV	9	0	1	3	1	1	1	0	**16**
V	45	1	5	4	0	1	0	0	**56**
Total	125	4	13	21	7	3	6	1	**180**

Tab. 3: Obsidian - Tools on flakes.

Horizon	Proximal	Proximal-Mesial	Mesial	Mesial-Distal	Distal	Whole blade	**Total**	Blade fragments
I	32	60	152	24	19	0	**287**	146
II	52	212	394	65	31	6	**760**	438
III	23	105	171	33	17	4	**353**	151
IV	44	106	159	33	18	2	**362**	164
V	18	147	154	36	3	7	**365**	185
Total	169	630	1030	191	88	19	**2127**	1084

Tab. 4: Obsidian – Non retouched (raw) blades.

Horizon	Retou-ched	Denti-culated	Notches	Fine toothed / posteriori	Burins	Trun-cated	Pointed	End-scrapers	Scrapers	Micro-liths	Varia	**Total**	Retouched fragments
I	136	9	26	28	26	1	2	2	1	2	2	**235**	51
II	388	19	55	111	53	10	6	4	0	7	0	**653**	193
III	185	12	24	69	21	1	0	0	0	3	1	**316**	50
IV	139	6	27	19	20	4	2	0	0	0	0	**217**	29
V	242	36	37	42	29	6	2	0	0	1	1	**396**	107
Total	1090	82	169	269	149	22	12	6	1	13	4	**1817**	430

Tab. 5: Obsidian - Tools on blades.

Horizon	Indirect percussion / punch	Standing up / crutch pressure	Pressure with lever	**Total**
I	0	1	2	**3**
II	2	9	3	**14**
III	0 (2 cores)	2 (+4 cores)	1	**9**
IV	0	3 (+ 1 core)	0	**4**
V	1	5 (+2 cores)	0	**8**
Total	5	27	6	**38**

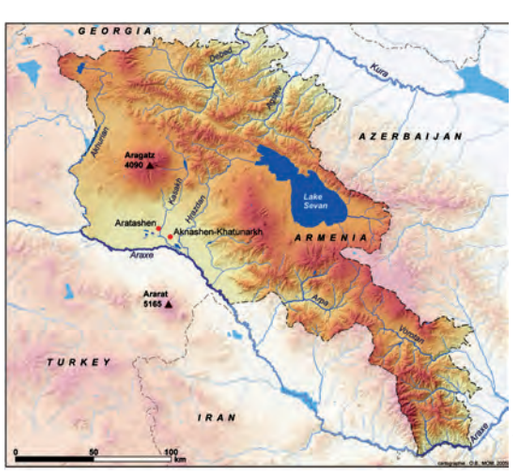
Tab. 6: Obsidian - Knapping techniques identified on long blades.

Horizons	I	II	III	IV	V-1	V-2	V-3	V-4	V-5	
Taxons	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	TOTAL
Ovis aries	3	23	78	97	37	20	29	51		338
Capra hircus		5	27	23	5	8	4	11		83
Ovis aries/Capra hircus	42	278	1077	1646	300	135	168	301	10	3957
Sus domesticus		3	2	1		1				7
Bos taurus	13	113	238	290	65	14	18	20	3	774
Bos taurus/Bos primigenius	1	12	2	7	1			5		28
Equus sp.	1	16	8	3						28
Capra aegagrus			2				1			3
Ovis sp./*Capra* sp			5	7	2	3	3	11		31
Capreolus capreolus		2	7	1	2					12
Gazella sp.	2	3	55	28			1			89
Sus scrofa		2	14	3	1					20
Sus sp.		9	16	10			1			36
Cervus elaphus		4	52	53	3			6		118
Bos primigenius		5	8	3			1			17
Ovis/Capra/Gazella/Capreolus		1	26	26			1			54
Bos/Equus/Cervus			15	12	4	1	2	5	1	40
Canis familiaris	1	7	13	11	2	5	1	4		44
Ursus arctos				1						1
Canis lupus				1						1
Vulpes		4	9	11						24
Felis sylvestris							1			1
Small carnivore			10	1						11
Small mustelidae		2	2	1						5
Lepus	1	12	24	28	3		1	2		71
Castor fiber			1	2						3
Erinaceus sp.				2						2
Total determined mamals	64	501	1691	2268	425	187	232	416	14	5798
Undetermined small mammals	66	1005	1675	2603	261	161	304	161	9	6245
Undetermind large mammals	3	107	430	203	29	24	24	15		835
Totals mammal remains	133	1613	3796	5074	715	372	560	592	23	12878
Micromammals				1						1
Birds		1	5	8						14
Reptilia		1	2							3
Amphibia			1							1
Fish	1	3	14	29						47
Cervus antler (shed)		9	16	10			2			37

Tab. 7: List of animal species at Aknashen-Khatunarkh by horizons.

Taxa		Aknashen-Khatunarkh	Aratashen
MONOCOTYLEDONES			
Poaceae	*Triticum aestivum/turgidum*	+	+
	T. dicoccum	+	+
	Triticum sp. (poor preserved, species unidentifiable)	+	+
	Hordeum vulgare L. (both naked and hulled species)	+	+
	Triticeae gen. sp.	+	+
	Bromus sp.	+	-
	Poaceae gen. sp.	+	-
Cyperaceae	*Bolboschoenus maritimus*	+	+
	Cyperus sp.	-	+
	cf. *Carex* sp.	+	-
	Monocotyledones fam. gen. sp.	+	-
DICOTYLEDONES			
Fabaceae	*Lens culinaris* ssp. *microsperma*	+	+
	Vicia ervilia	+	+
	cf. *Vicia* sp.	+	-
	cf. *Alhagi* sp.	+	-
	Medicago sp.	+	-
	Fabaceae gen sp.1 (*Sophora sp.?*)	+	-
	Fabaceae gen. sp.2	+	-
	Fabaceae gen. sp.3	+	-
Brassicaceae	*Camelina microcarpa*	+	+
	Alyssum desertorum	+	+
	Thlaspi sp.	+	-
	Brassica/Sinapis sp.	+	-
Boraginaceae	*Buglossoides arvensis* (=*Lithospermum arvense*)	+	-
	L. officinale	+	-
	Boraginaceae gen. sp.	+	-
Amaranthaceae	*Amaranthus* cf. *retroflexus*	+	+
Chenopodiaceae	*Chenopodium* cf. *album*	+	+
Polygonaceae	*Rumex* cf. *crispus*	+	-
	Polygonum aviculare	+	-
Ranunculaceae	*Ranunculus* sp.	+	-
Rubiaceae	*Galium* sp.	+	+
Solanaceae	*Hyoscyamus* sp.	+	-
Convolvulaceae	*Convolvulus arvensis*	+	+
	Calystegia sepium	+	-
Caryophyllaceae	cf. *Silene* sp.	+	-
Rosaceae	cf. *Rubus* sp.	+	-
Cuscutaceae	cf. *Cuscuta* sp.	+	-
Capparidaceae	*Capparis spinosa*	+	+
Vitaceae	*Vitis vinifera/sylvestris*	+	+
Eleagnaceae	*Elaeagnus* cf. *angustifolia*	+	-
Ulmaceae	*Celtis* sp.	+	+
Dicotyledones fam. gen. sp.		+	-
Unidentified species		+	+

Tab. 8: Taxa list of the higher plants recovered from the Neolithic settlements of Aknashen-Khatunarkh and Aratashen.



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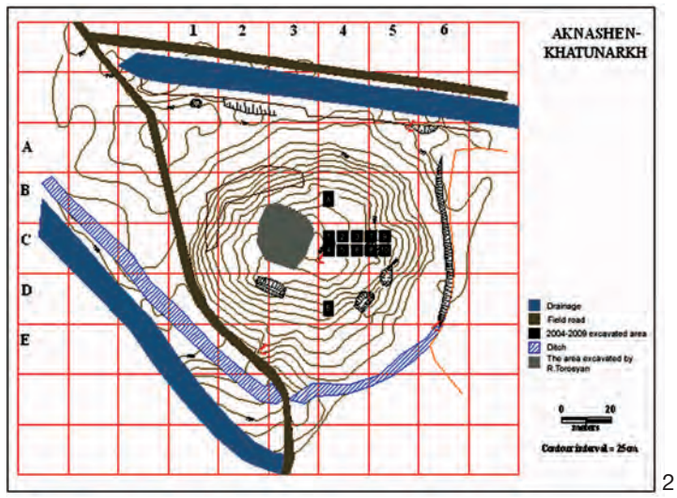

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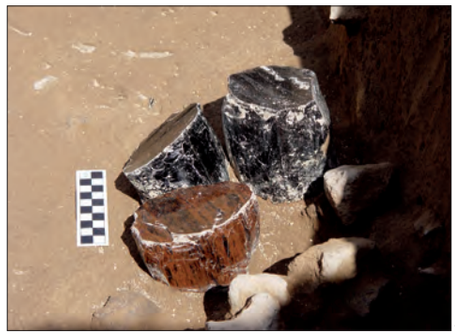
Fig. 1- 1. Location of the sites of Aknashen-Khatunarkh and Aratashen (Ararat plain, Armenia); 2. Topographic map of Aknashen-Khatunarkh.

1

Fig. 2- 1. View of the Ararat plain looking south from the tell of Aknashen-Khatunarkh; 2. The trenches on the top of the tell.

2

Fig. 3- 1. Shaft-hole axes/adzes lying in situ on a floor (Horizon I); 2. Obsidian cores in situ in test trench A (Horizon III).



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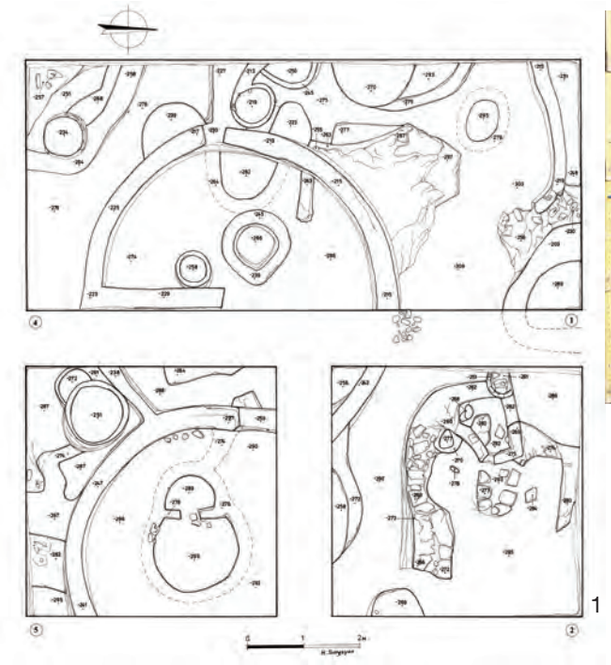

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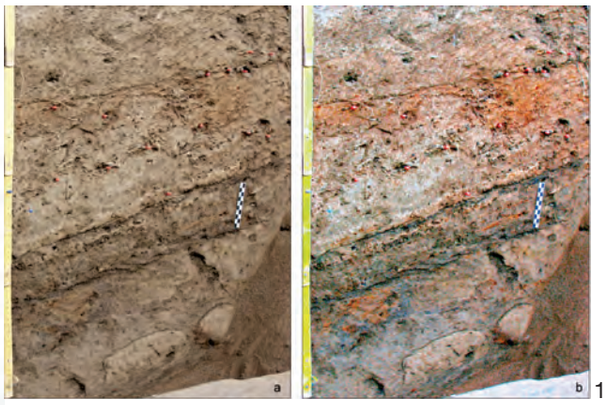
2

Fig. 4- 1-2. Architectural remains in Horizon IV (trenches 1-2, 4-5); 3. Architectural remains in the lower part of Horizon V (trench A).



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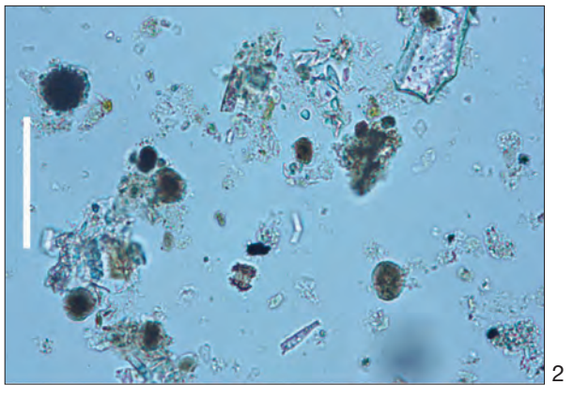
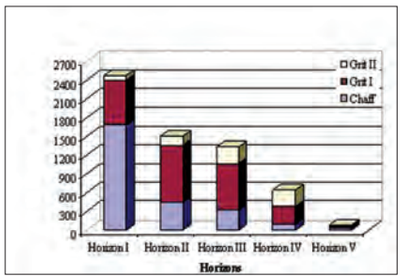


2

Fig. 5- 1. Trench 4, north part of west section (horizon IV, UF7b) - a) usual photograph; b) false colour picture from Dstretch plugin (Jon Harman) to ImageJ. Scale bar 10 cm. Note the silty texture, the poorly differentiated units, the few large perturbations and the common concordant laminate features; 2. Opacified faecal spherulites and siliceous phytoliths from a burnt ruminant dung accumulation (Tr.1, UF6b, F11). Scale bar: 50 micrometers, plane polarized light (PPL).

Fig. 6- Neolitic tomb in Horizon IV (trench 7); in the upper part of the picture, the fragment of copper ring uncovered under the skull.



Horizons	Chaff-tempered	Grit-tempered I	Grit-tempered II	
I	1678 (27.90%)	717 (12%)	74 (1.20%)	2469
II	447 (7.43%)	909 (15.10%)	147 (2.44%)	1503
III	321 (5.30%)	747 (12.40%)	258 (4.30%)	1326
IV	96 (1.60%)	281 (4.70%)	264 (4.40%)	641
V	29 (0.50%)	32 (0.53%)	13 (0.20%)	74
Total	2571	2686	756	6013[1]

[1] Non-stratified and imported ceramic sherds did not include in the total amount.

Fig. 7- Distribution of the Neolithic and Chalcolithic pottery by horizons

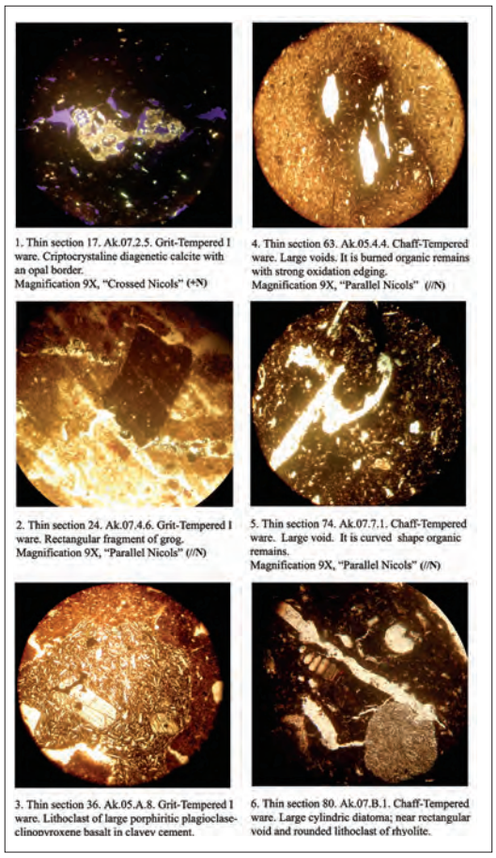


Fig. 8- Thin sections of pottery sherds.

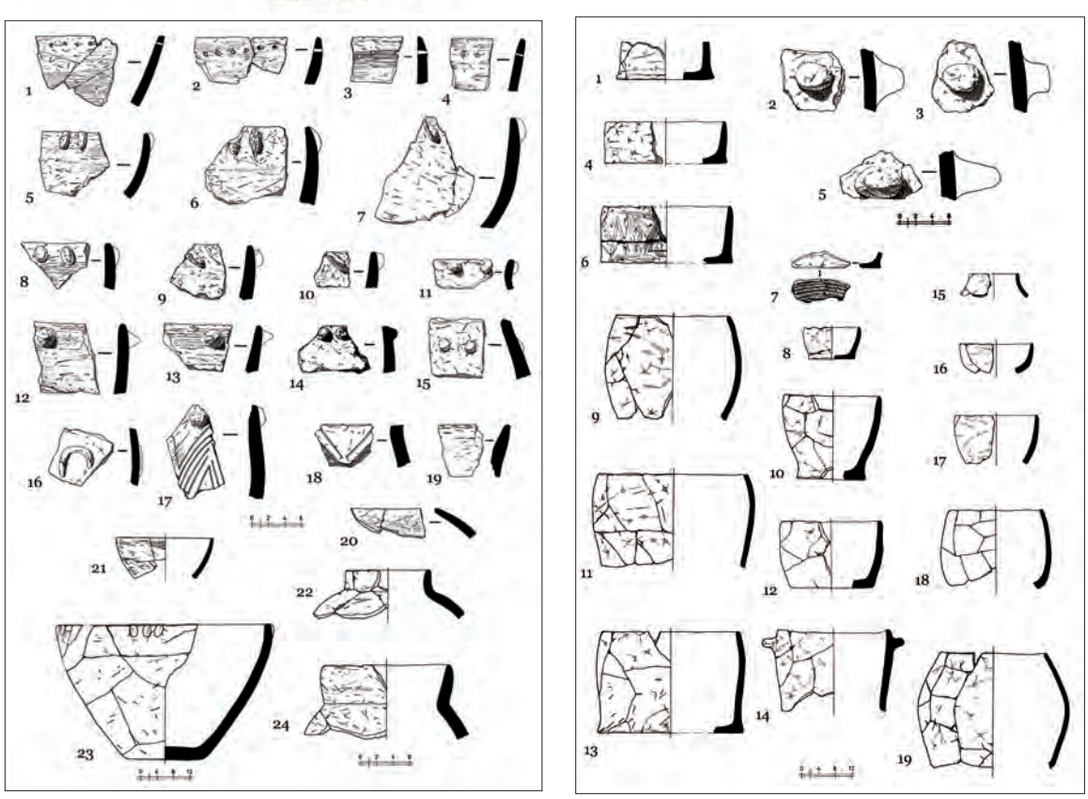


Fig. 9- 1. Imported painted sherds found in Horizon III (1, 3, 5-6), Horizon IV (2, 4, 7) and Horizon V (8-9). 2. Chaff tempered ware; 3. Grit-tempered wares: 1-14) Grit-I; 15-19) Grit-I.

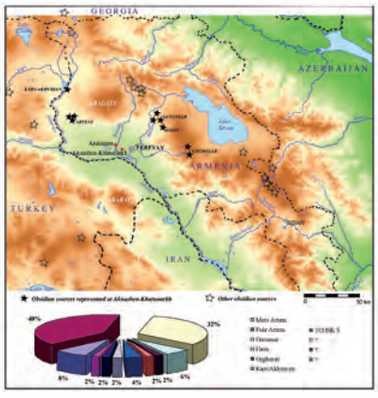
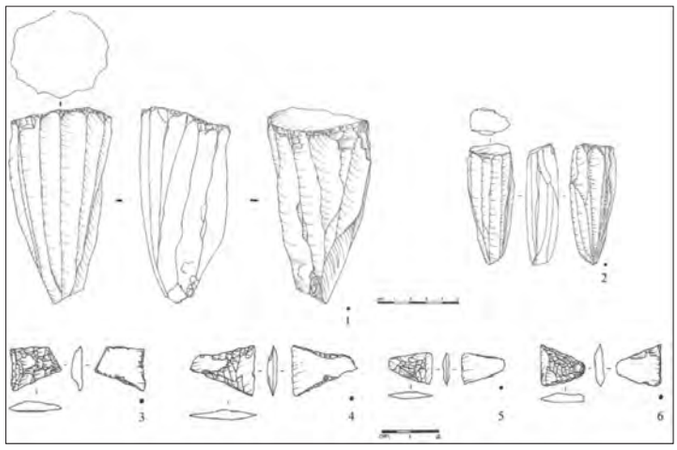


Fig. 10- Sources of the obsidian identified at Aknashen-Khatunarkh.



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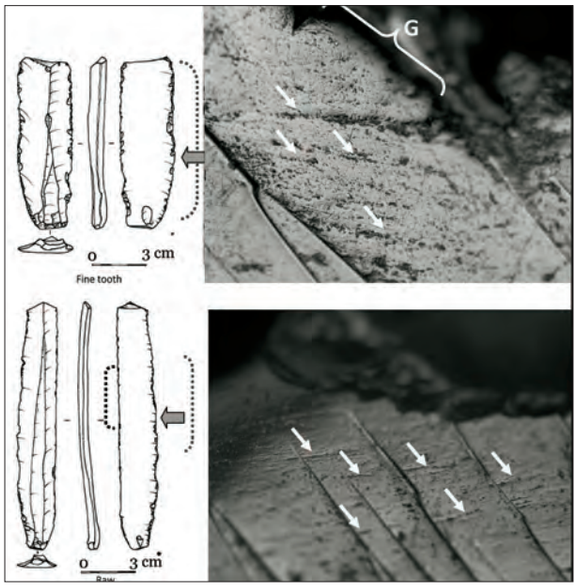


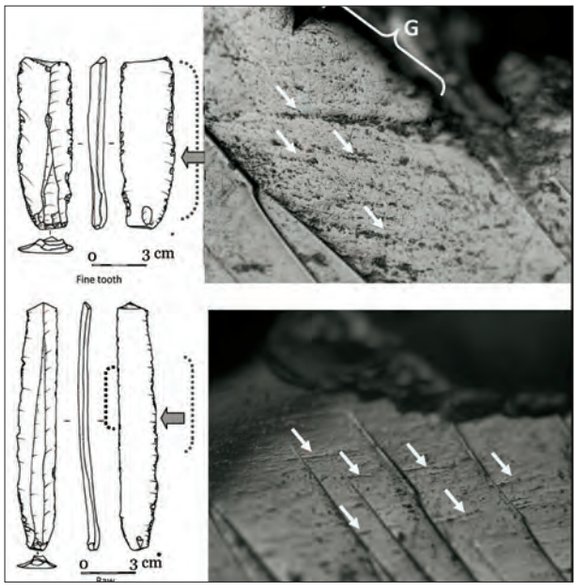
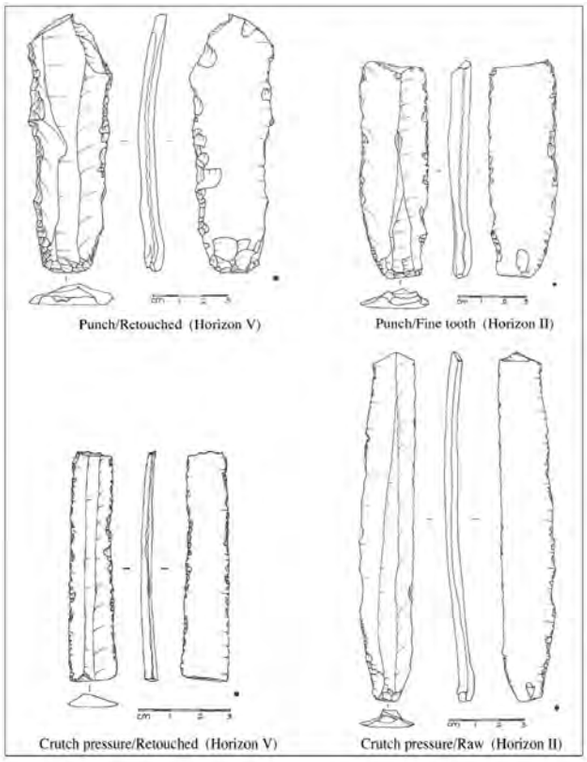


Fig. 12- 1. Obsidian showing use-wear (200X, DIC) from harvesting (1-2); 2. Obsidian showing use-wear (200X, DIC) from stripping (3) and threshing with a threshing sledge (4).



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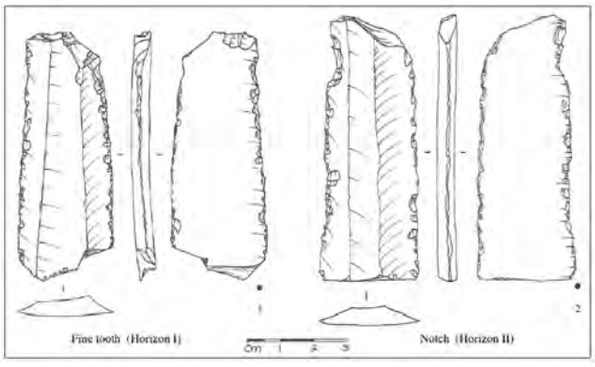

3

Fig. 11- 1. Obsidian cores and microliths; 2. Obsidian tools manufactured using indirect/punch percussion (1–2) and using a crutch to apply pressure while standing (3–4); 3. Obsidian tools showing lever pressure.

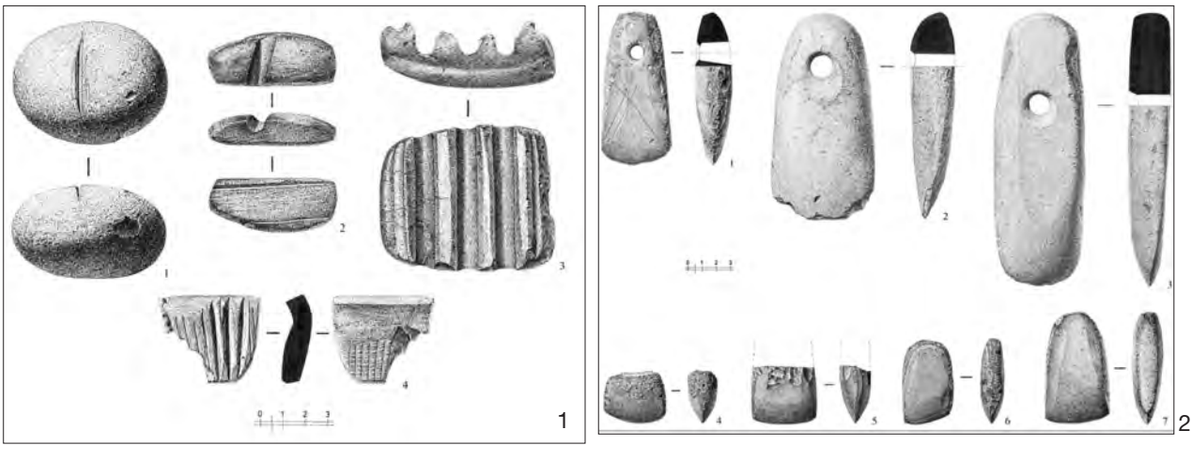

Fig. 13- 1. Grooved abraders; 2. Shaft-hole axes/adzes (1-3) and celts (4-7).

Fig. 14- 1. Pendants on teeth (1-6), fish bone (7), shell (8) and bird bone (9); 2. Copper ore (malachite) (1-2) and lead ore (galena) (3).

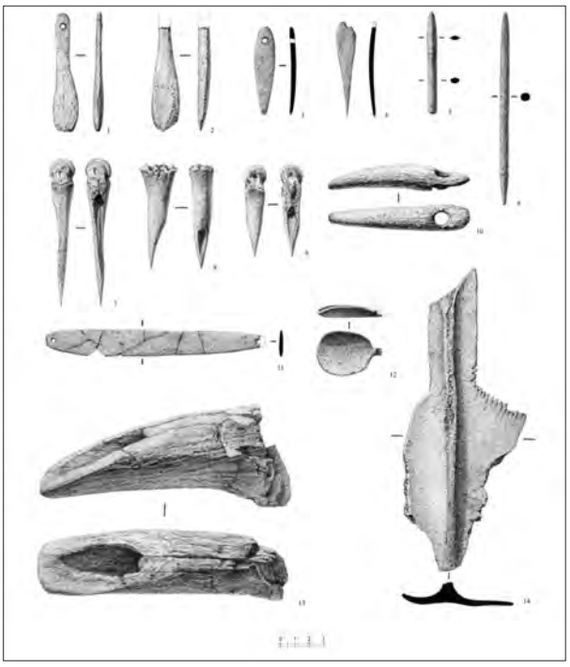

Fig. 15- Bone industry.

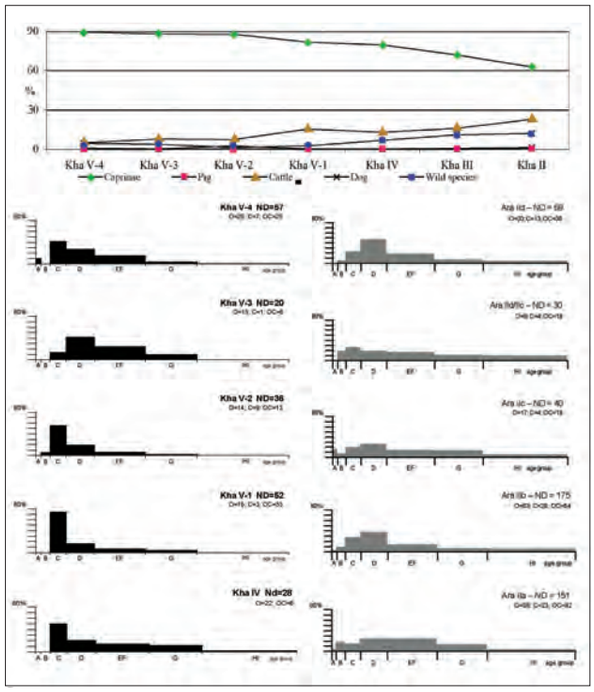

Fig 16- 1. Frequency of domestic species (caprinae, cattle, pig and dog) and wild species; 2. Profiles of age at slaughter of sheep and goats together, in the early horizons (Kha V-IV and Ara II). ND = number of teeth; O = Ovis aries; C = Capra hircus; OC = Ovis/Capra (class A ± 0-2 months; class B ± 2-6 months; class C ± 6-12 months; class D ± 1-2 years; class EF ± 2-4 years; class G ± 4-6 years; class HI > 6 years); 3. Profiles of age at slaughter of sheep and goats together, in the late levels (Ara I and Kha III-II) (for the legend, see fig. 15: 1).

RECENT DISCOVERIES ON THE NEOLITHIC AND CHALCOLITHIC OF WESTERN AZERBAIJAN

BATI AZERBEYCAN'DA NEOLİTİK VE KALKOLİTİK DÖNEME AİT YENİ BULGULAR

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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 Leilatepe 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 araştırıcılar 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 olduğunun 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 alaşım 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, Menteş 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. Anatoprağın 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 aside[1], though the opening of the Baku-Tbilisi-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

hand, and at Kül-Tepe I in Nakhichevan on the other hand (Abibullaev 1982), and while the site of Alikemek 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 predominance 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 Alikemek 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 (Aliev

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 millennium[3], 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 team[4] 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 millennium[5]. 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 millennium[6].

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, rarely[7], 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 BC[8].

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 bands[9]. 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 millennium[10]. 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 millennium[11], a date that fits well with the ceramic material, 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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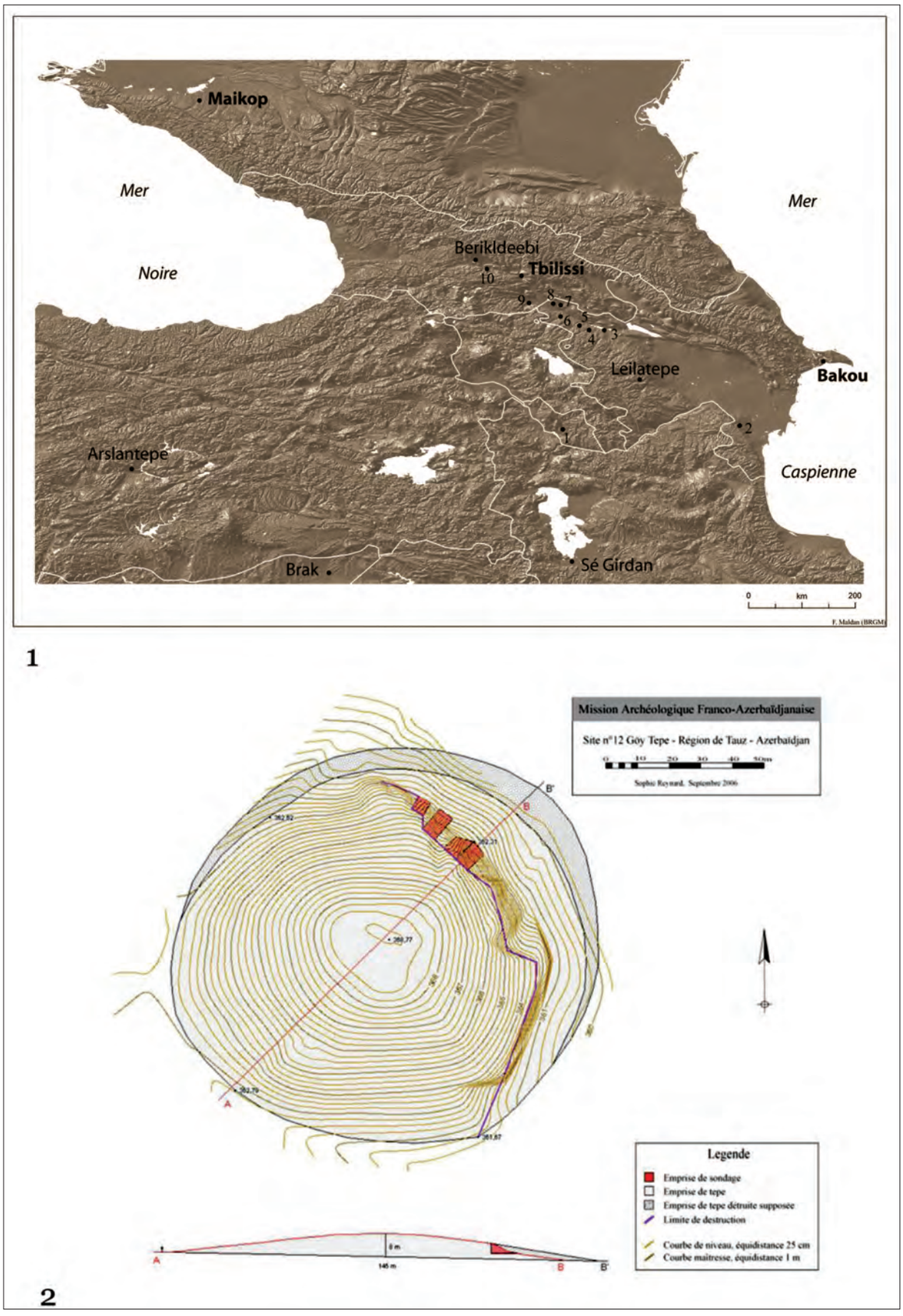

Fig. 1- 1. Map of Azerbaijan with major sites of the Neolithic and Chalcolithic periods: 1- Kül-Tepe I (Nakhichevan), 2- Alikemek, 3- Kechili, 4- Mentesh Tepe, 5- Göy Tepe, 6- Shomu Tepe, 7- Soyuq Bulaq, 8- Boyuk Kesik, 9- Shulaveris Gora, 10- Kavtiskhevi; 2. Göy Tepe, plan before excavations.

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

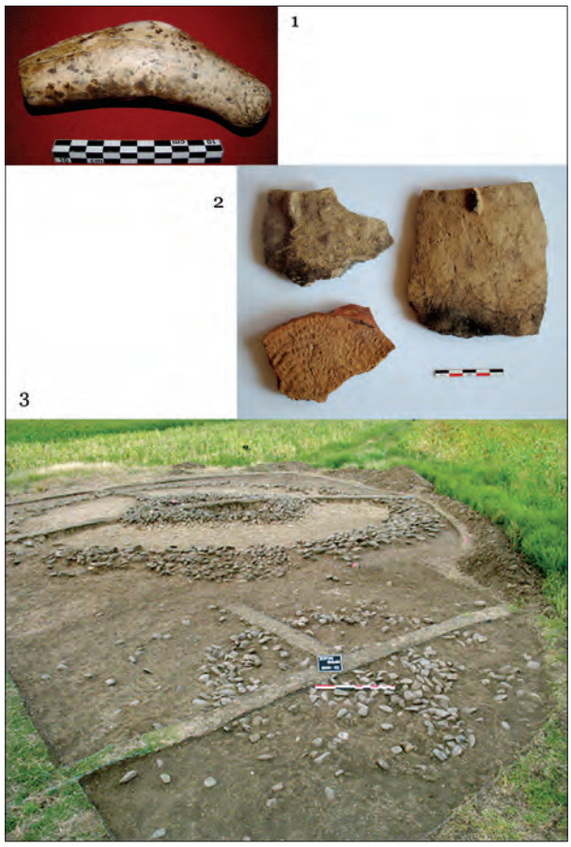

Fig. 3- 1. Göy Tepe, hammer with incised decoration; 2. Göy Tepe, pottery, some with applied decoration; 3. Soyuq Bulaq, two kurgans of different sizes, Kurgan 1 (in second plan) with a central pit, and Kurgan 2 (in front), without a central pit.

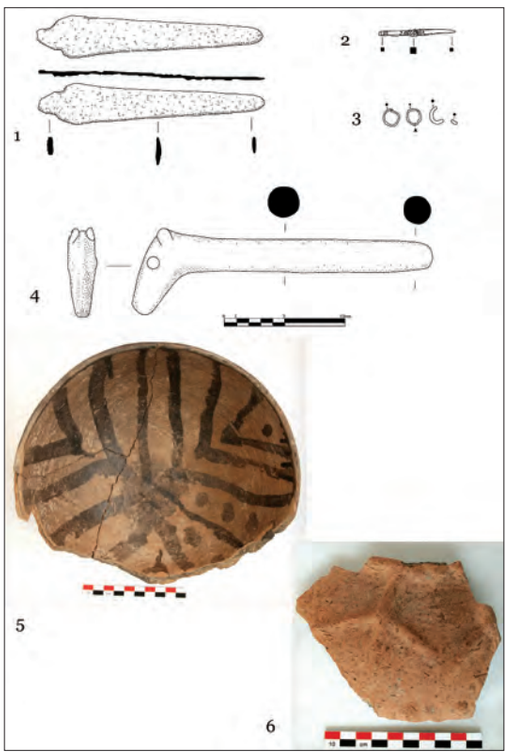

Fig. 4- Soyuq Bulaq, some of the items from Kurgan 1 (1, 4) and Kurgan 4 (2, 3): 1- copper dagger, 2- copper awl, 3- silver alloy rings, 4- stone scepter; 5. Mentesh Tepe, painted pottery; 6. Mentesh Tepe, pottery with applied decoration.

ARCHAEOLOGICAL INVESTIGATIONS ON THE SALT MINE OF DUZDAĞI (NAKHCHIVAN, AZERBAÏDJAN)

DUZDAĞI TUZ MADENİNDE ARKEOLOJİK ÇALIŞMALAR (NAHÇİVAN, AZERBEYCAN)

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Keywords: Natural resources, salt, Duzdağı, Nakhchivan

Anahtar Sözcükler: Doğal kaynaklar, tuz, Duzdağı, Nahçivan

ABSTRACT

The mine of Duzdağı is a major salt dome located some 7 km to the northwest of Nakhchivan city, along the former Silk Road linking Tabriz to Constantinople. The slopes of the mine, which is still being exploited today, are dotted with archaeological artefacts, among which potsherds and macrolithic stone tools are found in quantity. In the 1970s, the remains of four workers were found together with their tools by Soviet miners. These remains, which lay in an ancient tunnel that had fallen in, were dated from the stone tools to the end of the 3rd and the beginning of the 2nd millennium BC (Middle Bronze Age), as the tools show significant similarities with a series of hammers and maces that had been retrieved from stratified contexts at Kültepe I and II. However, research carried out at Duzdağı by a French-Azerbaijani team over the last two years has revealed that the systematic salt mining probably started much earlier: the frequent occurrence of Kuro-Araxes pottery suggests that the mine has been intensively exploited at least since the middle of the 4th millennium BC. Furthermore, the spatial correlation of Late Chalcolithic and Kura-Araxes potsherds together with stone tools and ancient tunnels also suggest the existence of an elaborate mining system extending well back into late prehistory. No clues are as yet available as to the purposes of salt exploitation in late prehistory, but these discoveries mark Duzdağı as one of the oldest rock salt mines in the world[1].

ÖZET

Nahçıvan'ın 7 km batısında, Tebriz ile İstanbul'u birbirine bağlayan eski İpek Yolu üzerinde bulunan Duzdağı tuz madeni, önemli bir arkeolojik alan olarak öne çıkmaktadır. Aras Vadisi'nde Nahçıvan'ın doğal çevre ortamının önemli bir birimi olan bu maden tarihöncesi dönemlerden beri önemini korumuştur. 150 m kalınlığında, 3 km uzunluğunda ve 2 km genişliğinde tuz yataklarına sahip olan Duzdağı'ndan bugün hala tuz çıkarılmaktadır. Madenin eski galerilerinden birinde bulunan ve MÖ 3.binin sonu ya da 2. binin başına (Orta Tunç Çağı) tarihlenen dört işçi kalıntısı, Sovyet madenciler tarafından bulunmuştur. İşçilerin yanında bulunan aletler, Kültepe I ve Kültepe II'nin tabakalanmış dolgularından çıkan taş çekiçlerle benzeşmektedir. Dağın özellikle güney yamacında yoğunlaşan Kalkolitik döneme ait çanak çömlek ise madenin çok daha eski dönemlerden itibaren kullanıldığını göstermektedir.

2008 yılında madeni daha ayrıntılı incelemek için yöntemli bir yüzey araştırması başlatılmıştır. Projenin araştırma hedefleri ve yöntemleri kapsamında DGPS (Differential Global Positioning System) yani çift GPS kullanılmış, belir-

lenen tüm buluntular ve yapılar Spot 5 uydu görüntüsüne işaretlenmiştir. Yapılan yüzey araştırmasında çok sayıda çanak çömlek ve küçük boyutlu taş alet toplanmış, buna karşılık ağırlıkları 10-30 kg arasında değişen balyoz gibi büyük taş aletleri sistematik olarak toplamak mümkün olmamıştır; ancak söz konusu aletlerin tipolojisi çıkartılmıştır. Arkeolojik buluntular 3 km uzunluğunda kuzeyden güneye uzanan iki ayrı alanda yoğunlaşmıştır. Çoğunluğu Duzdağı'nın üstünde oluşan aluvyal kalıntı tabakalarında bulunan çaytaşlarından yapılan aletler, işlevsel ve morfolojik çeşitliliği vermelerinden dolayı önemlidir. Bunların yanı sıra bulunan aletlerin 1/3'ü, çevrede bulunmayan ve kuş uçumu mesafede 40 km kuzeydoğudan gelmiş olduğu düşünülen doleritten yapılmadır. Obsidyen yongalar ve dilgiler azdır. "Nahçıvan kulpları" başta olmak üzere, İlk Tunç Çağı'na ait çok sayıda çanak çömlek bulunmuş olsa da, Orta Tunç Çağı'na ait çanak çömlek yok denecek kadar azdır. Ortaçağ ve Demir Çağı çanak çömleği ise yer yer vardır.

Taş aletlerin Son Kalkolitik ve İlk Tunç Çağı çanak çömleği ile birlikte bulunması söz konusu dönemlerde Kültepe I ve Kültepe II örneklerinden de bilindiği gibi taş alet kullanımının daha yoğun olmasından kaynaklanabilir. Bu dönemlere ait çanak çömleğin özellikle tünel girişlerinde bulunması dikkat çekicidir.

Sonuç olarak, MÖ 5. binyılın ikinci yarısında başlayan tuz madeni işletmesi Duzdağı'nın İspanya'da bulunan Cardona Ocağı ile beraber dünyanın ilk kaya tuzu ocaklarından biri olabileceğini düşündürmektedir. Ancak ele geçen buluntu yoğunluğu Duzdağı ocağının daha kapsamlı bir şekilde işlenmiş olabileceğine işaret etmektedir. Yazılı dönemlerden ele geçen verilere dayanarak tuzun besinsel ve saklama özellikleri dışında, politik ve sembolik işlevleri olduğunu da unutmamak gerekir.

INTRODUCTION

The archaeology of salt in the Caucasus is virtually in its infancy, a surprising fact considering the ubiquitous presence of salt throughout the area. Apart from the salt mine of Duzdağı itself, major salt domes are attested at Tuzluca, up the Araxes valley in Turkey, and at Duzdağı[2] near Khoy in Northwest Iran. In Turkey, other salt deposits that were exploited intensively during the Ottoman period are attested in the Erzurum region: most of them are salt springs (Ak, Kırmızı, Kömür, Muhlis) but rock salt (Sağır Kaya) is also attested (Cuinet 1892: 154). Lastly, one must mention the salt spring of Canik, near the eastern shore of Lake Van.

Most of these salt mines bear archaeological deposits: potsherds dated to the Achaemenid period were retrieved from Canik (Marro and Özfırat 2005: pl. XVI), whereas a brief survey conducted in 2005 in the northern Urmiah basin revealed vast quantities of pottery around the salt beds of Duzdağı-Khoy, some of which dates back to the Chalcolithic period[3]. At Tuzluca, if very little pottery has been found on the mine itself, the site is riddled with open-air pits and old tunnels. A large stone tool that strongly recalls the stone hammers from Duzdağı in Nakhchivan was found in a tunnel that had partly fallen in[4].

However, by far the richest repertoire of collected artefacts has been found along the slopes of the salt mine of Duzdağı-Nakhchivan, which definitely stands out as an exceptional archaeological site. Duzdağı is located some 7 km from the city of Nakhchivan, along the former Silk Road linking Tabriz to Constantinople (Fig. 1:1). As it towers above the Araxes valley, this dome is an outstanding feature in Nakhchivan's natural landscape (Figs 2:1; 3:1). Judging by its location along one of the major strategic routes in the South Caucasus (Fig. 3:2), its conspicuous salt deposits must have attracted attention from an early date.

Duzdağı is still being exploited today. According to the engineers working on the mine, its salt deposits are 150 m thick, 3 km[5] long and 2 km wide. In the seventies, as they were progressing inside the mine towards the southern slopes of the dome, Soviet miners broke into an ancient tunnel that had caved in; they found the remains of four workers buried together with their tools. These remains were dated, from the stone tools, to the end of the 3rd and the beginning of the 2nd millennia BC, since the tools bear significant similarities to a series of hammers that have been retrieved from stratified contexts at Kültepe I (Abibullayev 1982: 111-112) and Kültepe II (Aliyev 1991: 154; *Naxçivan Ensiklopediyasi* 2002: 108). However, a brief visit to the

mine by a Franco-Azerbaijani team in 2007 suggested that its exploitation had in fact probably started much earlier, as evidence of Chalcolithic and early Kura-Araxes pottery was found all over the southern slopes of the dome. A systematic survey was thus launched in 2008 in order to investigate it more thoroughly.

RESEARCH GOALS AND SURVEY METHODS

Investigations at Duzdağı are part of a large-scale project that addresses territorial dynamics, settlement patterns and the exploitation of natural resources in Nakhchivan by late prehistoric communities. The work conducted at Duzdağı is closely linked to the excavations in progress on the settlement of Ovçular Tepesi (Marro et al. 2009), which, among other goals, aim at establishing the economic and subsistence strategies of Late Chalcolithic and Early Bronze communities.

Among the first objectives of the Duzdağı survey, we hope to trace back the earliest exploitation remains of the mine, as well as to determine the modes of salt extraction during late prehistory. This task should be made possible by reconstructing the *chaîne opératoire* as well as carrying out the use-wear analysis of the stone tools. The pottery collected from the surface of the mine will be used, in a first step, as a chronological marker, in order to date other artefacts and *in situ* archaeological structures. We also hope to reconstruct the evolution of salt extraction through time and examine whether major technological or exploitation breaks may be identified. Part of our work will thus focus on mining infrastructures, which will be correlated with pottery, macrolithic and microlithic artefacts.

This program of course entails the use of both a Geographic Information System and a precise geographic positioning device. At Duzdağı this work is performed on ArcGis with a DGPS (Differential Global Positioning System: that is, two GPS used in a pair)[6]. As no large-scale topographic maps are available, all artefacts and archaeological structures are plotted on a Spot 5 satellite image (2,5 m resolution). This image (Fig.1:2) was of great help in locating exploitable salt deposits, since the water contained in the salt clearly appears in the near infrared spectral band. It also helped to visualize colluvium areas, plateaux with few or no salt deposits, as well as bringing out the hydrographic pattern: the salt dome has been largely shaped by the water drainage, which created several catchment areas with little or no access from one to the other.

However, the image resolution is not sufficiently high to establish a large-scale map or spot major archaeological features. Thus, low altitude aerial pictures (from 50 to 500 m) have been systematically taken from a kite for two of the selected areas (Windows 1 and 2; see below) where systematic surveys have been conducted[7]. These pictures are then corrected, georeferenced, merged together and superimposed over the satellite image (See Figs 8:1-2; 9:1-2) for a close-up of Windows 1 and 2). Calibration points for georeferencing the pictures are given by the DGPS: this pair of GPS achieves a 10 cm precision in the local coordinate systems. Thanks to the DGPS, topographic features (*wadis* in particular), as well as archaeological artefacts, have been recorded with great precision. This is especially important for the artefacts, as registered data will determine the main correlations between the distribution of artefacts (macrolithic and microlithic tools, pottery) and the infrastructures of the mine.

While all the pottery and the microlithic tools from Duzdağı can be picked up during survey operations, this is not possible with the macrolithic, hereafter called stone tools. Not only are these tools found by the dozen, but they are far too heavy to be collected systematically: apart from tool fragments, the smallest hammers often weigh as much as one kilo. Sledgehammers may weigh up to 10 kg or more; some of them even up to 30 kg (*Naxçivan Ensiklopediyasi* 2002: 108). In order to overcome this difficulty, a stone tool typology, based on a hundred-piece sample, has been built up by Caroline Hamon. Each tool is photographed on the spot and then registered according to this typology by C. Hamon herself. Only tools that offer technical or morphological specificities are taken from the mine for further technological and functional study. All other stone tools are left on the mine, at the precise spot where they were found.

FIELD OPERATIONS

The first exploration of the mine, which was conducted in 2008, aimed at defining the limits of the archaeological site. An overall survey revealed that archaeological artefacts were found virtually all over

the salt deposits, at least along three major saliferous levels that correspond to layers of clayish sediment (Fig. 2:2)[8]. In fact, as shown by a geomorphological study carried out by C. Kuzucuoğlu, only the whitish, clayish layers of the dome are eligible for salt mining[9]; reddish bands correspond to coarser, silty sediment layers, where salt crystals did not cluster in sufficient quantity to form salt beds; they are difficult to exploit, at least with traditional mining processes[10].

The size of the archaeological site of Duzdağı is therefore considerable, as artefacts are scattered over 3 km from north to south[11], not to mention concentrations of potsherds and microlithic tools found outside the salt mountain itself, as in Cehri Xor-this place may have been visited at times by miners for its resources of spring water (Figs 2:3; 3:4).

In view of the size of the archaeological mine, which precludes a complete survey of the site, two areas referred to as "Window 1" and "Window 2" have been selected for intensive exploration, respectively on the southern and southwestern slope of the dome. The selection of these areas was also meant to test our survey method before extending our work to other parts of the mine. Being faced with a random choice, we determined the shape of the windows by following significant *wadis* and ridges, in order to follow the potential trajectory of artefacts that may have rolled down. In addition to Windows 1 and 2, which are located on the mine itself, a third window was delimited around the spring of Cehri Xor ("Window 3").

FIRST RESULTS

The results discussed below are based on the data collected during the 2008 and 2009 field seasons and should be considered as preliminary. Collected data have been plotted either on the satellite image (Figs 10:1-2; 11:1-2) or on colour pictures created from aerial photos (Figs 8:1-2; 9:1-2).

A distinction should first be drawn between the data gathered from the selected windows and that from the rest of the site. The data plotted in each window can claim to be exhaustive: all artefacts, from large stone tools to minute pottery fragments (whether diagnostic or not) have been registered by DGPS. On the other hand, the data located outside these areas correspond only to preliminary exploration: they will help in choosing other windows for systematic exploration in the future, but should not be considered now as statistically significant.

The archaeological data registered at Duzdağı is characterized both by its quantity and its variety: not only are remains of infrastructures perceptible all along major salt deposits, as at Tuzluca, but artefacts are also found all over the slopes of the dome, as at Duzdağı-Khoy. In contrast with the latter, however, where only potsherds could be collected, the Nakhchivan salt mine yielded both pottery and microlithic and macrolithic tools, while occasional metal findings in copper and/or iron are also attested.

The most striking mining infrastructures are probably the ancient tunnels that dot the whitish layers of the mine. As clearly seen from the aerial pictures, these tunnels have been dug in a row, roughly at mid-height, through the salt deposits (Fig. 4:1)[12]. All the tunnels registered so far have fallen in; however, one of them was found preserved over 4 m in length and 1,1 m in height (Fig. 4:2). No artefact could be found inside since the tunnel floor was covered with a thick layer of rubble. Two cases of an open-air mining area have been found in Window 1, one of which is clearly associated with medieval pottery. Another such quarry was located on the southern slope of the dome during our preliminary investigations in 2007 (Fig. 4:3), and a fourth has been located in a hitherto unexplored area of the site, to the north of Window 2: this one too seems associated with medieval pottery (Figs. 6:1-2-3). The dating of these exploitation features constitutes one of the main goals of our work at Duzdağı, it means a careful examination of the correlations between tunnels, quarries, and archaeological artefacts.

Among the artefacts retrieved from Duzdağı, the stone tools are of particular interest, as they cover a fairly wide functional and morphological range. A preliminary study conducted by C. Hamon on 361 pieces[13] has shown that most of these tools were made from river pebbles, possibly originating from the residual alluvial sheets located at the top of Duzdağı itself. About a third of the tool assemblage, however, was made of dolerite, a type of rock that does not outcrop anywhere in or around the site, its nearest source being located in the district of Shahpuz, about 40 km to the northeast of Duzdağı

as the crow flies (*Naxçivan Ensiklopediyasi* 2002: maps between pages 368 and 369). Beside tool fragments, this assemblage comprises mostly different types of hammers (Figs 7:1-4;), among them sledge-hammers (Fig. 7:4), as well as a few grinding or pounding devices. Only eight fragmentary grinding stones, one of which had been turned into a mortar, have been found so far, but pestles are more numerous (16 pieces). The latter were crafted from dolerite or sandstone, whereas the grinding stones are made of basalt, just like their counterparts from settlement sites. The available evidence suggests that these tools not only served to extract salt, but were also used for tool sharpening and salt processing on the mine itself, possibly to prepare salt for transport. Trace-analysis, which is still in progress, should help to clarify this *chaîne opératoire* and make clear exploitation processes.

Pottery is also found in quantity at Duzdağı, especially on the southwest slopes of the mine, as shown by the data from Window 2. If some potsherds are tiny fragments, often with worn-out surfaces, surprisingly well-preserved finds also occur: a complete goblet dated to the Early Iron Age was found intact on the southwest slope (Bakhshaliyev and Marro 2009: 49, bottom), whereas the upper part of a Kuro-Araxes jar was found in Window 2 (Fig. 5:1). All potsherds have been collected, no matter their size and state of preservation; in most cases, a minimal chronological attribution can be asserted from the paste and surface treatment. Some diagnostic shapes, such as the Early Bronze "Nakhchivan lugs" are particularly erosion- and time-resistant, which may explain the relatively high proportion of these sturdy features in the general assemblage (Fig. 5:2). Microlithic tools are comparatively rarer; they usually occur as obsidian knapping fragments, more rarely bladelets; however, flint is also attested.

A comparative study of the pottery assemblages from Windows 1, 2 and 3 has brought out a few significant patterns. Window 2, which is located on the southwestern slopes of the dome, is characterized by a high concentration of Late Chalcolithic (Chaff-Faced ware) and Early Bronze Age (Kuro-Araxes[14]) potsherds (Fig. 9:1). Some pottery dating to the Iron Age period is also attested, but it clearly represents a minority. The proportion of Early Bronze Age and Iron Age pottery seems more balanced in Window 1, (Fig. 8:1) whereas there seems to be virtually no Chalcolithic pottery there. It should be noted, however, that the overall quantity of Early Bronze Age pottery is much smaller in Window 1 than in Window 2. Interestingly, no pottery dating either to the Late Chalcolithic or the Early Bronze Age is attested around the spring of Cehri Xor. Most of the pottery at Cehri Xor dates to the Iron Age or the Medieval period. This spring was clearly not frequented by Late Prehistoric miners, either because they did not follow this route to reach the mine, or because the spring did not exist at that time.

Similarly, Middle Bronze Age pottery is conspicuous by its absence in all three windows. Occasional potsherds of MBA painted pottery have been found here and there over the southern slopes of the dome; they all belong to the monochrome black on red trend. However, as MBA pottery from the South Caucasus, including the Van area, is mostly known from cemeteries[15], it is possible that the pottery used on the salt mine by MBA workers belongs to specific functional ware groups that have not been recognized as such.

Technologically speaking, Late Bronze and Early Iron Age potsherds are barely distinguishable, so that in the absence of other clues it seems wiser to group LBA/EIA pottery into a single period. However, a few decorated rim sherds bearing unmistakably Late Bronze Age decoration are also attested; they come out either in a beige or a dark-grey paste, with corrugated surfaces and rows of incised stitches over the shoulder (Fig. 5:4). Interestingly, most of the Late Bronze/Early Iron Age pottery attested so far was retrieved from Window 2[16].

As for Medieval pottery, it is present only in Window 1 on the southern slope of the dome and in Window 3 at Cehri Xor (Figs. 8:1; 11:1). In both cases, it has been found together with Iron Age pottery. Medieval pottery usually occurs as wheel-turned, cream-slipped ware with some comb decoration (Fig. 6:1)[17], but a few examples of blue-glazed pottery with green or black painted motifs are also attested (Fig. 6:2-3). Very little pottery that can be attributed with certainty to Late Antiquity or the Sassanid period has been found so far.

It is interesting to note that, on the whole, the potsherds from Cehri Xor are much smaller than those retrieved from the mine, and their surface tends to be rather

worn down; this may be due to better conditions of preservation, as the soil over the salt dunes moves and shifts with the wind. At times, archaeological artefacts get buried under the sediment and thus become less exposed to erosion. Furthermore, it must be noted that the area around the spring is being used nowadays for sheep-herding: archaeological artefacts are likely to have been heavily trodden on[18].

If we now plot the scatter of stone tools together with the distribution of potsherds, there seems to be a striking correlation between high concentrations of tools and high concentrations of Late Chalcolithic/EBA pottery (compare Fig. 9:1 and Fig. 10:1). This of course suggests that the stone tools were in use during Late Prehistory, a hypothesis that is supported by the stratified finds from Kültepe I (Abibullayev 1982: 111-112) and Kültepe II (Aliyev 1991: 154). However, according to oral sources, stone tools were also used during the 19th century AD, so that one should be careful before attributing all the stone tools to the Late Chalcolithic or the Early Bronze Age, even if no clear chronological distinctions between different categories of stone tools could be made out from their morphological analysis. The correlation between specific tool categories and chronologically distinct pottery groups is not significant.

On the other hand, specific pottery groups and tunnel location seem to be closely correlated. Most Late Chalcolithic/EBA potsherds have been found in the vicinity of tunnel entrances, usually on the natural limestone flats located at the foot of these tunnels (Figs. 9:1;11:1-2). This is not the case with medieval pottery, which in Window 1 is concentrated in the third layer ("Layer 3") of salt deposits (Fig. 8:1). In this area, which corresponds to the lower part of Window 1, only one tunnel entrance has been listed so far. If the distribution of medieval pottery is plotted together with the stone tools and the tunnel entrances, again there seems to be little correlation between the three: stone tools are relatively rare, while only two tunnel entrances have been located in the medieval pottery district (compare Fig. 8:1 and Fig. 8:2). The case is not so clear with Iron Age pottery, for which further research is needed (see Fig. 8-1:3 and Fig. 9:2).

It is thus probable that part of the stone tool assemblage was used to extract salt from the tunnels-or even to dig the tunnels themselves. Preliminary results suggest that this type of exploitation was carried out during the Late Chalcolithic and the Early Bronze Age. However, if the stone tool assemblage from Kültepe II is considered, salt was probably mined during the Middle Bronze Age as well (Aliyev 1991: 154).

It is too early to discuss the exploitation processes in use during the Iron Age and the Medieval period. Suffice it to say that four quarries have been found respectively on each of the northern and southern parts of the site. The northern quarry, as well as one quarry in Window 1, seems to be associated with medieval pottery, but this hypothesis has to be confirmed with further field research.

CONCLUSIONS

The first two seasons of systematic survey at Duzdağı have of course raised many questions, most of which have not yet been answered. But at least two main conclusions may now be drawn: first, it is clear that the exploitation of the mine started as early as the second half of the 5th millennium BC, as indicated by the regular occurrence of typical Chaff-Faced ware in Window 2. This marks Duzdağı as one of the oldest rock salt exploitations in the world, together with Cardona (*La Muntanya del Sal*) in Spain. At Cardona, traces of human occupation around the salt outcrop have been dated between 4200 and 3600 cal. BC (Weller 2002: 317). Evidence of early mining is provided by the find of about 173 complete or fragmentary stone tools, collected over time in the vicinity of the mine by local villagers and antiquarians (Weller and Figuls 2007: 221). These artefacts have been dated by analogy with similar stone tools that were found in two cist graves located in the surroundings of the salt outcrop. The graves themselves have been attributed to the Middle Neolithic period thanks to the presence of other funerary gifts (Weller 2002: 318).

It appears, however, that the evidence for early salt mining at Duzdağı is even more impressive than at Cardona, since hundreds of stone tools associated with a chronologically wide series of potsherds have been found scattered over the salt deposits. It is clear that the incredible wealth of Duzdağı in archaeological artefacts, in particular pottery with its high informative potential, offers a unique opportunity to

study the evolution of salt use and salt mining processes from Late Prehistory to modern history. Secondly, it should be stressed that early salt mining at Duzdağı is remarkable for its intensity. The proportion of Late Chalcolithic/EBA potsherds is indeed surprisingly high: on average it represents a third of the total potsherd assemblage. This is a very high figure, especially when compared with the relatively low settlement density during the Late Chalcolithic and Early Bronze Age, not only in Nakhchivan but also in the neighbouring Northern Urmiah and Van regions (Kroll 2005: fig. 1; Marro and Özfırat 2003, 2004, 2005)[19]. According to the evolution of settlement patterns from the end of the second millennium BC onwards, one would have expected Iron Age or Medieval pottery to constitute a majority.

It is of course possible that these results simply reflect the present state of research, as only three selected areas have so far been thoroughly explored; concentrations of either Iron Age or Medieval pottery may be found in the future in so far unexplored areas of the mine. Nevertheless, the overrepresentation of Late Chalcolithic/EBA artefacts at Duzdağı comes as a surprise and of course raises the issue of the function and final destination of salt on the local and regional scale. Considering the ubiquity of salt in the South Caucasus, especially in the Araxes basin, it seems unlikely that salt played a major part as a trade commodity in regional exchanges, unless the salt from Duzdağı was invested with specific, in particular symbolic, qualities[20]. Salt resources, whether they be rock or spring salt, are just as common further west in Anatolia or further south in Syria, Mesopotamia, or Iran; there is thus no reason to surmise that South Caucasian salt was at the core of interregional exchanges either. The archaeological data so far collected from late prehistoric settlements have not yielded any direct clues as to the function of salt in Nakhchivan. At Ovçular Tepesi, the strong emphasis on ovi-caprines in herding strategies suggests that pastoralism may have played an important role in Late Chalcolithic/EBA economies (Marro et al. 2009: fig. 9), which involves the use of salt to increase daily milk yields. However, this hypothesis certainly does not account for all the salt exploitation evidenced at Duzdağı during the 4th-3rd Millennium BC. In the same line of thought, the importance of fish in the food diet evidenced at Ovçular Tepesi could point to the consumption of salt fish by late prehistoric communities. However, one must concede that no archaeological clues relating to salting practices have been evidenced on the site so far.

Admittedly, the question of salt use and salt function in past societies is elusive by nature, as salt, unlike obsidian or copper, hardly leaves any trace of its existence. Except when written archives are available, which of course is not the case here, the consumption and use of salt may only be brought to light through indirect evidence. Furthermore, if we now turn to written archives relating to salt, which concern later periods and mostly come from Anatolia and Syro-Mesopotamia, it is interesting to note that they often refer to political and religious rituals where salt is frequently employed (Erkut 1990; Potts 1984, *passim*). They clearly show that the symbolic function of salt in the ancient Near East is at least as important as its nutritional or preservative values. Archaeologically speaking of course, such practices are scarcely perceptible.

NOTES

[1] The operation on Duzdağı is part of the "*Mission Archéologique du Bassin du Moyen-Araxe*", which is mainly supported by the French Ministry of Foreign Affairs. The 2008 campaign at Duzdağı was financed by private funds, whereas the needs for the 2009 campaign were met by the CNRS (PEPS). The Duzdağı survey has been approved by the Azerbaijan Academy of Sciences (AMEA) and supported logistically by the *Maison de l'Orient et de la Méditerranée* (MOM, Lyon). We would like to thank all these institutions for their support, as well as the *Centre National d'Etudes Spatiales* (CNES) for providing us with large-scale satellite photos (Spotimage 5) through the ISIS programme. Special thanks are also due to Mr. Nizami Aliyev (AMEA, Nakhchivan, dept. of Fine Arts), whose amazing knowledge of Duzdağı has been of invaluable help for us all; as well as to Caroline Hamon (CNRS, UMR 7041) and Catherine Kuzucuoğlu (CNRS, UMR 8591) for their

useful comments on this paper. Last but not least, our gratitude goes to Mr. Aksel Tibet (IFEA, Istanbul), thanks to whom our work at Duzdağı could be carried out in good conditions.

[2] « Duzdağı » meaning "salt mountain" in Turkish; many salt domes across Turkish speaking regions in the Caucasus and beyond are called "Duzdağı" or "Tuzdagi".

[3] This survey was carried out by Karim Alizadeh (ICAR, Teheran) and Catherine Marro during a journey around the Urmiah basin in 2005, but none of this pottery has been collected or published.

[4] It seems appropriate here to mention a series of important discoveries that have been made on the salt mine of Shehrabad in Iran, where six human mummies, most of which are thought to be the corpses of ancient miners, were found between 1993 and 2007. The oldest of these mummies has been dated to the Achaemenid period by ^{14}C dates (http:// news.nationalgeographic.com/news/2007/07/070703-salt-man.html). Sherhabab is located about 200 km to the southeast of Lake Urmiah in the province of Zanjan.

[5] It is possible, however, that salt deposits actually extend through an even wider area, as salt quarries are said to have been exploited in the past some 6 km to the north of the present mine.

[6] This DGPS was made available to us thanks to the ISA network, a technological platform linked to the CNRS.

[7] Pictures are taken with a Nikon Coolpix P6000, which is also equipped with a GPS. S. Sanz is in charge of the GIS database, together with the monitoring of the DGPS and the aerial pictures.

[8] Up to five 10 m thick salt levels were in fact numbered to the north of Window 2, an area that has not been systematically surveyed yet. As for Aliyev, he mentions as many as 11 salt levels but no information is given as to their precise location (Aliyev 1991).

[9] These layers appear in shades of white on colour pictures but in greenish hues on satellite images (Fig. 9:1 and Fig. 7:1).

[10] The salt contained in silty layers would theoretically be exploitable by washing sediment with water, collecting the brine and boiling it in order to obtain salt crystals (Weller 2004: 447; fig. 1). This method, however, which requires time, wood and energy, would hardly seem appropriate at Duzdağı for communities that had already mastered the art of mining.

[11] Part of the southern area is by law not accessible and will not be surveyed. The exact southern extension of the archaeological site will thus remain unknown.

[12] According to C. Kuzucuoğlu (unpublished field report), the location of tunnel entrances is determined by the orientation of the salt levels, which dip 12 per cent westwards. Each level of salt deposits measuring about 10 m thick, the location of tunnel entrances at mid-height would ensure the regular exploitation of the salt beds along the dip without impinging on the lower or upper sediment layers.

[13] A detailed analysis of the stone industry will be published by C. Hamon in a further article.

[14] The Chaff-Faced ware from Duzdağı is technologically very similar to the Late Chalcolithic pottery retrieved from Ovçular Tepesi (Marro et al. 2009): heavy use of chaff and occasional comb-scraping. No diagnostic shapes have been found so far apart from bowl rim fragments. The Kuro-Araxes pottery is also very similar to that from Ovçular Tepesi, apart from the fact that the majority of EBA potsherds at Duzdağı tend to be buff, grey or cream-colored, whereas in Ovçular Tepesi, they are usually black or dark grey.

[15] Yet the MBA pottery from the few Middle Bronze Age *settlements* that have been excavated in Nakhchivan is very similar to the painted pottery retrieved from funerary contexts: there are no obvious functional differences between the two repertoires (Bakhshaliyev 1997: 107-109). One wonders whether this should apply to the MBA salt mine repertoire.

[16] As a first step, all the pottery identified as Late Bronze/Early Iron Age, Middle Iron or Late Iron Age has been grouped here into a single period and labelled the "Iron Age". This analysis should be refined as our work goes on.

[17] It should be noted that this particular kind of pottery, which is termed « medieval » in Nakhchivan, is attested until the 19th century A.D. However, as the comb-decorated ware from Duzdağı is exclusively associated with glazed pottrey dating the 12-13th century BC, it seems safe to assign it to the Medieval Period

[18] It seems likely that animal-herding was also carried on in this area in the past, as the spring is surrounded by pastureland.

[19] It has to be noted, however, that EBA sites are more numerous upstream in the Erevan plain (Areshian 2005: fig. 3; Kushnareva 1997: 57-59).

[20] During classical antiquity, for instance, Greek and Roman texts show that various sources of salt were valued differently according to their alleged qualities. Specific kinds of salt were thus traded over long distances, in spite of the ubiquity of salt in the Mediterranean world (Carusi 2007).

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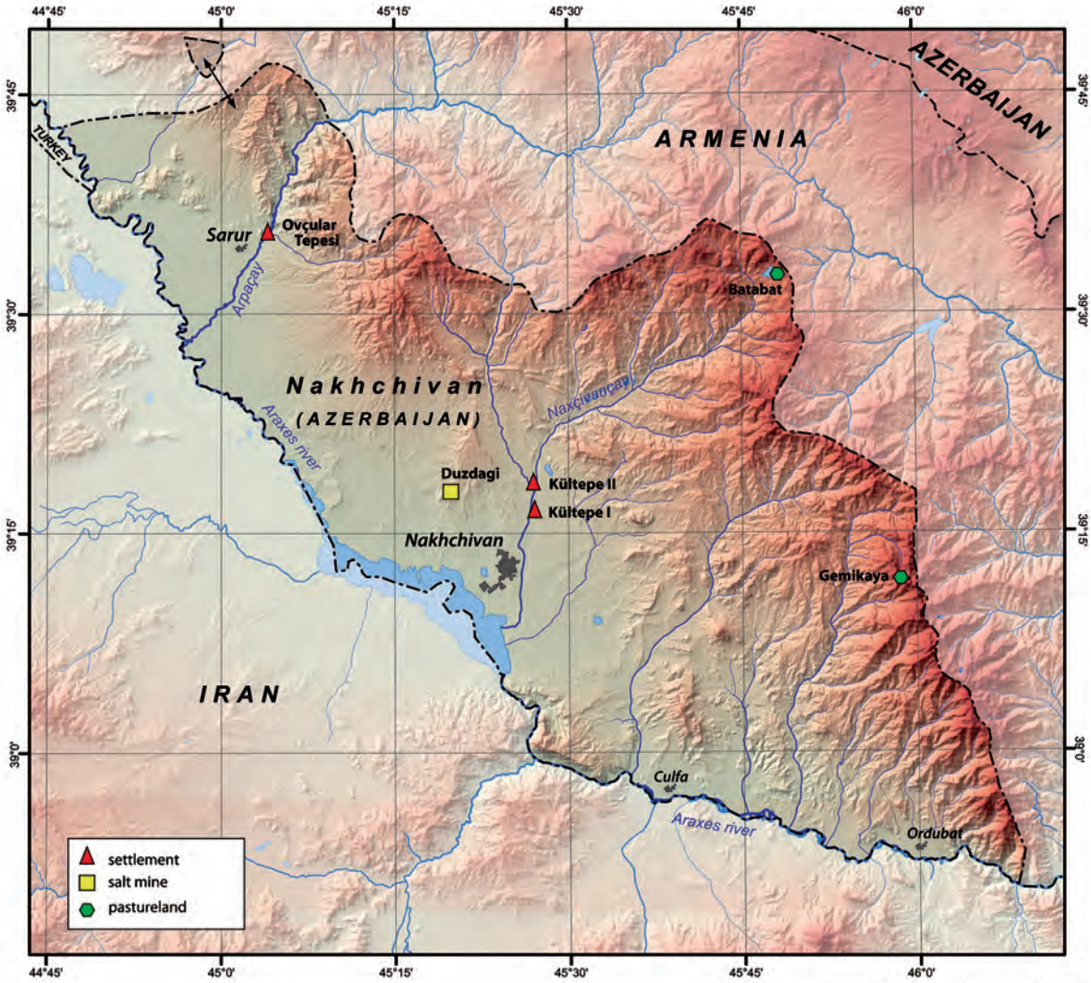

Fig. 1.1- Regional map (O. Barge, CNRS - MOM)

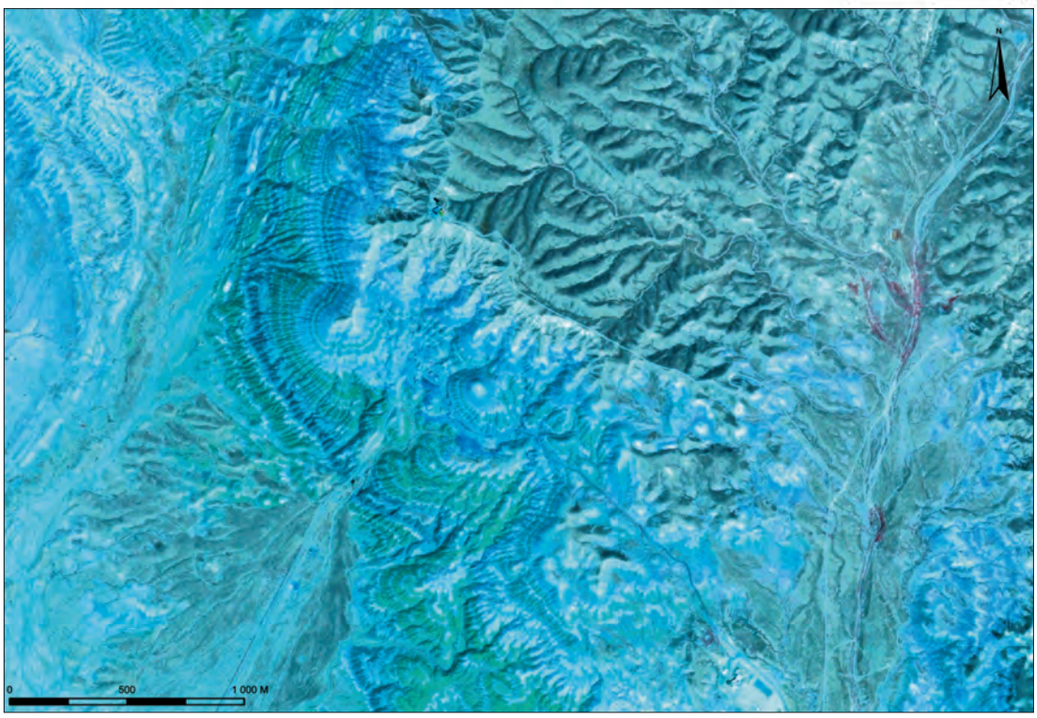

Fig. 1.2- Spot 5 satellite image of Duzdağı. © CNES.

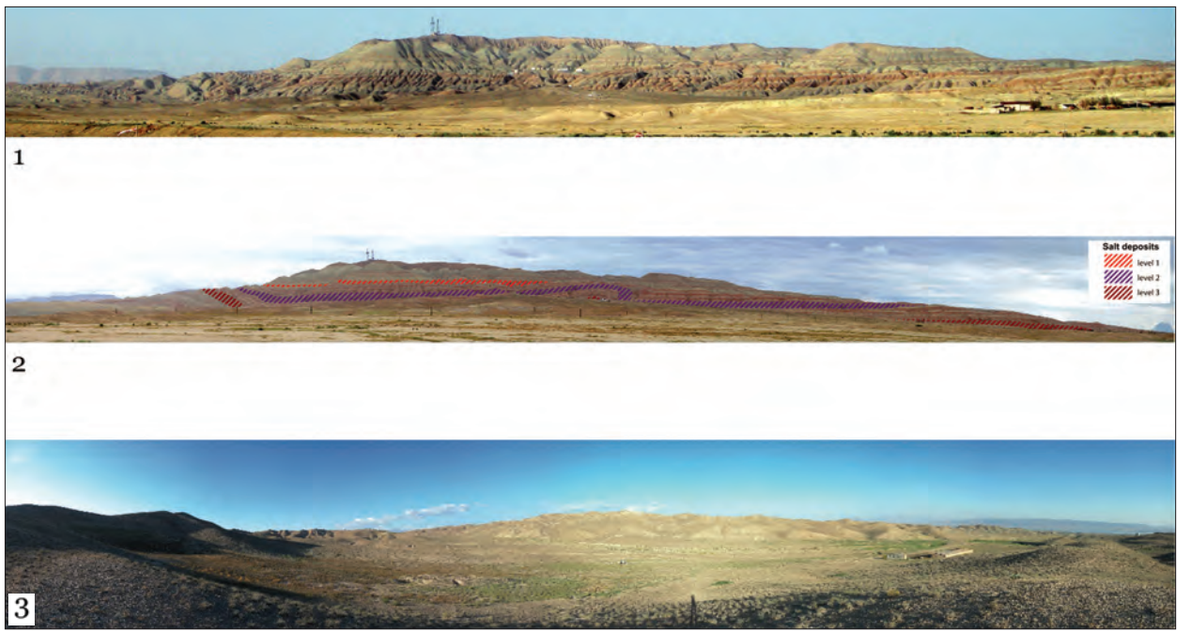

Fig. 2.1- General view of Duzdağı from the Araxes valley (S. Sanz, CNRS - MOM).
Fig. 2.2- Duzdağı : the main levels of salt deposits (S. Sanz, CNRS - MOM).
Fig. 2.3- General view of Cehri Xor, with green patches of grass around the spring (S. Sanz, CNRS - MOM).

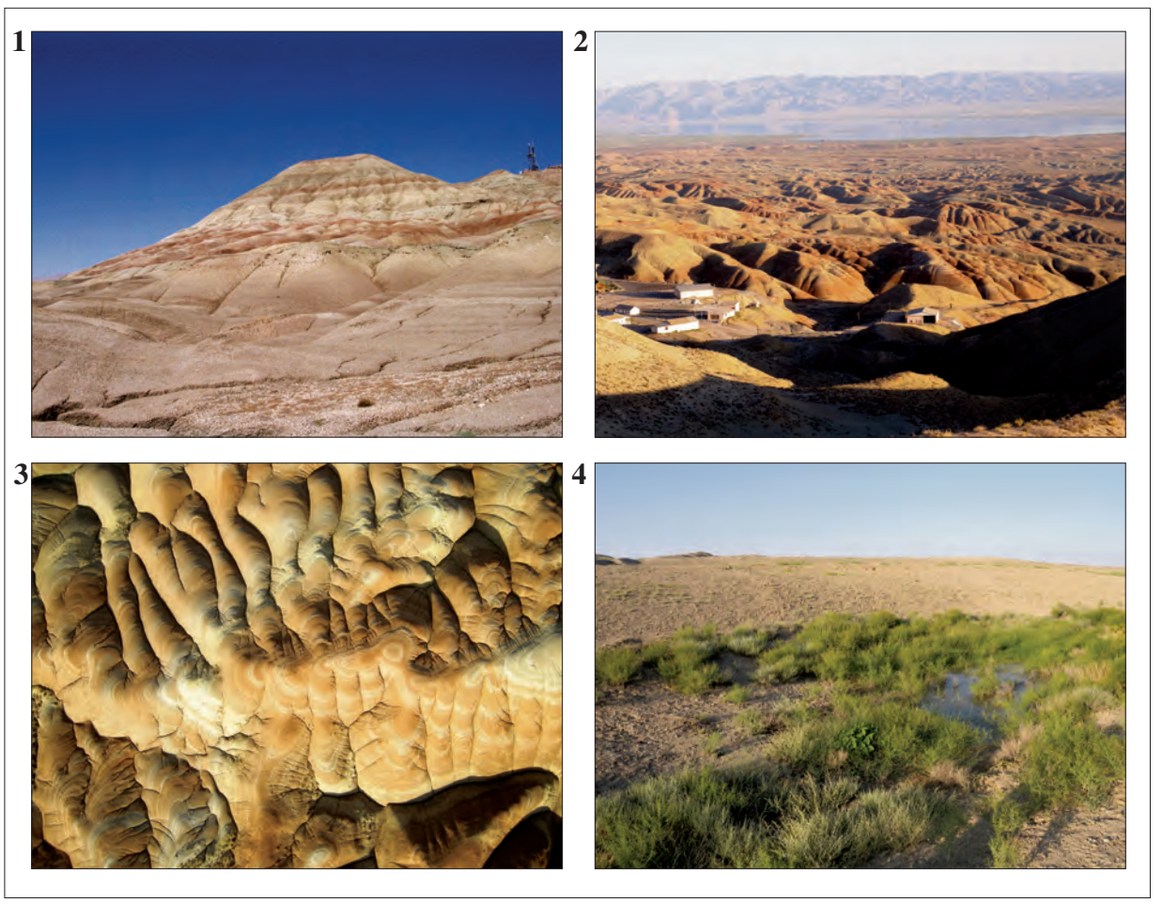

Fig. 3.1- Duzdağı : the salt dome (V. Bakhshaliyev, AMEA)
Fig. 3.2- General view of Duzdağı from the summit of the salt dome. In the background : the Araxes valley (S. Sanz, CNRS - MOM).
Fig. 3.3- Alternation of clayish (white hues) and silty (brown hues) salt layers: an aerial view (S. Sanz, CNRS - MOM).
Fig. 3.4- The spring of Cehri Xor (S. Sanz, CNRS - MOM).

1

Fig. 4.1- Tunnel entrances from Window 2 (S. Sanz, CNRS - MOM).

2

Fig. 4.2- The interior of a tunnel (southern slope of the dome) (C. Marro, CNRS)

3

Fig. 4.3- Open-air quarry (southern slope of the dome) (C. Marro, CNRS)

Fig. 5.1- A Kuro-Araxes jar with a Nakhchivan lug (C. Marro, CNRS), Fig. 5.2: Kuro-Araxes potsherds : Nakhchivan lugs (C. Marro, CNRS). Fig. 5.3: A Kuro-Araxes bowl (C. Marro, CNRS), Fig. 5.4: Late Bronze Age pottery with incised decoration (C. Marro, CNRS).

Fig. 6.1- Cream-slipped Medieval pottery with comb decoration (C. Marro, CNRS)

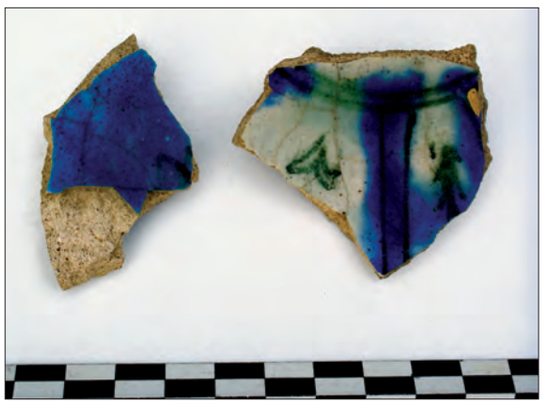

Fig. 6.2: Glazed Medieval Pottery (C. Marro, CNRS).

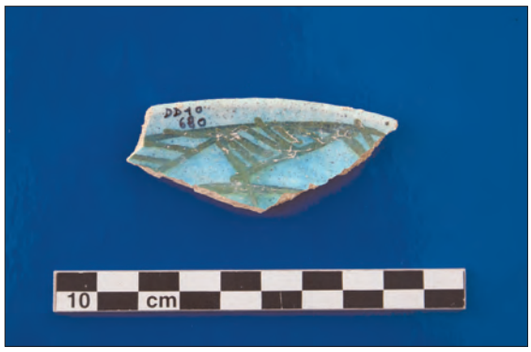

Fig. 6.3- Glazed Medieval Pottery (C. Marro, CNRS).

Fig. 7.1- Stone hammers (V. Bakhshaliyev, AMEA).

Fig. 7.2- Stone hammers (V. Bakhshaliyev, AMEA).

Fig. 7.3- Stone hammer in situ (V. Bakhshaliyev, AMEA).

Fig. 7.4- Sledgehammer (C. Marro, CNRS)

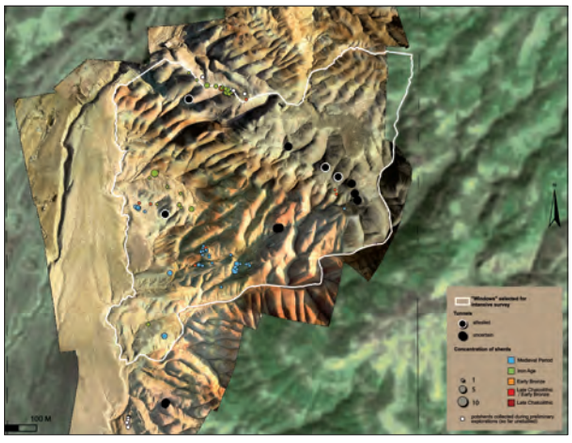

Fig. 8.1- Window 1 : spatial distribution of the pottery by chronological period (S. Sanz, CNRS - MOM).

Fig. 8.2- Window 1 : spatial distribution of the stone tools (S. Sanz, CNRS - MOM).

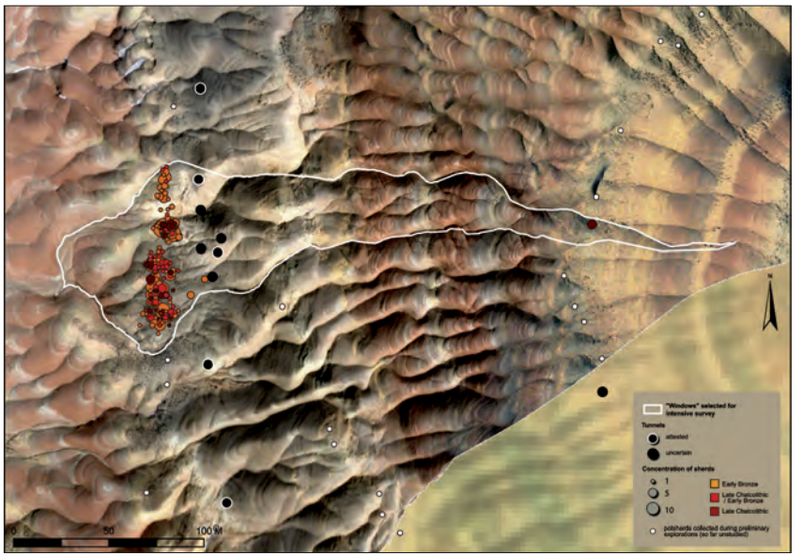

Fig. 9.1- Window 2 : spatial distribution of Late Chalcolithic and Early Bronze Age pottery (S. Sanz, CNRS - MOM).

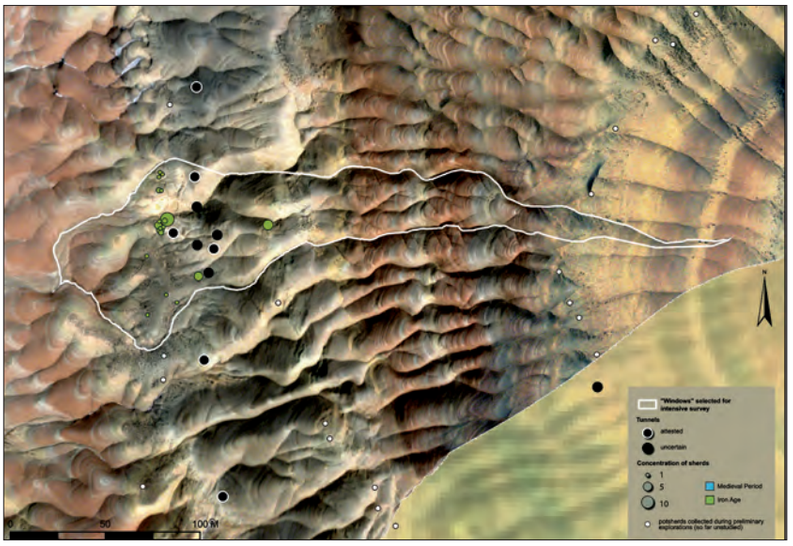

Fig. 9.2- Window 2 : spatial distribution of Iron Age pottery (S. Sanz, CNRS - MOM).

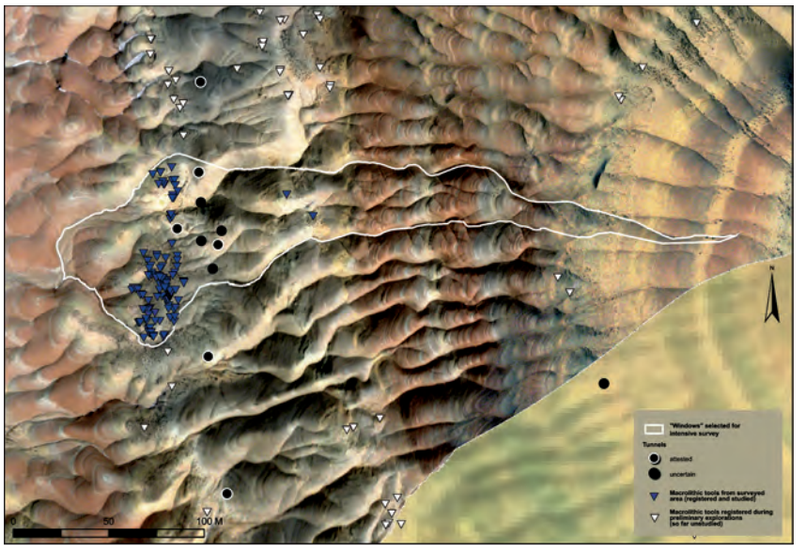

Fig. 10.1- Window 2 : spatial distribution of the stone tools (S. Sanz, CNRS - MOM).

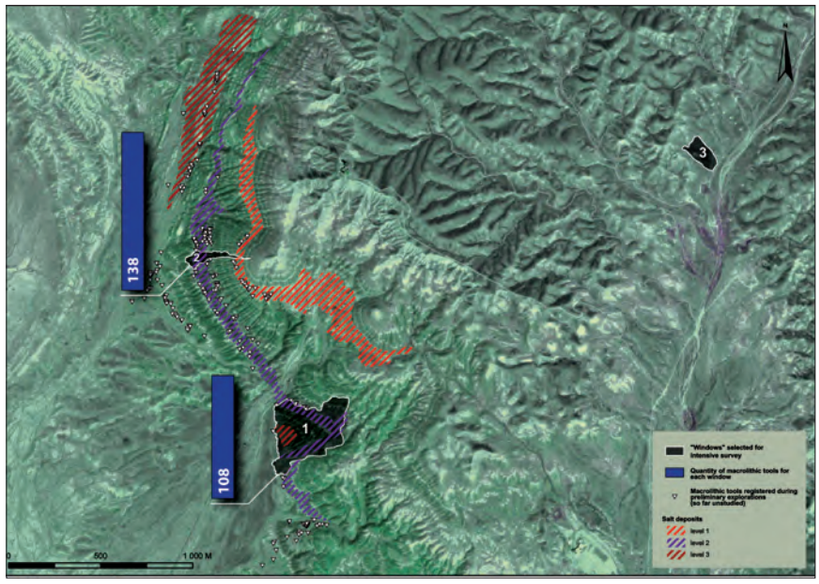

Fig. 10.2- Quantitative distribution of the stone tools (S. Sanz, CNRS - MOM).

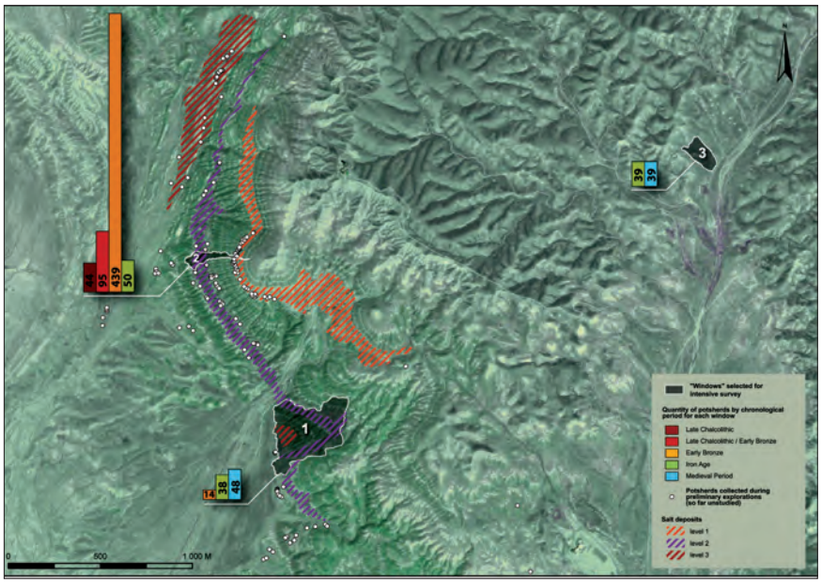

Fig. 11.1- Quantitative distribution of the pottery by chronological period. (S. Sanz, CNRS - MOM).

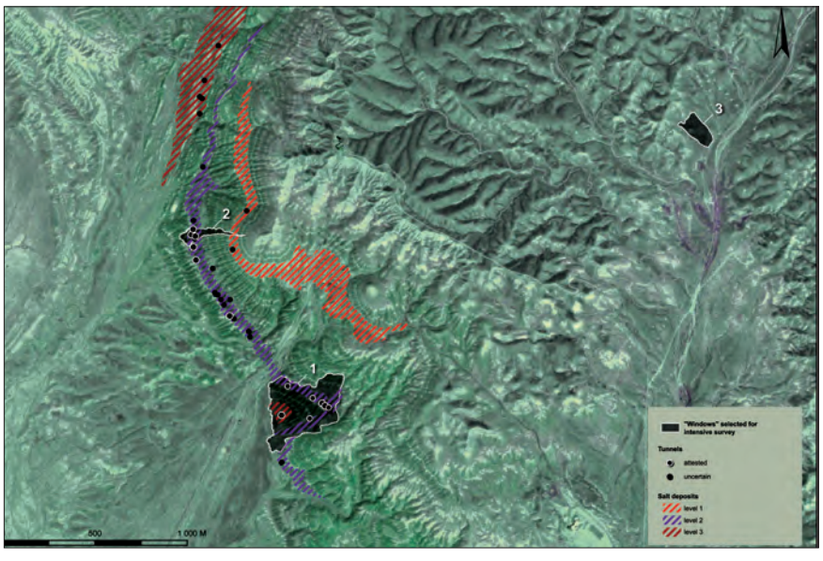

Fig. 11.2- Spatial distribution of the tunnel entrances. (S. Sanz, CNRS - MOM).

BET YERAH, APARAN III AND KARNUT I: PRELIMINARY OBSERVATIONS ON KURA-ARAXES HOMELAND AND DIASPORA CERAMIC TECHNOLOGIES

BET YERAH, APARAN III VE KARNUT: KUR-ARAS ÇEKİRDEK BÖLGESİ İLE BAŞKA BÖLGELERE AKTARILAN ÇANAK ÇÖMLEK TEKNOLOJİSİYLE İLGİLİ GÖZLEMLER

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Keywords: Kura-Araxes pottery, Early Bronze Age, migration, Khirbet-Kerak, social differentiation, Caucasus, Eastern Anatolia, Levant

Anahtar Sözcükler: Kur-Aras çanak çömleği, İlk Tunç Çağı, göç, Kirbet Kerak, sosyal farklılaşma, Kafkasya, Doğu Anadolu, Levant

ABSTRACT

First results of the comparative technology of Kura-Araxes pottery and its derivatives are presented, including analyses of Khirbet Kerak Ware and local traditions from Tel Bet Yerah (Khirbet Kerak) and material from two sites in Armenia: the fourth millennium site of Aparan III and the third millennium site of Karnut I. Petrographic and chaîne opératoire analysis suggests that all three industries are entirely local and share a series of characteristics that set them apart from non-Kura-Araxes industries: technological conservatism, priority of surface treatment, non-correlation of form to fabric, variability of fabric, and separation from cooking ware. These results support the contention that the spread of the tradition should be associated with migration and diaspora communities.

ÖZET

Bu yazının amacı, MÖ 3. binyılda Levant Bölgesi'nin güneyine kadar ulaşan belirli bir çanak çömlek türünün kökeni olduğu düşünülen MÖ 4. binyıl Doğu Anadolu ve Kafkas kültürlerini eldeki veriler ışığında yeniden değerlendirmektir. Makalede çanak çömleğin petrografik analizin ön sonuçları verilmekte ve Ermenistan'da bulunan Aparan III ve Karnut I adlı Kur-Aras yerleşiminin buluntu topluluğu sunulmaktadır. Aparan III yerleşimi MÖ 4. binyıla, Karnut I yerleşimi ise MÖ 3. binyıla tarihlenmektedir. Bu yerleşimlerin Kirbet Kerak kültürü ile karşılaştırılması, Kur-Aras kültürünün belirleyici özelliklerini, toplumsal yapısı ve çevresel özellikleri açısından daha yakından anlamamızı sağlayabilir.

Tel Bet Yerah yerleşiminin yerel malları çarkta biçimlendirilmiştir. Buna karşılık burada bulunan ve Kirbet Kerak olarak adlandırılan kırmızı-siyah açkılı çanak çömlek el yapımıdır. Çark ve el yapımı çanak çömleğin kap biçimleri de birbirinden çok farklıdır. Ayrıca Kirbet Kerak mallarının yüzey işlemleri aşamasında iki kere fırınlanması da, yerel mallardan ayrılan bir başka özelliğidir. Bunların yanı sıra söz konusu iki mal grubu için ayrı kil kay-

nakları ve farklı katkı malzemesi kullanılmaktadır. İlginç olan Kirbet Kerak mallarının yapımında bir standartlaşmanın olmadığından, bunları yapan topluluğun uzun bir süre geleneklerini korumuş olduğudur. Ermenistan'da bulunan, Kur-Aras dönemiyle çağdaş olan Aparan III yerleşmesi çanak çömleği, MÖ 4. binyılın sonu ya da 3. binyılın başlarına tarihlenmektedir (İlk Tunç I, MÖ 3500-2900). Aparan çanak çömlek buluntu topluluğunda görülen kap biçimleri arasında açıklı kaseler, ayaklı kaseler, bezemeli çömlekler, küpler ve kapaklar bulunmaktadır. Toplam 13 Aparan III kasesinin petrografik analizi yapılmış, beş ana petrografik grup ve birkaç tane alt grup saptanmıştır. Seçilen örnekler arasındaki farklılıklar dikkat çekicidir.

Yine Ermenistan'da bulunan Karnut I yerleşimi R. Badalyan tarafından kazılmış ve MÖ 2900-2500 yılları arasına tarihlendirilmiştir. Zengin bir çanak çömlek çeşitlemesi olan Karnut yerleşiminde el yapımı açıklı kaseler, ayaklı kaseler, çömlekler, küpler ve açıksız pişirme kapları bulunmaktadır. Açıklı kaselerde bulunan bezemeler ustalıkla, Aparan'da bulunan örneklerden daha fazla özenle yapılmışlardır. Pişirme kapları ise daha kabaca biçimlendirilmiştir. Karnut I'den toplam 51 açıklı kap, 3 adet pişirme kabı ve 7 seyyar ocak parçası ve bir sabit ocak petrografik olarak incelenmiştir. Dokuz alt ceşidi olan dört ana kil grubu saptanmıştır.

Yukarıda sözü geçen yerleşimler arasında beş ortak özellik vardır: 1) Teknolojik yönden süreklilik, 2) Nitelikli yüzeylere verilen önem, 3) Şekil, kullanım ve mal grupları arasında genel bir uyuşmazlık, 4) Mal ve hamurda çeşitlilik, 5) Pişirme kaplarının ayrı bir sınıf teşkil etmesi. Kur-Aras çanak çömleğinin temel özelliğini oluşturan çarkın bilinmesine karşın elde biçimlendirilme ve yüzeylerinin özenle açıklanması, uzun bir zaman dilimi ve geniş bir coğrafyada aynı şekilde görülür. Ermenistan ve Levant örneklerindeki benzerlik kuzeyden güneye gelişen yavaş bir göçün olduğu görüşünü desteklemektedir. Bu süreç kapsamında bazı öğeler, örneğin renk, biçim, bezeme, değişmiş olsa da çanak çömlek gerek teknik gerekse nitelik açısından bir bütünlük göstermektedir.

INTRODUCTION

In 2009 the second phase in a long-term comparative project on the pottery of the Kura-Araxes homelands and diaspora was begun (Greenberg and Iserlis in press). The first phase of the project aimed to establish, through *chaîne opératoire* and petrographic analysis, the precise points of divergence between Khirbet Kerak Ware and local ceramic practice at the type-site of Khirbet Kerak/Tel Bet Yerah, in the Jordan Valley (Iserlis 2009). *Chaîne opératoire* analysis (Dobres 2000, 2010; Edmonds 1990; Pelegrin et al. 1988) allows us to describe the actions of the ancient potters as a series of meaningful discursive and non-discursive practices grounded in the agents' social and cultural milieu. Within this analysis, petrography focuses on the choices made by the potters in assembling their raw materials; we assume that these choices combine functional (Arnold 1985), social (*e.g.*, Arnold 2005) and symbolic (*e.g.*, Gosselain 1998, 1999; Miller 1985) considerations. The second phase extends the comparative analysis to additional regional expressions of the Kura-Araxes tradition (see Fig. 1). Our expectation was, and is, to discover a strand of durable dispositions of the potters that could be followed from the 3rd millennium Southern Levant back to the parent traditions of the 4th millennium southern Caucasus and eastern Anatolia.

This paper presents preliminary results of this second phase, with an emphasis on the petrographic aspect (Bishop et al. 1982; Goren et al. 2004; Vaughan 1999; Whitbread 1995). Assemblages from two Kura-Araxes sites excavated in Armenia are presented, one, Aparan III, representing the early, 4th-millennium aspect of the tradition, and the other, Karnut I, representing the more developed 3rd-millennium aspect. The comparison of these two sites with the Khirbet Kerak tradition permits us to offer a tentative model for the persistence of the Kura-Araxes tradition in varying physical, social and economic environments[1].

TEL BET YERAH: LOCAL POTTERY GUILDS AND KHIRBET KERAK WARE LEARNING NETWORKS

Earlier work on Tel Bet Yerah has established the presence of a local ceramic institution that we have termed "the southern potter" (Iserlis 2009), embodied in scores of complete vessels and in a plethora of

finds related to the manufacturing process, found chiefly in the south part of the mound: tournettes, shaping and burnishing implements, and remains of unfired pots and clay waste. Their spatial and stratigraphic distribution indicated the presence of a workshop that appears to have survived over several stratigraphic phases in Early Bronze II and the beginning of Early Bronze III (*i.e.*, *c*. 3000-2700 BC). Presumably this would not have been the only active workshop in the southern part of the mound. Therefore, our use of the term "southern potter" should be understood as eponymous for all the potters working within the constraints of a well regulated, if not standardized, workshop milieu.

The southern potter (Fig. 2) exhibits an overriding concern with the integrity of the manufacturing process itself: consistent use of specific raw materials, a fixed set of manufacturing techniques based on coil construction and slow-wheel finish (or "wheel-coiling", Roux and de Miroschedji 2009), limited variation in form and surface treatment, and regular firing temperatures. The rather spare and functional end product holds no secrets: what you see is what you get, and it is probably as trustworthy as the last one you had. This concern mimics the selfsame concerns described with regard to North Canaanite Metallic Ware (Greenberg 2000; Greenberg and Porat 1996) and may be understood as an ethos of Early Bronze II ceramic production in northern Canaan. The existence of such an ethos may be interpreted in formalist terms as a striving toward efficiency in the manufacturing process: standardization allows a greater division of labor and, theoretically, a shorter learning curve for new hands (or at least more widespread participation in the manufacturing process—youth, aged, and infirm, etc.). We suspect, however, that a deeper stratum in the social structure was being served: a desire for order, uniformity, and solidarity over a considerable geographic expanse.

These attributes could be achieved through what we term the guild model. The guild model presupposes a regulated and limited transfer of technical knowledge and trade secrets from master to apprentice, as well as a fairly rigorous set of standards that permits the establishment of brands or marks of quality. The clearest evidence for guild-like control over expert knowledge comes from the single type of raw material utilized for virtually all workshop products: a local marl that was not in use prior to the establishment of the atelier and was never utilized by other local potters (see Tab. 1).

This raw material is designated as Group C by Iserlis (Iserlis 2009). It is a fine, marly clay with relatively well sorted temper derived from Kinneret/Jordan River sand that may have occurred naturally in the raw material (see App. 1 for detailed description). Sixty-four of the vessels identified typologically as belonging to this group consisted of the C clay alone. Twelve items showed slight variation, adding extra inclusions to the marl such as chalk sand, crushed basalt, limestone sand, and, in two cases, grog and soil balls. Based on sampled potential raw materials and the geological map, the marl is identified as originating from Jordan River cuts (Sneh et al. 1998).

Contrasting with the southern potter are two additional industries identified at Tel Bet Yerah: cooking pot production, which stands apart from all other industries, and Khirbet Kerak Ware, upon which we focus here.

Red-black burnished Khirbet Kerak Ware (KKW) was first identified at Tel Bet Yerah (Khirbet el-Kerak) and its typology has been described at length (*e.g.*, Amiran 1969; Greenberg and Goren 2009; de Miroschedji 2000). Forms include fine carinated and sinuous-sided bowls (Figs 3:1-7, 9; 4:2), large shallow bowls (Figs 3.8; 4:2-1,3), carinated and sinuous-sided kraters (Fig. 3:10), deep kraters (sometimes described as jars; Fig. 3:11), conical lids (Fig. 3:12-13), biconical stands (Fig. 3:14), and portable cooking hobs or andirons (Fig. 3:15-16). The technique used for KKW diverges considerably from traditional local practice. The first dramatic point of divergence is the absence of any use of the wheel. Vessels were either entirely hand-built or were pressed into molds. Coils may have been used in larger vessels. The second major point of divergence was the extended formation process: primary formation was followed by 'bisque' firing, application of thick slip, dense burnish, second firing to achieve the red-black coloration, and final polish. Many grades of variation were possible in the effort expended on each vessel. There are a number of vessels whose production was aborted following the bisque firing: these include apparently unfinished bowls, as well as vessels associated with cooking: lids and possible cooking pots. But by far the larger proportion shows a concern with the outward appearance of the ves-

sel—burnish, color, and decoration- that stands in a curious relationship to the poorly sorted fabric that comprises the core of each vessel and to the conservative techniques of vessel formation.

Functional full-sized andirons stand apart from the rest of the vessels in their technique. Requiring neither molds, nor intensive surface treatment, nor sophisticated firing techniques, there is a possibility that they were produced outside the potters' workshops and fired in the domestic hearth.

A wide variety of raw materials, comprising clay and inclusions, was identified through petrographic analysis of KKW and by sampling of potential raw materials from 19 locations on the mound and in its vicinity (Fig. 10):

TBY A clay, used often and with increasing frequency over time, was identified as rendzina soil of valleys that occurs naturally at Tel Bet Yerah (see App. A). The soil had been used in its natural state by local potters prior to the introduction of KKW, especially for cooking pots. However, the producers of burnished KKW (in all but four of 21 cases) added chopped straw (TBY A+org) or limestone sand (TBY A+ls), and occasionally crushed calcite or grog (TBY A+cc; TBY A+gr) to the Group A clay.

Group A clay was also used for KKW andirons, but in this case, six of eight analyzed vessels were constructed of natural rendzina soil, with no added inclusions. Thus, in terms of their raw materials, andirons again stand apart from burnished KKW while showing similarity with local cooking pots.

TBY D clay appears only once in the sample. It is a silty brown basaltic soil mixed with limestone sand, to which was added chopped straw; the potential raw materials for this group occur at some distance from the site (2-3 km).

TBY E clay is an alluvial/colluvial soil from which calcareous elements have been leached or washed out. The second most frequent raw material used at Bet Yerah, the naturally lean clay was used either in its original state, or with the addition of crushed calcite and local sand (TBY E+cc+KJs), grog (TBY E+gr) or grog and chopped straw (TBY E+gr+org). Group E originates near the site, most probably at the base of the hill slopes situated 1-2 km west of the mound.

Summing up the petrography, one entirely new group is introduced to the site, Group E, whereas a group already in use, the local rendzina soil of Group A (the same clay source used for cooking pots), often shows the addition of inclusions- especially chopped straw and grog- for which there was not always a clear functional need. Andirons are exclusively of Group A. At the other end of the spectrum, the highly decorated bowls and kraters are also the most varied in terms of raw material.

Looking at diachronic trends, there is a noticeable shift in the use of the different raw materials over time, from Group E (originally introduced by KKW potters) to Group A (traditional local). Since both materials were easily obtained, the change must be viewed as conceptually, rather than organizationally, motivated.

The complex *chaîne opératoire* of KKW, with its double-firing and intensive surface treatment, betrays a preoccupation with the surface appearance of the vessels that required a prescribed sequence of actions. When these were rigorously followed, which was the norm, they led to a consistently high-quality finish clearly set off from local production. Despite the high degree of know-how invested in their production, KKW vessels show no standardization; the potters may even be said to have resisted standardization in their consistent rejection of wheel-coiling and their adherence to basic formation techniques. Can these vessels therefore be considered the work of specialists? A telling piece of evidence is the presence of a large number of petrographic variants, which is suggestive of the activity of multiple potters, at least in the early phases of KKW production. Had we been dealing with a small number of specialists 'invited' to cater to local taste, we should have expected to see far more standardization and a consistent use of the same raw material. The most likely scenario is therefore the arrival of a sizable group of KKW producers and consumers who maintained their technological identity over a considerable length of time. KKW appears to follow the 'learning network' (Gosselain 1998) model of knowledge transmission, that is, variation within a recognizable tradition created by daily reproduction in contexts of informal instruction. In this model, information

moves both vertically in society, from old to young, and horizontally, through social contact of age-peers. This model assumes tolerance for variation within socially recognized boundaries; it may be compared to an ethnic cuisine, where recipes for specific dishes vary and evolve according to individual preference, skill, family tradition, and available ingredients, yet there is nearly always universal recognition of the dish, despite these differences.

We therefore turn to two 'homeland' Kura-Araxes sites, in order to see whether the long-recognized formal similarities to KKW represent a similar approach to technological practice.

Aparan III

The site is located in the plain of Aparan in central Armenia, on the west bank of the Kasakh River. The Aparan plain is covered by Upper Pliocene-Pleistocene fluvial, lacustrine, proluvial, and glacial sediments (Aslanyan 1958: 128-132; Valesyan 2007: 26-27, 74-75). Aparan III occupies the upper terrace of the river and a hill built of tufo-lavas, volcanic slag, alluvial pebbles, clay and sandy soil originating from the volcanic Aragats massif. A limited excavation was conducted at the site by R. Badalyan and P. Avetisyan (Badalyan and Avetisyan 2007: 57-61), revealing a single domestic pit, representing a single phase of occupation. This pit provided a large number of restorable vessels. Ceramic typology and radiocarbon dating place the site in the late fourth to the early third millennium BC, corresponding to the earlier Kura-Araxes phase in this region (Early Bronze I, Elar-Aragats group, *c*. 3500-2900 cal. BC; see Badalyan et al. 2008).

Typologically, the Aparan III assemblage consists of burnished bowls (Figs 5:1; 6.1), goblets (Figs 5:2-5; 6.2), decorated jars/kraters (Figs 5:7-8; 6.3), *karas* (pithoi; Fig. 5:9-10), and flat lids (Fig. 5:6). These were nearly always coil-built, with possible use of slabs on very large vessels. Decorations consisted of post-firing scratched patterns and in one case, of raised bossed lines. Most vessels showed a thick and well-burnished slip on the exterior; in some cases this slip peeled away, suggesting that it was applied when the vessel was bone dry. Open vessels showed a smoothed but not intensively burnished interior. The surface of the vessels was fired to an uneven reddish-yellow or reddish-brown color, and in some cases to a mottled red-black or completely black exterior color (see Palumbi 2008). Post-breakage exposure to fire can be observed on several vessels; this tends to change their color from black to red (see Fig. 6.2, interior, where the shift from black to red occurs along fracture lines).

Thirteen burnished vessels from Aparan III were petrographically sampled and analyzed (see Figs 5-6). Seven potential raw material samples were collected at the site. The samples from the site fall into five main petrographic groups, with several subgroups (Fig. 11; for detailed descriptions, see Appendix B).

Group Ap1. This group is identified as alluvial soil and can be linked by its characteristic matrix and inclusions to the potential raw material sample originating from the Kasakh River sediments. The non-plastic component was probably sieved to isolate the silty component, since raw material samples contain more than 10 per cent silt. One sample employed this soil in its natural state while two (both from pithoi) showed the addition of grog and organic material (Ap1+gr+org). The grog particles were identified as originating in vessels made from group Ap1, group Ap3 and opaque over-fired clays.

Group Ap2. This petrographic group is identified as originating in gray sandy soil, collected from a river cut. It appears either naturally or with the addition of organic material and grog (Ap2+org+grog), crushed obsidian (Ap2+obs), or volcanic ash, obsidian and medium sorted sand (group Ap2+va+obs+sand).

Group Ap3+va. This group is identified as stream-deposited soil with notable quantities of volcanic ash and can be linked by its inclusions to the Aparan III area. The fresh volcanic ash seems to have been added intentionally to the matrix, as only very rare weathered particles appear in any of the potential raw material samples taken in and around the site. One sample with typical Ap3 clay, inclusions and artificially added grog and organic material was identified (group Ap3+va+gr+org). The grog belongs to the same petrographic group and to an additional petrographic group with decomposed calcareous grains.

Group Ap4+va+gr. The matrix has a less varied mineral component than the other samples, and

may be identified as a local soil. The added inclusions include volcanic ash and grog identified as originating in vessels made from group Ap1 clays.

Group Ap5 va. This group is identified as a non-local soil with added volcanic ash[2]. It differs in the range and in the frequency of its mineral components from the other Aparan vessels and raw material samples and is identical with group K2 from Karnut I, which lies at a distance of some 60 km as the crow flies (see below). Because similar soils might appear in various places within the Aragats massif, the provenance of the vessel belonging to this petrographic group cannot be determined on the basis of its clay and temper alone. The combination of clay and inclusions suggests only that Mount Aragats and its region should be preferred as the origin of the group. Reference material from other Armenian sites may indicate a more specific provenance.

The Aparan III petrography shows remarkable diversity, with no single combination of clay and inclusions being used more than once. Also, there is no correlation between clay and vessel types, with the possible exception of the two *karas* samples. All but one of the vessels are clearly local, but some have a component of volcanic ash that was probably obtained at specific locations. Grog and organic inclusions, not a functional necessity in serving vessels, were added to about one-third of the sample.

Karnut I

Karnut I is located on the border between the Pambak Range and the Shirak Plain (Badalyan and Avetisyan 2007: 136-149). The site was excavated by R. Badalyan and assigned to the Karnut-Shengavit group that is now dated 2900-2500 cal. BC (EB II; Badalyan et al. 2008). Excavations revealed parts of four structures belonging to a single occupation layer. Three of the structures had round hearths; a horseshoe-shaped andiron with ram's-head uprights was placed on one of the hearths.

The Pambak Ridge, east of Karnut I, is characterized by volcanic and sedimentary rocks of the Pliocene-Miocene, granitoid intrusions and Late Cretaceous sedimentary formations (Aslanyan 1958: 112-127; Valesyan 2007: 26-27, 74-75). Shirak Plain is covered by Upper Pliocene-Pleistocene alluvial-proluvial, fluvial, lacustrine sediments and recent tuff and pebble formations (Aslanyan 1958: 128-132; Valesyan 2007).

The rich pottery repertoire from Karnut I includes burnished bowls (Fig. 7:1-4), goblets (Figs 7:5-7; 8:1-3), jars (Fig. 7:13), kraters (Fig. 7:8) and pithoi (*karas*; Figs 7:11-12; 8:4-5), as well as unburnished cooking wares: pots (Fig. 7:9-10), pans (Fig. 8:6), andirons and fixed hearths (Fig. 7:14). The vessels are coiled, although greater care was taken to obliterate the joins, sometimes with the aid of limited rotary motion (*e.g.*, on a mat). Decorations on the burnished wares were mainly incised before firing on smaller vessels, and incised before firing or embossed on larger vessels. The designs are more intricate and skilful than at Aparan, and include complex combinations of spirals, zigzag lines and stylized animals. Slips are thick, with a tendency to crack rather than peel. When burnished, the vessels are carefully treated, though more so on the exterior than on the interior. Smaller vessels are generally fired black on the outside and brown on the inside, with some variations; large vessels are red on their (unburnished) inside and black to light brown on the outside, and often have a mottled appearance, probably the result of imperfect temperature control in open pit firing.

As for the cooking ware, pots are crudely coiled with finger-impressions still visible on the inside, and they have a smoothed—not burnished—slip on the exterior; the ware is brittle. Pans (large, flat, straight-sided cooking vessels) show somewhat more careful surface treatment, whereas andirons and hearths were slipped and polished.

A sample of 51 burnished vessels covering a range of types, three cooking vessels, seven andirons and one hearth was petrographically analyzed (Figs 7-8). Four types of clay, with nine variations, were identified (Fig 12; for detailed descriptions, see Appendix C). All originate in soils; however, because potential raw materials from this site have not yet been sampled, the source of the clays is not certain.

Group K1. This group is characterized by a clayey silty matrix. Some of the samples contain grog (group K1+gr) or grog and organic temper (group K1+org+gr). The fixed hearth, the three cooking pots and the pan were all made in this material, which can be assumed to be local to the site (see also K4, below).

Group K2 va. This, the main petrographic group at Karnut I, is made of silty clay with a high volcanic ash content. Inclusions also contained much volcanic ash. Whether the clay beds contained this component naturally or it was added intentionally to the paste, its presence was clearly a priority to the potters. Sixteen burnished vessels and one andiron were created from this variant with no further inclusions. Karnut I potters also used the volcanic ash-rich clay with organic temper: 22 burnished vessels were created from this clay (group K2 va+org). Sometimes potters added grog (group K2 va+gr) or grog and organic temper together (group K2 va+org+gr).

Group K1+K2+obs+org.
This group is identified as a mixture of K1 and K2 clays.

Group K3. This clay, represented only by two *karas* samples, differs from the others in its more restricted range of silt and mineral inclusions (see Appendix C). Volcanic ash is present here as well.

Group K4. This clay, recorded only for andirons, is quite similar to group K1 and is well suited to the geological environment of Karnut I. The quantity of silt and temper sorting might suggest that this group is actually K1 clay that was sieved and aged. Alternatively, the clay was derived from a similar but not identical origin, exposed adjacent to the site.

As at Aparan, Karnut I potters often added volcanic ash, grog and organic material to the clay, sometimes without a clear functional need (*e.g.*, the straw added to relatively fine goblets). In contrast to that site, however, most burnished vessels belong to a single main group K2, with four variants. That said, the burnished vessels show high internal variability in proportions of matrix versus temper and between different coarse elements, and there is no regular correlation between the typology and clay/temper type. The andirons, hearth, cooking pots, and pan stand apart from the rest of the vessels in their petrography. Six of seven andirons were constructed of K4 soil with grog temper. This clay was used only for andirons. Three cooking pots, the hearth, and the pan were constructed of K1 soils. Only one of seven andirons was made of the K2 soil typical for burnished vessels.

DISCUSSION

The formal similarities between the various traditions attributed to the Kura-Araxes ceramic province have long been recognized. As this paper is concerned with the technological signature of Kura-Araxes ceramics and their derivatives, which we believe- with Gosselain and others (Dietler and Herbich 1998; Gosselain 1998; Stark 1998)- to be the true test of the existence of ceramic communities of practice, we focus on five elements that are shared among the three sites.

Technological conservatism: Beginning with the earliest assemblage, that of Aparan III, we see that formation techniques remain fundamentally the same through time and space. Indeed, at Karnut I and Bet Yerah the products are more polished, and there are perhaps fewer expert potters producing more pots at a time, but they do not innovate or adopt locally available techniques, such as the potter's wheel that was certainly within view at Bet Yerah.

Priority of surface treatment: At all three sites, there is a far greater investment in the surface treatment than in any other facet of the ceramic process. Moreover, the surface layer is applied in a separate stage, acquiring the character of a 'skin' stretched over a crude ceramic 'frame'. The priority of appearance over other ceramic values is underscored by the use of oxidation/reduction techniques to achieve significant color effects and the consistent low firing temperature that allowed vessels to maintain their sheen.

Lack of fit between form/function and fabric: In contrast to many workshop ceramic industries, there is- among the burnished vessels- no observable relationship between the specific ingredients of the vessel fabric and the form or use of the vessel. Rather, different vessels share similar fabrics, and conversely, similar forms are found to be made of different fabrics.

Variability of fabric: In contrast to the 'guild'-type pottery from Bet Yerah, there is not a fixed recipe for the ceramic paste. In the earlier site, Aparan III, the irregularity is most apparent, and there does seem to be an entropic tendency toward less varied sources and inclusions over time (this is evident in the contrast to Karnut I, as well as in the internal dynamics of KKW at Bet Yerah). However, even where raw

material sources are limited, the specific recipes for inclusions show considerable variation. That said, inclusions do not appear to be random; they are intentionally added even where not required and in some cases they may have been brought from a distance. The significance of the specific inclusions used in each region requires further study (see Mason and Cooper 1999).

Separation of cooking ware: At Tel Bet Yerah, cooking pots are adopted from the extant local repertoire, while andirons also used in cooking form a group of their own, made from the same readily available raw material used for local cooking ware. At Karnut, andirons, pans, and cooking pots are clearly separate from the burnished forms. In both cases, therefore, cooking ware is not incorporated in the same value system as burnished ware.

The existence of these five commonalities in the three widely spaced assemblages points to the presence of durable dispositions among the potters; these dispositions are consistent with the existence of a community of practice: a learning network that allows variation while promoting the fundamental ideas at the heart of the tradition[3]. The production and reproduction of the tradition through time and space, preserving arcane practices such as labor-intensive burnish, exclusive coil construction, and open-pit firing, are consistent with the existence of a Kura-Araxes diaspora—a gradual, land-based migration extending over generations, leading to the creation of distant communities in which some form of identification with the homelands was maintained (see Batiuk 2005: 225-237). By its nature, diaspora comprises elements of preservation and innovation. Each Kura-Araxes community was 'authorized' to innovate, but only in certain realms: new forms could be added to the old, color could be treated more boldly, decoration could vary from incised, to impressed, to embossed and even to painted, but as long as the common elements described above were adhered to, the tradition remained recognizable and bounded.

Acknowledgments

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APPENDIX A: TEL BET YERAH PETROGRAPHIC GROUPS

TBY A. This group is characterized by a silty, foraminiferous, calcareous matrix and badly sorted mixed silt. The silty component (5-15% of the matrix) contains chalk, basalt, limestone, calcite, quartz, oxides, plagioclase, olivine, and chert. The inclusions contain chalk (predominant), basalt (predominant), chert (frequent) and limestone (rare) angular to spherical grains. The temper is poorly sorted and comprises about 7-25% of the groundmass. The inclusions are commonly accompanied by very rare fresh shell fragments, subangular to rounded quartz, plagioclase and clynopyroxene grains.

This petrographic group is identified as rendzina soil of valleys. This soil occurs in the Central Jordan Valley, Bet Shean Valley and Hula Valley (Ravikovitch 1969, 1981), and at the base of Tel Bet Yerah itself (Ravikovitch 1969, 1981). Based on potential raw materials samples and published data, the matrix and inclusions indicate a depositional environment peculiar to Tel Bet Yerah and its immediate surroundings (Goren and Fischer 1999; Ravikovitch 1969, 1981; Sneh et al. 1998).

The same rendzina soil matrix, silt and temper, could be accompanied by added angular rhomboid calcite crystals (TBY A+cc), straw (TBY A+org), or grog (TBY A+gr).

Group TBY A+ls is identified as a combination of fine sorted rendzina soil of valleys and calcareous sand. The most distinctive property of this group is very large volume (15-25%) of silt size to fine sand limestone and chalk grains. There are small quantities of basalt, plagioclase, olivine, shells fragments and chert as silt and temper component. Both silty and temper assemblage are characterized by relatively good sorting. Either the well-sorted limestone and chalk sand was added to the sieved rendzina soil or the clay originates at some unknown place at Tel Beth Yerah or its immediately vicinity.

TBY C. The matrix is calcareous, foraminiferous, rather silty (2-10%). The silty component contains chalk (about 1-3% of the matrix), basalt and well sorted sub-angular to rounded quartz and plagioclase. The temper (3-10%) includes sub-rounded to rounded grains of relatively well-sorted foraminiferous chalk, olivine basalt and limestone, and occasionally, chert, weathered calcite, quartz, and shell fragments. The inclusion assemblage of this group is consistent with Kinneret and Jordan River sand. Based on the potential raw materials samples and geological map, this group is identified as originating from Jordan River cuts (Sneh et al. 1998).

The temper assemblage of TBY C+chalk contains typical Kinneret-Jordan River sand and sieved chalk. The size range of fine chalk sand suggests that it was added to the marl by the potter.

The group TBY C+cb is characterized by its relatively well-sorted mixed temper of group C, accompanied by angular, fresh-crushed basalt grains (10%). Tel Beth Yerah potters rarely used TBY C marl with grog (1%) and soil balls with quartz inclusions (group TBY C+gr+sb) or limestone sand (group TBY C+ls).

TBY D+org. The group is characterized by a silty (10%), reddish brown, almost opaque matrix. The silty component contains quartz (dominant), basalt, magnetite, olivine, plagioclase, iddingsite and some limestone. The non-plastic assemblage contains rounded to sub-angular basalt grains (more than 5%, predominant), chert (less than 1%), weathered limestone (very few) with the addition of quartz and volcanic minerals (olivine, plagioclase, iddingsite). The prominent feature of this group is the occurrence of straw negatives (3%). The temper is poorly sorted and comprises more than 10% of the groundmass.

Based on potential raw material analyses and a map of soils this petrographic group is identified as brown basaltic soil mixed with limestone sand (Ravikovitch 1969: 20-21) which occurs at the distance of 2-3 km from the mound.

TBY E. This group is defined by an optically active, weakly oriented, iron-oxide rich, silty (5-10%) matrix. The matrix is non-calcareous or contains very small quantities of carbonate. The silty component (3-10%) contains well sorted angular to rounded quartz grains (predominant), opaque minerals, plagioclase (rare) and olivine (very rare).

The temper (3-15%) contains rounded to sub-rounded quartz (predominant), rare opaque minerals, olivine, plagioclase and very rare rounded limestone, *nari,* chalk, weathered calcite grains and soil balls with quartz and foraminifera inclusions. The absence of chert is notable.

The source of the raw materials used for producing this group is local colluvial-alluvial soils (Ravikovitch 1981: 208).

Group TBY E+cc+KJs is characterized by a matrix of group E, accompanied by coarse angular, rhomb-shaped crystals of crushed calcite with typical twinning features and badly sorted sand of basalt, plagioclase, chert, chalk, and quartz. The temper comprises approximately 10% of the groundmass. The temper assemblage of this group contains typical Kinneret-Jordan River sand. It is likely that temper was added to the TBY E matrix by the potter. Tel Beth Yerah potters also used TBY E clay with grog (TBY E+gr) or with grog and chopped straw (TBY 4+gr+org).

APPENDIX B: APARAN III PETROGRAPHIC GROUPS

Ap 1. The group is characterized by a non-calcareous matrix with weak optical orientation. The silty component (<3%) includes quartz, opaque minerals, tuff, plagioclase, biotite, and rare weathered calcareous particles. The non-plastic assemblage (<10%) contains tuff, dacite, plagioclase, and some weathered calcareous grains. Two sub-rounded grains of volcanic glass were observed.

This group is identified as alluvial soil and can be linked by its characteristic matrix and inclusions to the potential raw material sample originating from the Kasakh River sediments. The non-plastic component was probably levigated to isolate the silty component, since raw material samples contain more than 10% silt.

Samples of vessels made of group Ap1 clay with grog and organic material were identified as group Ap1+gr+org. The non-plastic assemblage (10%) of this group contains mainly grog (>5%) accompanied by tuff, dacite, plagioclase, weathered calcareous

grains, and organics. Some sub-rounded grains of glass were observed. The grog is identified as originating in vessels made from group Ap1, group Ap3, and opaque over-fired clays.

Ap2. The group is characterized by a very silty (<10%), clayey matrix. The silt component includes plagioclase, opaque minerals, tuff, and basalt. The non-plastic assemblage (>10%) contains angular grains of plagioclase, anorthoclase, and medium sorted sand of sub-angular to sub-rounded grains of basalt, dacite, olivine, and tuff. Based on the microscopic analyses of potential raw material samples, this petrographic group is identified as originating in gray sandy soil, collected from river cuts.

Subgroups of Ap2 show additions of organic material (<3%) and rare opaque grog (<1%) (Ap2+org+grog); poorly sorted obsidian sand (>10%) (Ap2+obs); or volcanic ash, obsidian, and medium sorted sand of tuff, plagioclase, anorthoclase, basalt, quartz, and opaque minerals (Ap2+va+obs+sand).

Ap3+va. The matrix is silty and clayey. The silty component (5%) includes mainly volcanic ash (>3%), accompanied by opaque minerals and plagioclase. The inclusions (5%) are composed of obsidian (3%), accompanied by volcanic ash, rare sub-rounded opaque minerals, quartz, and plagioclase.

This group is identified as soil and can be linked by its inclusions to the Aparan III area.
One sample with typical Ap3 clay, inclusions and artificially added grog and organic material was identified (group Ap3+va+gr+org). The silty component (>5%) of the group (Ap3+va+gr+org) includes mainly volcanic ash (<5%), accompanied by opaque minerals and plagioclase. The inclusions (>5%) are composed of volcanic ash (3%), obsidian (1%), grog (1%), organics, opaque particles, and plagioclase. The grog belongs to the same petrographic group and to an additional petrographic group with decomposed calcareous grains.

Ap4+va+gr. The matrix has a narrower mineral component than the other samples and may be identified as a local soil. The matrix is non-calcareous and silty (<10%). The silty component contains volcanic ash (>5%), opaque minerals, quartz, and plagioclase. The inclusions are composed of volcanic ash (5%) rounded to sub-angular obsidian and tuff grains (3%), sub-angular to sub-rounded quartz (>1%), grog, opaque minerals, and angular plagioclase and basalt. The grog was identified as originating in vessels made from group Ap1 clays.

Ap5 va. This group is characterized by a silty (>10%), non-calcareous matrix. The silty component contains mainly volcanic ash (<10%), a recognizable quantity of plagioclase, tuff, pumice, and andesite. Grains of biotite and hornblende were also observed. The non-plastic assemblage (10%) contains mainly volcanic ash (>5%), badly sorted, angular to sub-rounded rhyolite, and obsidian grains (<3%), tuff, basalt, dacite, pumice, feldspars, quartz, and andesite. Sometimes olivine and apatite grains were observed.

This group is identified as a non-local soil with added volcanic ash. This petrographic group differs in the range and in the frequency of its mineral components from the Aparan vessels and raw material samples and is identical with group K2 from Karnut I (see below). Because similar soils might appear in various places within the Aragats massif, the provenance of the vessel belonging to this petrographic group cannot be determined on the basis of its clay and temper alone. The combination of clay and inclusions suggests only that Mount Aragats and its region should be preferred as the origin of the group. Reference material from other Armenian sites may indicate a more specific provenance.

APPENDIX C: KARNUT I PETROGRAPHIC GROUPS

K1. This group is characterized by a clayey silty (3%) matrix. The silt and temper (10-25%) contains plagioclase, dacite, pumice, trachytic tuff, basanite, andesite, apatite, orthoclase, quartz, feldspathoids, and amphiboles.

Some of the samples contain 1-2% of grog (group K1+gr) or grog (1%) and organic temper (3%) (group K1+org+gr).

K1+K2+obs+org. This group is characterized by a clayey, silty (3%) matrix with good optical orientation. The silt contains quartz, tuff, rhyolite, and some volcanic ash. The inclusions (>5%) contain well-sorted sand of sub-angular to sub-rounded grains of rhyolite, tuff, obsidian, quartz, and plagio-

clase. Some (1%) organic material was added to the clay by the potter. This group is identified as a mixture of group K1 and K2 clays.

K2 va. This group is characterized by a silty (5-15%), non-calcareous or opaque, sometimes slightly oriented clay. The silty component contains mainly volcanic ash (3-10%) but also a recognizable quantity of rhyolitic and trachytic tuff, feldspar, pumice and andesite. Sometimes biotite, augite and hornblende were observed. The non-plastic assemblage (5-25%) contains mainly volcanic ash (5-15%) and tuff, badly sorted, angular to sub-rounded rhyolite and obsidian grains, plagioclase, orthoclase, dacite, pumice, quartz, and andesite. Sometimes olivine and apatite grains were observed. Sixteen vessels and one andiron were created from this clay.

Karnut I potters used volcanic ash-rich clay with organic temper: 22 pots were created from this clay (group K2 va+org). Sometimes potters added grog (group K2 va+gr) or grog and organic temper together (group K2 va+org+gr).

K3. The matrix is non-calcareous, exhibits weak optical orientation and rare (<3%) silt. The silty component includes plagioclase, volcanic ash, quartz, and opaque minerals.
The inclusions are composed of badly sorted sand of rhyolitic tuff, plagioclase, obsidian and large sub-angular quartz grains. The inclusions are accompanied by very rare sub-angular grains of dacite (<1%).

K4. The matrix is silty, clayey, and exhibits good optical orientation. The silty component (<5%) includes plagioclase, quartz, and opaque minerals. The temper assemblage (>5%) contains grog, plagioclase, tuff, dacite, andesite, and quartz. The grog was identified as crushed pottery made of petrographic groups K2 and K4.

The use of group K4 was recorded only for andirons.

This clay is identified as local soil and suits well the geological environment of Karnut I (Valesyan 2007: 26-27). Petrographically, this group is very similar to K1. The quantity of silt and temper sorting suggest that the clay K1 was levigated and aged. Another suggestion is that the clay was derived from origin, exposed adjacent to the site and K1 origin.

NOTES

[1] The comparative project is based on firsthand observation and sampling of stratified and preferably published material from excavated sites. All sampled vessels are photographed inside and outside. We present a relatively detailed color record here in order to enhance the verbal comparisons.

[2] Following Arnold 1985, a local clay source would usually lie 1-2 km from the manufacturing site. In this study, a non-local source is one characterized by a matrix that does not appear to be based on materials found adjacent to the site, as identified either in potential raw material samples or through study of geological maps. Similarity between raw materials found in vessels from distant sites does not necessarily indicate that they were made in one location since, for example, we may expect to find very similar soils at different points within the Mt Aragats massif.

[3] Batiuk (Batiuk 2005: 220-224) has observed similar relationships between wares associated with the Kura-Araxes tradition in the Levant and eastern Anatolia.

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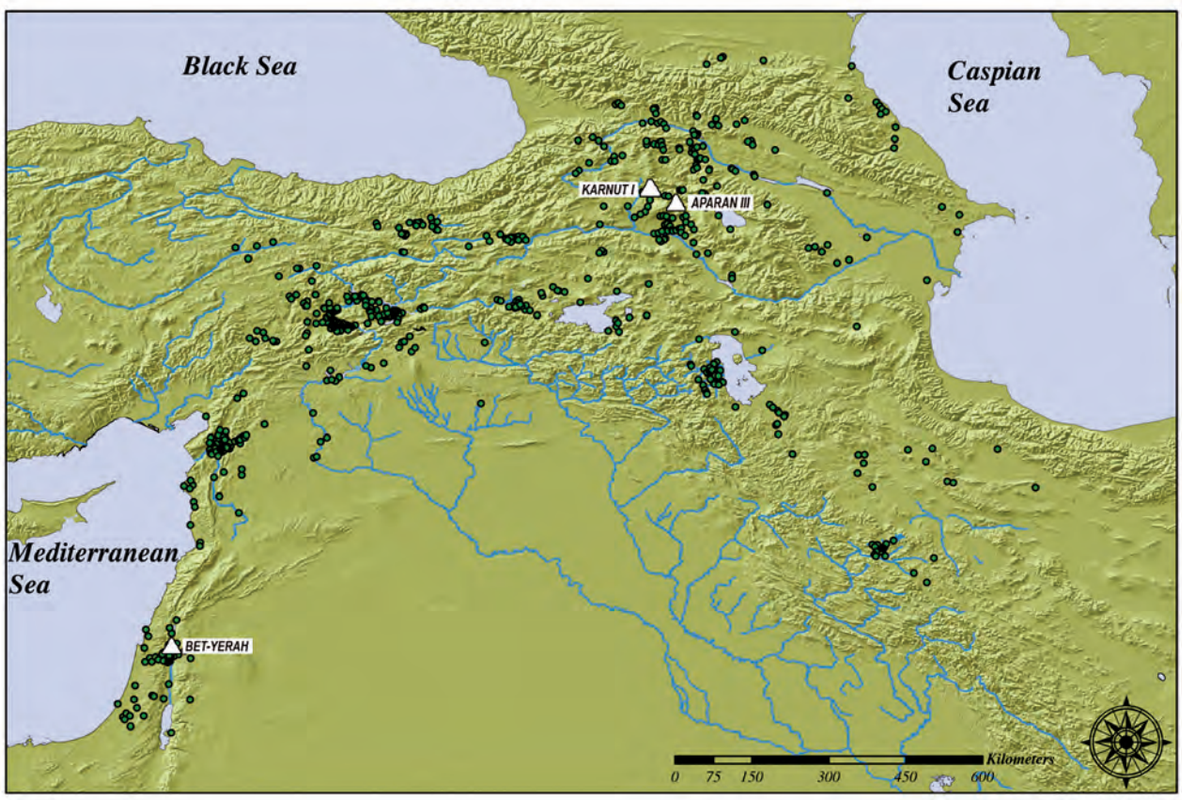

Fig.1- Map of Kura-Araxes dispersion, with sites described in this paper (base map courtesy of Stephen Batiuk).

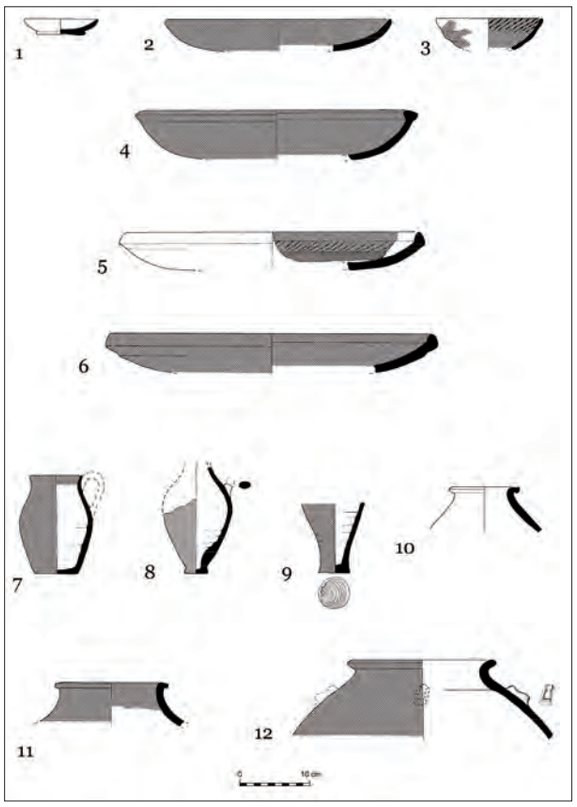

Fig. 2- Sampled local (non-KKW) pottery of Tel Bet Yerah.

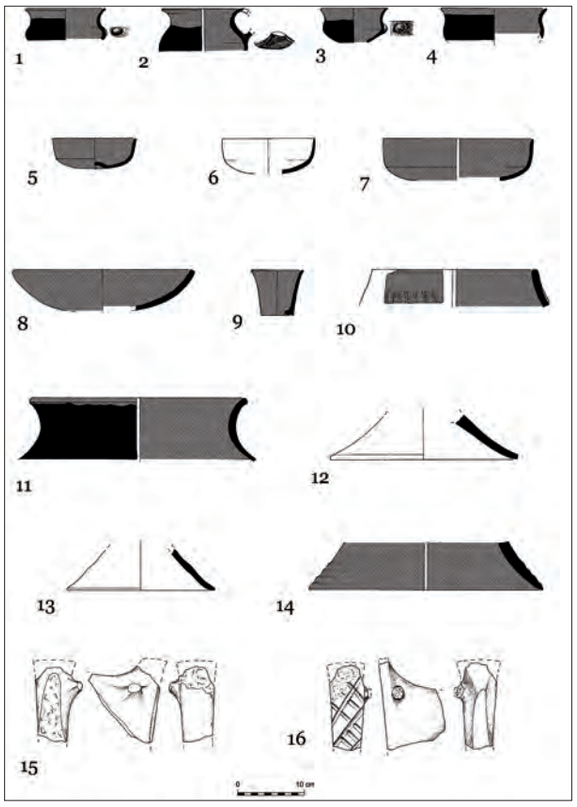

Fig. 3- Sampled KKW of Tel Bet Yerah.

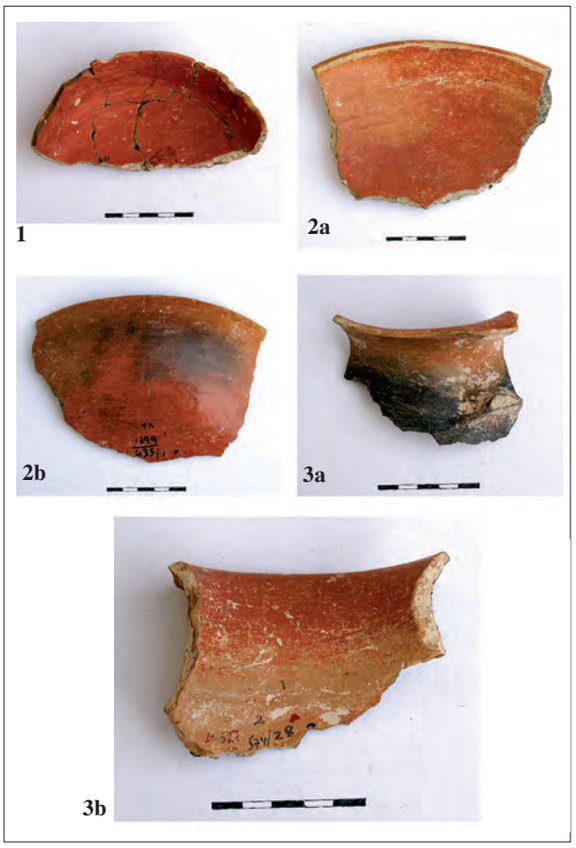

Fig. 4- Sampled KKW of Tel Bet Yerah.

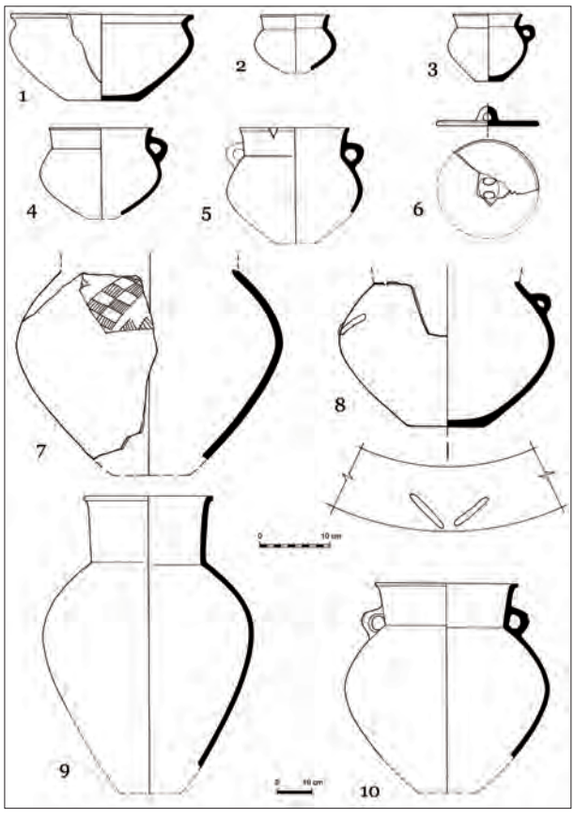

Fig. 5- Sampled vessels from Aparan III; note post-breakage discoloration on no. 6.2 interior.

Fig. 6- Sampled vessels from Aparan III.

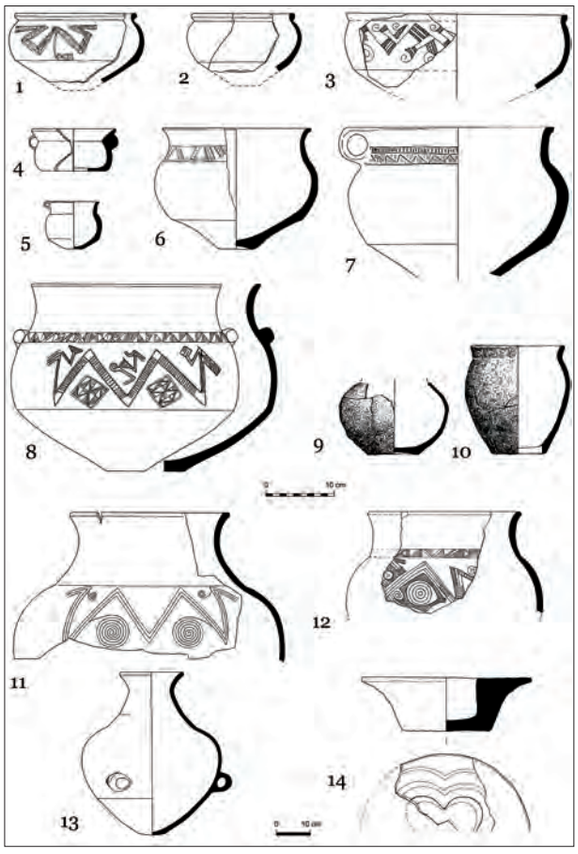

Fig. 7- Sampled vessels from Karnut I.

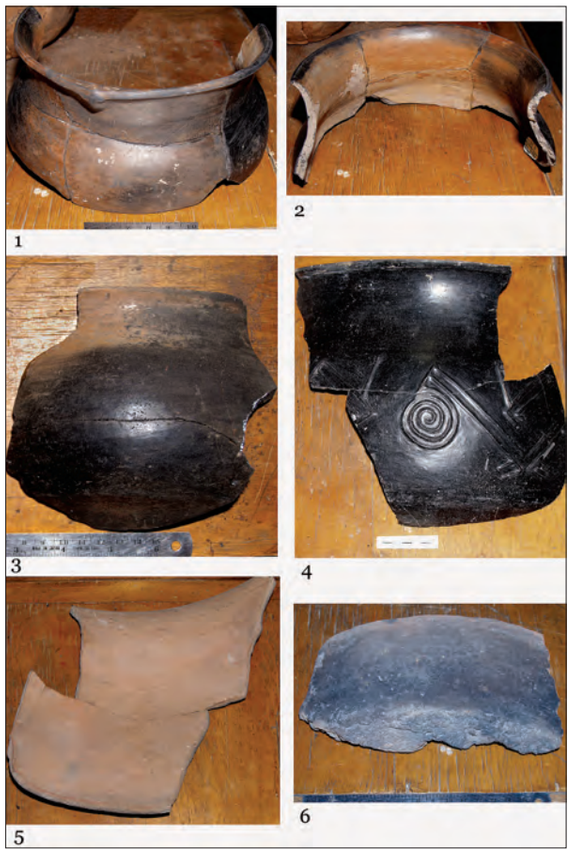

Fig. 8- Sampled vessels from Karnut I.

Typological group/ Petrographic group	Southern potter	Cooking pots	*Total*
TBY A (Rendzina of valleys)	2	33	*35*
TBY A+cc (Rendzina and crushed calcite)		2	*2*
TBY A+org (Rendzina and straw)		2	*2*
TBY C (Marl)	62		*62*
TBY C+cb (Marl and crushed basalt)	5		*5*
TBY C+gr+sb (Marl, grog and soil balls)	2		*2*
TBY C+lsand (Marl and limestone sand)	5		*5*
Total	*76*	*37*	*113*

Fig. 9- Tel Bet Yerah. Distribution of examined vessels according to petrographic groups: "southern potter" and cooking pots

Petrographic group/ Type	TBY A	TBY A +org	TBY A +gr	TBY A+ls	TBY D+org	TBY E	TBY E+cc+ KJs	TBY E+gr+org	TBY E+gr	*Total*
Bowl	1	3		8		5		1	3	*21*
Cup				1						*1*
Krater	1	2		1	1	1	1		2	*9*
Lid									2	*2*
Stand	2	2						2		*6*
Total vessels	*4*	*7*		*10*	*1*	*6*	*1*	*3*	*7*	*39*
Andiron	6		1	1						*8*
Total KKW	*10*	*7*	*1*	*11*	*1*	*6*	*1*	*3*	*7*	*47*

Fig. 10- Tel Bet Yerah. Distribution of examined vessels according to petrographic groups: KKW

Petrographic group/ Type	Ap1	Ap1 gr+ org	Ap2	Ap2 gr+ org	Ap2 +obs	Ap2 va +obs+sand	Ap3	Ap3 gr+org	Ap4+va	Ap5 va	*Total*
Bowl	1		1		1						*3*
Goblet									1	1	*2*
Krater						1	2				*3*
Karas		2									*2*
Lid			1	1							*2*
Jar								1			*1*
Total vessels	*1*	*2*	*2*	*1*	*1*	*1*	*2*	*1*	*1*	*1*	*13*
Total	*1*	*2*	*2*	*1*	*1*	*1*	*2*	*1*	*1*	*1*	*13*

Fig. 11- Aparan III.. Distribution of examined vessels according to petrographic groups

Petrographic group/ Type	K1	K1+gr	K1+ org+gr	K1 va +obs+org	K2 va	K2 va+ obs+org	K2 va+ obs+gr	K2 va + obs+ gr+ org	K3 va+ obs	K4 gr	Total
Bowl				1	5	6	2	3			*17*
Goblet	1				7	8	1				*17*
Karas					3	5	1		2		*11*
Krater			1			2					*3*
Cooking Pot	2	1									*3*
Jar					1	1					*2*
Skillet	1										*1*
Total Vessels	*4*	*1*	*1*	*1*	*16*	*22*	*4*	*3*	*2*	*0*	*54*
Hearth	1										*1*
Andiron					1					6	*7*
Total	*5*	*1*	*1*	*1*	*17*	*22*	*4*	*3*	*2*	*6*	*62*

Fig. 12- Karnut I. Distribution of examined vessels according to petrographic groups

No.	*Type*	*Reg. No.*	*Reference**	*Petrographic Group*
1	Bowl	642/1	8.96:1	TBY C
2	Bowl	1227/2	8.93:5	TBY C
3	Bowl	712/4	8.94:2	TBY C
4	Bowl	1228/2	8.90:4	TBY C
5	Platter	4034/2	8.88:7	TBY C
6	Platter	1071/1	8.102:5	TBY C
7	Mug	1191/28	8.99:9	TBY C
8	Jug	4065/1	8.89:3	TBY C
9	Jug	1076/20	8.103:4	TBY C
10	Jar	699/7	8.94:11	TBY A
11	Jar	698/18	8.94:10	TBY C
12	Pithos	1089/13	8.103:6	TBY C

* References are to Figures in Greenberg et al. 2006

Fig.13- Sampled 'Southern Potter' Ceramics from Tel Bet Yerah

No.	*Type*	*Reg. No.*	*Reference**	*Petrographic Group*
1	Bowl	664/22	8.95:2	TBY E+gr
2	Bowl	574/24	8.106:12	TBY A+ls
3	Bowl	574/28	8.106:13	TBY E
4	Bowl	649/9	8.97:1	TBY A+ls
5	Bowl	1196/1	8.98:9	TBY E
6	Bowl	611/1	8.100:4	TBY A+org
7	Bowl	691/19	8.95:5	TBY A+ls
8	Bowl	635/1	8.97:2	TBY A+org
9	Cup	581/24	8.106:15	TBY A+ls
10	Krater	1059/1	8.101:3	TBY A
11	Krater	701/11	8.95:8	TBY E+gr
12	Lid	1158/5	8.99:10	TBY E+gr
13	Lid	685/19	8.95:11	TBY E+gr
14	Stand	660/16	8.95:13	TBY E+org+gr
15	Andiron	649/2	8.97:11	TBY A+ls
16	Andiron	649/1	8.97:8	TBY A

* References are to Figures in Greenberg et al. 2006

Fig.14- Sampled KKW from Tel Bet Yerah

No.	*Type*	*Reg. No.*	*Reference**	*Petrographic Group*
1	Bowl	2000/7	IV:3	Ap1
2	Goblet	2000/25	IV:5	Ap5+va
3	Goblet	2000/26	IV:6	Ap4+va
4	Bowl/goblet	2000/22	III:12	Ap2
5	Krater	2000/24+21	III:9	Ap2 va+obs+sand
6	Lid	2000/15	IV:10	Ap2
7	Jar	2000/12	III:2	Ap3+gr+org
8	Krater	(Ap III/2)	III:8	Ap3
9	Karas	2000/4	II:6	Ap1+gr+org
10	Karas	2000/2	II:3	Ap1+gr+org

Fig.15- Sampled Pottery from Aparan III

References are to Badalyan and Avetisyan 2007: 56-61.

No.	*Type*	*Reg. No.*	*Reference**	*Petrographic Group*
1	Bowl	2995/17	VI:9 (type)	K2+org
2	Bowl	2857/2	VI:12	K2+org+gr
3	Bowl	2857/54	VI:10 (type)	K2+org
4	Bowl	2857/38	VI:5	K2+org
5	Goblet	3017/6	X:2	K2+org
6	Bowl/goblet	2857/8	VII:8	K2
7	Bowl	3017/46	VII:1 (type)	K2
8	Krater	2857/5	IV:3	K2
9	Cooking pot	2934/11	VI:16	K1
10	Cooking pot	2934/74	VI:15	K1+gr
11	Karas	3016/5	IV:8	K2+gr
12	Karas	3016/7	VIII:1	K3
13	Jar	3015 (2, 3)	VI:1	K2
14	Hearth	3015/1	XI:1	K1

Fig.16 Sampled Pottery from Karnut I

PROJECT ArAGATS: 10 YEARS OF INVESTIGATIONS INTO BRONZE AND IRON AGE SITES IN THE TSAGHKAHOVIT PLAIN, REPUBLIC OF ARMENIA

ArAGATS PROJESİ: ERMENİSTAN TSAGHKAHOVIT OVASI'NDA 10 YILDIR SÜRDÜRÜLEN TUNÇ VE DEMİR ÇAĞI ARAŞTIRMALARI

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Keywords: Bronze Age, Iron Age, Achaemenid, Caucasus, Armenia

Anahtar Sözcükler: Tunç Çağı, Demir Çağı, Ahamenid, Kafkasya, Ermenistan

ABSTRACT

Since 1998, Project ArAGATS has conducted systematic investigations of the archaeological landscape of the Tsaghkahovit Plain in central Armenia. This contribution surveys the primary findings for three eras of extensive occupation of the region: the Early Bronze Age, the Late Bronze Age, and the Iron 3 (Achaemenid) period. Of particular importance to the wider archaeology of the South Caucasus are the new insights that this work has provided into the inter-relation of sites within a broad regional landscape and critical new perspectives on key problems that had long plagued efforts at building material chronologies. Additionally, our investigations have been dedicated to shedding new light on the contours of social and political life in Early Bronze villages, Late Bronze Age fortified centers, and Iron 3 towns.

ÖZET

Erken ve Proto Neolitik Dönemlerde Ermenistan'da yerleşim olduğu bilinse de arkeolojik veriler yoğunlukla İlk Tunç (MÖ 3500 - 2400), Son Tunç (MÖ 1500 - 1200) ve Demir Çağ 3 (Akhamenid, Pers Hanedanlığı, MÖ 600 - 300) dönemlerine aittir. Bu makaleyle Tsaghkahovit Ovasında uluslararası ArAGATS projesi tarafından son sekiz yılda yürütülen arkeolojik araştırmalar özetlemektedir.

İLK TUNÇ ÇAĞI

Gegharot İlk Tunç Çağı tabakalarında çanak çömlek açısından farklılık gösteren iki ayrı yerleşim dönemi *saptanmıştır. Bunlardan İlk Tunç Çağı I dönemine ait olan kültür katında "Elar-Aragats" türü çanak çömlek ve iki odalı konut yapılarının taş temelleri bulunmuştur. İlk Tunç Çağı II dönemi ait kültür katında ise "Karnut-Şengavit" tipi çanak çömlek, yapı kalıntıları ve mezarlar saptanmışsa da, bu kalıntılar yangın geçirmiş olan İTÇ I tabakaları kadar korunmamıştır.*

Gegharot'da bulunan İTÇ çanak çömleği üzerinde yapılan değerlendirme, bölgedeki çanak çömleğin gelişim süreci ve özellikle Ermenistan'daki Kura-Aras buluntu topluluğunun yeniden gözden geçirilmesini gerektirmiştir. Gegharot'dan alınan radyokarbon örnekleri "Karnut-Şengavit" çanak çömleğinin daha önceden düşünüldüğü gibi İTÇ III'e yani 2600-2400 arasına tarihlenmediğini göstermiştir. Ayrıca yapılan çalışmalar İlk Tunç Çağı'nın yaşam biçimi ele alındığında, aynı yerleşimde ayrı mekanlar arasında bile beslenme düzeni açısından büyük farklılıklar olduğunu ortaya koymuştur. Yerleşimde bulunan yabani hayvanların yanı sıra koyun ve özellikle kuzu kemikleri, topluluğun yarı göçebe bir yaşam sürdürdüğünü ve dolayısıyla yerleşimin mevsimlik olarak kullanıldığını düşündürmektedir. Buna karşılık yerleşimde domuz kemiklerinin çok sayıda oluşu, yerleşimin sürekli olduğunun kanıtı olarak kullanılabilir.

SON TUNÇ ÇAĞI

Tsaghkahovit Ovası'nda Gegharot kalesinin altında bulunan bir kurgan mezarı, Orta Tunç Çağı'nın sonunda yarı yerleşik hayattan tam yerleşik düzene geçiş olabileceğini göstermektedir. Mezarın ortasında 35-40 yaşlarında yetişkin bir erkeğe ait kalıntıların altında bozuk durumda bir bebek iskeleti bulunmuştur. İnsan iskeletleri iki ayrı ata ait olan baş ve bacak kemikleri tarafından çevrelenmiştir. Mezarın Son Tunç Çağı'na tarihlendiğini, bulunan çanak çömlek, obsidyenler, tunç okuçları ve bir bıçaktan anlaşılmıştır. Son Tunç Çağı'nda, ovayı çevreleyen dağ eteklerinde 10-12 adet kalenin kurulmuş olması, bölgenin nüfus yapısında önemli değişimlerin olduğunu göstermektedir. İlk Tunç Çağı Kur-Aras evresinden sonra terk edilen ovanın yeniden iskanı, Son Tunç Çağı'nda başlamıştır.

Gegharot'ta yapılan kazılarda şimdiye kadar tanımlı bir konuta rastlanmamış, buna karşılık işlikler, depo odaları ve zengin bir çanak çömlek çeşitlemesi veren tören alanları saptanmıştır. Yerleşimin üst kesiminde ve taraçalarında, takı yapımında kullanılan çok sayıda maden döküm kalıbı bulunan maden işlik yerleri ortaya çıkarılmıştır. Söz konusu buluntular, Son Tunç Çağı kale yerleşimlerinin ticarete de yönelik üretim yerleri olduğunu göstermektedir. Kale içerisinde henüz konut alanlarının bulunmaması yerleşimin hala yarı-göçebe olduğunu ve kalenin sosyal ve politik bir merkez olabileceğini düşündürmektedir.

DEMİR ÇAĞI 3 DÖNEMİ

Yapılan yöntemli yüzey araştırmaları, Son Tunç Çağı'ndan sonra ovanın MÖ 1. binyılın ortalarında yeniden iskan edildiğini ve Son Tunç Çağı'nda yapılmış olan kalelerden altısının bu dönemde de kullanılmış olduğunu göstermektedir. Projenin amaçlarının başında, Ahamenid, Pers Hanedanlığı döneminde bölgedeki sosyal yaşamı yansıtan ayrıntıların öğrenilmesidir.

Bu dönemle ilgili incelemeler, Precinct A adını verdiğimiz kalenin güneyinde başlatılmıştır. Çalışmalar özellikle 22 odadan oluşan ve 0,54 hektarlık bir alan kaplayan yer altı yapısı üzerinde yoğunlaşmıştır. Odalar düzenli bir şekilde kalabalık grupları ve depolanmış malzemenin uygun bir şekilde dolanımını ve denetimini düşünerek inşa edilmiştir. Oda duvarlarında sıva hala mevcuttur. Duvarlar 75 cm boyunda olan büyük bazalt taşlardan inşaa edilmiştir. Çanak çömlek genel olaral Demir Çağı 3 dönemine tarihlense de yapılan radiokarbon tarihleri yapının yaklaşık 150 senelik bir süreç kapsamında MÖ 6. yüzyılın ikinci çeyreğinden 5. binyılın sonuna kadar kullanım görmüş olduğunu göstermektedir.

G odasında in situ durumda bulunan çanak çömlek, bazalt öğütmetaşları, serpantin taşından yapılmış tabak önemlidir. Yapılan kimyasal ve minerolojik analiz serpantinin Zagros Dağlar'ından geldiğini göstermektedir. Bulunan hayvan biçimli kaplar özellikle dikkat çekicidir.

Sonuç olarak yapılan genel değerlendirme, bu bölgeyi daha yakından tanımamızı sağlamaktadır. Ovanın yerleşim tarihinde uzun süreli boşlukların oluşu dikkat çekicidir.

INTRODUCTION

The joint Armenian-American Project for the Archaeology and Geography of Ancient Transcaucasian Societies (Project ArAGATS) conducted its inaugural season of archaeological investigations in the Tsaghkahovit Plain of central Armenia during the summer of 1998. The 11 years since have included eight seasons of fieldwork and countless hours of laboratory research conducted by an international team that has included senior scholars and graduate students from Armenia, Canada, France, Georgia, Germany, and the United States[1]. We began our work with two seasons (1998, 2000) of intensive pedestrian regional survey along with test excavations at key sites (Avetisyan et al. 2000; Badalyan et al. 2003; Badalyan et al. 2004; Smith et al. 2004; Smith et al. 2009). Since 2002, we have shifted our operations to focus primarily on excavations at the sites of Tsaghkahovit and Gegharot, where well-preserved occupation levels have revealed the broad contours of regional occupation. Although human occupation in the region began during the proto or early Neolithic period (Petrosyan et al. 2007; site numbers Ar/Ge.00.02 and Ar/Ts.00.01 in Smith et al. 2009), the extant archaeological record is dominated by the remains of three major phases of settlement prior to the crystallization of the modern landscape: the Early Bronze Age (*ca*. 2500 BC), the Late Bronze Age (*ca*. 1500-1200 BC), and the Iron 3 (Achaemenid) period (*ca*. 600-300 BC) (Badalyan et al. 2008; Hayrapetyan 2002, 2005; Khatchadourian 2008; Lindsay 2006; Monahan 2004, 2007).

In this article we provide a brief summary of our primary findings to date for each of these three periods. Our investigations overall are unified by three primary goals: 1) to examine the region as an integrated landscape, rather than just a series of sites, and thus draw upon a suite of field and laboratory techniques that highlight the dynamic articulation of places, practices, and institutions; 2) to re-examine the basic outlines of southern Caucasia's archaeological chronology and place existing conventions on a sounder empirical footing; and 3) to push the theoretical foundations of archaeology in the Caucasus beyond the formulation of culture areas to consider the co-constitution of material culture and social life.

The Tsaghkahovit plain (Fig. 1) is a relatively small, geographically enclosed, high elevation intermontane plateau (2100 m a.s.l.) set between the northern slope of Mt. Aragats (4090 m), the southwestern slopes of the Pambak range, and Mt. Kolgat (a.k.a. Mets Sharailer, 2474 m) in western Armenia. It is the smallest and the highest of the three major plains—along with the Ararat and Shirak—that nestle at the base of Mt. Aragats.

THE EARLY BRONZE AGE

To date, our explorations of Early Bronze Age (EB) remains in the Tsaghkahovit Plain have been concentrated at the site of Gegharot (Fig. 2:1). EB settlement levels have been detected at Gegharot by excavations conducted on the summit, the upper western slope, and the lower reaches of the western and southwestern slopes. In some parts of the site, the EB layers are sealed by overlying Late Bronze deposits, while in others they lie directly under the topsoil (including EB I levels). The EB settlement at Gegharot is located on a rocky hillside and constructed of stone architecture. Like most Kura-Araxes sites in Armenia with similar conditions, the deposits are generally quite shallow (typically ranging from 45-70 cm below surface and only in exceptional cases reaching depths of 215 cm). The layers are comprised of stone buildings set atop terraces formed by extended retaining walls.

The EB layers at Gegharot are clearly divisible into two distinct occupation horizons, each containing homogeneous and clearly diagnostic ceramic complexes. The early horizon (EB I), identified by extensive assemblages of 'Elar-Aragats' type ceramics (Fig. 3), was uncovered in a series of stone constructions on the western terrace (comprised of one- and two-roomed residential buildings that were either round or rectangular in plan) and a rectangular collective burial crypt. The late horizon (EB II), distinguished by assemblages of 'Karnut-Shengavit' type ceramics (Fig. 4), includes work areas, residential constructions, and a number of burials on the lower western slope, now partially destroyed by the encroachment of the modern village. The late horizon layers seal the lower horizon occupation levels, which have been uncovered in excavations on both the top of the hill (T16) and the western terrace (T2E). Some of the early horizon buildings contained clear traces of fire (*e.g.*, T17/18), suggesting

that the EB I buildings uncovered on the summit represent complete or partially preserved interiors containing *in situ* material assemblages. In contrast, the depositional context of the late horizon constructions suggests that the settlement was simply abandoned at the end of occupation, as at a number of related sites (*e.g.*, Karnut, Dovri).

The results of the excavations of the EB settlements at Gegharot have provided the basis for a broad revision of the periodization and chronology of the 'Kura-Araxes' material culture horizon within the territory of Armenia. Until recently, the traditional periodization in Armenia was divided into three sequential phases identified by variation in ceramic morphology and decoration covering the period from the middle of the 4th millennium BC to the 24th/22nd centuries BC. The EB I phase was defined by "Elar-Aragats" ceramic types, EB II by "Shresh-Mokhrablur" materials, and EB III by "Karnut-Shengavit" style ceramics (Avetisyan et al. 1996: 8-10; Badalyan and Avetisyan 2007).

A number of factors argue for rethinking the traditional account. First, no settlements boasting 'Shresh-Mokhrablur' assemblages are known outside of the low-lying Ararat Plain, for instance in the mountainous areas of Shirak, Kotayk, and Aragatsotn. Second, layers of Elar-Aragats pottery overlie layers containing Karnut-Shengavit pottery. One interpretation of these data would suggest a general depopulation of the mountainous areas during the EB II phase and their re-colonization during the large expansion in settlements during the EB III (Badalyan and Avetisyan 2007: 303; Smith et al. 2004: 25).

However, a series of radiocarbon dates from EB Gegharot suggests the need to revise the absolute dating and relative position of the 'Karnut-Shengavit' complexes that had been traditionally attributed to the EB III phase and dated to the 26th-24th B.C. (Smith et al. 2009: 49-51). Excavations of Early Bronze Age layers at Gegharot seem to suggest that the 'Karnut-Shengavit' occupations chronologically follow directly from the 'Elar-Aragats' complexes. Moreover, while the radiocarbon dates for the 'Elar-Aragats' complexes (Tab. 1: AA-72047, AA-72046, AA-72069, AA-72070, AA-72061, AA-72060, AA-52898, AA-72213, AA-72214, AA-66888, AA-56969) place the EB I phase at Gegharot squarely within the traditional dating of 3500-2900 BC (Badalyan 2003: 20-26), the dates for Gegharot's 'Karnut-Shengavit' complex (Tab. 1: AA-52900, AA-56968, AA-66894, AA-66895, AA-72066, AA-72053, AA-72045, AA-72067) suggest a date of occupation between 2900 and 2500 BC-synchronous with the dates for the 'Shresh-Mokhrablur' complexes at Mokhrablur (Badalyan and Smith 2008: 53-54; Badalyan et al. 2008: 90). Thus, we can assume that the EB II phase in Armenia is represented by two synchronous local ceramic complexes-the 'Shresh-Mokhrablur' assemblages of the Ararat valley and the 'Karnut-Shengavit' assemblages of the mountainous areas to the north. In other words, the "Karnut-Shengavit" ceramic style is not assignable to the EB III phase but rather is a geographically distinct horizon of the EB II phase.

Nevertheless, it does seem that the two EB settlement horizons at Gegharot were separated by a hiatus in occupation, although not one so lengthy as to be captured in the radiocarbon data. In the excavation of T2E on the western terrace, we uncovered a sterile layer of shallow colluvial granitic sand overlying the EB I collective tomb and underlying an EB II domestic complex. This would suggest that at least this part of the site had been abandoned for some time. Perhaps this hiatus is also evidenced by a certain shift in the plans of the EB I and II settlements relative to each other. Indeed, some areas of Gegharot occupied during the EB I phase do not show signs of resettlement during the subsequent period, while in other parts of the site EB II constructions are built directly on bedrock. Thus it is possible that there is no genealogical connection between the two occupation horizons at Gegharot. Speaking more broadly, it is possible that the hiatus in occupation between the EB I and II phases at Gegharot reflects a wider historical and cultural trend in the development of the Kura-Araxes material culture horizon with relatively homogeneous early (EB I) communities being replaced by a mosaic of local variations during the later (EB II) phase.

In addition to re-shaping our sense of the historical phasing and development of the Kura-Araxes horizon, the results of excavations of the Gegharot settlements have also helped to adjust our understanding of Early Bronze Age economic life and

demographic processes in the South Caucasus. First, traditional accounts of the expansion of Kura-Araxes communities interpreted the settlement of mountainous regions as the result of steady increases in population in the valleys, an increasingly arid climate, and the depletion of pasture land, which led to a gradual expansion in the exploitation of highland resources (Kushnareva 1993: 71-72, but *cf*. Kohl 2007: 88). However, it is now clear that mountainous areas lying above 2000 m a.s.l., were settled at the first stage of the Early Bronze Age (*e.g.*, Gegharot, Tsaghkasar, etc.) roughly simultaneous with the first Kura-Araxes settlements in the Ararat valley (*e.g.*, Mokhrablur, Norabats, etc.).

Second, it is apparent that the range of economic variation between Kura-Araxes communities is determined not only by differences in environment among regions, as previously thought. Comparison of two contemporary EB I faunal collections from Gegharot demonstrate considerable diversity in subsistence practices within a single settlement. For example, within a single EB I room uncovered in operations T17 and T18 (n=252) sheep and goat comprised 65,13 per cent of the faunal remains compared to only 31.4 per cent for cattle (the ratio of goat to sheep within this room was 3:2 compared to a ratio of goat to sheep of 1:7.69 for EB Gegharot as a whole (Badalyan et al. 2008: 92). Wild animals were represented by isolated specimens of deer, gazelle, wolf (possibly), and bird. The small size of this collection and the diversity of wild species points to the random nature of the hunt. Alongside this faunal collection was found a collection of 11 bone spindle whorls and three awls. In contrast, the faunal assemblage from operation T12 (n=662) is comprised of 20 per cent sheep and goat and 80 per cent cattle. It is significant that in this assemblage, no wild animals were identified.

While the predominance of sheep and goat and the presence of wild animals is a possible indication of seasonal transhumance practiced by some of the inhabitants of the area around operation T17/18, this room also provided the most vivid evidence of Gegharot's agricultural economy in the form of four composite sickles including 13 flint blades, and large amounts of barley. In addition, the faunal assemblage from operation T12 and the remains of pigs on the settlement indicate that at least part of Gegharot's population led a sedentary life (Monahan 2007: 387).

THE LATE BRONZE AGE

No evidence of sustained occupation of the Tsaghkahovit Plain during the Middle Bronze Age has been detected by either our survey or excavations. The transition from the mobile communities of the Middle Bronze Age to the complex polities of the Late is currently most conspicuously visible in the assemblages from a single kurgan burial found just below the fortress of Gegharot (Fig. 5:1). The kurgan had two main chambers. The west chamber contained a diverse collection of animal bones and a ceramic repertoire that constitutes a perfect transitional Middle to Late Bronze Age assemblage (Fig. 5:2-9), including wares continuous with earlier traditions as well as initial iterations of Late Bronze Age styles (Smith et al. 2009: 27-30). The central chamber contained the skeleton of an adult male, 35-40 years of age, laid to rest atop fragments from the body of a young infant. The human skeletons were bracketed by the heads and forelimbs of two horses. Ceramic vessels in the chamber all belong to the emergent traditions of the Late Bronze Age, as do the obsidian and bronze arrowheads and the single bronze knife.

Within a few years of the kurgan's construction, the new political landscape of southern Caucasia's Late Bronze Age was emphatically emplaced within a series of fortified hill-top sites constructed along the margins of the plain. At least ten and possibly as many as twelve fortresses were constructed in the foothills surrounding the plain during the Late Bronze Age. Furthermore, excavations of mortuary sites across the plain have revealed interments contemporaneous with the entire occupation sequence documented at the Late Bronze Age fortresses. Taken together, the explosion in the quantity and diversity of settlements and burial clusters in the Tsaghkahovit Plain dating to the Late Bronze Age speaks to a significant demographic shift which brought sizable new populations into a region that had been largely uninhabited following the abandonment of the Early Bronze Age Kura-Araxes villages.

Radiocarbon dates and material assemblages indicate that the fortresses at Gegharot and Tsaghkahovit were among the earliest Late Bronze Age constructions in the region, with initial occupations dating to approximately 1500 BC. Gegharot fortress (Fig. 2:1) appears at present to have consisted of a series of

free-standing buildings, semi-subterranean constructions, and intervening open spaces set within a citadel and western terrace that was circumscribed by a cyclopean stone masonry wall. The area of the fortress is only 0,36 ha, making it the smallest of the major Late Bronze Age sites on the plain. Tsaghkahovit, in contrast, is the largest site in the region, sprawling across a large fortified outcrop, a nested series of descending terraces, and a series of extramural constructions radiating outward from the base of the hill. Despite their relative sizes, however, at present it appears that it was Gegharot that claimed significant privileges within the region's increasingly politicized productive economy. The results of Instrumental Neutron Activation analysis of ceramics and faunal studies of caprine remains point to a consistent movement of subsistence and craft products into Gegharot indicative of a significant asymmetry in local material flows (for a more extensive discussion, see Monahan n.d. and Smith et al. 2009: 381-392). This differential exchange suggests at the very least a politicization of the regional economy, requiring not only new institutions of rule, but also a more or less well-constituted community of subjects responsive to the demands of authority.

Our ongoing investigations into local institutions in the Tsaghkahovit Plain are providing an increasingly detailed sketch of Late Bronze social life in the South Caucasus. Of the two primary sites of our current excavations, Gegharot has proved to be considerably better preserved (thanks to a series of destruction events) and, as a result, more informative. No domestic areas have been found at the site to date. Instead, we have uncovered a series of discrete spaces focused on craft production, storage, and religious devotion. Two shrines have been uncovered at the site. Both were rooms centered on clay basins backed by stelae (one stone, the other ceramic). Both contained an extensive ceramic inventory, ranging from censers to large storage jars (Fig. 6). While this discovery, along with a similar find at Metsamor (Khanzadian et al. 1973) has clearly established the presence of religious institutions within Late Bronze Age fortresses, it has also complicated simple functional classifications by emphasizing the deep integration of religious practice with the region's political economy.

The terrace and summit of Gegharot also appear to have hosted facilities for metal working, including molds for making jewelry that have been found in close association with idols or figurines. The evidence for metal working at Gegharot and other sites in the region (including Aragatsiberd to the southeast) has further emphasized that Late Bronze Age fortresses were not collection depots for an aggrandizing elite, but were instead key nodes within a complex network of production and exchange. Given that the majority of metal production tools from Gegharot appear to relate to the production of jewelry rather than weaponry, it is quite possible that metal production at the site was less a part of a commodity economy than a network of political reciprocity and dependency in which objects of exchange served to mediate regional geopolitics.

The emergent institutions of the Tsaghkahovit Plain were forged within a wider regional process of political centralization that seems to have begun in the South Caucasus and eventually incorporated most of the Armenian Highland. Furthermore, the populations in the plain appear to have been in contact with neighbors farther to the south. In 2006, we uncovered two cylinder seals at Gegharot, traditional items of bureaucratic administration known from across the ancient Near East, but relatively rare in the South Caucasus. Both cylinder seals are of the Mitannian Common Style that gained considerable popularity across southwest Asia and the eastern Mediterranean during the fifteenth and fourteenth centuries BC. These seals were generally mass-produced and traded widely. In the South Caucasus, several examples of Common Style seals are known; however, all except for the seals from Gegharot come from burials.

Given the extensive institutional apparatus in evidence at the region's major fortified sites, the absence of domestic areas within the fortress precincts raises the question as to where both the rulers and subjects of this emergent complex polity resided. There are two possible answers to this question and they are by no means mutually exclusive. The first is that Late Bronze Age communities were constructed in the shadows of the fortresses, in areas that, at Tsaghkahovit, were later covered by Iron 3 occupations. This is Lindsay's (Lindsay 2006; Lindsay et al. 2010) suggestion based on the results of his excavations and gradiometry survey below the east and southeast slopes of Tsaghkahovit. But the scale of these Late Bronze Age 'lower towns' does not, as

yet, adequately represent the large populations visible in the mortuary remains of the region.

Thus a second possibility is that significant segments of the Tsaghkahovit Plain's Late Bronze Age communities retained the highly mobile lifeways of the Middle Bronze Age. This hypothesis is based solely on negative evidence at present. The failure of our regional survey to record a single unfortified Late Bronze Age village is striking. It is of course possible that such communities were once set on the plain proper, an area adversely impacted by Soviet land amelioration programs and thus largely beyond recovery. Yet the minimal settlement features visible in the pre-amelioration era aerial photos argues quite strongly that this is unlikely to have been the case. If large segments of the population retained mobile lifeways well into the Late Bronze Age, then the fortified sites surrounding the Tsaghkahovit Plain are perhaps better described as *temenoi*, places in the landscape marked off as the domain of critical social and political institutions.

It is important to point out that both Gegharot and Tsaghkahovit were destroyed in contemporaneous conflagrations at the end of the Bronze Age. Not only does this regional catastrophe speak to the closely coordinated rhythms of settlement and abandonment across the entire plain, it also provides a stark reminder of the pervasive militarism of the era, the enduring significance of political violence, and the potency of the institutions that wielded it.

THE IRON 3 PERIOD

In 2005, Project ArAGATS broadened the temporal scope of its research at Tsaghkahovit beyond the Late Bronze Age to examine a later occupation dating to the Iron 3 period, when the site was rebuilt as a town of the Achaemenid Persian Empire (*ca*. 550-330 BC). The project's systematic survey of the Tsaghkahovit Plain had demonstrated that social life returned to the region during the mid-first millennium BC, with the reoccupation of six fortresses initially constructed during the Late Bronze Age. The principal objective of the ongoing investigations of Tsaghkahovit's Iron 3 occupation is to examine the contours of social life within a single settlement that was reconstituted during the period of Achaemenid rule. More specifically, these investigations are detailing the ways in which past local traditions of the Late Bronze Age and new social conventions linked to the institutions of Achaemenid dominion together contributed to the making of empire in this one town of the Armenian satrapy. The work at Iron 3 Tsaghkahovit seeks to understand the role that conquered communities of the Persian Empire played in the maintenance of imperial hegemony through their everyday spatial and material practices (Khatchadourian 2008, forthcoming).

Excavations of the Late Bronze Age fortress at Tsaghkahovit conducted between 2000 and 2003 had exposed Iron 3 levels that hinted at a thorough reconfiguration of the fortress within the ruins of its more monumental predecessor. Modest architectural remains and artifact assemblages uncovered in the course of those investigations point tentatively to the transformation of this prominent locale within the site into a workaday space, rather than a center of community authority, as during the Late Bronze Age (Khatchadourian 2008). In light of the project's research questions, intensive investigations of Iron 3 Tsaghkahovit have focused on an area of the site to the south of the fortress, termed Precinct A, a 22-room semi-subterranean complex covering approximately 0,54 ha (Fig. 2:2). The complex is conspicuously condensed compared to the other clusters of rooms distributed around the base of the Tsaghkahovit outcrop (Fig. 7:1). In 2005, eight test trenches were excavated in various rooms of Precinct A (C, E, J, K, L, M) in order to verify that the units of this complex were contemporary with one another and datable to the mid-1st millennium BC. Following on the sampling strategy of 2005, in 2006 and 2008 excavations aimed at broader exposures within the complex and thus targeted two rooms in their entirety (H, G) and substantial portions of three others (C, D, I).

Precinct A is built into the slope of a ridge and is thus multi-leveled. The absolute elevations of the floors decrease from southeast to northwest, such that rooms H, G, and C are at a higher elevation than room I, which in turn, is at a slightly higher elevation than the floor of room K. Rooms generally contain two doorways which provide passage to two neighboring rooms (Fig. 7:2). The regular arrangement of rooms speaks to considerable architectural planning and a deliberate intention to create spaces that could at once facilitate interactions amongst sizable numbers of individuals and yet also control circulatory flows. All rooms are par-

tially dug out, although those that are backed against the slope of the ridge are more fully subterranean (*e.g.*, H, G, and E). The walls of the complex are dry-stacked with traces of plaster coating still visible on the lower courses of some walls. The masonry consists of large roughly hewn basalt blocks averaging 75 cm in length, interspersed with smaller stones. Wall foundations were likely surmounted by additional courses of stone and perhaps a wooden superstructure. Pairs of roughly hewn bases in all excavated rooms suggest a partially or fully flat roof that required vertical supports, probably wooden posts, to assume some of the weight from the load bearing walls. Other interior room features include pits, flagstone floors, and short stone alignments that resemble troughs, but whose function remains unclear.

The ceramic inventory in these rooms, broadly speaking, consists of the complete repertoire of Iron 3 pottery, as it is known from other sites in Armenia (Karapetyan 2003). Yet despite the breadth of the repertoire, the assemblages included a disproportionate quantity of bowls relative to jars, pots, and jugs among the diagnostic sherds in most rooms (Fig.8:4-5). The majority of these vessels is slipped, fired red, and burnished, although black and light-brown burnished treatments are also common. Based on preliminary Bayesian analysis of ten radiocarbon determinations, it appears that Precinct A was occupied for approximately 150 years, from the second quarter of the sixth century to the last quarter of the fifth century—an absolute date range that is broadly consistent with the relative chronology of the site provided by ceramics and small finds. We turn now to a brief discussion of some of these key artifacts.

Several lines of evidence attest to the importance of Precinct A within the Iron 3 settlement as the center of authority in the town and its centrality as a locus for certain material practices that reproduced Achaemenid hegemony[2]. Particularly salient were the findings from two rooms of the complex—rooms G and H. In room G, a remarkable collection of artifacts found *in situ* on the floor of the room, including a ceramic stand, basalt mortar, and footless serpentine plate merit close examination (Fig. 8:1-2). Chemical and mineralogical analyses of the plate conducted by Arkady Karakhanyan and colleagues of Armenia's Institute of Geological Sciences point to a probable provenance in the Zagros mountains. Very likely imported from heartland Persia, the plate is morphologically identical to over 200 such serpentine and chert plates found in a building at the imperial capital of Persepolis known as the Treasury (Schmidt 1957). These have been associated with a very specific (and today much debated) ritual known as the *hauma* ceremony. This ceremony is thought to have involved the use of a shallow stone plate, a mortar and pestle, and a stand or table to produce a drink made from the crushing of a plant. Though hinted at through evidence from the empire's capitals, the *hauma* rite is best understood from later Zoroastrian practice, and thus the artifacts in question at both Tsaghkahovit and Persepolis may pertain to a different kind of ritual activity. Nevertheless, what is significant for the research at Tsaghkahovit is not the possible *hauma* ceremony, *per se*, but the evidence that a specific practice of the Achaemenid establishment took place in this distant town of the empire.

The assemblage of artifacts from room H likewise points to the occurrence of activities that were inflected with distinctly Achaemenid overtones. On the floor of this room was a striking proportion and concentration of consumption vessels compared to other rooms of the complex (78 per cent of the sampled pottery from this floor) (Fig. 8:4-8), a diversity of faunal remains (including not only the sheep, goat, cattle, and pig common from across the complex, but also red and roe deer, gazelle, fish, birds, bear, *etc*), and various kinds of distinctive objects that, taken together, suggest the occurrence of feasting activities. Paramount among these distinctive objects is an incomplete zoomorphic vessel in the form of a corpulent recumbent ibex, gazelle, or goat with four appliquéd legs, each with precisely rendered joints and hoofs (Fig. 8:3). This kind of beast is not known in the earlier iconography of the Armenian Highland, yet it is firmly rooted in the arts of Iran and of the Achaemenids, often in conspicuously meaning-laden scenes linked to ritual practice (Root 2002). Feasting activities at Tsaghkahovit may have been defined in part in relation to Achaemenid consumption and ritual practices, albeit altered and localized to accommodate the resources and social exigencies of this remote mountain town.

Taken together, the evidence from Tsaghkahovit to date suggests that Achaemenid hegemony in this

one town of the empire was sustained through routine practices that modified and recombined local past traditions of the highlands (linked to the fortress institution) with those of the Achaemenid present. The Project ArAGATS regional survey showed that following a 500 year hiatus in occupation of the plain that began with the destruction of the Late Bronze Age fortress polities, returning communities of the Iron 3 period gravitated with unmistakable regularity to the dilapidated remains of the abandoned prehistoric fortresses. The acute predisposition of these new inhabitants of the plain to the earlier Late Bronze Age fortresses signals the endurance of pre-existing socio-political institutions that preserved certain spatial practices (namely, the hilltop fortress) as essential to the laying down of new roots. The fortress tradition was integrated into the local structures of social life and thus into the process of Achaemenid hegemony at Tsaghkahovit.

However, research in Precinct A is demonstrating that the relationship between the Late Bronze Age past and the Achaemenid-era present is not reducible to a mere mimicking of old traditions. During the Iron 3 era the fortress was an enduring, but not a fixed and immutable institution of social life. Results of excavations in the extra-mural complex tentatively suggest that even as the fortress remained a meaningful place that cued certain earlier ways of living collectively, it lost its practical status as the prime spatial location for the everyday practices that secured authority. Local leaders of Iron 3 Tsaghkahovit shifted the locus of authority beyond the fortress walls and incorporated certain Achaemenid ritual practices into the everyday life of a single town under empire. Future excavations at Tsaghkahovit will continue to explore these phenomena and shed further light on one of the least understood periods in the archaeology of the Armenian Highland.

CONCLUSIONS

Large scale, systematic investigations of the Bronze and Iron Age sites of the Tsaghkahovit plain continue to reveal a complex picture of development that both details local specificities and situates the region within wider historical trends. Our work to date has revealed a series of occupations that witnessed significant socio-political transformations from small-scale, largely self-sufficient village communities, to complex polities centered in cyclopean fortresses, to large towns founded in the shadow of empire. Interestingly, between each of these major phases of settlement, the region appears to have been abandoned, leaving curious hiatuses in the archaeological record. As a result, the region resists reduction to a singular evolutionary narrative but instead demands close attention to historical contingencies over the *longue durée.*

Today, Project ArAGATS is the longest-lived international archaeological project in Armenia. With no less than five completed or in-progress dissertations emerging from this work, ArAGATS has made a lasting impact upon the emerging new era of scholarship. Our research agenda places a high value upon the intensive, long-term exploration of a single area. We are optimistic that such concentration can reveal the hiatuses, catastrophes, abandonments, and crises that make for a historically rich archaeology.

NOTES

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[2] For a more detailed discussion of the findings from Tsaghkahovit see Khatchadourian 2008.

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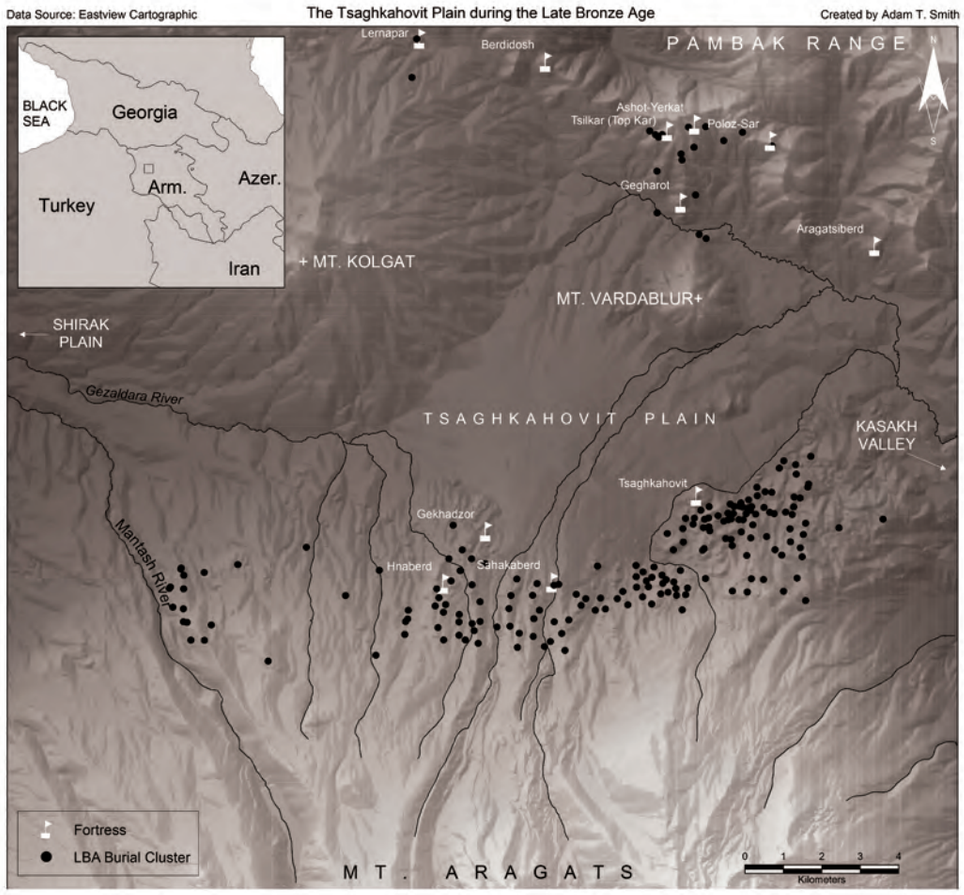


Fig.1- Regional Map of the Tsaghkahovit Plain, Armenia.

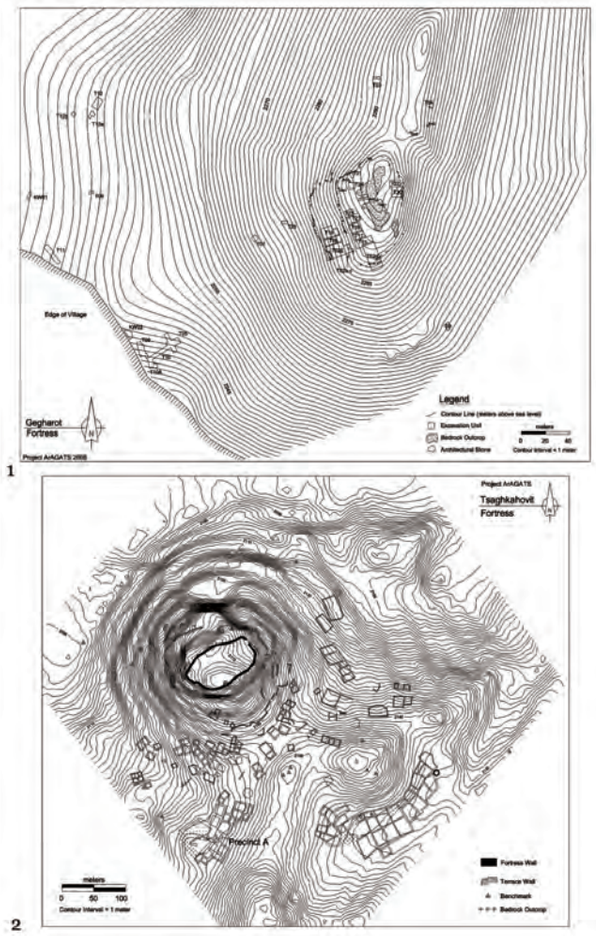


Fig. 2- 1 Plan of Gegharot; 2 Plan of Tsaghkahovit

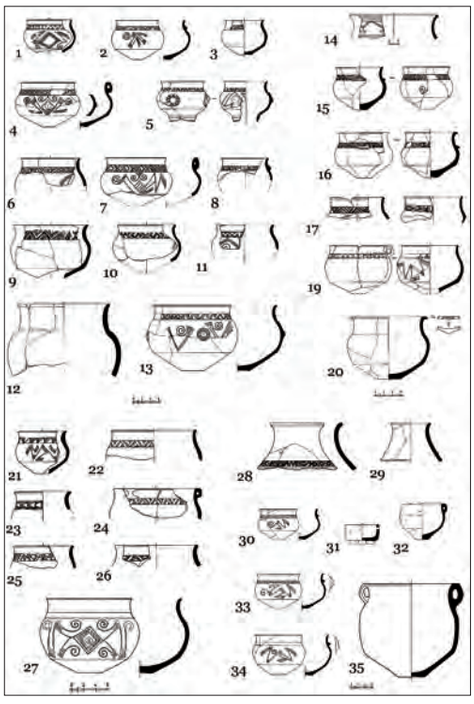


Fig.4- Karnut-Shengavit (EB II) ceramics from Gegharot: 1-13: operation T-21; 14-20: operation T-20; 21-27: operation T-19; 28-35: operation T-2E.

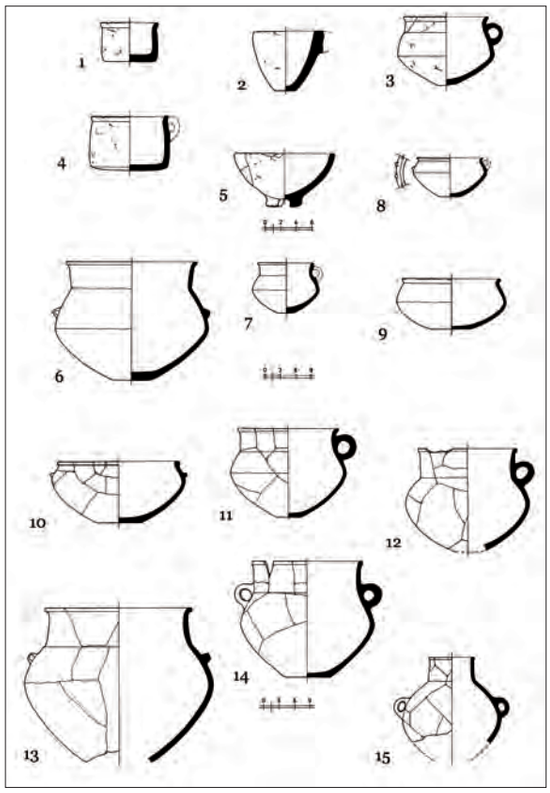


Fig.3- Elar-Aragats (EB I) ceramics from Gegharot: 1-5: operation T-17-18; 6-9: operation T-2E (tomb); 10-15: operation T-12.

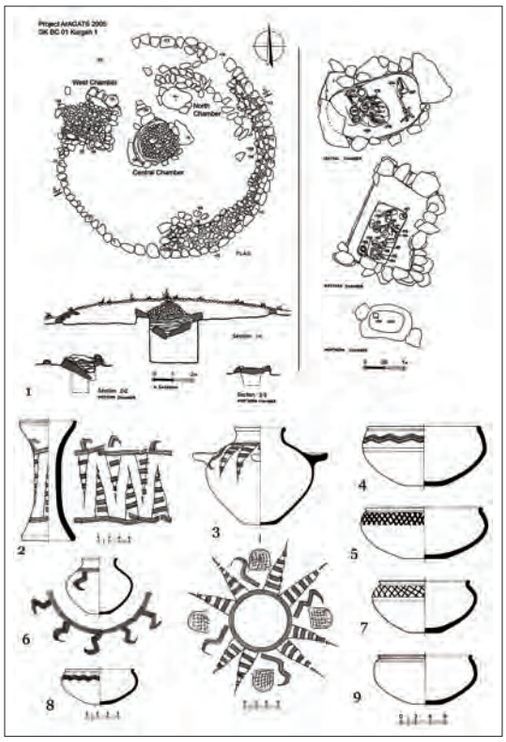


Fig. 5- Gegharot Kurgan 1: 1 plan and section; 2-8) select ceramics from the west chamber showing both close ties to late Middle Bronze Age (1-6, 8) as well as classic Late Bronze Age (7, 9) ceramic styles.

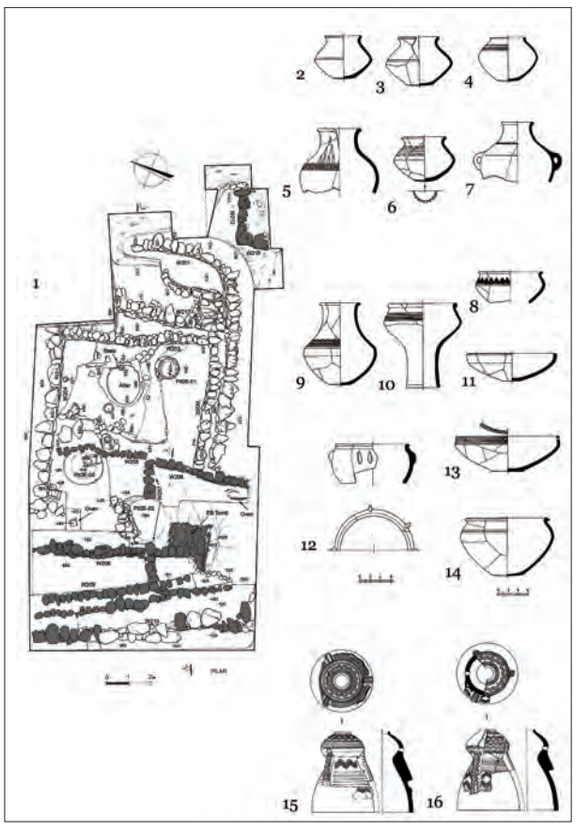


Fig. 6- T2E Shrine at Gegharot, plan and select ceramics.

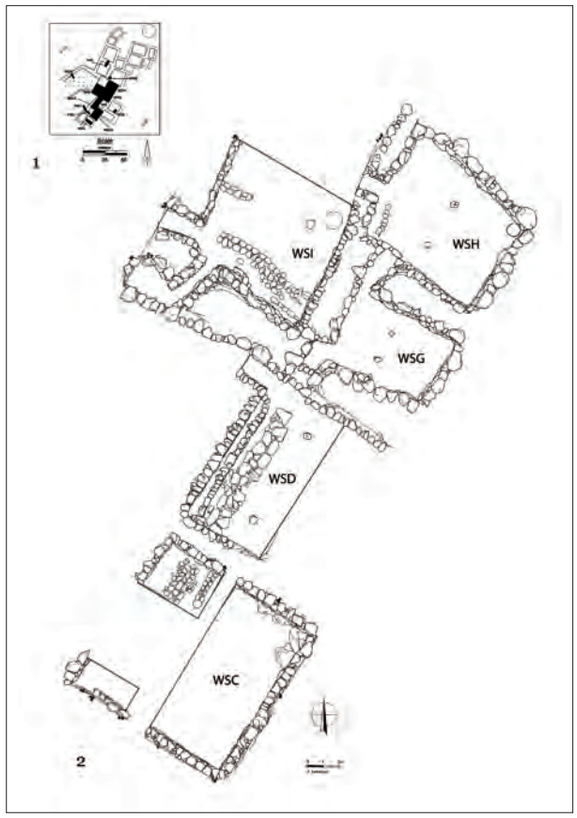


Fig. 7- 1 Plan of Precinct A based on surface architecture; 2 Architectural plan of rooms C, D, G, H, and I.

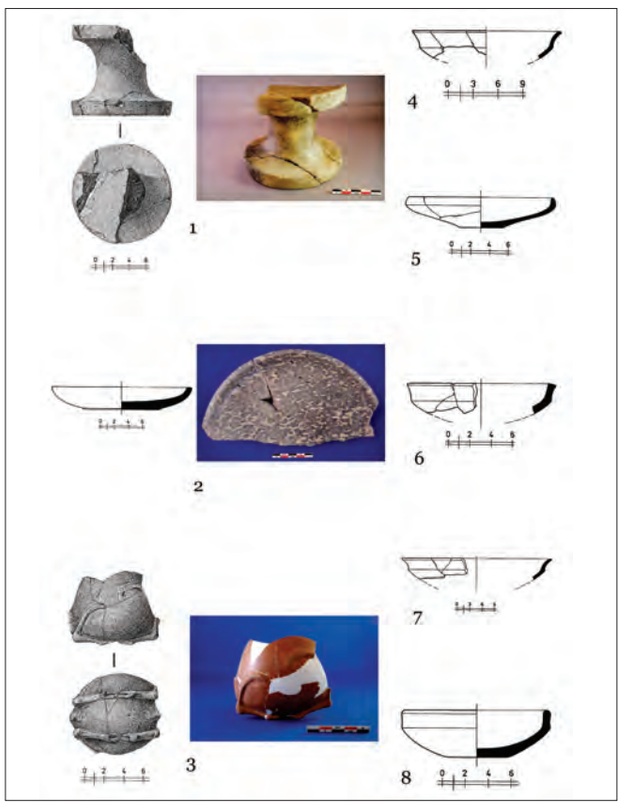
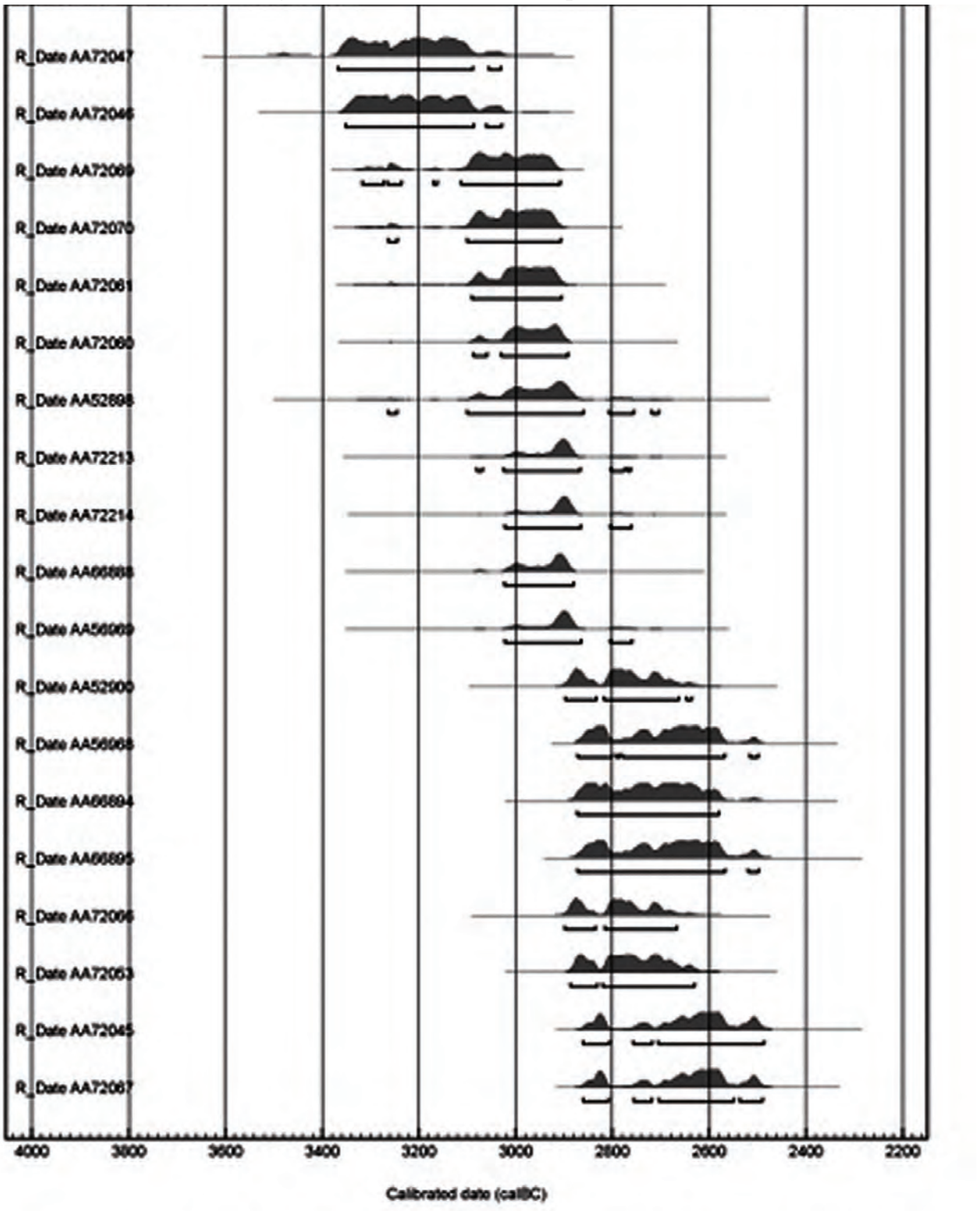


Fig. 8- 1 ceramic stand; 2 serpentine plate; 3) zoomorphic vessel; 4-5) examples of bowls found on the floor of room H.

OxCal v4. 0.5 Bronk Ramsay (2007); r.5; IntCal04 atmospheric curve (Reimer et al 2004)



Tab. 1. Early Bronze Age calibrated radiocarbon determinations from Gegharot.

KOBAN NECROPOLIS, TOMBS 9 AND 12: THE LATE BRONZE TO THE EARLY IRON AGE OF THE NORTHERN CAUCASUS

KOBAN MEZARLIĞI, 9 VE 12 NO'LU MEZARLAR: KUZEY KAFKASYA'DA SON TUNÇ ÇAĞI'NDAN İLK DEMİR ÇAĞI'NA GEÇİŞ SÜRECİ

Giorgi BEDIANASHVILI and Catherine BODET

Keywords: North Caucasus, Bronze Age, Iron Age, metalwork

Anahtar Sözcükler: Kuzey Kafkasya, Tunç Çağı, Demir Çağı, madencilik

ABSTRACT

This paper examines funerary assemblages nos. 9 and 12 of the Koban necropolis, located in the Northern Caucasus. This necropolis, which was excavated in the last quarter of the 19th century, has given its name to one of the Late Bronze and Early Iron Age cultures of the Caucasus. The two Koban graves presented here have always been the subject of interest among specialists. Several attempts at their reconstruction are known. As a result of our study of Ernest Chantre's Koban collection at the Lyon museum (France), the two Koban funeral assemblages are presented differently here than has been done before. Moreover, some objects are published for the first time. Along with presenting the assemblages, we also provide radiocarbon data from grave no. 9, which enable us to re-examine, to an extent, the chronology of Late-Bronze/Early Iron age of Central Caucasus.

ÖZET

Koban kültürü Kafkaslar'da Son Tunç Çağı'ndan İlk Demir Çağı'na geçiş dönemine tarihlendirilen ve yerleşim yerlerinden ziyade mezarlıklarıyla tanınan bir kültürdür. 19. yüzyılın sonunda kazılan Koban nekropolünde özellikle 9 ve 12 numaralı mezarlar, Koban kültürünün tipik buluntu topluluğunu temsil eden mezarlar olarak dikkati çeker. Bu yazının konusu olan çalışma, Ernest Chantre tarafından Fransa'da çeşitli müzelere götürülen bini aşkın Koban eserinin yeniden incelenmesidir; böylelikle Koban buluntu topluluğuna yeni öğelerin eklenerek yeniden değerlendirilmesi sağlanmıştır. Ayrıca, Koban nekropol buluntuları dışında 9 no'lu mezarın iskeletinden alınmış radyokarbon tarihleri verilmektedir.

Vladikavkaz'ın 35 km güneydoğusunda bulunan Koban nekropolü Tagaur Dağı'nın eteklerinde yer almaktadır. Yaklaşık 600 mezardan oluşan mezarlıkta gerek taş sandık mezarlar, gerekse basit toprak çukur mezarlar bulunmaktadır. 1869'da Karnukhov tarafından yapılan kazılarda ortaya çıkan tunç eserler, Vladikavkaz'a ve daha sonra Tiflis Müzesi'ne götürülmüşlerdir; bu çalışma sonucunda Koban tunçları büyük bir etki yaratmış ve çok sayıda uzman kazı ve araştırma yapmak üzere Kafkasya'ya gelmiştir. Bu çalışmalardan birini gerçekleştiren Lyon

Müzesi'nden Chantre'nin yaptığı kazılarda 22 mezar açılmış, bunun yanı sıra aynı nekropolden ya da yakın çevresinden çıktığı düşünülen yaklaşık 1600 buluntu satın alınmıştır. Chantre, buluntular üzerine yaptığı değerlendirmede Koban kültürünü Avrupa Hallstatt Kültürü ile eşleştirmiştir (Chantre 1886).

Chantre'nin yaptığı kazılarda, 9 no'lu mezar özenle kazıldığı ve ele geçen malzeme diğer Koban buluntularından ayrı tutulduğu için iskelet ve iskeletle beraber bulunan buluntular tarafımızdan ayrıntılı olarak değerlendirilebilmiştir. 30-60 yaşları arasında bir kadına ait olduğu belirlenen iskeletten alınan radyokarbon örneğine göre mezar MÖ 967-813 arasına tarihlenmektedir. 15 cm kalınlığında büyük taşlardan dikdörtgen biçimli olarak yapılmış ve kuzeydoğu-güneybatı yönünde yerleştirilmiş olan sandık mezar, yüzeyin 60 cm altında bulunmuştur. Hocker pozisyonunda yerleştirilmiş olan iskeletin yanında adak olduğu düşünülen bir domuz ve bir koyun iskeletinin yanı sıra beş tane deniz kabuğu bulunmaktadır. Tunç eserler bakımından oldukça zengin olan mezarda, iki adet büyük boy iğne, 67 adet süs eşyası, değişik boylarda 66 adet sarmal, 69 küçük ve büyük boyutlu tüp, genişçe bir yüzük, bir çift küpe, iskeletin her iki kolunda bilezikler, çam ağacı motifi olan bir fibula, bir çift koç boynuzu betimlenen kolye ucu, üç tanesi camdan, diğerleri taştan yapılmış olan toplam 86 boncuk bulunmuştur. Bunların yanı sıra iskeletin yakınında kemikten minyatür bir kılıç ve Kafkaslar'dan başka örnekleri de bilinen tunç minyatür kılıçlar, tunç kolye ucu ve kilden yapılmış iki küp de bulunmaktadır. Mezar armağanları arasında yer alan fibula, İç ve Batı Kafkaslar'da Son Tunç ve İlk Demir Çağı'ndan bilinen bir buluntu türü olduğundan mezarı tarihlendirmemiz açısından özellikle önemlidir. Ayrıca mezarda bulunan yarım daire biçimli bir toka da mezarın dönemini belirlemek açısından önemlidir; Koban nekropolünde bulunan bu toka tipi, Kafkaslar'da bu döneme ait bilinen toka biçiminden farklı olduğundan, bunların yerel olarak yapıldığı düşünülmektedir. Bununla ilgili olarak daha önce ayrıntılı bir çalışma yapılmadığından, makalede bu konuya özellikle değinilmiştir.

12 no'lu mezar Koban nekropolünde en zengin ve en iyi korunmuş erkek mezarıdır. Yüzeyden 90 cm altta bulunan mezarda bir yetişkin iskeleti ve bunun ayak ve bacaklarına yatırılmış bir çocuk iskeleti bulunmuştur. Yetişkin iskeletinin kafatasına yakın olan alanda bir çift büyük boy iğne ve küpe bulunmuştur. Çok sayıda tunç süs tübü ve taş boncuk iskeletin gövdesinde yer almaktadır. 9 no'lu mezarda olduğu gibi bu mezarda da bir adet fibula, ayrıca dikdörtgen biçimli bir kemer tokası, bir adet at dizgini, demir bir hançer, işlenmiş bir balta, iki hayvan başlı kolye ucu, bir kase bulunmaktadır. Buluntular arasında yer alan dizgin, Rusya'dan Stavropol'dan bilinenlerle biçim olarak benzerlik göstermektedir. Demir hançerin de aynı şekilde kronolojik ve bölgesel önemi olduğu bilinmektedir. Mezarda bulunan tunç baltanın ucu yuvarlatılmış ensesi küt biçimde kesilmiştir. Bulunan kolye uçları da Koban kültürünün tipik örneklerinden sayılabilir. 9 no'lu mezardan kronolojik olarak daha sonraki bir tarihe ait olan 12 no'lu mezarın 8.-7. yüzyıllara tarihlendiği düşünülmektedir.

Bu çalışma ve elde edilen radyokarbon tarihi Koban 9 ve 12 no'lu mezarları daha yakından anlamamızı ve Kafkaslar'ın Son Tunç - İlk Demir Çağı Geçiş Evresi kronolojisini yakından ele almamızı sağlamıştır.

INTRODUCTION

During the Late Bronze Age to the Early Iron Age in the Caucasus there emerges an archaeological phenomenon known in scientific literature as the Koban culture. It covers an important part of the Caucasus, particularly some mountain regions of the central northern Transcaucasus in Georgia, and the entire central mountain chain of the north Caucasus that is today the modern territory of the Russian Federation, which comprises most northern Caucasian republics. The Koban culture is represented by graves rather than settlements. Consequently, to a certain extent the examination of this culture-its chronology and connections to other archaeological cultures-is based on studies of funeral assemblages, which are mostly represented by various fine bronze objects.

One of the prominent sites of the Koban culture is the eponymous necropolis. It was excavated in the last quarter of the 19th century and tombs

nos. 9 and 12 of the necropolis are especially noteworthy. Up till today these two graves are considered diagnostic not only for the site, but also for the entire material culture (Kozenkova 1996: 96). Graves nos. 9 and 12 have always been the subject of interest among archaeologists. There have been several attempts at their reconstruction (Kozenkova 1996: figs 3, 5; Mohen 1979: 162-167; Reinhold 2007: tab. 205).

As a result of our study of Ernest Chantre's Koban collection stored in the museums of France (in aggregate over 1150 objects), these two Koban funerary assemblages are here presented differently than has been done before. Moreover, some of the objects are published for the first time since 1886[1]. Most of the chronologies that exist on the Koban culture are based on relative dating methods, which sometimes contradict each other. One of the weaker aspects of the chronology of Koban culture is the lack of radiocarbon dating. Along with presenting the two Koban funeral assemblages, we also provide absolute dates taken from the skeleton of Grave no. 9. Based on those data, in this paper we examine the chronology of the Koban necropolis and, more generally, the chronology of the Late Bronze and Early Iron Age of the Central Caucasus.

THE KOBAN NECROPOLIS AND ARCHAEOLOGY IN THE CAUCASUS

The village of Koban, from which the necropolis takes its name, is located 35 km to the southwest of Vladikavkaz and over 25 km to the north of the peak of Kazbegi, in what is today the modern territory of the Republic of North Ossetia (Fig. 1.1). It lies in the foothills of Mount Tagaur, on the left bank of Gizel'don. The necropolis was located on the plateau, covering 2 ha slightly inclined from north to south. Originally, this cemetery comprised over 600 graves. Both stone graves and pit graves were attested. All the graves were either single or sometimes double inhumations.

It was first in 1869 that the proprietor of the territory of Koban necropolis, Khabosh Karnukhov, unearthed from the graves without any scientific study a large number of bronze objects. Those he brought to Vladikavkaz were later, in 1877, sent to the Caucasus Museum in Tbilisi. In the Caucasus this was the period when archaeology was just emerging as a discipline. There were already excavated sites such as Redkin-lager and Dilijan in Armenia, and Samtavro, Marienfeld and Stephan-Tsminda (known also as Kazbegi) in Georgia**.** At this time, the archaeology of the Caucasus was examined as an isolated phenomenon quite distinct from developments in adjacent regions. With the discovery of the finely crafted Koban bronzes, hitherto unknown, the attention of many specialists soon focused on the northern Caucasus.

In 1877, Giorgi Filimonoff, the curator of the Moscow Museum, conducted the first archaeological excavation at Koban cemetery employing an appropriate fieldwork methodology for the day, and a year later he published his results in the Annals of the Moscow Society of Amateurs of Natural Science, Anthropology and Ethnography (Filimonoff 1878). In 1879, Volodimir Antonovich, a Ukrainian professor from Kiev University, under the aegis of the organizing committee of the Tbilisi Vth Ethnographical and Archaeological Congress, brought to light five graves (Antonovich 1879: 242). Later, specialists such as Rudolf Virchow (Virchow 1883), Praskovia and Aleksei Uvarov (Uvarova 1900: 3-96), and others continued investigations at the Koban. However, the most significant discoveries of the Koban graves belong to Ernest Chantre. In 1879, as deputy director of the Lyon Museum, and during his first scientific mission to the Caucasus, he visited Koban, which he shortly thereafter described in an article (Chantre 1881: 1-27). In his second mission, in July of 1881, Chantre excavated 22 graves at Koban. In addition, he bought about 1600 artifacts from Karnukhov, the landowner, which were mostly fine bronze objects collected from the same necropolis (Chantre 1883: 14-15).

Having partially published his thoughts on Caucasian archaeology in *Matériaux pour l'histoire primitive et naturelle de l'homme,* in 1886 Chantre summarised all his study in his monograph, where together with Koban necropolis he presented the results from the Samtavro, Redkin-Lager and Stephan-Tsminda sites. Chantre was one of the first to examine Caucasian archaeology on a wider scale. He compared materials from Koban necropolis with those from the Hallstatt culture and tried to synchronise the Caucasian Early Iron Age with the European one (Chantre 1886).

It was already the case at the end of the 19th century that, in the manner of the Hallstatt culture, the term 'Koban culture' was used to designate Late Bronze/Early Iron Age archaeological materials found mostly in the central part of the Northern Caucasus (Chantre 1886; Filimonoff 1878; Uvarova 1900; Virchow 1883). However, by the first half of the 20th century, with the discovery of similar bronze objects in Western Georgia, the two regions were considered by some specialists as a uniform cultural *facies* called Colchian-Koban (Iessen 1939: 96; Kuftin 1940: 16-17; Strazhev 1926: 13)[2].

Despite the accumulation of new archaeological data during the 20th century, the materials of the Koban necropolis remained one of the important subjects for the chronology of the Caucasus[3]. Almost all specialists establishing their chronology of the Late Bronze and Iron Age of the Caucasus are concerned with materials from the Koban necropolis. Aleksandre Iessen, when comparing the Novocherkassk hoard with Koban grave no. 12, placed most of the materials from the Koban necropolis (and consequently the Koban culture) in the later period, dated to the 8th-7th centuries BC (Iessen 1953: 103-110)[4]. Boris Kuftin examining the Late Bronze/Early Iron Age of the Caucasus compared the Koban necropolis with the so-called flourishing period of Van Kingdom and dated it to the 9th century BC (Kuftin 1941: 50-64). Meanwhile, Claude Schaeffer in his work on Near Eastern and Caucasian chronology, comparing Koban materials with those from Lelvar in Armenia, placed the majority of Koban materials between 1400-1200, and those containing iron objects between 1200-1000 BC (Schaeffer 1948: 528-532). Examining semi-circular buckles in the Caucasus, Rostom Abramishvili, assigned the lower chronological end of the finds to the 15th-14th centuries BC (Abramishvili 1961: 315).

Fundamental research on the Koban necropolis and generally on Koban culture was conducted by Evgeni Krupnov, who distinguished three stages of development: 1) a formative period; 2) the so-called flourishing period; and 3) a period when Scythian influence can be seen in the Northern Caucasus. Krupnov placed all three stages between the transition of the second and first millennium to the middle of the first millennium BC. Krupnov's chronology was later developed by Valentina Kozenkova, who had another take on the developmental stages of the Koban culture: 1) A Proto-Koban period, when the Koban culture is just in its formation (14th-12th centuries BC; 2) An Early Koban period, when the culture completes its formation and gains its characteristic features (12th-10th centuries BC); 3) The Classical period (10th-7th centuries BC), to which Kozenkova attributed Koban grave no. 9 as a representative assemblage; and 4) The period when Scythian influence can be seen in the Northern Caucasus (7th-4th centuries BC) (Kozenkova 1996: 89-106).

A different chronological schema was developed by Gregory Kossack. Relying on the Tli cemetery (Georgia), which is one of the largest sites in the Koban culture province, he assigned the Late Bronze/Early Iron Age of the Central Caucasus to the 13th-6th centuries BC. Kossack used the typology of fibula as one of the elements for the determination of six phases within his proposed chronology: A, B, C early, C late, D early, D late (Kossack 1983). Sabine Reinhold proposed a similar chronology. Also relying heavily on the Tli finds, she dated the Koban necropolis to the 13th-6th centuries BC (Reinhold 2007: 166). Nino Sulava, on the other hand, offered a different timeline for the Colchian-Koban culture. Based mostly on a typology of fibulas, she assigned the culture's earliest phases to the end of the 9th century BC (Sulava 2005, 2006).

As can be seen in the above outline, most of the chronologies of the Koban necropolis specifically and the Late Bronze/Early Iron Age of the Central and Western Caucasus in general are based on relative dating methods[5]. We have no radiocarbon determinations. Moreover, even though the Koban material has always been considered an important component of Caucasian archaeology, it has been studied only partially. The thousands of Koban finds are dispersed in different museums of Europe, and the majority of them are out of context. However, among Chantre's collections stored in four French museums, several assemblages can be discerned[6]. Among them are Tombs 9 and 12, the contents of which are held at the Ancient Natural History Museum (Musée des Confluences), in Lyon. These are the graves that Chantre described as the best preserved and the richest that he excavated at Koban. In his first article on the necropolis, where he only published 10 graves, Chantre numbers the above-mentioned graves as nos. 1 and 2 (Chantre 1882). Even

at the Lyon Museum in 1881 they were registered with these numbers. Later, in his monograph, where he published all the Koban graves, Chantre renumbered them as nos. 9 and 12; in today's literature they are referred to by these numbers.

Koban Necropolis Tomb 9

Chantre excavated Tomb 9 carefully, examined it attentively and sent it to Lyon museum, packaged separately from other Koban materials[7]. The package included its complete skeleton and all the numerous small finds found in the grave (Fig. 3).

The individual of Tomb 9 was a female aged between 30 and 60 years old[8]. A radiocarbon reading sampled from the skeleton is cal. BC 967-813, Lyon-4369 (Fig.8)[9]. The grave was found at the depth of 0,60 cm from the surface. It was a cist tomb constructed with large sandstone slabs of 15 cm thickness. It had a rectangular form, which was oriented from northeast to southwest. In the grave, the body was left in a flexed position on the right side. Associated with the human skeleton were bones of sacrificed pig and sheep, and also five shells.

The majority of the funerary inventory of the Tomb 9 comprises well-manufactured bronze items. The skull of the skeleton was placed on the pair of crossed, large pins (*Spatuliforme)* (Fig. 5:7-8*)*. Around the head were dispersed 67 little bronze appliqués (Fig. 4:1-2), 66 different-sized spiral rings (Figs 4:9-10; 3:3), 69 small (about 2 cm height) and comparatively big (about 5 cm height) tubes (Figs 4:7-8; 3:3), a wide ring (Fig. 4:6), and a pair of earrings (Fig. 4:16-17). Both hands of the skeleton were passed through the armbands (Fig. 5:1-2), which have a conical shape and a triangular cross-section rod with ends swirled into volutes.

Based on Chantre's drawing, the deceased also had two bracelets with a round cross-section (Figs 4:18-19; Fig. 3:1) on the left wrist (Chantre 1882: 241; Chantre 1886: 24-25). In the central area, the skeleton was equipped with a semi-circular buckle, which has rows of triangular ornaments, probably inlaid with paste. Around the triangles, the entire space is filled with engraved oblique lines and dots. The buckle is perforated with fifteen holes around the base, and there is a hook on the reverse side (Fig. 5:3). The deceased was also equipped with a one-piece fibula engraved with a pine-tree pattern along the arc, which is slightly thickened in the centre (Fig. 5:5-6); a pair of pendants in the form of a ram's head (Fig. 4:13-15); and a pair of roll-headed pins, which are twisted in the upper part (Fig. 5:5-6) and very probably used for clothes. Near the chest of the skeleton, there were found three spherical glass beads (Fig. 4:3) and about 83 carnelian beads: most of them are a flattened sphere in shape (Fig. 4:4-5).

Close to the skeleton, there was an astragalus, a miniature bone dagger (about 10 cm) with the handle broken off (Fig. 4:12). Similar miniature daggers, made of bronze, are quite typical for North Caucasian sites; bone daggers are unknown (Kozenkova 1998: 168). A bronze pendant representing the head of a ram (Fig. 4:15) and two ceramic jugs (Fig. 5:9-10) are also part of the assemblage. The jugs have a flat single handle that reaches from the rim to the belly. Both handles are pointed slightly upward. Both jugs have a splayed rim, spherical body, and flat bottom. These, like other ceramics from the mountainous Koban culture, are handmade (Krupnov 1960: 440).

One pot (Fig. 5:10) is without any ornamentation, with a black-gray surface. The fabric is fine, with distinctive brown and black layers and limestone inclusions. The second pot (Fig. 5:9) has a black burnished surface. On the shoulder, it has two incised concentric lines and the space between them is filled with impressed dots. On the body there is an incised rhombic ornamentation which has traces of white paste incrustation. Worth noting is the design on the handle, along which there are depicted three short vertical impressed lines.

Of the grave goods, the fibula should be emphasised. This is the object that is considered to be an important element for the chronology of the Central and Western Caucasus of the Late Bronze and Early Iron Age[10]. The chronologies dealing with fibula in the Caucasus are vast. Most of them contradict each other. Juri Voronov, comparing Caucasian fibulas with those from the Mediterranean world, assigned their appearance in the Caucasus to the 8th century (Voronov 1984: 4-8). A similar date was proposed by Nino Sulava, who placed the earliest types of fibula (type I^{1}) at the end of the 9th century. Fibulae similar to Koban Tomb 9 (type III^{3}), Sulava placed in the second half of the 8th-6th centuries

BC (Sulava 2006: 175-188). Kossack suggested a completely different dating scheme, which placed the earliest type of fibula with an asymmetrical arc to the 11th century BC (Tli B). The fibula similar to Koban Tomb 9, with a symmetrical, thickened arc, he assigned to the 9th century BC (Tli C late) (Kossack 1983: 14-16). Kozenkova believes the first appearance of fibula in the Caucasus is around the 12th century (Koban II). The Russian specialist did not give a precise date for the Tomb 9 type fibula; she placed it generally in the Koban III period that has the wide chronological range 10th-7th centuries BC (Kozenkova 1996: 92, 97).

Although we have only one radiocarbon reading for this Tomb 9, we can say with a certain degree of confidence that the bronze fibula with the thickened, symmetrical arc can be placed as early as to the second half of the 10th through to the 9th century. In being so, it completely rejects the "short" chronology of this type fibula, which places it to the 8th-6th century BC time range.

Another object from grave no. 9 that is worthy of special attention is the semi-circular buckle. Together with the fibula, it is also widely used as a chronological indicator (Abramishvili 1961: 315; Kozenkova 1996: 89, 96). The Koban necropolis is a unique site in the Caucasus that has yielded a large number of this type of buckles, enabling one to establish the typological development of this object. Given that the semi-circular buckles from Koban necropolis have never been studied completely, we discuss them in detail.

Semi-Circular Buckles at the Koban Necropolis

Reinhold, in her study of Late Bronze/Early Iron Age materials of the Caucasus, examined the semi-circular buckles. She determined two general categories, within which she distinguished three variations: decorated, undecorated, and one with openwork (Reinhold 2007: 101). One of the main criteria of our typology of semi-circular buckles is also ornamentation technique. Based on those at the Koban necropolis, six types can be distinguished. The materials we examine come from the Koban collections stored at the museums of Saint-Petersburg, Tbilisi, Vienna, Saint-Germain-en-Laye, and Lyon.

I. Certain semi-circular buckles are decorated with three, incised, interlocked spirals framed by two rows of triangles cut out along the edge. On the reverse side, they have a hook placed on the top and also three rings on the base (Fig. 7:1). There are two examples of this type of buckle known from the Koban necropolis; they are stored at the Vienna and Saint-Petersburg Museums (Kozenkova 1996: 119; Uvarova 1900: tab. XL). This type of buckle is considered to be the earliest among semi-circular buckles in the Caucasus (Abramishvili 1961: 315; Kozenkova 1996: 89). In the Northern Caucasus, a similar buckle is known from North Ossetia, at Verkhnyaya Rutkha Tomb 11 (Krupnov 1960: 223), and from Kabardino-Balkarya, at Zajukovo Tomb. 1 (Kozenkova 1998: 59). In the Southern Caucasus, it occurs in Samtavro pit grave 174 and 216 (Chubinishvili 1957: 90), and also not far from Samtavro in the Agara district, at Megvrekisi (Kuftin 1949: tab. XII). A similar-type buckle is known from the Sachkere region (the village of Koreti, Georgia), except that it has 11 interlocked circles (Koridze 1961: 13-16).

Reinhold, examining the ornamentation of the above-mentioned semi-circular buckles, proposed that they belonged to the same workshop. It is difficult to make this judgment on ornamentation alone. A more persuasive approach would be to conduct chemical and technological analyses. For example, the chemical-technological analyses done on semi-circular buckles from Samtavro Tombs 174 and 216 showed that they were inlaid with glass that is white substance, while to the alloy was added lead to gain dark color. (Sulava and Kalandadze 2008: 15-17).

II. Another type of semi-circular buckle is decorated with several rows of open work triangles facing each other. Like type I buckles, these buckles are framed with two rows of small, cut-out triangles.

Unlike the earliest buckles, on the reverse side they have only two rings. This type of semi-circular buckle is known from Chantre's Koban collection at the National Archaeological Museum of France, (Musée d'Archéologie National) Saint-Germain-en-Laye (Fig. 7:2) and also from the collection of Uvarova (Uvarova 1900: tab. II) (Fig. 7:3). Typologically, it comes close to the first type of buckle. R. Abramishvili first proposed this view, but it is diffi-

cult to accept his dating to the 14th-13th centuries BC, based only on the comparison with the first type of semi-circular buckle, which, as we have already mentioned above, he assigns to the 15th-14th centuries BC (Abramishvili 1961: 315-316).

Unlike the first type of semi-circular buckle, which besides at Koban appears at other sites in the Northern Caucasus and central regions of Georgia, the second type does not occur in those regions. It finds certain parallels from Abkhazia, from the hoard found between the villages of Pash and Bogopash (Voronov 1969: 36, tab. XXXIX/26). It should be said though that the example from Abkhazia has open-worked triangles different from those from the Koban necropolis example; and instead of rings it also has a nail-like hook on the reverse side.

III. To this type belong the buckles that have the cut-out triangles in the centre. There are two examples of this type of buckle. The first comes from the Saint-Germain-en-Laye Museum (Fig. 7:4). Stylistically, it resembles the previous type; however, it has a different technique of ornamentation. It has two rows of triangles in an upward direction depicted at the centre, and a grooved line running along the edge. Perforations suggest that the ornamentation was inlaid, traces of which still remain — a grayish fragile substance. The second buckle of this type is from Koban Tomb 9 (Fig. 7:5).

These two semi-circular buckles show affinities with examples from the Tsiteli shukura (Krasny maiak) cemetery in Abkhazia. Among the semi-circular buckles from Tsiteli shukura, the closest similarity is with the one from pit grave 70. In the centre it has a triangle decoration, which, as far as we can determine, is inlaid with iron. Other semi-circular buckles from the Tsiteli shukura cemetery have different types of geometric and zoomorphic ornamentation which are inlaid with iron and some form of paste. Some of them have a couple of rings on the reverse side just like the earliest semi-circular buckles at Koban necropolis (Trapsh 1969: 199, tab. XXVI). From the same region, the stratified semi-circular buckles found at the mound of Eshera Vanereshchagina should also be mentioned. They show a certain similarity with those from Koban; however, unlike the buckles from Ossetia, they have zigzag lines in the centre of the plate (Shamba 1980: tab. LXXII,1; Shamba 1984: 51). As, it seems, in Colchis semi-circular buckles have their own typological development that is different from the North Caucasian one. Aleksandre Skakov, who examined Bzip materials from Abkhazia (Skakov 2008: 25), is in agreement with this view. Another semi-circular buckle comparable with the III type buckle is attested in Eastern Georgia at Natsargora-Tsagvli, in the Khashuri district. It is ornamented with meander; and along the edge, just like in the example from Koban Tomb. 9, there are oblique lines (Ramishvili 2002: 366).

IV. This type of buckle comes from V. Antonovich's collection stored in the Georgian National Museum. It has more of a horseshoe shape, with two rows of open-work facing triangles. It does not have holes or rings along its base (Fig. 7:7), and its form does not show any affinities with any other semi-circular buckle type in the Caucasus, making it difficult to place it in the typological sequence of Koban semi-circular buckles. Even so, the facing open-worked triangles that it bears can be considered a characteristic feature of the Koban semi-circular buckles that differentiates them from those found in other regions of the Caucasus.

V. To this type belong semi-circular buckles without decoration (Fig. 7:6). There are three examples of this type known from Chantre's Koban collection in Lyon and Saint-Germain-en-Laye. These undecorated buckles can be compared with those from Sharoi in Chechnya (Kozenkova 1982: 162). The latter have engraved triangle decoration. Similar to the Sharoi buckle is one from Tli Tomb 300 (Tekhov 1985: 46). It should be noticed that in contrast with Koban, among the 400 tombs at Tli only two semi-circular buckles have been attested. The above-mentioned Tli buckle has engraved triangles along the edge, whereas the central part is undecorated. In contrast to the northern Caucasian ones, the Tli buckle has two rings for fastening. Aside from the buckles, the bronze finds from the Tli cemetery do show close affinities with those from the Koban graves.

VI. This type represents semi-circular buckles that have excisions in the centre. These buckles commonly have three or four holes to fasten the belt (Fig. 7:8). This type of buckle is known in France from Chantre's collection at the Saint-Germain-en-Laye, Lyon, and Vienne musuems.

These Koban buckles do not find any affinities with the others; however, they are comparable with those from Tli Tomb 290 (Tekhov 1985: 44), and Syrfaz stone circle 10, and Tomb 9 (Tekhov 2000: fig. 62, 7). This South Caucasian buckle differs from other Kobanian examples in having a sculptural figure and ribbed decoration.

Classifying the semi-circular buckles of Koban necropolis, it can be assumed that besides buckles with interlocked spiral ornamentation, all of them are quite different from those from other sites of the Caucasus. It gives substance to the proposal that semi-circular buckles from Koban necropolis were manufactured in local workshops that had characteristic traditions. It should be said that none of these buckles have iron incrustation, as was considered by Skakov (Skakov 2005: 17).

Koban Necropolis Tomb 12

Tomb12 is one of the richest and best preserved male inhumations at Koban necropolis (Fig. 6:1). Based on Chantre's publications, below we give a full description of Tomb 12 (Chantre 1882: 244; Chantre 1886: 27).

The grave was found at a depth of 0,90 cm from the surface. The skeleton was lying in a curved position on deliberately flattened ground and covered with big stones. In the grave there was attested also a child's skeleton, placed near the legs of the main individual.

Near the main skeleton's head there was found a pair of pins with flattened and rolled ends, and earrings. A large number of small bronze appliqué tubes and carnelian beads were attested around the chest area. As well, the Koban skeleton was equipped with a fibula, rectangular buckle with belt, horse bit, iron dagger, engraved axe, a Maltese cross with a hole through the centre and pendant representing deer that was hanging on the chain, and another pendant in the form of an animal head. To this assemblage should be added a cup, which Chantre first-in his 1882 article-described as made of bronze and later-in his publication of 1886-as a ceramic.

A. Iessen was the first to pay attention to the funerary assemblage of Koban Tomb 12. Based on the drawing of this grave in Chantre's publication, he proposed that the horse bit of this assemblage had two rings, similar to that in the Novocherkassk hoard dated to the 8th-7th century (Iessen 1953: 58). However, other finds from Tomb 12 reassembled from the objects held at Saint-Germain-en-Laye Museum, contradict this date. For example, the bronze dagger with handle cast in one piece that figures in Kozenkova's version of Tomb 12 is much earlier than the 8th century BC.

At Saint-Germain-en-Laye Museum, just as with Tomb 9, there are no materials registered as assemblage (Tomb) 12 or 2 (as we have already mentioned, no. 2 is the old number for this grave). At Lyon museum, however, there are several objects that have old museum labels assigning them to Tomb 2 (Fig. 7:9). These objects completely fit those described by Chantre first, in 1882, as Tomb 2 and later, in 1886, as Tomb 12. It should be said that at Lyon museum not all objects described by Chantre have the above-mentioned label. Some of them are dispersed among the 300 Koban objects stored at the museum. Based on Chantre's drawing and description it is possible to distinguish the rest of the objects of this assemblage from those 300 materials, even though one needs to be cautious with attributions . Therefore, in this paper we present only those objects that have the assemblage label and surely belong to Tomb 12.

Although funerary assemblage no. 12 as presented is not complete, it comprises a number of objects that have significant importance for the examination of the Koban necropolis. The bronze horse bit is two-piece; each end has a pair of rings and is covered with bosses which are depicted without any order (Fig. 6:1). Similar types of horse bits are known from the Stavropol district (Russia), outside the town of Kislovodsk at the Klin-Yarsk cemetery (Dietz 1998: tab. 10, 79). In addition, they are common to so-called Protomeot sites in the Krasnodar region (Russia) dated to the 8th-7th centuries BC (Erlikh 2007: 115)[11].

If the Koban horse bit discussed above shows affinities to northwestern regions, the iron dagger associated with it is comparable with those from Colchian sites[12]. This dagger is cast in one piece, with a plate section. The handle has a rough surface, *Sanduhrförmigen* ("glass sand"), and eight rivets (Reinhold 2007: tab. 16). The handle was covered with bronze leaf, as it yields traces of bronze fragments on the surface (Fig. 6:6). The blade is pointed and

has straight sides. Similar iron daggers are found at Ergeta I Tomb 5 (Western Georgia), a collective grave, where they are assigned to the Early Iron Age. At Ergeta the daggers co-exist with similar bronze daggers (Papuashvili 1996: 81). Similar bronze daggers are also known from Western Georgia at Ureki Tomb 3 (Papuashvili 1996: 32), Paluri "sadzvle" Tomb 2 (Baramidze 1977: a. VII), and the Tli graves (Tekhov 1981: 41).

Another object belonging to Koban Tomb 12 is the bronze axe. It has a rounded blade, horizontal lines in relief on the shaft-hole, and an angular butt. The neck of the axe is covered with cross-hatched incised lines, placed in parallel lines made with the same technique (Fig. 6:2). The same type of axes, with the decoration manner described above, can be observed at Tli Tombs 310, 297, and 150 (Techov 1981: 22, 48, 37). Besides the three objects described above, at Lyon Museum there is also an undecorated buckle among the grave goods of Koban Tomb 12. It has a rectangular form with four holes and a hook on the reverse side (Fig. 6:3). Unlike the iron dagger and horse bit, which are the only ones of their type among the numerous Chantre Koban collections in French museums, this buckle is quite common (of 75 buckles, 11 items are of this type) .

The two pendants from Tomb 12 are typical of the Koban culture. The first one is in the form of deer with a loop for suspension (Fig. 6:5). The second pendant represents the head of an animal, probably wolf or dog (Fig. 6:4). These types of pendants are common both for male and female inhumations. They represent the high artistry of metalwork that is generally typical in the Caucasus during the first half of the first millennium BC. (Curtis and Kruszynski 2002: 34; Gomelauri 2003: 76-81; Kozenkova 1982: 43).

Koban Tomb12, then, is chronologically later than Tomb. 9. Based on the iron dagger and horse bit, Tomb 12 can be dated to the 8th-7th centuries BC.

CONCLUSION

Presenting the grave goods from Tombs 9 and 12 together with a radiocarbon reading from the former has moved us a step closer to firming up the chronology of the Late Bronze/Early Iron Age of the Northern Caucasus. The two Koban graves presented are only part of the Koban funerary assemblages that are among Chantre's collections stored in Lyon and Saint-Germain-en-Laye. Future publication of the rest of the complexes will further enrich the study of the Koban necropolis.

Besides funerary assemblages, further comprehensive investigation of the Koban collections that include various materials stored at different museums in Europe together with other newly excavated contemporary Caucasian materials may reveal in the future more detailed explanations of cultural processes that occurred in the central part of the Northern Caucasus between the end of the second millennium and middle of the first millennium BC.

NOTES

[1] I would like to thank Bertille Lyonnet for initiating my research on the Koban collections in France, and Christine Lorre, the curator at the National Archaeological Museum of France. My study was supported by profesional scholarship from Ministry of Culture of France (G. Bedianashvili).

[2] See also Fig. 2:1 and 2:2

[3] The problem of connecting Koban and Colchian cultures till today is open to debate: see Apakidze 2008; Pantskava et al. 2003; Reinhold 2007.

[4] For more about Iessen's examination of Koban grave no. 12, see below.

[5] Literature on the chronology of Koban necropolis and generally on Koban culture is vast: see also, for example, Djaparidze 1950; Tekhov 1977; Voronov 1984.

[6] The museums are: National Archaeological Museum of France in Saint-Germain-en-Laye, The Confluence Museum in Lyon, Vienna Museum, and the Chambéry Museum.

[7] The Koban materials that Chantre sent from the Caucasus in September 1881 first arrived at Lyon Museum. Later, in 1882, a portion of them was sent to Saint-Germain-en-Laye museum. For the origin of the Koban collection at Saint-Germain-en-Laye museum, see Lorre 1998: 163-168.

[8] The physical anthropological analysis of the skeleton was

done by Patrice Courtaud, UMR 5199 PACEA, Laboratoire d'Anthropologie des Populations du Passé, avenue des Facultés, 33405 Talence Cedex.

9 The radiocarbon analysis was undertaken by Chistine Oberlin, Centre of Radiocarbon Datation (CDRC) 40, boulevard Niels Bohr, 69622 Villeurbanne Cedex.

10 For more on the Caucasian fibula, see Sulava 2006.

11 For the distribution of this type of horse bit, see Reinhold 2007: list 112.

12 It should be noticed that some specialists connect the appearance of iron objects in the Koban culture with the South Caucasus region (Erlikh 2007: 21).

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Fig. 1- Map showing the location of the Koban necropolis

Fig. 2-1. Exposition of Tbilisi Museum in 1930's. The imitation of Koban graves Nos 12(Fig.1) and No.9 2. (On the right side) made by B. Kuftin. Showing the importance of those Koban graves for the Late Bronze and Early Iron Age of Caucasus. (Georgian National Museum)

Fig. 3- Tomb 9, drawing (after Chantre 1882), and some of the graves goods in Musée des Confluences (Lyon).

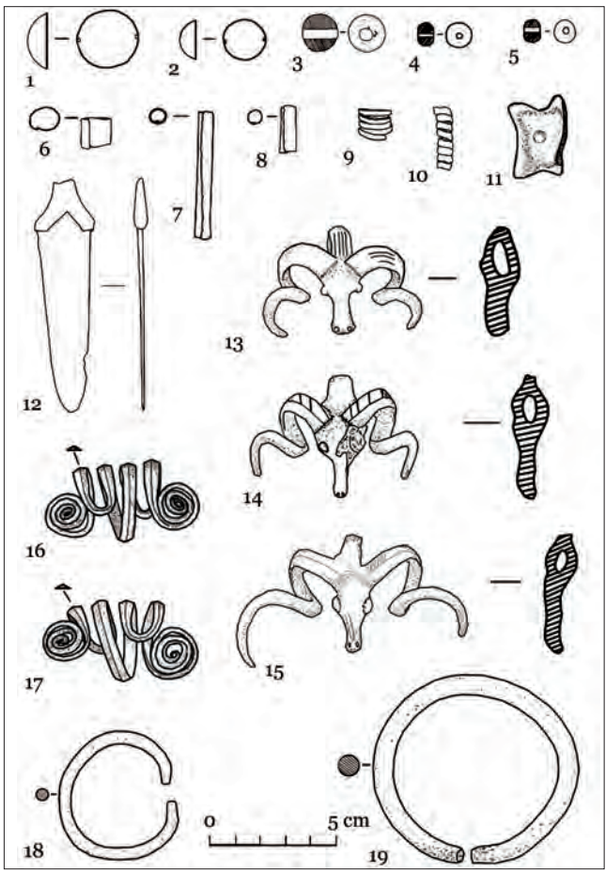

Fig. 4- Tomb 9 grave goods. 1–2 bronze appliqué; 3. glass bead; 4-5 carnelian beads; 6 bronze ring; 7–8 bronze tubes; 9–10 bronze spiral rings; 11. Astragalus; 12. Miniature dagger, bone; 13–15 bronze ram's heads; 16–17 bronze ear pendants; 18–19 bronze bracelets.

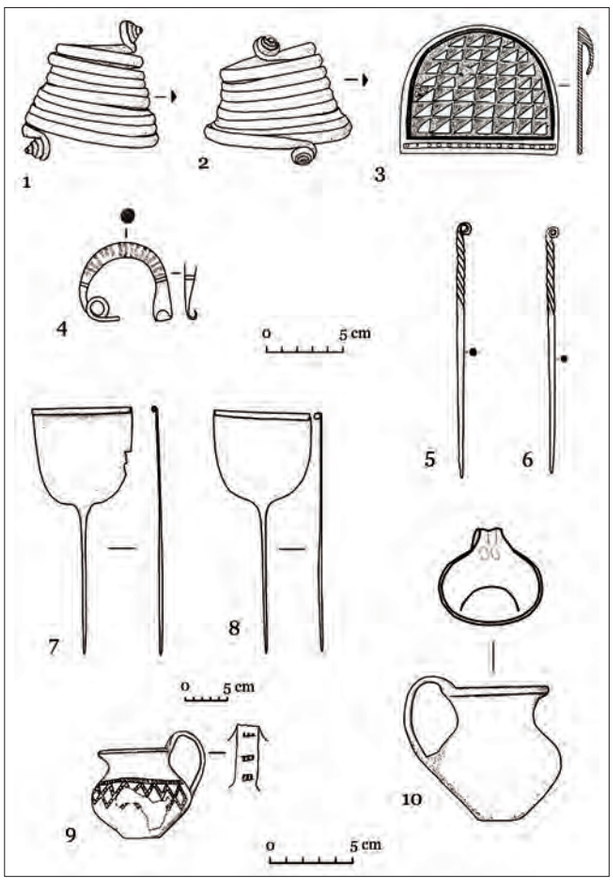

Fig. 5 Tomb 9 grave goods. 1–2. bronze brassards; 3. bronze buckle; 4. bronze fibula; 5–6 bronze pins with twisted upper shank and spiral head; 7–8 bronze pins with broad head; 9–10 ceramic jars.

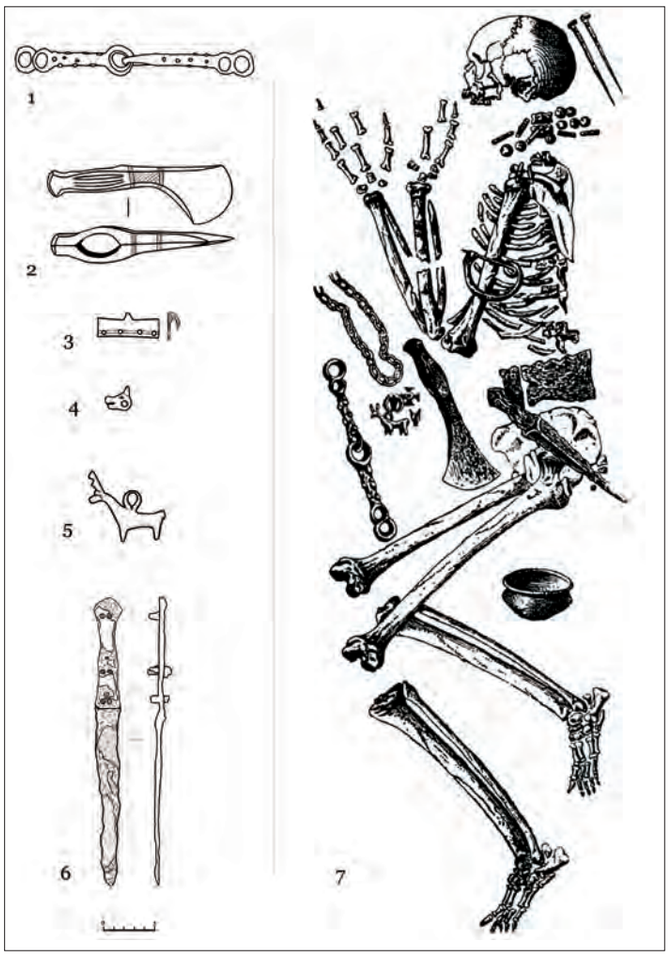

Fig. 6 Tomb 12 grave goods stored at the Musée des Confluences (Lyon). 1. bronze horse bit; 2. bronze axe; 3. bronze buckle; 5 animal head pendant (bronze); 6. deer pendant (bronze); 7. iron dagger; Plan of Tomb 12 (after Chantre 1886).

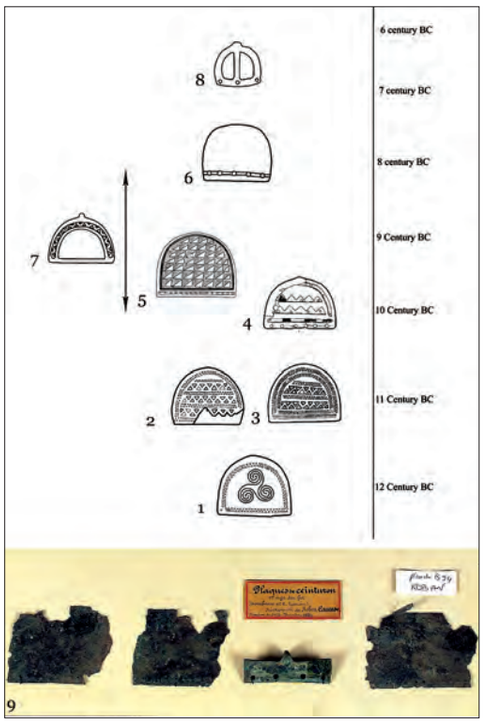

Fig. 7 Semi-circular buckles from the Koban necropolis. 1 after Uvarova 1900; 2. National Archaeological Museum of France, Saint-Germain-en-lay; 3 after Uvarova 1900; 4 Courtesy of National Archaeological Museum of France, Saint-Germain-en-Laye; 5 The Confluences Museum (Lyon); 5 The Confluences Museum (Lyon); 7. Georgian National Museum; 8. The Confluences Museum (Lyon); 9 bronze belt and buckle with an old museum label marked as Koban Tomb No.2 (now Tomb 12), The Confluences Museum (Lyon).

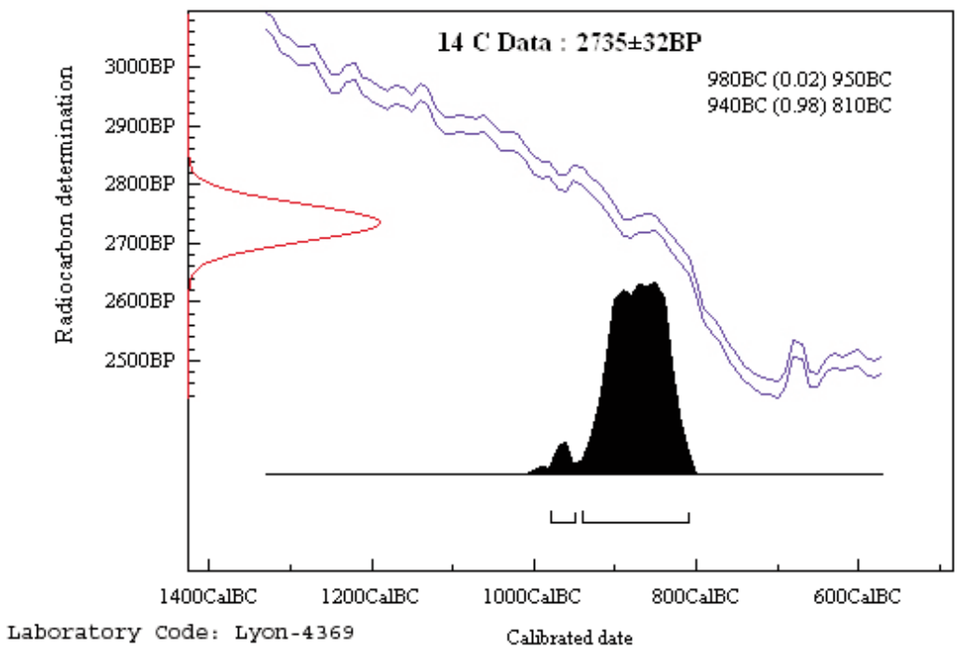

Fig. 8 Radiocarbon reading from Tomb9, Koban

ARCHAEOLOGICAL LANDSCAPES OF CENTRAL TRANSCAUCASIA: AN INVESTIGATION OF THE TBILISI-MTSKHETA REGION

ORTA TRANSKAFKASYA BÖLGESİNİN KÜLTÜREL ÇEVRESİ VE TBILISI-MTSKHETA BÖLGESİ ARAŞTIRMALARI

Jessie BIRKETT - REES

Keywords: Landscape, GIS, Late Bronze Age, Early Iron Age, Tbilisi, Mtskheta

Anahtar Sözcükler: Doğal Çevre, Coğrafi Enformasyon Sistemi, Son Tunç Çağı, İlk Demir Çağı, Tbilisi, Mtskheta

ABSTRACT

The landscape of the Caucasus is striking in its composition and diversity. This paper introduces a project examining the complex archaeological landscapes of the Tbilisi-Mtskheta region in central Georgia, a region boasting a long human history and a substantial record of archaeological investigation. The study integrates legacy data from preceding archaeological investigations with GPS field survey and physical landscape features to create a comprehensive Geographic Information System for the region. Substantial archaeological sites and assemblages in central Transcaucasia have received detailed attention but diachronic studies addressing these sites in relation to each other are rare. Rarer still are efforts to address the human history of the region within the context of a dynamic landscape. Doing so offers a new perspective on the rich record of central Transcaucasia and highlights the value of landscape as an analytical framework. Quantitative, distributional, and visibility analyses are applied to the archaeological record of the Late Bronze-Early Iron Age. Interpretation of the results within the context of the physical and social landscapes offers insight into the use and experience of the landscape. Investigations into the Late Bronze-Early Iron Age archaeological landscape showcase a new settlement and subsistence strategy established and developed within the Tbilisi-Mtskheta valleys.

ÖZET

Bu yazı, Son Tunç ve İlk Demir Çağı'nda insanlar ve çevre arasındaki ilişkiyi "çevresel arkeoloji" kapsamında değerlendirmektedir. 2006 yılında başlayan ve Gürcistan'da MÖ 4. binyıldan günümüze kadar gelen kültürel süreci kapsayan Tiflis-Mtskheta Projesi'nin ilk adımlarından biri yerel müze ve arşivlerden bilgi toplamak olmuştur. Daha sonra yerleşim yerleri, mezarlar, anıtlar ve dağınık buluntular olarak gruplara ayrılmışlardır. Çalışmalar sonucunda Mtskheta'da 49, Tiflis'de 223 arkeolojik buluntu yeri saptanmış, veriler Coğrafi Enformasyon Sistemi'ne ve veritabanlarına aktarılmıştır. Jeomanyetik yöntemler ve uydu fotograflarıyla desteklenen proje sayesinde Tiflis-Mtskheta'nın, tarihöncesi dönemlerden itibaren arkeoloji envanteri çıkarılabilmiştir.

Son Tunç ve İlk Demir Çağı'nda, bölgede önemli kültürel değişiklikler görülmeye başlar. MÖ 1500-1300 arasında yerleşimlerin ve büyük mezarlıkların akarsu boylarında yoğunlaştığı görülmektedir. Çanak çömlek açısından çok büyük farklılıklar olmasa da, Son Tunç - İlk Demir Çağı'nda maden eserlerin arttığını söylemek mümkündür. Mtskheta'da Samtavro kültürünün, Tiflis'de ise Lchashen-Tsitelgori kültürünün yaygın olduğu söylenebilir. Samtavro ve Lchashen-Tsitelgori kültürleri arasında ölü gömme gelenekleri, maden kılıç ve benzeri savaş aletleri ve çanak çömlek açısından farklılıklar görülmektedir.

İlk Demir Çağı'nda yerleşim yerleri sayıca artmakta ve hem yerleşimler, hem de mezarlıkların vadilerde yoğunlaşmış durumda oldukları gözlenmektedir. Bu dönemde mimari açıdan benzerlik gösteren, içlerinde fırın yerleri ve sunakları olan tek odalı dikdörtgen biçimli yapılar dikkati çekmektedir. Yerleşim yerlerinin vadilerde olması olasılıkla çevresel etkenlere bağlıdır. Ancak vadi yerleşimleriyle yakın ilişkilerini koparmayan dağ eteği yerleşimleri de görülür.

Doğal çevre etkeni de göz önüne alınarak kapsamlı bir değerlendirme yapıldığında Transkafkasya'nın kültür tarihi içindeki yeri alışılagelmişin ötesinde bir tablo oluşturmaktadır. Her ne kadar bu bölgede doğal çevreyi öğrenmemizi sağlayan çalışmalar yeterince yapılmamışsa da, gene de eldeki verilere göre bölgeyi anlamamız açısından bazı çıkarsamalar yapmamız olasıdır. Son olarak müze ve kütüphanelerin bilgi ve veritabanları açısından yetersiz olduğu bir gerçektir. Sayısal ortama geçişin bilgi depolama, arama ve analiz açısından gösterdiği kolaylıkları göz önünde bulundurduğumuz zaman önemli kazanımlar sağladığı kuşkusuzdur.

INTRODUCTION

Bordering with Anatolia, Iran and the Eurasian steppes, Caucasia is positioned on the threshold of several different cultural and geographic spheres. Boasting a lengthy, complex and often contested history, the Caucasus has consistently been a locale where different peoples and ideas meet, intermingle or divide; this is made clear by the archaeological heritage of the region and is sustained by the diversity of research projects currently in progress. As demonstrated by the contributions to this volume, renewed international access and academic attention toward the Caucasus has seen a rise in productive collaborations between Caucasian researchers and their international colleagues in an era of post-colonial development.

Over the last four years a project has been developed to investigate the archaeological landscapes of central Transcaucasia[1], addressing the region surrounding the capital of the modern Republic of Georgia, Tbilisi, and the ancient capital of the Iberian kingdom, Mtskheta (Fig. 1). Here I introduce the methods and results of this recent research, in which archival records were integrated with field survey data to form a comprehensive Geographic Information System (GIS). This contribution offers a new perspective on the archaeological record of central Transcaucasia and underscores the value of landscape as an analytical paradigm.

Routinely described as a borderland or a crossroads between Asia and Europe, the Caucasus is a relatively narrow isthmus between the Black and Caspian Seas (Peterson et al. 2006; Rubinson and Smith 2003; Smith and Rubinson 2003). Caucasia forms a corridor between the Asian and European continents but, rather than offering a direct route, presents a series of interconnected regions, linked or partitioned by the configuration of mountains and rivers. From the peaks of the main Caucasus Range to the alluvial valleys, by way of steep foothills and high plateaus incised with a network of swift streams and major river systems, the landscape of the Caucasus is striking in its composition and diversity.

Throughout the historical period, authors have commented on the complex geography as a succession of imperial rivalries has played out across Transcaucasian territory: Roman and Parthian, Byzantine and Ottoman, Persian and Russian[2]. The influence of these powerful neighbours on the inhabitants of Transcaucasia is apparent in the material record, but the distinctive regions of the Caucasus - the verdant west, the high plateau of the south, the arid east and

the river valleys of central Transcaucasia were also home to significant local powers and polities.

A well-documented shift toward the local and the individual in archaeological research of the last 30 years (Bowser 2004; Hodder 2001; Meskell and Preucel 2004; Preucel and Hodder 1996a; Renfrew and Bahn 2000; Rossignol and Wandsnider 1992; Shanks and Tilley 1987), together with increasing accessibility to southern Caucasia over the last two decades, has seen people and events in the Caucasus considered in contexts beyond their relationship with or peripherality to neighbouring powers. Renewed engagement with the physical record and the extensive archives of local archaeological research has produced a range of recent studies which reconsider the Caucasus in its own right (Connor 2006; Khatchadourian 2008; Sagona and Abramishvili 2008; Smith and Rubinson 2003). Caucasia is now at a new crossroads in respect to archaeological theory and method; the work of archaeologists in Transcaucasia is reaching a broader audience and progressive ventures are resulting from interaction between different schools of research[3].

The following study participates in this rejuvenated research environment, integrating existing archaeological legacy data with modern GPS archaeological field survey, digital mapping and analyses[4]. The project addressed the use and experience of the central Transcaucasian landscape between the Neolithic and Medieval periods but analyses here will concentrate on the Late Bronze Age to Early Iron Age, dated to the fifteenth to sixth centuries BC[5]. The investigation of the relationships between people and their landscape draws on current approaches in the field of 'landscape archaeology'. Substantial archaeological sites and assemblages in central Transcaucasia have received attention but diachronic studies addressing these sites in relation to each other are rare (Abramishvili 1978; Burney and Lang 1971; Kuftin 1946; Kushnareva 1997; Smith 1999). Moreover, while 'landscape' has become an increasingly popular term in Anglo-American archaeology in recent decades, the archaeological record of central Transcaucasia is yet to be examined in the context of the landscape. The survey of this region and the resulting data demonstrate that this is a productive avenue of research.

ARCHAEOLOGICAL LANDSCAPES, CAUCASIAN CONTEXTS

Throughout the twentieth century, archaeology has sustained an interest in human relations with landscape. Over this time methodological and interpretative approaches to the landscape have shifted, from landscape as backdrop to human settlement, to cultural determinant, to economic product, in correspondence with pervasive theoretical trends. Current attitudes acknowledge the multivalence of landscapes, both to ancient inhabitants and modern researchers. The landscape is regarded as a dynamic artefact in its own right and a problematic field of investigation. These theoretical reassessments have expanded the role of 'landscape' in archaeological research, establishing the area of specialisation now referred to as 'landscape archaeology'.

Landscape archaeology takes in a raft of concerns surrounding the development of the spatial and temporal planes of landscapes, interpreting archaeological data in view of the physical and social forces active in shaping the regional record. Rather than being a true sub-discipline of archaeology, defined by a distinct set of principles, landscape archaeology is a coalition of theories, dialogues and research agendas united by their interest in landscape as an analytical framework or as the principal focus of research. For this investigation, a working definition of landscape archaeology follows Wilkinson, aspiring "*to describe, interpret and understand the development of the cultural features that occur on the surface of the earth…human settlements as well as the land between or beyond them*" (Wilkinson 2003: 4).

As combined works of humankind and nature, archaeological landscapes express the diverse and intimate relationships between people and their natural environment. Landscapes provide the practical means for life but also serve as platforms for constructing or reinforcing social and political agendas and are actively engaged in the construction of cultural perceptions and social memories. As such, archaeological landscapes are multifaceted and capable of informing archaeological investigations on numerous fronts. As Philip Kohl has noted, "*[a]rchaeologists should reconstruct the past on the basis of the evidence they best control*" (Kohl 2007: 9); it follows that primary emphasis must be placed on material remains in the reconstruction and inter-

pretation of any prehistoric landscapes, as it has been throughout this research. Yet less tangible social and ideological frameworks necessarily inform human actions and were undoubtedly influential in the choices made by past communities.

The theoretical basis of the broader Tbilisi-Mtskheta project draws primarily on the work of Robert Preucel with Ian Hodder and that of Colin Renfrew with Paul Bahn (Preucel and Hodder 1996b; Renfrew and Bahn 2005). Preucel and Hodder have distinguished four approaches to the landscape in current archaeology, spanning the spectrum of scientific to interpretative theoretical perspectives: landscape as environment, landscape as system, landscape as power, and landscape as experience. These correlate with the more recent assessment of the field by Renfrew and Bahn, who distinguish economic resources, social structures and cultural meanings as the main archaeological research agendas within landscape studies. My investigation of the multiple roles of landscape in central Transcaucasia addresses environmental and economic resources, the integration of human and natural systems, and the roles of landscape in the construction and development of collective social experience. Investigating the development of landscapes within the context of interrelated social and natural spheres highlights the multiple roles played by landscapes in society and provides insight into human use and experience of the central Transcaucasian landscape.

The development of 'landscape archaeologies' in recent years draws attention to the increasing academic interest in the concept of space, engaged by the natural and social sciences over recent decades (Smith 2001: 363). Concurrent with archaeological reassessments of the theory and interpretation of space and landscape, new methodologies of measurement and analysis have developed. One of the most significant and pervasive innovations is that of Geographic Information Systems (GIS), digital databases for the integration of environmental and demographic data.

The graphical representation of the spatial relations of data has long been an interest of archaeology (Crawford 1912, 1923), and consequently archaeologists have been overwhelmingly receptive to the uses of GIS. These digital databases provide an expedient and powerful means of storing and integrating data sets from regional investigations (Wilkinson 2003: 41). GIS employ existing concepts of cartography but enable users to integrate, edit, store, perform interactive queries on, analyse, share, and display geographically-referenced information. Given the regional scale of research undertaken in Tbilisi-Mtskheta, together with the expectation that this survey would generate a large quantity of data from differing archaeological and geographic origins, a GIS was integral to the project. Whilst the principal objectives of the Tbilisi-Mtskheta GIS were to visualise and analyse archaeological features within their landscape context, this database can also serve cultural resource management purposes in the future. Preservation of cultural heritage is a pressing issue in Caucasian archaeology; the Republics are rapidly developing and, in situations where archaeological remains cannot be preserved *in situ*, strategies for documenting and digitally preserving this record are essential.

INTRODUCTION TO THE TBILISI-MTSKHETA PROJECT

In 2006 a project was initiated to collate, record, and analyse the substantial record of archaeological features in the Tbilisi and Mtskheta districts of the Republic of Georgia. This research produced a comprehensive database through which to examine the unique archaeological landscape of the area. The archaeological landscapes of Tbilisi-Mtskheta present a productive avenue of research since this is a region of enduring human use, an area of diverse landscape features, and a locus of extensive archaeological research throughout the twentieth century.

The human history of the Tbilisi-Mtskheta region extends over 6000 years, from the fourth millennium BC to the present. The diversity of peoples, of lifestyles and resources evident in Transcaucasian archaeology form a fascinating outline of cultural ebb and flow at micro- and macro-scales across the shifting social and natural boundaries of the region. The landscape of Tbilisi has been used and modified by successive occupants, including Chalcolithic inhabitants, the pervasive Early Bronze Age Kura-Araxes communities, the early kurgan cultures of Martkopi and Bedeni and the second millennium Trialeti culture. The Late Bronze-Early Iron Ages saw competing polities establish in the valleys of the region, including the Samtavro culture and the Lchashen-

Tsitelgori culture who both settled the Tbilisi-Mtskheta region. During the late first millennium BC and the early Common Era significant local powers were established in Transcaucasia, including the Colchian and Iberian kingdoms. The strategic location of Tbilisi-Mtskheta has made it continually attractive to the region's various powers, an object of rivalry for the armies of Rome, Persia, and Byzantium, the Arab Caliphates, Khazars, Seljuk Turks, Mongols, and Russians. The long and dynamic human history of Tbilisi-Mtskheta presents a palimpsest of cultural landscapes to archaeologists today.

In addition to the cultural palimpsest, Tbilisi-Mtskheta is a location of diverse physical landscape contexts, taking in the confluence of the Kura and Aragvi Rivers at Mtskheta and the middle Kura River valley where Tbilisi is established (Fig. 2). The river valley is flanked by the foothills of the Trialeti Range, which all but meet the Zedazeni Mountain between Tbilisi and Mtskheta. As I have noted elsewhere, the meeting of both highlands and rivers distinguishes the Tbilisi-Mtskheta region as a threshold within the surrounding landscape (Birkett-Rees 2009: ch. 6). The region comprises three major landscape zones -the alluvial valley, foothills, and highlands- and exists in an ecotonal area between forest and steppe vegetation. This setting means that minimal shifts in climatic conditions can significantly affect the ecological composition of the region. Nevertheless, the complexity of relief and hydrology in the region results in a variable mosaic of landscape elements within the three major landscape zones of valley, foothills, and high plateau (Connor 2006).

The broader regional geography also contributes to the unique landscape context of Tbilisi-Mtskheta. The region is located at a strategic point within ancient and modern Eurasia, at the intersection of east-west and north-south passages through Caucasia, and has twice served as capital to the surrounding region. The Kura River skirts the Armenian highlands between the modern regions of north-eastern Turkey and central Georgia. Whether transport is by water or by land, the river valley is particularly important for east-west passage through the central Caucasus[6]. Furthermore, Tbilisi-Mtskheta is located on one of the oldest routes connecting the Eurasian Steppe to the north with the plains to the south. The route passes along the Kura River valley and follows the Aragvi River gorge into the mountains. This route leads to and from one of the few passages through the main Caucasus Range: the Daryal Pass, known to the Romans as the Caucasian Gates[7]. The distinctive geography of the Tbilisi-Mtskheta region contributes to the enduring use of this area, whilst the range of uses in different archaeological periods emphasise human agency within the landscape (Birkett-Rees 2009).

Investigating Tbilisi-Mtskheta also offered a remarkable opportunity to explore the archives of Georgian archaeological research. The Archaeological Expedition of Tbilisi was one of the most dynamic and productive regional expeditions during the Soviet period, with the overwhelming majority of research concentrated on the excavation of individual sites (Mongait 1961: 25)[8]. These include numerous significant sites of the pre- and early-historic periods, such as the late-fifth millennium settlement of Delisi, the multi-period settlement and cemetery of Treligorebi and the barrow burials of Namgalamitsa. Within the Tbilisi area several salvage surveys have been undertaken to discover archaeological remains prior to their destruction by modern developments[9]. However, there is no tradition of regional survey in the valley and the research contributing to *Tbilisi I* (Abramishvili 1978) remains the only other endeavour to integrate the archaeological features of Tbilisi. Drawing together the records of these numerous investigations into a regional GIS has provided a new perspective on the archaeological record of Tbilisi and Mtskheta.

Research Design and Classifications

The archaeological features informing this project and contributing to the GIS were assembled through archaeological survey and excavation. One of the principal goals of this research project is the collation of existing information from local museum archives. Only after the old and new information on archaeological features is collated can any attempt be made to interpret the changing use and experience of the regional landscape; with this goal in mind, a survey of both the physical landscape and archaeological archives was initiated.

The notion of the archaeological landscape as palimpsest is fundamental to examining change in physical and social space over time, distinguishing trends in the way people engage with their landscape

and defining points of recurring usage (Crawford 1953: 51; Roberts 1987: 80; Wilkinson 2003: 7)[10]. In this investigation of the cumulative record of archaeological features in the Tbilisi-Mtskheta region, attention is directed toward the densest accumulations of material remains within the landscape, as the loci of concentrated or ongoing human activity in the past. For this reason, the Tbilisi-Mtskheta survey could be classified as a 'site-oriented' survey (Banning 2002: 12-22; Ruppé 1966: 313-315). Yet the landscape connecting these places is also taken into consideration; past inhabitants were equally influenced by the landscape between the sites, as they were by the sites themselves. Archaeological features discovered outside 'site' contexts are also recorded and in fact represent a substantial part of the overall database, indicating that the landscape was used much more extensively than would be suggested by only examining the locations of 'sites'.

The various records of archaeological nature in the Tbilisi-Mtskheta region were termed archaeological 'features' and were classified into four broad qualitative categories based on the type of archaeological remains discovered and the principal use of the location: settlements, burials, monuments, and chance finds. Settlement sites and burial sites are the fundamental categories of regional survey and are well represented in the Tbilisi valley (Fig. 3). These range from stratified, enduring settlement locations to single-period dwellings and from individual burial sites to extensive cemeteries. Monuments and chance finds encompass the locations of archaeological remains outside the context of settlement or burial, illuminating the uses of the land in between these more coherent categories of use. Monuments include constructed features or intentional depositions that are not directly associated with habitation or burial, whilst chance finds are most commonly isolated objects and discrete field scatters. Where possible, detailed qualitative information, such as the specific burial or artefact style, was recorded as an attribute of each feature. This enables features to be grouped within the four broad categories above but also to be queried on the basis of more specific characteristics.

The archaeological features in Tbilisi and Mtskheta were catalogued according to their location within the 18 districts of the modern city of Tbilisi, with the adjacent district of Mtskheta making a total of 19 classifications (Fig. 4)[11]. For logistical reasons the boundaries of the survey area conform to the jurisdictional boundaries of Greater Tbilisi and Mtskheta. These are a modern overlay but encompass two major landscape zones, the valley and foothills.

The Tbilisi-Mtskheta survey was a project of three interrelated parts: archival research, field reconnaissance and GIS construction. Archival research to gather data on existing archaeological features focused on the records of the Archaeological Expeditions of Tbilisi and of Mtskheta, predominantly drawing on the records of the Centre for Archaeological Research in Tbilisi. The archives and collections of the Tbilisi Archaeological Museum and the Simon Janashia State Museum of Georgia also contributed to the collation of this register. The resulting catalogue was then used to locate known archaeological features, which were recorded in a GPS ground reconnaissance survey, in conjunction with field walking to record newly located features in the less developed urban fringe.

These complementary methodologies resulted in a database of 49 archaeological features in Mtskheta and a total of 223 identified in Tbilisi. These features were classified according to their periods of use or manufacture and subdivided into the categories outlined (Fig. 3)**.** This is a substantial supplement to the register of *Tbilisi I*, which recorded 134 features in Tbilisi (Abramishvili 1978). The database of the total 272 features was integrated into a GIS which enabled the existing archaeological record of Tbilisi-Mtskheta to be considered *en masse*. Features were analysed in relation to each other and relative to landscape features, including hydrology, elevation, and vegetation zones. The existing corpus of archaeological research had a significant impact on the research design of this project; because the archaeological record comprising this study is an amalgamation of the results of archaeological field survey with a volume of data derived from preceding research, I will first outline the context of the legacy data.

Legacy Data

The archival records contributing to the register of features are derived from diverse archaeological research projects with varying initial research

goals and methodologies. The range of legacy data included in this survey means that no standardised control could be exerted at the original point of data collection, as would be the case if all results were drawn from a single field project. This diversity is reflected in the information available for sites and features within the register; for some there is little information beyond the type of feature and the principal period of use, whereas for numerous sites there are test or full excavation records from which to draw. This merely reflects the mixed origins of the data, rather than being a fault in data collection or recording. However, discrepancies in the range of information available for each feature mean that, although all known features were recorded in the project database, the contribution that each can make to interpretative discussions is not necessarily equal.

In Tbilisi and Mtskheta we are dealing with an established urban landscape and its outlying fringes. Modern development has increased rapidly in the last decade and has obscured or obliterated much of the identified record, its existence remaining only in archival documentation and museum collections. Where archival documentation indicates the presence of material collections, the location of these artefacts was not always apparent. Allowances must be made for the fact that this region has undergone considerable social upheaval in recent history; this has impacted museum staffing, storage, and resources, and has understandably resulted in the loss of some records. The clarity of the records has also been compromised by intentional erasure in the modern civic landscape, particularly in terms of renaming urban features in the post-Soviet period.

In the museum archives, the find location of archaeological features is typically descriptive, relative to urban features rather than geographic coordinates. There was a considerable amount of anecdotal evidence to be collected and a degree of historical inquiry required in order to correlate the location of archaeological features investigated during the Soviet period within their converted post-Soviet urban context[12]. Of the finds and features previously recorded in Tbilisi, 60 could not be specified beyond the local district in which they were originally discovered (Fig. 3). Of the features in Mtskheta, seven could not be located. Although this affects the resolution of the data, the overwhelming majority of archaeological features identified in archival research were able to be located and GPS coordinates taken.

Despite the variety in the nature and condition of the archival record, there are considerable benefits in integrating these legacy data. In survey areas that include modern urban centres, the irrefutable value of archaeological legacy data is that they inform us of sites and features which are no longer visible, having been interred beneath modern buildings and infrastructure or destroyed entirely. A register failing to incorporate such 'invisible' sites could serve no analytic purposes in terms of discussing the archaeological record at the scale of landscape. No survey can purport to be perfectly representative but the integration of legacy data with new data has created the most comprehensive register of archaeological heritage to date in Tbilisi-Mtskheta and presents the only appropriate assemblage of records for the investigation of ancient human-landscape interactions.

Nev Data and Ground Reconnaissance

In addition to the collation of archaeological legacy data and subsequent GPS survey of archaeological features, a small number of new features were identified in the Tbilisi-Mtskheta region during ground reconnaissance survey of the urban fringe. Survey of Mtskheta was undertaken by a team of up to thirteen archaeologists and students. Transects of the region were surveyed in zones running north-south on either side of the Aragvi River, north of the confluence with the Kura. These transects included parts of the Aragvi flood plain, the foothills of Zedazeni mountain to the east and the Skhaltba mountain to the west. The eastern transect took in the known site of Tsitsamuri and the western transect took in the known sites of Samtavro and Bebristsikhe. A further north-south transect was walked from the Tserovani plain into the low foothills of the Skhaltba range, immediately east of the Ksani River. East-west transects were walked along the boundary of the Tserovani plain, traversing the foothills of the Skhaltba mountain at an elevation of around 650 m. Twelve previously unrecorded archaeological features were located; artefacts from this survey were predominantly ceramics and were recorded in the field.

In Tbilisi, the land around the Tbilisi Sea reservoir was examined by the author and two representatives of the National Museum of Georgia. This area is being rapidly developed and was well exposed during the summer of 2006. The geomorphology of the region was considered when examining the distribution of known sites in Tbilisi and selecting a small area for fresh field survey (Janelidze 1980: 74-75; Nemonishvili 1971: 448-459; Tsagareli 1964: 338-339). The Tbilisi Sea was chosen as a region that had received little attention in preceding research and which offers reasonable surface exposure for survey. The lake shore and road cuttings offer potential windows of exposure beneath the thick alluvial veneer of the Tbilisi valley. Two new features were identified (TS02 and TS05, Fig. 2) and artefacts including ceramics, stone burial circles, and floor levels in vertical exposure were recorded in the field. It was not feasible to undertake ground reconnaissance survey in other areas of Tbilisi due to the modern urban overlay[13]. Nevertheless, the cumulative 272 features (205 with recorded locations) provide a precise and original regional perspective on the archaeological record of Tbilisi-Mtskheta.

GIS Components and Analyses

The broad applications of GIS to studies of the archaeological landscape have been noted above. In this research, GIS was used to visualise the field area and examine the spatial relations of archaeological features in the context of the landscape. Three landscape layers-elevation, hydrology, and landscape zones-and one layer representing modern urban features were created in addition to the archaeological data. The digital elevation model used for the Tbilisi-Mtskheta project derives from Shuttle Radar Topography Mission (SRTM) satellite imagery. Using elevation data embedded in the SRTM cells, contours were generated at 30 m intervals and a triangulated irregular network (TIN) developed from points along these contours. Interpolation between these points resulted in the three-dimensional digital terrain onto which the archaeological features are projected and against which they may be analysed. This SRTM-derived terrain has imperfections, including a relative height error of less than 10 m and a relative geolocation error of less than 15 m, but is within an acceptable threshold of error for the regional scale of research (Farr et al. 2007). Regional hydrology and landscape zones were determined from field survey, LANDSAT imagery, geographical texts, and existing topographic maps. It was also possible to create schematic representations of vegetation in different archaeological periods based on recent palynological research in the region (Connor 2006).

This research makes use of GIS as an efficient digital database of spatial and related qualitative data concerning the archaeological landscapes of Tbilisi-Mtskheta. The digital integration of the archaeological record with physical landscape in the GIS enabled regional, contextual analyses. GIS offer alternative ways of arranging and viewing data which can assist and enhance interpretation, but their potential is only equal to the data entered and the queries posed of the assemblage. They are highly adaptable analytical tools capable of complex operations but do not substitute for archaeological interpretation. Familiarity with the culture-historical context of the region is essential to interpreting results from GIS analyses; the following excerpt builds on detailed study of the regional landscape and archaeological record (Birkett-Rees 2009).

The catalogue of all archaeological features, represented within the digital terrain in Figure 2, visually demonstrates the wealth of archaeological heritage within Tbilisi-Mtskheta from the pre- and early-historic periods. Contextual analysis and interpretation of this data develop the GIS from merely a visual substantiation of enduring human use into a commentary on collective choices and interests in the past landscape. Here I provide further examination of the Late Bronze to Early Iron Age archaeological landscape, a period in which a significant transition from Middle Bronze Age pastoral-nomadic lifestyles to settled agro-pastoralism took place in central Transcaucasia.

LATE BRONZE – EARLY IRON AGE LANDSCAPES

The fifteenth to thirteenth centuries BC are an important time in the archaeological record of Tbilisi-Mtskheta, a transitional period in which a new settlement and subsistence regime develops. During this time people begin to intensively settle the river valley, burying their dead in simple mounds or stone pits clustered in large cemeteries within the valley. In central Transcaucasia, ceramic styles are conservative during the Late Bronze-Early Iron Age but metalwork

develops rapidly, particularly in forms of weaponry (Abramishivili 2003; Akhvlediani 2005: 258).

The publications of the Archaeological Expeditions of Mtskheta and of Tbilisi present excavation results of several Late Bronze-Early Iron Age settlements and cemeteries (Apakidze 1981, 1995, 1999; Sadradze 2002), and the National Museum of Georgia holds extensive material collections. When taken together these results depict two communities with distinctive material traditions but similar landscape usage inhabiting the Tbilisi-Mtskheta valley. The Samtavro culture becomes established in Mtskheta, the Lchashen-Tsitelgori culture inhabits the Tbilisi valley and the region forms a sphere of interaction between these two communities.

The Samtavro and Lchashen-Tsitelgori cultures are materially distinguished on the basis of burial, metal weaponry and ceramic styles, identified at the sites of Samtavro, Narekvavi, Chalipiragorebi, Treligorebi, Xevdsmara and others (Fig. 5). Earthen pit burials and stone-lined graves at Samtavro contain fairly uniform burial assemblages, whereas the slightly more elaborate cromlech style graves identified with Lchashen-Tsitelgori traditions in Tbilisi include varying quality and quantity of burial assemblages. Samtavro burials contain distinctive leaf-shaped daggers and bronze spear heads with flared, flame-like heads and an open socket, whereas the Lchashen-Tsitelgori assemblages include bronze spear heads with closed sockets and Kakhetian pointed daggers, bearing resemblance to Near Eastern styles (Akhvlediani 2005: 270).

The pit graves of Samtavro typically include snapped carnelian beads, bronze pins with coiled heads and ceramics with zoomorphic, pinched handles (Abramishvili 2003; Akhvlediani 2005: 263; Apakidze 1981, 1995)[14]. Lchashen-Tsitelgori ceramics feature stamped triangle designs, inverted rims, burnishing and pierced lug handles. In both assemblages, the majority of pots are wheel-made and these distinctive features are included on a wide range of vessels. Samtavro-style zoomorphic handles are incorporated onto some of the Lchashen-Tsitelgori ceramics in the Tbilisi region, including at the adjacent burial sites of Treli and Chalipiragorebi, and Samtavro style spearheads are included in Lchashen-Tsitelgori type burials at Chalipiragorebi (Fig. 8).

The Tbilisi valley is not simply a location of discrete use by two cultural groups during the Late Bronze-Early Iron Age rather it is a region of interaction[15]. The association between these two significant Late Bronze-Early Iron Age Caucasian cultures in the Tbilisi valley attests to the continuing role of this territory as a meeting point in the mid-second millennium and beyond. The following investigation of the Late Bronze-Early Iron Age record offers some insight into the use and experience of the landscape by applying quantitative, distributional, and visibility analyses to the archaeological record and interpreting the results within the context of the physical and social landscapes.

Based purely on quantitative analysis of the archaeological record, the Late Bronze-Early Iron Age reveals a proliferation of features in the Tbilisi-Mtskheta region (Fig. 3, 5). Closer examination of the record, by feature type, indicates diversification in the uses of the landscape during the Late Bronze-Early Iron Age. The landscape of the preceding Middle Bronze Age is dominated by large barrow burials but the Late Bronze Age transition is characterised by the establishment of numerous settlements and associated cemeteries. Records of burial style show that four of the 26 Late Bronze Age burial sites incorporate barrow-style burials but this is no longer the dominant tradition[16]; in these centuries burial styles vary from barrows, to cromlechs, to simple pit graves and occur in all districts of Tbilisi.

Settlement intensifies into the Early Iron Age, with a further 10 settlement locations identified. The record of settlements and cemeteries includes several excavated sites, providing invaluable documentation of material culture. One of the most significant settlements in the Tbilisi valley develops at Treligorebi, with its initial phases contemporary with the fifteenth to thirteenth century settlement of Sajoge[17]. Treligorebi boasts substantial dimensions for the Late Bronze-Early Iron Age, extending over 1.5 km on an elevated area beside the Kura River. These natural hills were populated with aggregated dwellings terraced on the slopes.

A shared architectural tradition amongst Early Iron Age communities is evident from the excavated settlements of Treligorebi, Narekvavi, and Samtavro.

Each comprises single-roomed rectangular dwellings with a flat roof, an oven, and 'altar' fixture near the back wall (Abramishvili 1978; Apakidze 1999; Miron and Orthmann 1995; Nikolaishvili and Gavasheli 2007; Tsetskladze 2005, 2007). The structures are arranged in terraces on natural hillsides, with the flat roof of the dwelling below forming the floor of the one above (Miron and Orthmann 1995; Nikolaishvili and Gavasheli 2007). The dwellings at Treligorebi often had earthenware jars set into the floor for storage, pointing to the role of sedentary agriculture and, in a dwelling dating to the eighth-seventh centuries BC, corn kernels and grape seeds were found (Abramishvili 1978: 26). These foodstuffs are also present in the contemporary settlement discovered at Narekvavi in Mtskheta.

Distributional analyses of Late Bronze-Early Iron Age features (Fig. 5) clearly show that the preferred location for settlement and burial is the valley. In addition to numerous settlements and cemeteries, 16 chance finds of Late Bronze Age material and a further four of Late Bronze-Early Iron Age material have been made in the alluvial plain. Several of these were of bronze weaponry, including daggers in Isani, Lilo and Ponichala, arrows at Kala and Varketili, and isolated finds of ceramics at Saburtalo, Kala, and Nadzaladevi. These finds are spread throughout the valley, highlighting the intensification of human activity throughout this landscape zone.

The record of intensified and diversified use of the valley is contextualised by correlation with regional climate and local vegetation. A progressive and lasting decrease in temperature and precipitation beginning in the early second millennium BC had significant consequences for the central Transcaucasian landscape (Connor 2006; Wick et al. 2003). The oak forest, which had existed on the foothills above Tbilisi during the Middle Bronze Age, gave way to open vegetation, above which coniferous forests of pine and fir grew on the high plateau. The inhabited river plain was largely deforested, with pollens of steppe vegetation and phrygana dominant in the record of this period. The intensified human activity in the valley may be associated with the disappearance of the remaining oak-ash forests (Gogichaishvili 1990), replaced in the pollen record with steppe-phrygana assemblages and vastly increased quantities of dung fungal spores from large herbivores (Connor 2006: fig. 5.20). This pollen record reveals an increasingly open landscape and heavy grazing in the foothill zone. High levels of wheat pollen in the record of Lake Imera, on the high plateau west of Tbilisi-Mtskheta, suggest that crops were also grown in the few highland areas that had reliable water sources (Connor 2006: 285).

The concentration of settlements in the lowlands can be linked to the above shift in regional climate, in which communities were attracted to the arable areas of the valley plain (Kvavadze 1999). Examining the archaeological record within the context of the physical landscape provides greater understanding of the use of the Tbilisi-Mtskheta valleys. The correlation of diminishing forestation and increasing lowland grazing with increasing numbers of settlements in the valley during the mid-second millennium BC also emphasises gradual change within the interrelated spheres of physical and cultural landscapes. The physical landscape participates in the development of social systems and, likewise, people use the resources within their landscape in innovative ways and are able to modify natural features selectively to suit their needs.

In addition to being a source of subsistence and a domain of human adaptation and innovation, the landscape is an active social space. Together with environmental attributes, a variety of socio-cultural and individual factors contribute to the human use and experience of landscapes. GIS are analytic, reconstructive, and quantified, and thus do not directly complement the interpretative, deconstructive and narrative approaches appropriate to investigations of the social landscape (Alcock 2002; Ashmore 2004; Crampton 2001; Hodder 1992, 1995, 2001; Zubrow 2006). Recent research is exploring the potential for GIS to accommodate the interpretative approaches informing current archaeological theory (Bruchez 2007; Cummings 2002; Mills 2005; Witcher 1999), but the strength of GIS within landscape archaeologies remains in addressing quantifiable questions of spatial relations, demographic patterns, land use, or preference. Nevertheless, further analysis of the archaeological landscape of the Late Bronze-Early Iron Age has shed some light on the social landscape and collective experience of communities in this region.

Drawing on the archives of previous excavations, in addition to ceramic and metalwork repertoires, we

see that the architectural style of Late Bronze-Early Iron Age settlements connects the dispersed settlement features within a shared cultural system (Abramishvili 1978; Apakidze 1999; Miron and Orthmann 1995; Nikolaishvili and Gavasheli 2007; Tsetskladze 2005, 2007). Architecture creates material boundaries that spatially demarcate and direct social action, whilst the establishment of architectural traditions, such as the flat-roofed dwelling with 'altar' and oven fixtures and the terracing of settlements, indicates shared conceptions of social space (Wilson 1988). Through examination of the relationships between these settlements we can gain greater contextual understanding of the inhabited archaeological landscape.

Analysis of settlements together with terrain indicates that seven settlements established or expanded during the Late Bronze-Early Iron Age are sited on natural rises within the valley. Treligorebi, Xevdsmara, Digomi 02, Isani 07 and Upper Avchala 07, Samtavro and Narekvavi are located on hills or hillsides (Fig. 6). Treligorebi and Narekvavi are known to be terraced settlements, building on the existing hillside, and the settlement at Samtavro is located on a natural hill, as are Xevdsmara, Upper Avchala 07, and Isani 07. The settlement at Digomi 02 is positioned on the mountain at the head of the Tbilisi valley, overlooking the Tbilisi plain and the river valley leading to Mtskheta.

A significant aspect of human experience in the landscape is visibility and, whilst visibility does not equate to perception (Classen 1993), it potentially offers enhanced understanding of the experience of a landscape (Wheatley 1993). Viewshed or visibility analysis was performed on all located hill settlements, comparing the elevation of each settlement with the elevations of the surrounding terrain to determine the areas visible to and obscured from the settlement (O'Sullivan and Unwin 2003). Interestingly, the cumulative viewshed of these dispersed settlements takes in the majority of the Tbilisi valley, the confluence of the Kura and Aragvi Rivers and the approach to this passage along the Aragvi River (Fig. 7). As noted previously, these river valleys are arteries through central Transcaucasia providing both the means for agricultural life and movement between regions.

The results of terrain analysis and viewshed analysis thus provide an opportunity to examine how the social and natural landscape contributed to the settlement choices of Early Iron Age communities. Visible contact between elevated sites along the river valley, and collective visibility of the majority of this significant landscape zone, is a feature of the period. The multiple motivations for this may include communication or territorial observation. The proximity of the settlements and their shared architectural style point to fundamental social connections and communication, but the rapid diversification of weaponry styles evident in the archaeological record of the Late Bronze-Early Iron Age also implies increased social differentiation and competition. The intensive use of the arable plain and adjoining foothills during this more arid period, together with a regional social climate of movement and increasing militarism (Kohl 2007: 15), may have made intervisibility a desirable feature for the inhabitants of Tbilisi-Mtskheta.

In the record of Treligorebi, the largest settlement of the region, each of the seven settlement layers dated to the Late Bronze-Early Iron Age contain evidence of conflagration, potentially indicating violent confrontations in the valley. Despite the destruction layers, and in contrast to the numerous fortress-settlements of the southern Transcaucasian Late Bronze-Early Iron Age (Badalyan et al. 2003; Smith 2005), no settlements within Tbilisi-Mtskheta from this period incorporate defensive structures. Intervisibility between sites may not have been motivated by defensive concerns but rather have afforded visual reinforcement of a collective local social network, surveillance of agricultural land and ready access to activity on the major route connecting east, west, north, and south Caucasia.

The reconstruction and reuse of the settlement at Treligorebi, despite several destructions, returns us to the concept of the palimpsest. The archaeological landscape is layered, in terms of its physical structure and the motivations and meanings invested in its form. GIS too are composed of layered and interwoven data and their spatial nature makes the identification of places of reuse within and between temporal periods a strength of GIS. The identification of such 'persistent places'[18], including Treligorebi, Sajoge and Samtavro in Tbilisi-Mtskheta, has the potential to inform on social memory invested in place and landscape and to highlight the reworking

of an existing human palimpsest in the past (Birkett-Rees 2009). These are topics for more detailed discussion elsewhere but demonstrate some of the potential insights afforded by GIS analyses into the changing use and experience of the landscape.

CONCLUSIONS

Regional approaches, as taken by this research, offer an alternative perspective on the human history of central Transcaucasia. An extended spatial extent and temporal range is fundamental to the study of the archaeological landscape and to the examination of continuity and change in human-landscape interactions. Although landscape approaches to the archaeological record are not common in Transcaucasia[19], this research has proven constructive for the study of areas of sustained human use and cultural convergence, such as central Transcaucasia.

This investigation of archaeological landscapes is firmly founded on material evidence and the results of fieldwork. One of the principal goals of this research project was the collation of data relating to the many archaeological features of Tbilisi-Mtskheta. As all researchers in the Caucasus will be aware, the invaluable archives of archaeological research in this region are seldom to be found outside the Republics' museums and libraries; their preservation in digital form is important in itself. The integration of legacy data from archival research with new data from field survey presents the only assemblage of records appropriate for the investigation of the changing use and experience of the regional landscape. The digital integration of various classes of archaeological data with physical landscape features in the GIS created for this project offers a new approach to the rich regional record a modern addition to the archaeologist's tool kit that affords advanced opportunities for data storage, integration, display and analysis.

The brief example of investigations into the landscape of the Late Bronze-Early Iron Age using the GIS showcases a new settlement and subsistence strategy established and developed within the Tbilisi-Mtskheta valleys. It is clear that the alluvial valley is the preferred location for human activity and, based on the distribution of chance finds and monuments outside the context of more established settlements and burials, the whole valley was used intensively in this period. Further analysis of the terrain and archaeological record indicates a handful of settlements on natural rises. These share lines of sight and their collective viewshed takes in the majority of the inhabited valley and the natural passage connecting Tbilisi and Mtskheta. The consideration of visibility within the Early Iron Age landscape affords some initial interpretation of collective social experiences of the inhabited landscape, acknowledging the multiple functions, meanings and motivations contributing to the development of archaeological landscapes.

NOTES

1 'Landscapes' here refers not only to the physical features of mountains, rivers or settlements but also takes in social landscapes of human use and experience.

2 Authors including Apollonius of Rhodes (*Argonautica),* Aeschylus (*Prometheus Bound),* Ptolemy (*Geographia,* book 5), Sebeos (*The Armenian History*, ch.173), Strabo (*Geographica*, 11.3.4, 11.14.4).

3 Amongst these projects are the Georgian-Australian Investigations in Archaeology (GAIA) project (National Museum of Georgia and The University of Melbourne); Project ArAGATS in Armenia (The Institute of Archaeology and Ethnography, Armenian National Academy of Sciences and the University of Chicago); excavations of Tachti Perda and Aruchlo in eastern Georgia (the National Museum of Georgia and the Eurasia Department of the German Archaeological Institute, Berlin); the Udabno Project conducted by Eberhard Karls Universität Tübingen and the Middle East Technical University (ODTÜ), Ankara, in cooperation with Georgian archaeologists.

4 *Legacy data* is a term sometimes used in the context of digital data, referring to the data contained in a system prior to the installation of a new system. In the context of my research, *legacy data* is reinterpreted as an expedient collective term for existing data resulting from preceding research projects, including technical drawings, field reports, material collections, and personal communications with the field researchers who produced these data.

5 The chronological division of archaeological periods is a fraught issue in Caucasian archaeology. The scarcity of

radiocarbon dates results in relative chronologies, based on seriation and competing typologies of materials. The transition to the Late Bronze Age is contentious in central Transcaucasia, with debate focussed around the third quarter of the second millennium BC and the division of cultural groups within the region (Abramishvili 2003; Akhvlediani 2005; Pitskhelauri 1973). Here, I follow the widely accepted chronology, dating the Late Bronze-Early Iron Age to the fifteenth to sixth centuries BC based on the material culture of the Lchashen-Tsitelgori and Samtavro cutlures (Abramishvili 2003; Akhvlediani 2005). Further investigation of the settlement at Sajoge, in northwest Tbilisi, will help develop a more precise chronology for the region (see Abramishvili and Orthmann 2008). The Late Bronze and Early Iron Age are united as a period of cultural transition and consolidation of traditions in central Transcaucasia, but the Early Iron Age typically extends from approximately the twelfth to the sixth centuries BC (Abramishvili 1999: 57; Japaridze 1999: 64).

6 Prior to modern damming and canalling, the Kura River was navigable up to the location of modern Tbilisi (UNECE 1992).

7 In his *Geographica* Strabo refers to the Daryal Gorge as the *Porta Caucasica* and also the *Porta Cumana*, whilst in Ptolemy's *Geographia* the pass is called the *Fortes Sarmatica*, in reference to the peoples (Cumans and Sarmatians) who dwelt north of the Caucasus Range. Cultural interactions are also evident in the origin of the modern name, which derives from the Persian *Dar-e Alan*, the Gate of the Alans.

8 *Sites* are typically defined as accumulations of past human activity in varying combinations of artefacts (anthropogenic materials and objects), associated organic remains such as animal bone and plant remains (sometimes called 'ecofacts') and additional human modifications of the area, such as hearths, walls, postholes, storage pits, burials, monuments.

9 Examples of such include: *Tbilisi I*, Abramishvili 1978: 20: expedition instigated due to urban development in Saburtalo (at Delisi) and in Digomi; also at Narekvavi: Apakidze 1999: 5: investigations resumed due to 10 tombs being destroyed during replacement of pipes for the Baku-Supsa oil pipe-line; earthworks in the Digomi Plain resulted in the discovery and damage of Treligorebi, Abramishvili 1978: 20; the construction of a hydroelectrical power station precipitated rapid excavation of the Tsalka region (Trialeti), Kuftin 1946: 340.

10 *Palimpsest*: the successive superposition of one landscape on another, sometimes associated with the removal of earlier landscapes by later landscapes.

11 District (abbreviation on GIS maps): Digomi (DG), Upper Avchala (UA), Vashlijvari (V), Saburtalo (S), Didube (DD), Vera-Vake (VV), Mtatsminda (M), Kala and Rustaveli (K), Isani/Avlabari (I), Central East Mtkvari (CEM), Nadzaladevi (N), Grmagele (GR), Gldani (GL), Lilo (L), Ponichala (P), Tbilisi Sea (TS), Navtalugi (N), Varketili (V), Mtskheta (MS).

12 Very few records include latitude and longitude coordinates and, understandably, none include GPS reference points. The records dating from pre-1991 (the vast majority of the archives) locate features according to urban names of the Soviet era. Many of these streets, parks and squares have since been renamed without the records being updated. However this issue was remedied by comparing old and new street maps. Those features that were ultimately unable to be located in my GPS survey are those with considerably vague descriptions, for instance site 1 in Saburtalo district (S01): "a chance find of the Early Bronze Age by the road leading to Lisi Lake". In a small number of cases relating to more substantial features, former excavators were able to be contacted and to provide clarification.

13 The area southeast of the Tbilisi Sea is noticeably bare of sites on the GIS. Access to this area is restricted due to the proximity of the airport and a military base.

14 The zoomorphic pinched handle features in regions from Mtskheta to the Black Sea, in both the Samtavro cultural assemblage and that of the Colchis culture, which was located in lowland western Georgia and the Surami Range. At Samtavro, the zoomorphic style is maintained for almost 1000 years, between the fifteenth and sixth centuries BC, indicating remarkable cultural continuity. Miron and Orthmann 1995: 193; Ramishvili 2001: 159.

15 The parameters of this paper do not permit me to delve into the complex and interesting interactions between these two major central Transcaucasian cultural groups. Suffice to say that people with Lchasen-Tsitelgori traditions and with Samtavro traditions (in ceramics, metalwork, and burial style) inhabit the Tbilisi-Mtskheta valleys during the fifteenth to thirteenth centuries BC, with the Samtavro culture gradually dominating the region into the Early Iron Age. More detailed information on the material culture of these peoples can be found in Abramishvili 1997, 2003; Akhvlediani 2005; Sadradze 2002.

16 The four features are distributed around the valley at Digomi (DG17), The Tbilisi Sea (TS01, TS05) and Ponichala (P04).

17 Abramishvili and Orthmann 2008: 280, in which site plans and a suite of radiocarbon dates are published.

18 "[P]laces that were repeatedly used during long-term occupations of regions": Schlanger 1992: 97.

19 With the notable exception of Adam T. Smith's work and that of the broader ArAGATS team in southern Caucasia (Badalyan et al. 2003; Smith 1999, 2001).

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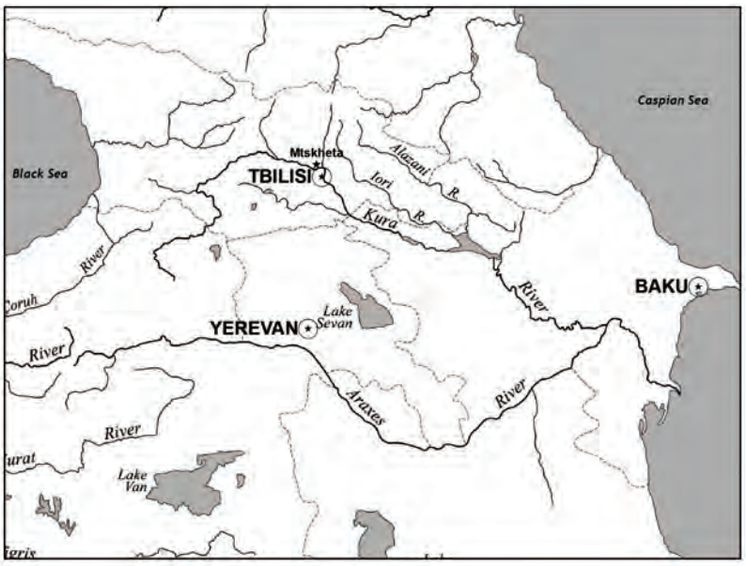

Fig.1- Map of the Caucasus Region

	Settlement	Burial	Monument	Chance Find	Total Features
Late Chalcolithic	2(1)	0 (0)	1 (1)	2 (2)	5
Early Bronze Age	3 (2)	5 (4)	3 (3)	2 (1)	13
Middle Bronze Age	0 (0)	11 (8)	1 (0)	1 (1)	13
Late Bronze Age	8 (4)	26 (22)	4 (2)	16 (8)	54
Late Bronze and Early Iron Ages	18 (15)	21 (14)	7 (6)	4 (4)	50
Iberian and Graeco-Roman period	6 (6)	22 (19)	8 (6)	12 (8)	48
Medieval period	28 (22)	18 (18)	23 (19)	6 (3)	75
Uncertain period	1 (0)	10 (3)	0 (0)	3 (3)	14
				total (located):	272 (205)

Fig. 3. Tabulated archaeological features of the Tbilisi-Mtkheta region arranged by feature type and period of use.

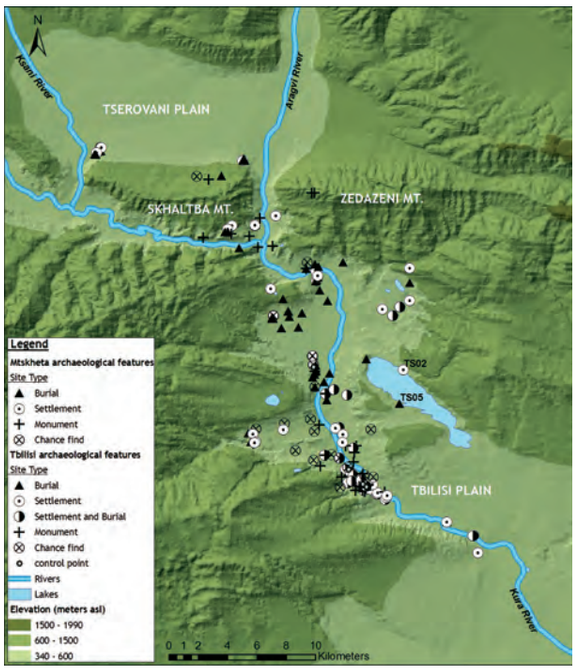

Fig. 2- GIS map showing archaeological features of the Tbilisi and Mtskheta region

Fig. 4- Jurisdictional districts of Tbilisi and Mtskheta.

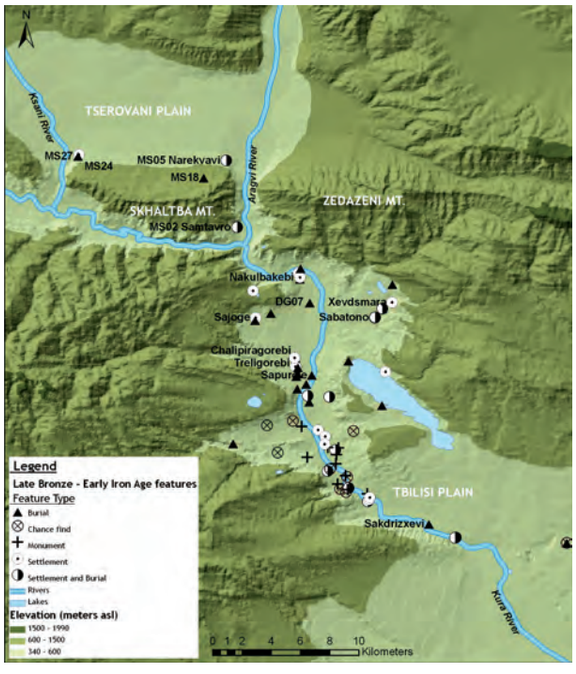

Fig. 5- The Late Bronze-Early Iron Age archaeological landscape.

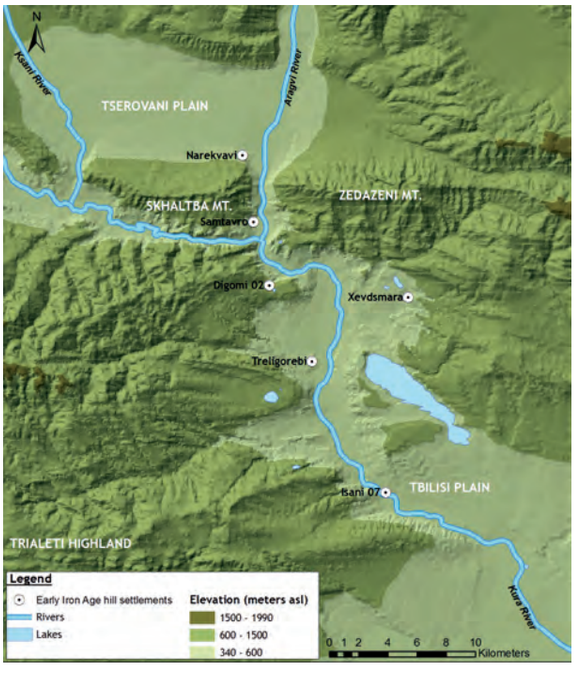

Fig. 6- Early Iron Age settlements on elevated locations within Tbilisi and Mtskheta.

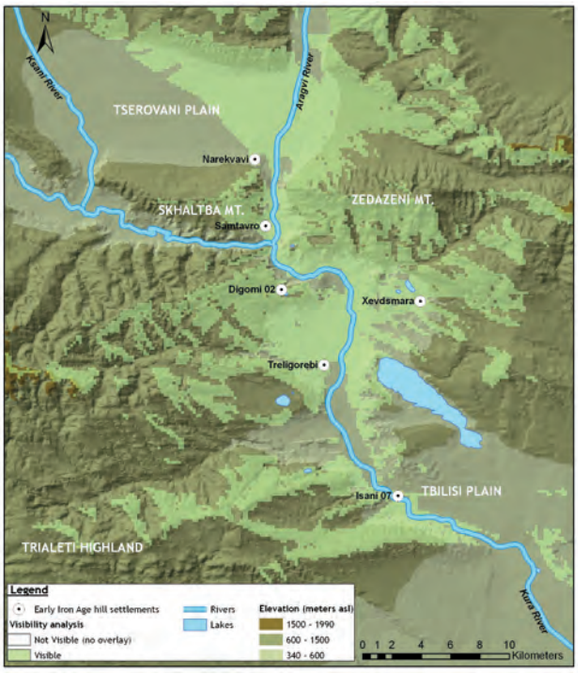

Fig. 7- Cumulative viewshed of Early Iron Age hill settlements with pale green overlay indicating areas of the landscape visible from these locations.

Fig. 8- Bronze spear head with open socket (Chalipiragorebi).

Figure 9- Ceramic vessel with inverted rim and pinched zoomorphic handle (Chalipiragorebi).

Figure 10- Ceramic vessel with pinched zoomorphic handle (burial 171, Treli).

Figure 11- Carnelian and paste beads (Burial 178, Treli).

BRIDGING TWO CONTINENTS: RENEWED INVESTIGATIONS AT SAMTAVRO, GEORGIA

İKİ KITA ARASINDAKİ BAĞLANTI: GÜRCİSTAN, SAMTAVRO'DA YENİ DÖNEM ARAŞTIRMALARI

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Keywords: Central Caucasus, Eurasia, mortuary practice, legacy data

Anahtar Sözcükler: Orta Kafkasya, Avrasya, ölü gömme geleneği, arşiv verileri

ABSTRACT

The vast necropolis at Samtavro, near Tbilisi, Georgia, is accorded primacy in the archaeology of the southern Caucasus for several reasons. Covering an area approximately 20 hectares, it is the largest burial ground in the Caucasus. Its longevity of use is also remarkable. First utilised as a cemetery in the third millennium BC, it peaked during the Late Bronze and Iron Ages, and again in the late Roman and late Antique periods. The cemetery was also intensely used, as is shown by the proximity of the burials, often packed closely together, and, in some cases, stratified. Finally, Samtavro was the main burial ground at Mtskheta during the Iberian Kingdom and witnessed the implantation of Christianity in the fourth century BC. Curiously, though, the burial traditions from the fourth and fifth centuries are not those usually associated with Christian burial practice elsewhere. This paper reports on the results of the first two years of renewed excavations carried out by the Georgian National Museum and The University of Melbourne[1].

ÖZET

Tiflis'in 18 km kuzeyinde yer alan Samtavro, Kafkas İberya Krallığı'nın (MÖ 300 - MS 580) başkentinin mezarlık alanıdır. 19. yüzyılın sonlarında Avusturyalılar ve Fransızlar tarafından kazılan mezarlık, Son Tunç ve Demir Çağı'nda (MÖ 1600-300) yoğun bir şekilde, daha sonra Roma döneminde ve Ortaçağ'ın başlarında (MS 100-500) kullanılmıştır.

Gürcistan, antik zamanlardan beri doğu ve batı olmak üzere iki ayrı bölüm olarak algılanırdı. Klasik ve Ortaçağ yazarlarının da bu ayrımı belirttikleri bilinmektedir. Günümüzde hala doğu ve batı arasında etnik ve dilsel ayrım bulunmaktadır. İberya Krallığı Doğu Kafkasya'da, MÖ 300'de başlayan ve MS 580 yılında Sassanilerle olan karşılaşmada yenilgiye uğrayarak son bulan zengin bir krallıktı. Bu zaman süreci kapsamında 7 ayrı soydan 49 kralın, Roma ve Pers krallıklarıyla diplomatik ilişkileri sürdürdüğü bilinmektedir. MS 337'de krallık hristiyanlığı kabul etmiş, bundan sonra Bizans İmparatorluğu ile yakın ilişkilere girm-

eye başlamıştı. İberya Krallığı halkı kimi Anadolu, kimi Transkafkas kökenli birçok etnik gruptan oluşmaktaydı. Kartli'nin başkenti Mtskheta, Helenistik dönemden beri anıtsal mimarisi, kamusal yapıları, hamamları ve villaları ile bilinmekteydi.
2008-2009'da Samtavro'da arkeolojik çalışmalara yeniden başlanmış, araştırma aşağıda belirtilen dört ayrı bölümden oluşmuştur:

1) Arşiv Çalışması
Söz konusu yerleşimle ilgili önceden gerçekleştirilmiş projelere ait olan ve halen Mtskheta ve Tiflis Müzelerinde bulunan çok sayıda harita, çizim ve not içeren yazılı döküman ve arkeolojik buluntuların taranarak değerlendirilmesine başlanmıştır.

2) Jeomanyetik Çalışmalar
Öncelikle eski kazı çalışmalarında kullanılan ana ölçüm noktasının yeri saptanmış, buna göre kazılmış olan açmaların köşe noktaları kolaylıkla belirlenebilmiş ve böylelikle tüm veriler GPS sistemine aktarılabilmiştir. Jeofizik yöntemiyle yapılacak araştırmalarda GPR (Ground Penetrating Radar) sisteminin en uygun yöntem olduğu görülmüş ve mezarlığın yerinin bulunmasınd bu yöntemin kullanılmasına karar verilmiştir. Daha sonra tüm veriler GIS sistemine aktarılmıştır.

3) Kazı Çalışmaları
2008-2009 yılında kazılan mezarlar tipolojik olarak dört ayrı grupta ele alınabilir:

> ***a)*** *Büyüklükleri 190 x 110 cm, derinlikleri 70 cm olan diktörtgen ya da trapezoid biçimli taş döşeli sandık mezarlar. Söz konusu mezarlar genelde ya doğu-batı ekseninde ya da güneydoğu-kuzebatı ekseninde yerleştirilmiştir. İskeletlerden alınan radyokarbon örnekleri bu mezarların 5. ve 6. yüzyıllara tarihlendiklerini ortaya koymuştur.*
> ***b)*** *Büyüklükleri 190 x 60 cm, derinliği 45 cm olan dar dikdörtgen mezarlar. Bu tür mezarların kenarları 10 adet pişmiş toprak levhadan (tegulae) yapılmıştır. Radyokarbon örneklerine göre bu tür mezarlar 2. yüzyılla 4. yüzyıl ortalarına tarihlenmektedir.*
> ***c)*** *Düz taşlar ile kapatılmış basit toprak çukur mezarlar.*
> ***d)*** *Tek bir örnek ile temsil edilen kilden yapılmış lahit mezar (Mezar 36). Söz konusu mezar büyük bir yapının tabanına gömülü şekilde bulunmuştur. Boyutları 197 x 91 x 60 cm olan lahit, doğu-batı yönünde yerleştirilmiştir. Lahitin kuzeyi daha sonra buraya kazılan bir sandık mezar tarafından hasar görmüştür.*

Mezar buluntuları arasında takılar, cam şişeler, fibulalar ve antimon kaplı tunç aynalar, altın yüzükler, ucu altın kaplamalı kemik iğneler, taş ve camdan yapılmış boncuklar, gümüş ve tunç bilezikler sayılabilir.

4)Fiziki Antropoloji Çalışmaları
Fiziki antropoloji çalışmaları sonucunda 24 mezarda en azından 60 birey olduğu saptanmıştır. Mezarlarla ilgili olarak bireylerin cinsiyetleri, yaşları, uzunlukları ve sağlık durumları araştırılmıştır.Mezarlarda görülen önemli bir özellik, taş mezarın tekrar açılıp kemiklerin yerlerinden oynatılmasıdır. Bu durum, resmi olarak hristiyanlığa geçen bu toplulukta halen eski geleneklerin devam ettiğinin bir göstergesi olarak kabul edilebilir. Bu da Gürcistan'da bu dönemde mevcut olan politik bir ikilemi vurguladığından dikkat çekicidir.

INTRODUCTION

Samtavro is a vast ancient cemetery, the largest known in the Caucasus, covering an area approximately 20 hectares. It is situated on the northern fringe of Mtskheta (41º51´N and 44º43´E) on the right bank of the Aragvi River, immediately before it joins the Kura, as it flows to Tbilisi, some 18 km to the south.

Samatvro, like the Mtskheta itself, the capital of the Iberian Kingdom in the Caucasus (300 BC-AD 580), has a special place in the history of Caucasian archaeology. It is one of two sites- the other being Akner in Armenia- that represent the first planned excavations by antiquarians in the 19th century, when the polities of the Caucasus came under the rule of Imperial Russia (Smith 2005: 238). Freidrich Bayern, the Austrian savant, carried out the first campaigns at the site between 1871 and 1878 (Bayern 1885a, 1885b), and was followed by Ernest Chantre (Director of the Lyon Museum), who excavated in 1879 (Chantre 1881, 1886). We have described their investigations as the 'Samtavro I' campaigns.

Samtavro is also significant because of its longevity of use and the implications this has for the notion of 'place'. Tomb 243, dated to the late third/early second millennium BC, is the earliest burial so far attested at Samtavro. Its circle of stones and shaft tomb place it within the *kurgan* tradition of funerary practice (Sadradze 2002). The cemetery was intensely used during the Late Bronze and Iron Ages (1600-300 BC), and provides the best expression of the so-called 'Samtavro culture' (Abramishvili 2003). The site was again heavily utilised during the late Roman and late Antique periods (ca. AD 100-500), when it represented the largest of two cemeteries of the Iberian capital, the other being Armaziskhevi where members of the nobility were laid to rest.

Finally, as the main cemetery of the Iberian Kingdom, Samtavro offers a unique opportunity to study the population at large. Such a large sample will enable us to address in detail a range of issues such as social organization and wealth, gender and age, and the changing perspectives of mortuary rites. Moreover, the spatial positioning of the tombs, often clearly clustered in close proximity to each other, and in some cases stratified, provides data for a nuanced approach to the notions of place, kinship, status, and commemorative practices.

There have been two other major periods of excavation at Samtavro after the initial Bayern and Chantre investigations. The joint campaigns of Mikheil M. Ivashenko and Sandro Kalandadze (or Samtavro II) were carried out during 1938-1961 (Apakhidze et al. 1955; Sadradze 2002), followed by those of Andrea Apakhidze, who led the Mtskheta Institute investigations (1976-1986, 2000, 2002), or Samtavro III (Apakhidze 1978, 1985; Ivashenko 1980; Kalandadze 1980, 1981, 1982). Our renewed investigations at the site (Samtavro IV) represent the first project under the umbrella scheme termed the Georgian-Australian Investigations in Archaeology (GAIA), a collaborative partnership between the Georgian National Museum and The University of Melbourne which began in 2008. Its purpose is to address important issues in the archaeology of Georgia (and the Caucasus in general), using a multi-disciplinary approach with a view to providing a holistic and coherent narrative of life and death in the central Caucasus.

THE IBERIAN KINGDOM

For a greater part of its history, Georgia comprised two regions- a western and an eastern half. The Graeco-Roman authors first referred to Western Georgia as Colchis, the fabled land of the Golden Fleece (Braund 1994). In the medieval period it was known as Egrisi, or Imereti (on that side). Eastern Georgia, on the other hand, was known as Iberia, which confused even the ancient authors, who at times mistook it or linked it with European Iberia (Strabo I 3:2). The later Georgian authors preferred to call the eastern half of their country Kartli (Rapp 2003; Thomson 1996), or Amereti (on this side), and today Georgians refer to themselves as Kartveli and their language as Kartuli. Of the two regions, the wetlands of Colchis figured more prominently in the minds of the ancient authors, whereas the drier Iberia formed a dimmer image.

In Georgia, as in the adjacent mountainous regions of Turkey and Armenia, the jagged landscape promoted a strong dynamic between communities in the plains and those nestled in the highlands. For Stra-

bo (Geog. III 3.2) the distinction, real or imagined, was clear:

> *…the plain of the Iberians is inhabited by people who are rather inclined to farming and to peace, and they dress after both the Armenian and Median fashion; but the major, or warlike, portion occupy the mountainous territory, living like the Scythians and the Sarmatians, of whom they are both neighbours and kinsmen*.

The plain of Iberia has a rich deposit of sediments and alluvia, formed by the large volume of water and silt that is carried by its rivers. Trees such as hornbeam, hazel, beech, ash, and elm formed a canopy, albeit patchy, interspersed with *Campanula* and other meadow herbs (Connor in press). It is hard to imagine that in such an environment transhumance did not play an important element in the subsistence economy. Even so, the degree to which ancient communities in the Caucasus practiced a mobile subsistence strategy is a pressing issue that can only be properly resolved with the detailed analysis of animal bones.

The Iberian Kingdom of the Caucasus was prosperous and well organised. Emerging around 300 BC it succumbed to Sasanian forces in AD 580. During this time, it navigated a diplomatic course between Rome on the one hand- it was never included in the Roman Empire- and Persia (the Parthian and Sasanian Empires) on the other. Forty-nine kings, belonging to seven dynasties, ruled the Iberian Kingdom (Rapp 2003). Within its lifespan the most momentous event was the state's conversion to Christianity around AD 337. Yet we ought to remember that like most early Christian regions Georgia was a pluralistic society, which maintained its existing social fabric by accommodating existing Kartvelian institutions and practices, including pagan belief systems. As Christianity gained impetus, its ties with the Christian Byzantine Empire strengthened and those it had with the Sassanian Persia began to wane (Rapp 2009).

Given its geographical circumstance, open to communication highways despite the rugged terrain, it comes as no surprise that the Iberian Kingdom consolidated a number of different ethnic groups, some of whom had Anatolian as well as Trans-Caucasian elements. The greatest cultural interaction was along its southern districts, which bordered onto Armenia-Tao, Shavsheti, Klarjeti, and Javakheti-and in the Caucasus Mountains to the north, where the Svans and Ovsis peoples dwelt (Toumanoff 1963).

Mtskheta was the capital of Kartli. It is situated at the strategic confluence of the Kura (locally known as Mtkhvari) River and its tributary, the Aragvi, both of which offer natural corridors of communication (Fig. 1). Two massive strongholds defended Mtskheta: Armaztsikhe, 'the Castle of Ahura-Mazda' (Classical Harmozice) situated on Mount Bagineti (Fig. 1:4), on the right bank of the Kura River, and Sarkine (Classical Seusamora), situated on the other side of the river, about 10 km from Mtskheta. Armaztsikhe is named after Armazi, the idol worshipped by the eponymous King Parnavaz. The Georgian Chronicles, translated by Thomson (Thomson 1996: 36, 98) describes the establishment of this cult:

> *Parnavaz made a great idol named after himself. This is Armazi, because Parnavaz was called Armaz in Persian. He erected this idol Armazi at the entrance to Kartli, and from then on it was called Armazi because of the idol. And he celebrated a great feast of dedication for the idol which had been erected* [25]*…St Nino saw a man [Armazi] of bronze standing; attached to his body was a golden suit of chain armour, on his head a strong helmet; for eyes he had emeralds and beryls, in his hand he held a sabre glittering like lightning, and it turned in his hand. And if anyone approached, he resigned himself to death …Furthermore, to his right was a man of gold whose name was Gatsi* [89]*, and to his left a man of silver whose name was Gaim* [90].

Finally, it is clear from both the texts and archaeology that Iberia in the first century was clearly prosperous by Roman standards. Since the Hellenistic period, it could boast grand public buildings, bath-houses and well constructed private houses. Strabo clearly admired these trappings of civilisation when he wrote:

> *The greater part of Iberia is so well built up in respect to cities and farmsteads that their roofs are tiled and their houses as well as their market places and other public buildings are constructed with architectural skill* (Strabo Geog. III 1).

RENEWED INVESTIGATIONS AT SAMTAVRO

The first two field seasons at Samtavro (2008-2009) had four key components that will be summarized here (Sagona et al. 2010).

Archival and Legacy Data

The earlier investigations have left a vast amount of archaeological finds, paper records and documents. Artefacts are stored safely in the Georgian National Museum, Tbilisi, and the local Mtskheta Museum. One of our long-term aims is to publish these finds in a comprehensive manner in English and to frame them in contemporary interpretative paradigms. Before we reach that stage we have a more immediate concern, namely, the preservation and storage of the plethora of paper documents, including field notes, plans, maps and illustrations, many of which have become brittle with age (Figs 2-3). The immediate response to preservation in today's world is digitisation. There are good and bad reasons for digitising material. Among the bad reasons are preservation and collection management (Kenney and Rieger 2000: 2-3). Despite advances in digital technology, a digital image is not a 'preservation master'. High quality microfilms remain more reliable and safer as a preservation medium, and they are not radically more expensive.

So why digitize? There are two key positive reasons to digitise paper documents, each of which applies to Samtavro. The first is access. Digitisation can, of course, allow researchers immediate access to information held in disparate physical collections, and even turn those collections into searchable databases. The benefits of a powerful and searchable digital archive have been recently well articulated for the Gordion Archaeological Project, which has had large quantities of data accumulating since excavations began in 1950 (Darbyshire and Pizzorno 2010). Second, digitisation reduces the physical wear and tear on the original. This is especially important for information written or printed on Soviet paper, which has rapidly aged and become brittle. All archival materials made from paper have a number of inherent vices, and the greatest is acid (W. J. Barrow Research Laboratory 1964, 1967, 1974). Most books and documents published in the last century, especially during the first 50 years, are prone to rapid ageing because of the acidity level in their paper, but Soviet publications are particularly vulnerable (Ruggles 1960). Two developments in papermaking technology render nearly all modern paper unstable. One is the manufacture of paper from wood pulp, which is typically composed of approximately 50% cellulose and 20% hemicellulose, bound together by lignin, a complex organic acid that strengthens the structure of tree trunks. When trees are ground to a pulp and used to make paper without first removing the lignin, the resulting product- groundwood (more commonly known as newsprint)- is highly acid. Much of the paper used for publications during the Soviet period was basically groundwood, and consequently has discoloured badly and become brittle with age, even with proper storage conditions. Another was the substitution, in the early 1800s, of alum and rosin for animal glue as a sizing agent. Among the advantages of alum-rosin is that it does not putrefy, its slurry produces evenly textured paper, and it promotes rapid drying. The downside is that paper sized with alum-rosin is acidic.

The creation of an on-line research environment for Samtavro is a few years away, and will involve careful consideration of technical and organisational matters. However, we have commenced a programme to scan all existing documentation, including maps, excavation reports, excavation topographical-plans, drawings, illustrations and photographs. Most documentation is scanned on a flatbed scanner, but several large scale plans were scanned on a portable map scanner. The scanner is a *DeskScan* that can scan long strips of very large maps and plans and then join these into one large image file. All the existing maps were scanned and saved as TIFF format image files. In terms of the physical preservation of the paper documentation, we are moving towards long-term storage in acid free folders and boxes, within adequate environmental conditions. In the short term, however, we have ensured that items such as elastic bands and metal paper clips, which can stain, tear, or rip paper, are removed.

Geomatics and Archaeological Prospection

Site Grid System

From the point of view of the renewed investigations, it was important to re-establish the old site grid for two reasons. First, it enabled new excavations to

continue to use the existing numbering system for trenches; and second, it meant that all new mapping could be added to the existing cartographic record through the use of a common map datum. The site was examined to determine whether there were any existing survey markers from the original programmes, but none were found. Instead, several of the maps of the exposed tombs did show grid lines, so these were used to determine the coordinates of many existing tomb remains. These were then surveyed from three new instrument points, and the measurements were then used to calculate the coordinates of the new points via a least-squares adjustment of all of the angles and distances. This process provided these new survey marks with coordinates common to all the existing maps and plans.

Once the original datum had been re-established, it was then a straightforward task to determine the corners of the excavation grid for the geophysical survey and all the subsequent archaeological investigations. An arbitrary origin shift was applied to the original coordinates in order to avoid negative values.

The local datum was also connected to the global mapping datum WGS84 using static Global Positioning System (GPS) observations. This was done using a single geodetic quality receiver that acquired eight hours of observations on two of the new survey points. The observations were processed against permanent base stations in the region via the Australian AUSPOS service, resulting in coordinates of centimetre level accuracy. All of the survey work on site is, however, still based on the local grid.

Geophysical Prospecting

Geophysical exploration of the grassed area immediately to the west of the roofed section of previously excavated tombs, now on public display, was undertaken in order to determine the patterning of burials and to offer guidance for future excavations.

The most suitable instrument for a geophysical survey of a site like the cemetery at Samtavro is ground penetrating radar (GPR). The corners of the original 18 x 24 m site sampling unit (an "Area") were established on the ground using pegs and survey readings from the new control points. The original naming system used during the previous investigations were labeled using Roman Numerals, but in our investigations these Area numbers are designated with Arabic numerals for convenience. The excavation squares within these each Area are then numbered from 1 to 12, based on 6 x 6 m Squares. Once the corners had been marked, a series of run-lines for the ground penetrating radar were marked with string, and the GPR trolley was walked along each of these lines. This process could locate the GPR unit within each square, and therefore give the geographic position of the GPR readings. The process also ensured a complete coverage of the area of interest and avoided the need to use other positioning systems like real-time kinematic GPS.

Andrew Spyrou from GBG Australia performed the initial analysis of the GPR data in Georgia. This interpretation of the geophysical data was used to decide which 6m excavation squares would be excavated. Figure 4 shows one of the more successful correlations between the GPR and the excavation features.

Aerial Photography

Periodically the excavation trenches are photographed from an aerial perspective, using an elevating platform mounted on a truck. These photographs give an excellent view of features in the trenches, and provide a means for rapidly creating topographic plans. Selected aerial photographs have been rectified (or corrected for perspective tilt) so as to give a true vertical perspective. These images are then traced over to generate an interpreted line drawing with some success. The main limitation in this single image approach is that although the tilt can be removed, other distortions (like the camera's being able to see the side of standing stones and the trench wall) remain. The images may contain shadows, which also make the extraction of information difficult in some places. Even so, follow-up measurements in the trench can overcome these limitations and provide a rapid and accurate topographic plan (Figs 5-7).

The Samtavro Geographic Information System

One of the most effective methods of integrating and managing all of the disparate data is to use a Geographic Information System (GIS). This additional method of information management and analysis has now become a useful tool in the interpretation of archaeological data A GIS using ArcGIS software has been established to both manage the data being generated at Samtavro and to allow analyses of the data from a spatial perspective.

The Samtavro GIS is in the process of being built. Eventually, it will contain the scanned maps geo-referenced onto the site datum, aerial photographs of the new excavation areas, the interpreted GPR imagery and links to some of the non-spatial attributes of excavated tombs. The raster versions of the historic maps have also been converted to a vector format (consisting of lines and polygons) so that, for example, information regarding orientation of tombs and skeletal material can be investigated. The entire site will then be able to be analysed on burial method, date of tomb artefacts, distribution of crania size, and other. The early maps were rectified onto the site datum using the original coordinate grid shown on the plans. The large scale GIS of Samtavro provides support and analysis for one site within the broader landscape. Other investigations have been conducted in the Mtskheta region which have been incorporated into a smaller scale GIS (Birkett-Rees 2009). This will facilitate the analysis of the data from Samtavro in a regional and temporal context.

Excavations

The site of Samtavro is a key heritage listed site in Georgia and public access is easy. Some of the tombs exposed (but not necessarily excavated) in the 1980s, at the northern end of the site, are now protected under a shelter for public display (Fig. 8:4). Our decision to open new trenches was based on the high density of burials revealed by geophysical prospection carried out immediately to the west of the shelter. The areas we settled on were: Area 142, Square 11; Area 143, Square 12; Area 166, Squares 7 and 8. We also investigated three burials from Area 118 and exposed a large building in the same area which was partially excavated in the 1980s.

The tombs excavated in 2008-2009 fall into four broad types:

(a) A rectangular or trapezoidal stone cist tomb, averaging 190 x 110 cm and 70 cm deep, aligned on an east-west or southeast-northwest axis. Its sides were built with rough sandstone slabs set into the ground, whereas its roof was capped with three large stones that overlapped the uprights; the two largest were placed at the western and eastern ends (Figs 5-7). The floor was generally earthen and flat. Radiocarbon analyses of human skeletal material suggest a date range in the fifth and sixth centuries. The 390-220 BC date for Tomb 13, a small stone cist grave, is difficult to explain at this stage. Perhaps the few fragmentary bones collected from the tomb for radiocarbon analysis may belong to an earlier, disturbed tomb, and were gathered as part of the back fill.

(b) A narrow, rectangular tile tomb, averaging 190 x 60 cm and 45 cm deep, aligned east-west (Figs 6: top left hand corner; 10:1). The sides were built with 10 terracotta tiles (*tegulae*). Some of their edges, which faced outward, were often chipped. Four tiles, edges facing down, provided a smooth, flat base. Five or so roughly shaped rectangular stones laid across the tiles, sealed the grave; occasionally another square stone marker was placed on top of these, just offset from the centre. A variant of this type was constructed from terracotta plinths, tiles without edges (Fig. 10:2-3). Radiocarbon dates place this type in a mid-second to mid-fourth centuries timeframe.

(c) Small earthen pits capped with a stone or plinth/tile fragments. Less frequent than these were infant burials with either very fragmentary skeletal remains or none at all. Even so, it is noteworthy that they were interspersed and within close proximity to the adult graves.

(d) A single clay sarcophagus (Tomb 36) was found cut into the floor of the large building, described below. Measuring 197 x 91 x 60 cm, oriented east-west, its north side was damaged by the construction of a stone cist tomb (Fig. 14:2). The walls of the sarcophagus were convex and its base was flat. A rope design, executed in relief, decorated the widest point on the exterior. Its lid was fragmented, and found mostly within the sarcophagus. A band of tile fragments encircled the sarcophagus.

The mortuary practice associated with the stone cist tombs is very distinctive and curious. It involves the secondary re-arrangement of the human bones. Sometime after the original burial- a period that has yet to be determined-the sealed tomb was usually entered through the middle (narrowest) capstone, which was invariably broken to allow access. That the stone cist tombs were invariably built with a narrow middle stone, suggests a predetermined plan to open the tomb at a later time, which is in keeping

with the purposeful re-arrangement of the long bones and skull. In one case, Tomb 2 (Area 142, Square 11), the tomb was subsequently re-sealed with a number of smaller stones, most probably the broken remnants of the original capstone (Fig. 5 centre). In all other instances, the tomb was not re-sealed. There were several patterns of re-arrangement, though generally speaking the long bones were placed at the western or northwestern end of the grave. In Tomb 2, which contained the remains of a mature female and young male, the skulls and long bones were clustered in the northwestern corner. The skulls lay above the long bones, which were crossed; around them were four stones. The small bones of feet and hands were deposited in the southwest corner. Tomb 5 (Area 142, Square 11), on the other hand, had the long bones placed parallel to each other at the western end, with two other bones placed obliquely at their base. Another arrangement was found Tomb 1 (Area 142, Square 11), where the bones of several individuals were found commingled. Here the top layer of bones had skulls placed at the intersection of two long bones arranged at a right angle (Fig. 9:1). But the clearest instance of a secondary ritual found so far was found in Tomb 3 (Area 166, Square 7). At the western end of the tomb, three long bones were placed in an open-ended square set over the pelvis (Fig. 9:3). Other long bones were deliberately positioned east of this arrangement, along the length of the tomb. Only in one stone cist tomb (Tomb 35, Area 142, Square 11) were the skeletal remains in a more or less articulated position. Three deceased were placed in the tomb extended on their back, and their bones were very fragile.

Between three to five irregular field stones were placed on the earthen surface of the tile-lined tombs. The seal was generally loose, which suggests that the capstones also acted as markers. This was particularly evident with Tomb 6 (Area 143, Square 12), which two superimposed stones at the eastern end. The positioning of the skeleton (a subadult of indeterminate sex) in this tomb was typical (Fig. 10:1). It lay extended on its back, with the skull turned to the right and pointing east. Tomb 16 (Area 143, Square 12) contained two skeletons-an adult in the supine position and a child placed on its upper right leg and pelvis. Their heads also pointed east. The remains of a juvenile with a crushed skull were found extended along the left femur of the adult female in Tomb 30 (Area 143, Square 12). The skeleton was in a supine position, head pointing east, with hands placed on the abdomen. One final example will suffice to illustrate the variations of position. The deceased in Tomb 19 (Area 166, Square 7), an adult female, was placed on her back with left arm placed across the abdomen and right arm folded up towards her head. Most of the skeleton was articulated except for the upper and lower leg bones, which were detached; and the right foot bones were missing. Paradoxically, only the foot bones were found in Tomb 25 (Area 142, Square 11), again emphasising the separate ritual roles of long and small bones.

A variety of grave goods were found, including jewellery, glass bottles, beads, fibulae and antimony-plated bronze mirrors (for a full catalogue see Sagona et al. 2010). Among the most notable artefacts are a gold ring with a flat bezel fitted with a polished dome garnet flanked by heart shaped inlays (Tomb 36); a variety of pins, including bone pins with gold-plated heads decorated with a gadrooned design (Tomb 30); stone and glass beads found in association with a silver and bronze bracelets (Tomb 13); and a range of glass bottles with fluted, elongated, and bulbous bodies (Figs 11-13). Whilst cleaning Tomb 501, excavated in 1979, we recovered a gold ring with a garnet setting (Fig. 12:1-2)

In Area 118 we re-opened excavations of a large building, possibly a temple, which was partly exposed in the mid-1980s. Its basic plan comprised a large room with two, smaller, adjacent rooms attached to the west (Fig. 14:1). Most conspicuous was the vast amount of *in situ* roof tiles spread across the floor, some clustered in heaps (Fig. 8:1-3). Such is the concentration of tiles in parts that they appear to have been placed in heaps deliberately. Covering an area about 100 m^2, the walls of the building measured just over a metre in width and comprised a central core of riverine stones of various sizes packed in mud and supported on stone foundations. On the interior, the walls were coated with a thick mud plaster. Burnt wooden debris combined roof collapse and the remnants of furniture and fitments. Among the debris, at the foot of the doorway between the large room (Room 1) and the northwestern small room (Room 2), was an iron door handle (Fig. 15). A sample of charcoal provided a reading, calibrated to 95.4% probability, of 60 BC-AD 80 (Wk-26155).

In the centre of the floor was a circular clay hearth that lay immediately beneath the largest heap of tiles. Charcoal collected within the hearth yielded a reading of 260-40 BC (Wk-26157), within a 95.4% confidence level. A greater quantity of charcoal was found in a square-shaped pit that was dug into the floor to the west of the hearth. A sample provided a calibrated date of 240-20 BC (Wk-26156). The disparity in age between the samples collected from the floor (furniture or fixtures) and those collected from the hearth and pit (twigs and branches) can be explained in terms of 'old wood' effect. That is, whereas recently felled timber was used for furniture and fixtures, old wood collected from the forest floor was used as kindling for the hearth.

Physical Anthropology

Of the forty inhumations uncovered from Samtavro in 2008-2009 thirty yielded human skeletal remains substantial enough to be analysed. Osteological analysis was completed on 24 of these (Tab. 1). The remains from 10 tombs were too small and fragmentary and deemed unsuitable for further analysis.

Tombs 6 and 19 were the only ones that presented a complete, articulated skeleton of a single individual. Articulated skeletons were found in five other tombs (Tomb 16, 18, 25, 30 and 498), but these were either partial skeletons (Tombs 18 and 25) or had multiple individuals buried in the tomb. Only 5 tombs (6, 16, 19, 30, and 498) of the 34 studied had articulated skeletons that were undisturbed after original burial. On the whole commingled remains of multiple individuals were common in the burials. The remains were often fragmentary and in a poor state of preservation, and reconstructions were difficult.

The osteological analysis began by sorting the commingled remains into individuals to determine the Minimum Number of Individuals (MNI) present in each burial. A minimum of 60 individuals was identified from 24 tombs. Each individual was inventoried to document the skeletal elements present. Detailed metric measurements were taken on the cranium and postcranium based on protocols set out in Bass (Bass 1987), Steele and Bramblett (Steele and Bramblett 1988), and Wright (Wright 2009). Non-metric traits on the cranium were coded according to criteria defined by Berry and Berry (Berry and Berry 1967). Dental plaques developed by Turner and his colleagues (Turner et al. 1991) were used to code dental traits. These are being used in ongoing analyses to estimate lifestyle characteristics such as stature, health, sex, age at death, and population affinities.

Stature estimation: When the skeleton was complete, the Fully technique was used to estimate stature, using measurement guidelines outlined in Raxter and his colleagues (Raxter et al. 2006; Raxter et al. 2007). In the absence of a complete set of cranial and vertebral elements, measurements of the femur, tibia, talus, calcaneus, and metatarsals were used following Trotter and Gleser (Trotter and Gleser 1958), and Bass (Bass 1987). Trotter's estimates (Trotter 1970) for Caucasians were followed as a preliminary guide in stature determination.

The state of preservation of the remains being poor, stature could be estimated for only 5 of the Samtavro individuals (Fig.16). None of the skeletons preserved a complete enough set of measurements to employ the Fully method. Stature was calculated from the dimensions of the femur, tibia, and metatarsals. Male stature falls in the range of 173-178 cm, while female stature lies between 153 and 160 cm. This is well within the range of present-day healthy populations and is a good indication of the health and nutritional status of the Samtavro population, although larger samples are needed for us to be confident of this.

Sex: Sex determinations were made from the pelvis, cranium, and femur. The pelvic determinations were based on the scoring system of Buikstra and Ubelaker (Buikstra and Ubelaker 1994), and the cranial criteria were those of Acsádi and Nemeskeri (Acsádi and Nemeskeri 1970). Femoral robusticity measurements were also used for determining sex, following Krogman (Krogman 1962) and Bass (Bass 1987).

In individuals above 25 years of age pelvic and cranial morphology were most effective in determining sex. A consensus of all available criteria was used. Of 37 adults identified in the population, sex could be assigned with a good degree of certainty to 25 adults. In these cases there was a match between the cranial, pelvic, and other postcranial criteria. A lack of agreement between the criteria or the paucity of sex-

determining characteristics led to a tentative assignment of sex. A tentative sex was assigned to a further 9 individuals (Tab. 1). Of the 34 adults with sex assignments 16 were identified as male, and 18 as female, making a sex-ratio of 0.89 male: 1 female in the Samtavro population. This is lower than the present-day world-wide adult sex ratio of 1.02 male: 1 female (U.S. Census Bureau 2010), and indicates a higher percentage of females in the Samtavro population. Whether this trend will hold will be made evident in future excavations, and will have implications for the social structure at Samtavro at the time of the burials.

The sex of subadults and juveniles could not be determined accurately. Other, more rigorous techniques for sex determination are being explored, especially for populations such as Samtavro where the remains are scant.

Age: Age estimates were based on pelvic morphology, cranial suture closure, epiphyseal fusion, dental eruption sequence, and dental attrition status. The Suchey-Brooks (Suchey et al.1988) plaques are used for comparing pubic symphyseal morphology; auricular surface changes are based on those described by Lovejoy and his colleagues (Lovejoy et al. 1985); cranial suture standards follow Meindl and Lovejoy (Meindl and Lovejoy 1985); the stages for the union of epiphyses are documented by Krogman (Krogman 1962) and Stewart (Stewart 1979); dental eruption sequence guidelines are provided by Ubelaker (Ubelaker 2008) and the dental attrition status guides are provided by Miles (Miles 1962).

Owing to the multiplicity of age determining criteria, age assignments were largely successful in the Samtavro individuals. An age range could be assigned to 54 of the 60 individuals studied. In individuals under the age of 25 dental eruption and epiphyseal fusion provided narrow and more reliable age ranges. In older individuals, where cranial suture closure, pubic symphyseal morphology, auricular surface morphology, and dental attrition status were used, age ranges were wider or, if only one method was available, less reliable.

The adult (third molar erupted, epiphyses fused) population of 37 individuals spans the age range of 25 to 60 years, although the upper limit for this age could be higher. Most of the individuals fall into the middle of this age range (30 to 50 years), although this could be a bias of the ageing standards. Subadults, aged between 10 and 25 years, make up 10 individuals. Juveniles, from fetal to 10 years old, are represented by 12 individuals. This, and the sex-breakdown previously mentioned suggest that a good cross-section of age and sex is represented in the burials.

Health status: Detailed observations on health, pathology, trauma, and cultural skeletal modifications were made. For recording illness, pathology, and trauma, we followed the scoring criteria of the Global History of Health Project (Steckel et al. 2002; Steckel et al. 2008). We used personal observations to note cultural skeletal modifications.

On the whole, the Samtavro population enjoyed good nutritional health. Only four individuals were identified with dental abscess, and 15 individuals exhibited carious lesions, with only one case being severe (19 caries). Dental wear, however, was quite marked, indicative of an abrasive agricultural diet. Dental plaque was also commonly observed, suggesting poor dental hygiene. Ante-mortem tooth loss was recorded in just three cases, but this could be because only a few complete jaws were recovered. Enamel hypoplasias were observed on 15 individuals, but they were not severe (one or two hypoplasic lines on the incisors or canines).

There are other indications of good health at Samtavro. Criba orbitalia and porotic hyperostosis, which are signs of anaemia were observed in only three cases. Only three cases of degenerative joint disease and osteophyte development also speak to the lack of extreme physical hardship in the population. There were five cases of healed wounds, and one case of trephination surgery indicating that the population recovered well from trauma and were capable of caring for their sick.

Cultural Practices: Three major cultural practices noted are the intentional modification of the cranium, trauma to the lower limbs, and a fetish for preserving feet. Four of the six complete crania from the 2008-2009 burials were severely modified. In one case the compression is bilateral, so that a shallow gutter is observed along the posterior sagittal suture. The other skulls show either anterior-posterior compression forming a cone-head, or an oblique com-

pression projecting the skull laterally. One of these (2008/T6/SM1) was a sub-adult and the deformation may be the result of taphonomic compression, but the others have closed cranial sutures with clear intentional compression. A very clear example of skull modification is shown in Figure 9:2, which was found in Tomb 303 in 1978. Both males and females underwent this cultural treatment and the significance is presently unclear.

The other cultural practice, seen in two cases (2008/T3/SM2, 2009/T23/SM3), consisted of deep cuts behind the knees. In both cases the proximal end of the posterior tibiae had deep symmetrical gashes about 5 cm long going from lateral on the proximal end to medial on the distal end.

There was a predominance of lower limb bones, particularly foot bones seen in Burials 3, 23, 24, 25, 28, 29, 491 and 498. This could be of cultural significance. In particular, one burial (Tomb 25) presented nothing but a set of articulated feet with cut marks on the distal fibulae (Fig. 10:3).

Finally, juvenile and subadult skeletons were rarely found unaccompanied in a burial – they are found in the presence of another adult, most often a female (Burials 16, 18, 30, 498). The exception is burial 6, a burial of a single subadult. How prevalent these cultural practices at Samtavro and among the surrounding populations were needs to be investigated.

CONCLUSIONS

The renewed excavations at Samtavro are providing a wealth of new data on the population and customs of a community in the central Caucasus during the Iberian Kingdom. Situated at a frontier, its material culture is a tangible expression of the mutability of the West Asian and European worlds. The common and purposeful practice of re-arranging long bones, for instance, reflects the plurality of early Christian Georgia, which clearly embraced 'pagan' burial traditions. Although the significance of cranial deformation at Samtavro is presently unclear, the similarity between the Samtavro crania and the distinctive elongated skulls of certain Hunnic-like burials of the fifth century from cemeteries in the Great Hungarian Plain is tantalising to say the least (Heather 2005: 331, pl. 24).

Hunnic influence was strongly felt in the Middle Danube, where so-called 'Danubian' Germanic inhumations have yielded a number of cases of cranial deformation. Grave goods associated with these fourth century Danubian burials included metallic mirrors, which were commonly broken, recalling the two broken mirrors at Samatvro from Tombs 1 (Fig. 13) and 35. Whereas these Danubian cemeteries and the Hunnic practices they display are contemporary with the Samtavro stone cist tombs, no definitive link ought to be made at this stage until further investigations are conducted. We can, however, say two things with some certainty. First, is that a clear and major change in burial practice occurred at Samtavro between the fourth and fifth centuries, and is represented by the shift from tile-lined tombs to stone cist tombs. Second, Georgia, like other regions of the late Roman Empire, reflected a religious pluralism. The transition from paganism to Christianity was a gradual and complex process, whereby civic paganism melded with the doctrines of the state religion of Christianity (Mitchell 2007: 229-234).

NOTES

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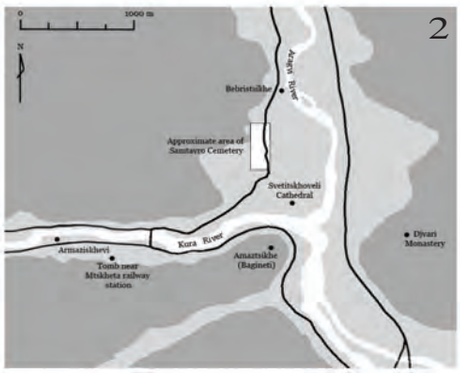

Fig. 1-
1 Map of Georgia, showing the historic divisions of Colchis and Iberia.
2 Map of Mtskheta, showing the location of Samtavro cemetery on the right bank of the Aragvi River.
3 General scene of the Kura (Mtkhvari) River, with the cathedral of Svetiskhoveli on its left bank.
4 The southern half of Samtavro cemetery taken at the beginning of the 2008 field season. Baginetti Mountain, on which the citadel is located, is in the background.

Fig. 2- Scenes of the library at the Mtskheta excavation house where much of the data and paperwork from the previous excavations in the region are kept.

Fig. 3- 1 Pen and wash illustration of Samtavro Tomb 211, executed in 1940.
2 Watercolour illustration of Samtavro Tomb 90 (cenotaph) executed in 1939.

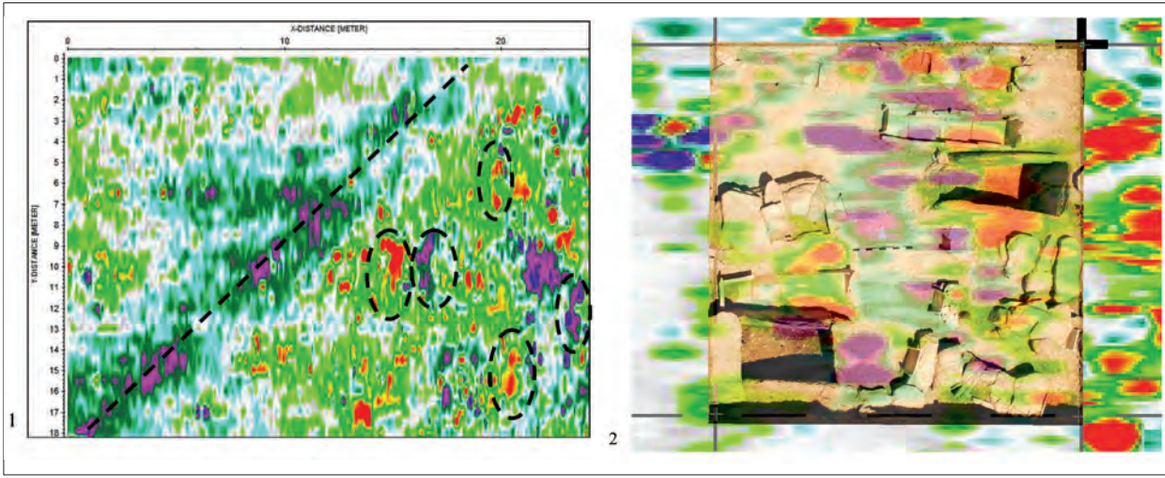

Fig. 4- 1 Ground Penetrating Radar results for Samtavro Area 166.

Fig. 4- 2 Superposition of a rectified aerial photograph over Ground Penetrating Radar results for Samtavro Area 143, Square 12.

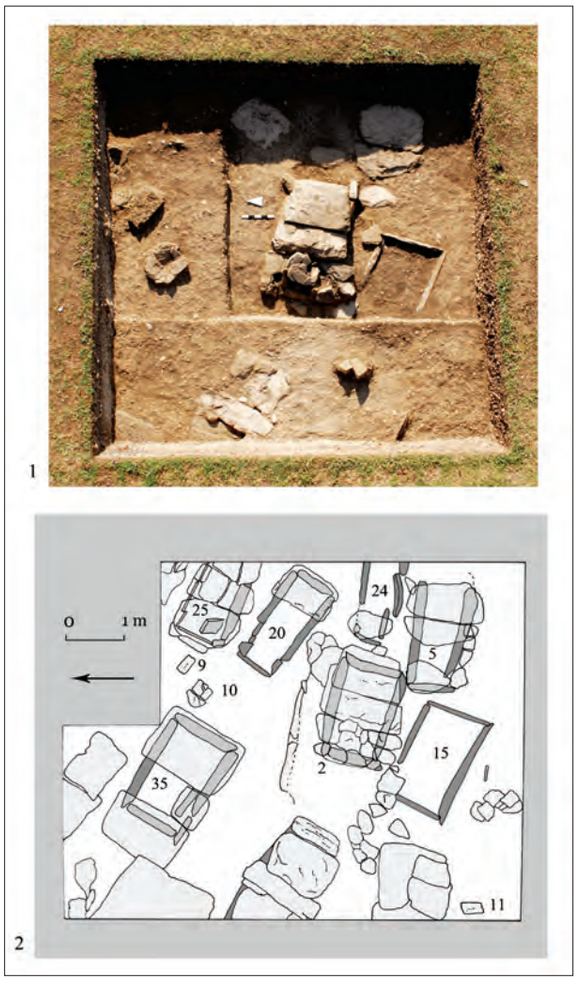

Fig. 5- Aerial photograph taken in 2008 and plan drawn in 2009 of Samtavro Area 143, Square 11.

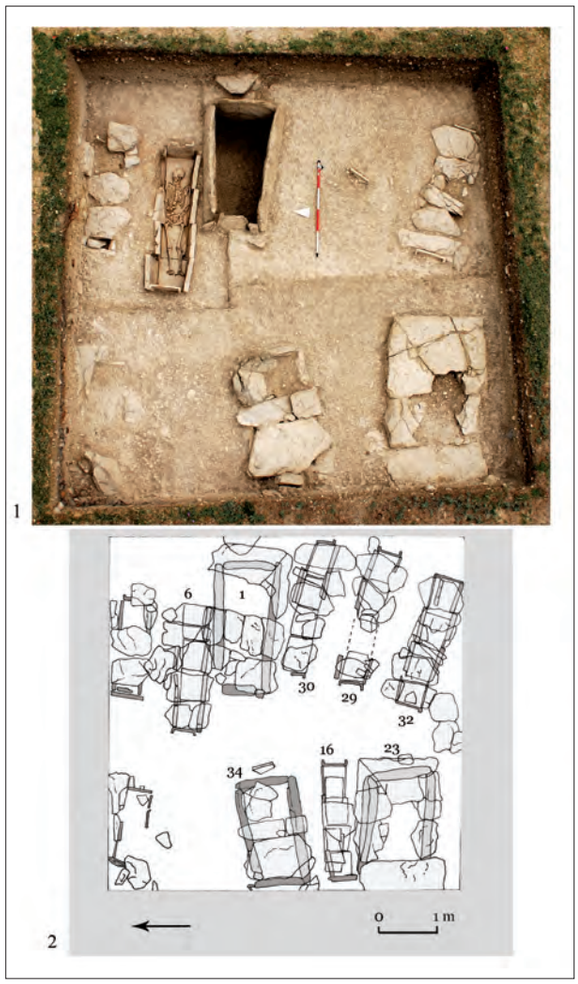

Fig. 6- Aerial photograph taken in 2008 and plan drawn in 2009 of Samtavro Area 142, Square 12.

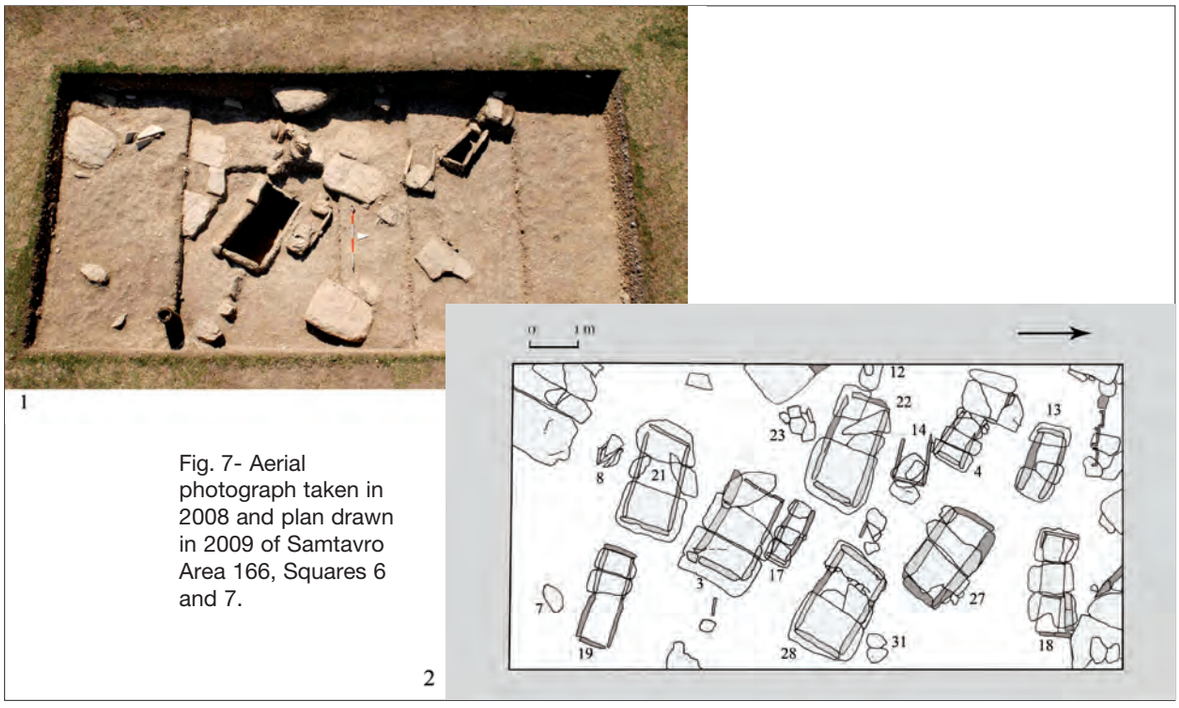

Fig. 7- Aerial photograph taken in 2008 and plan drawn in 2009 of Samtavro Area 166, Squares 6 and 7.

1

2

3

4

Fig. 8- 1 Archival photograph of Samtavro Area 188, taken in 1978, showing the inter-mingling of stone-cist tombs and tiles.

2 Samtavro Area 188 in June 2008 prior to excavations.

3 A section of in situ terracotta roof tiles, Samtavro, Area 188.

4 Stone cist tombs exposed in the 1970s and 1980s, and now on public display.

1

2

3

Fig. 9- 1 Arrangement of long bones and skulls in Samtavro Tomb 1 (Area 143, Square 12).

2 Modified skull from Samtavro Tomb 303, excavated in 1978, showing clear signs of anterior-posterior compression, which has resulted in a cone-shaped head.

3 Re-arrangement of long bones in Samtavro Tomb 3 (Area 166, Square 7).

Fig. 10- 1 Samtavro, Tomb 6 (Area 143, Square 12).
2 Samtavro, Tomb 18 (Area 166, Square 8).
3 Samtavro, Tomb 25 (Area 142, Square 11).

Fig. 11- Glass bottles from Samtavro Tombs 1 (11.1), 3 (11.2), 22 (11.3), 22 (11.4), 3 (11.5).

Fig.12- Assortment of grave goods from Samtavro: 1–2. Gold ring with garnet setting (Tomb 501); 3. Gold ring with flat bezel (Tomb 36); 4. Bronze pin with facetted head (Tomb 22); 5. Bone pins with gold-plated heads (Tombs 30); 6. Silver and bronze bracelet and beads (Tomb 13); 7. Bronze pin with stone head (Tomb 20); 8. Bone pin (Tomb 22); 10. Faience pin head with gold bead trim (Tomb 27).

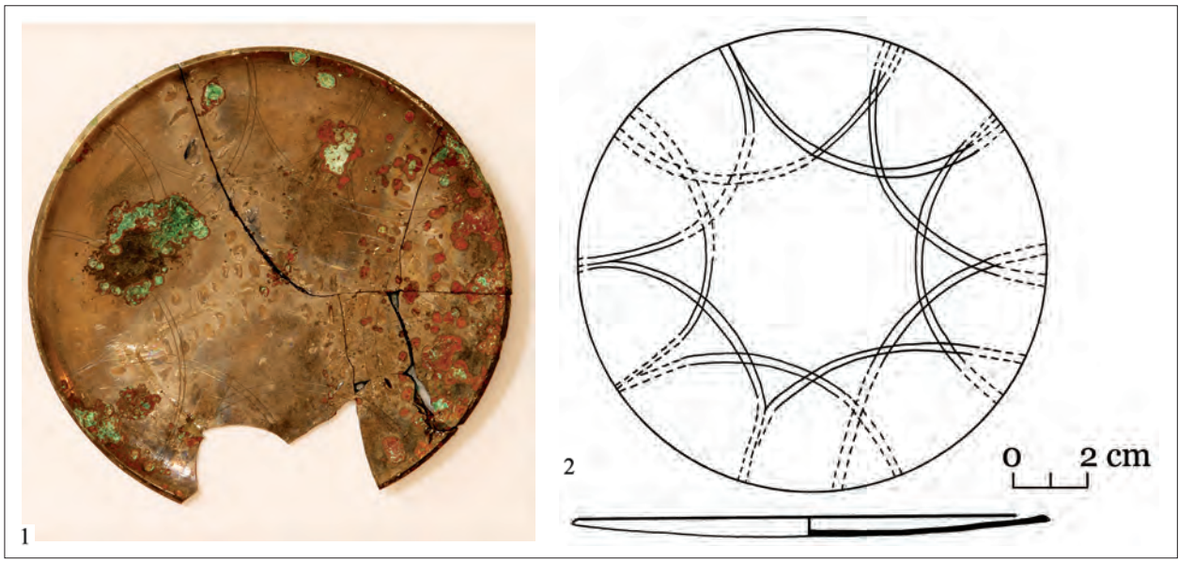

Fig. 13- Photograph and drawing for antimony-plated mirror Samtavro Tomb 1.

1

2

Fig. 14- 1 Large building with central hearth, Samtavro Area 188.
2 Clay sarcophagus (Tomb 36), Samtavro Area 188.
3 Iron door handle from the large building, Samtavro Area 188.

1

2

Fig. 15- Iron door handle found in the large building, Samtavro Area 188.

Area	Square	Burial No.	Skeleton No	Age	Sex	Stature	Separate/Commingled burials	Articulated/Disarticulated skeleton	Pathology	Cultural treatment	Taphonomic evidence	Comments
143	12	1	*2008/T1/SM1*	30-39	M		C	D	Degenerative joint disease			
			2008/T1/SM2-SM4	34-50	?F			D	Healed wound on left parietal			
			2008/T1/SM3	42-50+	M			D	Porotic hyperostosis		Cut marks on mandible	
			2008/T1/SM5	15-24				D				
			2008/T1/SM6	50-60	M			D				
			2008/T1/SM7	26-40	F			D				
			2008/T1/SM8	40-60	F			D	Marked osteophytes on vertebrae; healed fracture of ribs; fibula compressed distally			
			2008/T1/SM9					D				
			2008/T1/SM11					D				
142	11	2	*2008/T2/SM1*	35-50	F?		C	D	Osteophytes on vertebrae	Cranial modification: A-P compression		
			2008/T2/SM2	20-35	M			D				
166	7	3	*2008/T3/SM1*	8-9			C	D	Enamel hypoplasia on upper incisor			
			2008/T3/SM2	16-23				D		Deep gashes on proximal posterior tibiae		
			2008/T3/SM3	40-50	F			D				
			2008/T3/SM4	40-44	?M			D	Healed fracture on left radius			
			2008/T3/SM5	Fetus to newborn				D				
166	8	4	*2008/T4/SM1*	Juvenile			?S	D				
142	11	5	*2008/T5/SM1*	5 +/-9m			C	D	Deep pitting on internal surface of right frontal	Trepannation		
			2008/T5/SM2	30-40	M			D				
			2008/T5/SM3	35+	?M			D				
143	12	6	*2008/T6/SM1*	15-26			S	A		Deformed cranium: ?cultural modification	Deformed cranium: ?soil pressure	
166	7	7	*2009/T7/SM1*	22-32	?F		?S	D			Cuts on distal humeri	
166	7	8										No skeletal material
142	11	9										Too few and fragmentary -- unsuitable for study
142	11	10										Very scanty fragments -- unsuitable for study
142	11	11										Small cluster of bones -- unsuitable for study
166	8	12										No skeletal material
166	8	13										Scanty remains -- all sent for radiocarbon analysis
166	8	14										Few skull fragments -- unsuitable for study
142	11	15										Scanty remains, plus some animal bones -- unsuitable for study
143	12	16	*2009/T16/SM1*	20-35	F		S	A	Dens separated from neural arch of C2: possible hanging	Dens separated from neural arch of C2: possible hanging		
			2009/T16/SM2	18m+/-3m				A				
			2009/T16/SM3	Fetus				?A				
166	7	17										Too few and fragmentary skeletal remains -- unsuitable for study
166	8	18	*2009/T18/SM1*	24+	F		S	A				
			2009/T18/SM2	12-15				A				
166	7	19	*2009/T19/SM1*	26-38	F	152-158 cm	S	A	Deep groove on internal side of left parietal			
142	11	20										Not yet analysed
166	7	21	*2009/T21/SM1*	36-49	?F		C	D				
			2009/T21/SM2	20-35	F			D	Criba orbitalia		Cut marks	
			2009/T21/SM3	15-25				D	Unerupted incisor; dental roots recurved			
166	8	22	*2009/T22/SM1*	24-50	M		C	D				
			2009/T22/SM2	28-44	F			D	Dental caries on two teeth			
			2009/T22/SM3	32-40	F			D				
			2009/T22/SM4	15-24y				D	Periostitis on proximal humerus			
			2009/T22/SM5	16-18y				D				
			2009/T22/SM6	2-3+				D				
			2009/T22/SM7	40-44yrs	?F			D				
143	12	23	*2009/T23/SM1*	34-36y	?M		C	D	Dental caries on six teeth			
			2009/T23/SM2	35-40	M	173-175 cm		D				
			2009/T23/SM3	18-24				D		Deep gash on proximal posterior tibia		
142	11	24	*2009/T24/SM1*	Adult	?M		?S	D				

142	11	25	*2009/T25/SM1*	Adult		cm	S	A		fibulae						
166	8	26										Too few and fragmentary skeletal remains -- unsuitable for study				
166	8	27	*2009/T27/SM1*	38-48			C	D								
			2009/T27/SM2	6 +/-9m				D								
			2009/T27/SM3	38-50	M	175-178 cm		D								
166	7	28	*2009/T28/SM1*	35-48	M		C	D	Three wounds on left femur;?periostitis on left tibia							
			2009/T28/SM2	18-19				D								
			2009/T28/SM3	30-50	M			D		Deformed cranium: bilateral compression						
			2009/T28/SM4	6y+/-9m				D								
143	12	29	*2009/T29/SM1*	32-50	M		?S	D								
143	12	30	*2009/T30/SM1*	20-30	F		S	A								
			2009/T30/SM2	4 +/-9m				A	Pitting on parietal bone		Holes from burrowing beetles on long bones					
166	8	31										Not yet analysed				
143	12	32	*2009/T32/SM1*	24-34yrs	F		S	D	Dental caries on two teeth							
			2009/T32/SM2	Juvenile				D			Scalloped gash on long bone					
166	8	33	*2009/T33/SM1*	30-44	M		C	D	Enamel hypoplasia on upper canine							
			2009/T33/SM2	9-10												
143	12	34	*2009/T34/SM1*	36-50	F	158-160 cm	S	D	Enamel hypoplasia on upper incisor and canine; caries on one tooth; abscess on maxilla	Deformed cranium: bilateral compression						
142	11	35										Not yet analysed				
166	8	36										Not yet analysed				
166	8	417										Not yet analysed				
118	3,6,7	491	*2009/T491/SM1*	subadult			S	D								
119	3,6,8	498	*2009/T498/SM1*	50+	?F		S	A								
			2009/T498/SM2	12-20												
			2009/T498/SM3													
166	8	501										Not yet analysed				

Fig. 16 Osteological analysis of 24 skeletons from Samtavro.

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TÜBA-AR TÜRKİYE BİLİMLER AKADEMİSİ ARKEOLOJİ DERGİSİ

YAZIM KURALLARI

Dergide basılmak için verilen yazılar Türkçe, İngilizce, Almanca ya da Fransızca olabilir; Türkçe yazılara İngilizce, diğer dillerde yazılmış olanlara da Türkçe ve İngilizce bir özet eklenmesi gerekmektedir. Anahtar sözcükler ve özetler ise, İngilizce ve Türkçe olan yazılarda Türkçe ve İngilizce olarak çift dilde, diğer dillerde yazılan makalelerde makale dilinin yanı sıra Türkçe ve İngilizce olarak üç dilde verilmelidir.

TÜBA-AR hakemli bir yayındır. Gelen yazıların önkabulü üzerine yayın kurulu görüş bildirir ve hakem önerir. Her yazı en az iki hakeme gönderilir. Hakemlerin önerileri, eleştiri ve düzeltmeleri yazara hakem adı gizlenerek yollanır; yazarlar hakem görüşüne uymayı kabul etmek yükümlülüğündedir. Yazarların, gerekçe göstererek görüşlerinde ısrarcı olmaları durumunda yayın kurulu yeni bir değerlendirme yapar.

Hakem görüşleri doğrultusunda yayın kurulu tarafından basılabilir kararı verilen yazılar, yazı düzeni, yazım kuralları, kaynakça, görsel malzeme ile yazının ilişkilendirilmesi gibi konular da dahil olmak üzere gözden geçirildikten sonra, önemli bir aksaklık bulunmaz ise son gözden geçirme yayın koordinatörü tarafından yapılır.

YAZIM KURALLARI

Makaleler: Makale metni bilgisayar ortamında yazılmalıdır. Başlık iki kademeli kullanılabilir ve ikinci satıra yazılan başlık 'alt başlık' olarak değerlendirilir. Sayfa sayısı için belirli bir sınır bulunmamakla beraber üst sınır 50000 vuruş olarak kabul edilmektedir. Makaleler iki aşamalı olarak teslim edilmelidir; ilk olarak hakeme gönderilecek şekilde tek dosyada metin, kaynakça, düşük çözünürlükte görseller ve resim alt yazıları, ikinci aşamada, makalenin kabulünden sonra ise ayrı dosyalar halinde olmak üzere metin, kaynakça, yüksek çözünürlükte görseller ve resim alt yazıları olarak teslim edilmelidir. Metin, 'microsoft word' kelime işlem programında yazılmalıdır. Metin içindeki birinci derece başlıklar büyük harf bold, ikinci derece başlıklar büyük harf normal, üçüncü derece başlıklar sözcük ilk harfleri büyük olmak üzere küçük harf bold, dördüncü kademe başlıklar sözcük ilk harfleri büyük olmak üzere küçük harf ve italik yazılmalıdır.

Örnek yazılım:

INTRODUCTION

CULTURAL STAGES

Central Anatolia

Aşıklı Höyük

Metin içinde geçen yabancı sözcük ve terimler, örneğin 'in situ' italik olarak yazılmalıdır. Metin içinde Milattan Önce, Milattan Sonra gibi çok alışılagelmiş kısaltmalar dışında kısaltma kullanılmamalı ve açık yazılmalıdır. Ancak metinde çok sık geçen adlamalar, ilk olarak açık yazılıp yanında kısaltması parantez içinde belirtildikten sonra kısaltma olarak kullanılmaya devam edilebilir; örneğin Maden Tetkik Arama (MTA). Geçerli bazı kısaltmalar:

Milattan Önce'nin kısaltması: MÖ ve tarihten önce; örneğin MÖ 475
Milattan Sonra'nın kısaltması: MS ve tarihten önce; örneğin MS 456
Günümüzden önce: GÖ
Uyarlanmış (kalibre) tarihler: cal. MÖ; örneğin cal. MÖ 475
Belirli bazı dönem adları kısaltılabilir; örneğin PPN, İTÇ, İDÇ

Derginin yayın politikası terimlerde Türkçe kullanılması yönündedir. Örneğin perdah yerine açkı,

seramik ya da keramik yerine çanak çömlek, cidar yerine kenar, Bronz Çağı yerine Tunç Çağı gibi. Dönem adlarında Erken ve Geç yerine İlk ve Son; örneğin Erken Tunç Çağı ya da Geç Tunç Çağı yerine İlk Tunç Çağı ve Son Tunç Çağı.

Bölge adlarının ilk harfleri büyük yazılmalı; örneğin İç Anadolu, Orta Amerika, Güneydoğu Anadolu, Orta Asya, Yakındoğu gibi. Aynı şekilde yer, coğrafya ve kurum adlarının da ilk harfleri büyük yazılır; örneğin Avrupa, Akdeniz Bölgesi, Barbaros Bulvarı, Kızılırmak, Fırat Nehri, İstanbul Üniversitesi, Türk Tarih Kurumu gibi.

Görseller: Resimler dijital olmalıdır. Görsellerin yüksek çözünürlükte ve imaj boyutunun büyük olması gerekmektedir. Genelde 20 sayfalık bir metin için 6-8 resim sayfasına girecek şekilde tercihen 15 resim üst sınırdır. Görsellerde ve metin içi göndermelerinde tek bir numaralandırma uygulanmalıdır. Fotograf, resim, çizim hepsi Res.1,2,3... / Fig. 1,2,3... olarak sıralanmalı ve metnin sonunda verilmelidir. Tablo-çizelgeler, görsellerden ayrı olarak Çizelge 1,2,3…/ Table 1,2,3… olarak numaralandırılmalı ve metin sonunda verilmelidir.

Her türlü görsel malzemenin sayfa mizanpajında rahat kullanılabilmesi için, yatay ya da dikey A4 normun oranlarına uygun olması gerekmektedir.

Yazara/yazarlara ait olmayan görsellerin kaynağı belirtilmeli, yayım için telif hakkı anlaşması gerektiren google earth gibi görseller kullanılmamalıdır.

Teşekkür ve katkılar dipnot olarak değil, yazının sonunda "Katkı Belirtme" olarak ayrıca verilmelidir.

Göndermeler: Göndermeler genelde metin içinde parantezle ayrılarak verilmelidir.
Örneğin;
(Esin 2002), (Esin ve Harmankaya 1999) / (Esin and Harmankaya 1999),
(Esin vd. 2001) / (Esin et al. 2001), (Esin 2002: 48-50), (Esin 2002: 48-50, fig. 10).
(Esin 2000, 2002) / (Esin 2000:14-15; Esin 2002: 48-50), (Broidwood 1995; Esin 2002)

Dipnot ancak konuyla ilgili ek bir açılım gerektiği zaman metin sonunda son not olarak kullanılır. Bu durumda metin içinde 'üst yazı' olarak numaralandırma yapılır. Yazar soyadları gerek metin içi kaynak göstermede, gerek kaynakçada ilk harfler büyük, adın tümü küçük harf olarak verilmelidir.
Kaynakçada verilen tüm kaynaklara metinde gönderme yapılmalıdır.
Kaynakça yazım kuralları aşağıdaki gibidir:

Dergi İçi Makale:
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