

# ÇATALHÖYÜK 2006 ARCHIVE REPORT

Çatalhöyük Research Project





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## **INTRODUCTION – *Ian Hodder***

We have spent much of our time over the decades we have worked at the 9000-year-old Neolithic site of Çatalhöyük demonstrating the remarkable repetition of practices in houses. Houses are built on houses, using much the same organization of space, and in each house across the site and through time a similar spatial arrangement of activities is found. But in recent campaigns at the site we have come to recognize that considerable variation also exists. We have come to recognize that some houses are more like ‘ancestral’ houses in that they are rebuilt in exactly the same spot over long periods and have many burials, while other houses seem to come and go – they are built out onto midden areas and then are abandoned after relatively short periods of time. We have also seen that many houses break the site-wide rules about oven location (usually in the south) and burial location (usually adults are buried in the north and east of the main room of the house). There seems to be a tension between continuity and change.

We had perhaps our largest team ever at Çatalhöyük this summer. As well as the Stanford-UK team, and the existing teams from Istanbul (led by Mihriban Özbaşaran) and Poland (led by Arek Marciniak and Lech Czerniak), our ranks were swelled by the new team from Selcuk University (led by Ahmet Tırpan and Asuman Baldıran) working on the Classical site to the east of the East Mound and then on the Byzantine burials on the West Mound. On the Chalcolithic West Mound itself, there were two new teams – one from Cambridge (led by Peter Biehl) and the other from the University of Thrace at Edirne (led by Burçin Erdoğu). After most of us had left the site in late August and September the dig house was taken over by the new team, with a separate permit, excavating Boncuklu (led by Douglas Baird).

Perhaps it is the large scale of the current team that allows us to explore continuity and variation rather better than in our earlier key-hole excavations. We certainly had yet more evidence of repetition and continuity in the use of buildings at Çatalhöyük. The clearest example came from the South Area (Fig 1).

In the eastern part of the South shelter we had earlier excavated Building 10 with Building 44 (assigned to Level IV) below it and with an almost identical plan. Then below Building 44 we found another identical plan in Building 56 (Level V). In all cases there were southern ovens and hearths in the same positions, an eastern central platform with a bench along the south side, and a northeastern and north central platform. In 2006 the excavation of Building 56 was completed and we waited on tenterhooks to see what would be found below it. As Roddy Regan and his team worked through the fill beneath Building 56, yet another more or less identical building was found – Building 65 (Fig. 2). As in the building above, the ovens and hearths were in the same location even though there was a southeastern small room into which an elaborate moulded oven had been set. The layout of all the platforms was the same, although displaced somewhat by the presence of the southeastern room. In both Buildings 65 and 56 there was a complete pot set into the floor just where the ladder met the entry platform. The floor in Building 65 had multiple divisions with bright white central eastern and northeastern platforms as in 56. In both Building 44 and 65 there were concentrations of grinding and polishing stones suggesting a continuity of social function. So the continuities of Buildings 65-56-44-10 are remarkable and include specific features not widely found. But there is also evidence

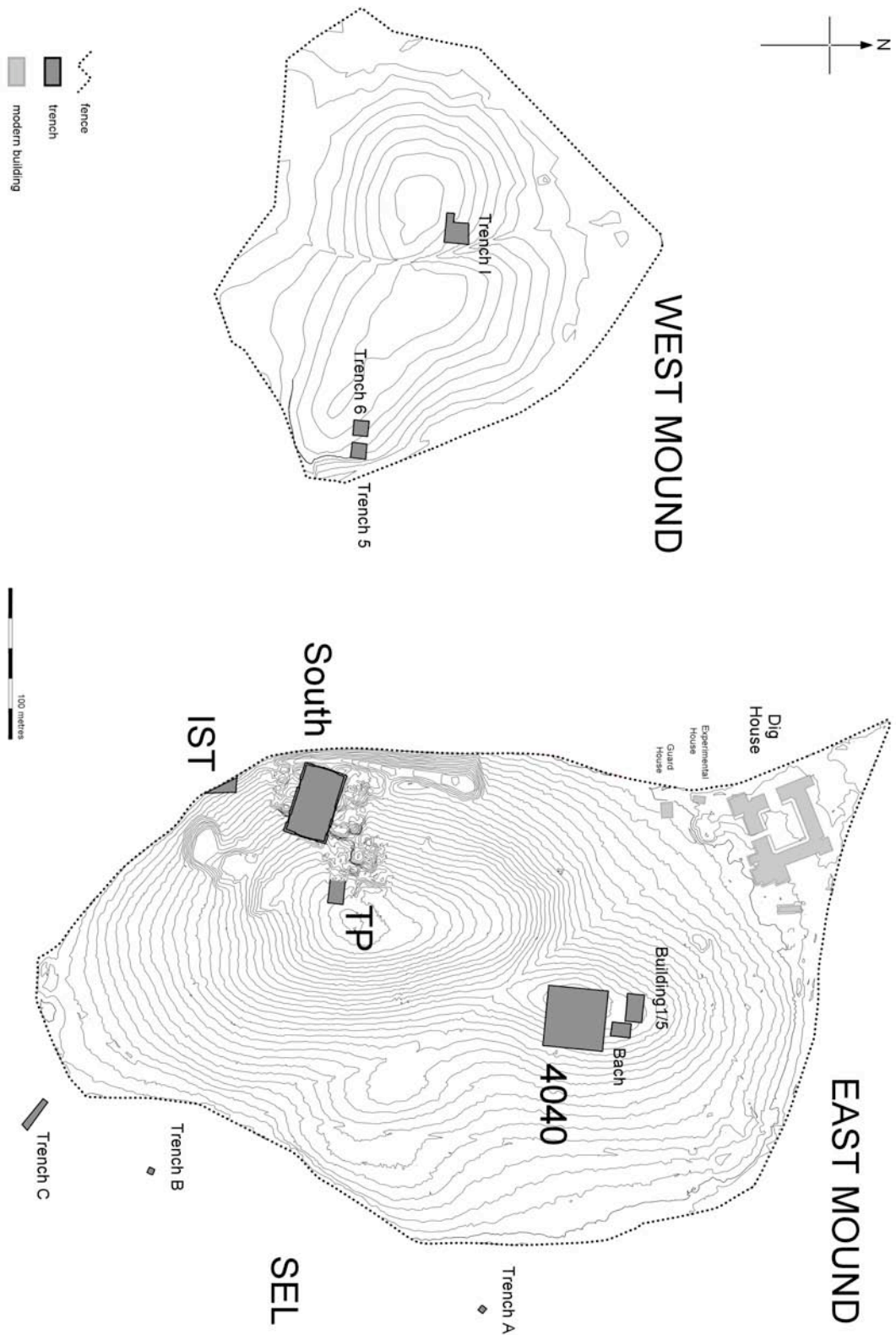


Figure 1: Excavation areas on Çatalhöyük East and West mounds and off-site.

of some change. In Building 65 there was a storage and food preparation room to the west, including several bins. The overall impression was of gradually less ancillary space (storage and food preparation space in side rooms) associated with this building sequence. A similar shift from a variety of to fewer functions was noted in the Building 17 to 'Shrine 10' sequence. It is probably too early to say that those living in

houses are sometimes able to convert success in production to success in ancestry and ritual.



*Figure 2: An overhead view of Building 65 in the South Area. South is to the left.*

There is much variation in the size of buildings, but we have never been able to correlate this variation in size with variation in status or ritual elaboration. In 2006 we continued working in Building 49 in the 4040 Area, which is an extremely small building (about 4 m across). This building had in earlier campaigns given every indication of considerable elaboration in that large numbers of horn cores and figurines were found. This year the impression was strengthened by the burial of an individual without arms, shoulder blades and legs (Figure 3) and by the presence of geometric painting around the northwest platform (Figure 4). This painting is similar to that found in nearby Building 1, around its northwest platform, indicating a local style within the settlement. There is much replastering of the walls and floors, the house was lived in for a very long time, and there are probably burials yet to be found beneath the platforms (as seen in the depressions in the platform surfaces).



*Figure 3: Burial of an individual without arms, shoulder blades and legs in Building 49.*

So Building 49 is small and possibly of some special significance. Nearby in the 4040 Area in 2006 we excavated the opposite – a huge building, 8m across, with much less evidence of special significance. The main room and associated west room of Building 59 are shown in Figure

5. In the west room are bins and fire installations. There is also a room that was added to the northeast of the main room, which also contains storage bins, although the



*Figure 4: Uncovering a geometric painting in Building 49.*

overall number of storage bins in this building is not outside the range we have encountered in other buildings, including quite small ones. The main room has very large platforms. The one in the northwest is the highest and most clearly marked by a raised edge. There is also a raised edge on the central east platform, which has a brilliant red dado on the lowest part of the wall running along the platform (Figure 5), and a bench along the southern edge. The northeast, northwest and east central platforms all have traces of pedestals on their edges. There is a large retrieval or foundation pit or wall scar in the centre of the west wall of the main room. There are traces of a ladder in the southeast corner and the usual ‘dirty’ floors in this area.



*Figure 5: Overall view of Building 59. South is to the upper left.*

We all marvelled at how fresh and clean the edges of the platforms looked in Building 59. There was no doubt that the building had been lived in, as evidenced by the ‘dirty’ floors, and multiple replasterings of floors and walls. But the building had been very

carefully built and maintained. Such a magnificent building might have been thought to be high status, but in fact the building lacks some of the indicators that we have come to associate with significant social status at Çatalhöyük. For example, it seems to have had a relatively short life. There are relatively few plaster layers on the walls, and when we emptied the fill from the post retrieval pits in the main room, we saw that few floor layers had existed. In addition, these retrieval pits had disturbed no burials, and there were no hollows in the surfaces of platforms that might have indicated sub-floor burials. The most important buildings at Çatalhöyük tend to be those that have most burials and last longest. But these important buildings are not especially large (eg Buildings 1 and 5) and they do not have special concentrations of storage bins and adjacent spaces and rooms (Buildings 1, 5, 17 and Mellaart's 'Shrine 10').



*Figure 6: Red painted dado on the lower part of the wall by the east central platform flanked by post holes in Building 59.*

On the other hand, Building 59 had been carefully abandoned and filled, often a sign of special status, and there is evidence that earlier and later buildings existed on the same plan. Adjacent was a building that had been treated very differently – Building 64 had been filled in and then used for digging pits which were filled with midden (Figure 7). Indeed we excavated extensive areas of midden in the 4040 Area, and as a result we had an artifact-rich year, including the discovery of fragments of a face pot (Figure 8).

There is also much variation through time. The excavation of Buildings 61 and 62 in the TP Area is demonstrating very clearly that in the uppermost levels of the site the arrangement of internal features in houses was very different. The new work being conducted on the West Mound will allow these changes to be followed into the Chalcolithic, while the work being conducted by the Istanbul team will hopefully allow some of the early developments at the site, and those at the western edge of the site, to be explored.



*Figure 7: Pits dug into Building 64 in the 4040 Area.*



*Figure 8: Fragments of a Neolithic face pot from midden in the 4040 Area.*

### **Other activities**

An educational programme at the site sponsored by Shell and Coca-Cola has continued this year. The aim of the programme is to educate young people from the Konya region, and other areas of Turkey, about the importance of archaeology for Turkey and about Çatalhöyük. This year 600 children spent a day at the site. Each day 20 children spent the day learning about the site, doing some excavation of previously excavated earth, doing Çatalhöyük paintings and making models of Çatalhöyük houses (Fig.9). The programme is being run by Gülay Sert, who has also produced a book for children about Çatalhöyük.



*Figure 9: Çatalhöyük Summer School*





With funding from the Global Heritage Fund, a fence was constructed around the West Mound (Fig.10), and further work was completed on the training of local women in the conservation of wall plasters and paintings (see Fig.4)

*Figure 10: With funding from the Global Heritage Fund, a fence was constructed around the West Mound*



A seminar was organized also with a group interested in the female spirituality at the site (Fig.11), and they have provided funding for a garden to the north of the dig house which can be used for recreation by the women and children of the village and region. Work has started on the garden and a fence will separate it from the dig house itself.

*Fig 11. For some visitors, the journey to Çatalhöyük is a pilgrimage to one of the earliest sites in the world where women were respected within an egalitarian society. Below, ground work began on a garden to the north of the dighouse to which the group donated funds which will be used as a local recreational area.*



Our main Press Day was associated with an exhibit called Topraktan Sonsuzluğa (From Earth to Eternity) organized by one of our sponsors (Yapı Kredi) and produced in collaboration with the project and Yapı Kredi Arts and Culture at their gallery in İstiklal Caddesi in the centre of Istanbul. The grand opening was in May to which James and Arlette Mellaart were invited, and the success of the exhibition was demonstrated by a month's extension until the end of Sept (Fig. 12). This was extremely successful and large numbers of people saw the exhibit and the publicity associated with it.

A project funded by the Templeton Foundation involved a group of anthropologists, theologians and philosophers coming to the site to experience collaborative interpretation 'at the trowel's edge' (Fig. 13). They spent a week at the site in August and contributed much to the interpretation of the site.

13 undergraduate students from the Institute of Archaeology, UCL joined us for 2 nights with their course director Prof. Roger Matthews. The student's were on a course on an introduction to the archaeology of early Anatolia, which is integrated with visits to relevant sites and museums in Turkey. Topics included the Palaeolithic occupation of Anatolia, the development of sedentism and farming in the Neolithic, and the rise and evolution of complex societies in the Chalcolithic, Bronze Ages and Iron Age. Teaching took place at the British Institute in Ankara as well as at the UCL Institute of Archaeology, and many of the sites covered in the course were visited during the trip to Turkey.

We once again invited the villagers in Küçükköy to the site so that they could learn about our work and give their opinions on how we should proceed (Fig. 14). There was general concern in the village about the prospect of entry fees being charged at the site, but it seems that the Ministry of Culture and Tourism have introduced such fees.

Plans are underway to construct a new shelter over part of the 4040 Area, partly funded by the Ministry of Culture and Tourism, for which we are very grateful. We are also planning to build more stores to the east of the dig house. Permission for these buildings is being sought, as will be permission to construct some new experimental houses at the entrance to the site. The existing experimental house has been very successful, and some of the reconstructed reliefs from the Istanbul exhibit will be moved into the new experimental houses.

## **RAPOR GİRİŞİ - Ian Hodder**

9000 yıl öncesine ait Neolitik bir yerleşme olan Çatalhöyük’de senelerdir yaptığımız çalışmalar, ev içi aktivitelerinde önemli bir tekrarlama gösterir. Aynı şekilde düzenlenmiş olan evler birbirleri üzerine inşa edilmiş olup, tüm yerleşim boyunca yapılan aktivitelerin alansal düzenlemesi açısından da zaman süresince bir benzerlik sergilerler. Ancak son senelerde yaptığımız çalışmalar sırasında evler arasında dikkat çeken çeşitlilikler olduğunu gördük. ‘Ataya ait ya da atasal’ diye tanımlanan bazı evler uzun süre aynı alana inşa edilip bir çok gömüte sahip olurken, çöplük alanları üzerine yapılan diğer evler kısa süre yaşandıktan sonra terkedilmişlerdir. Aynı zamanda, bir çok evde yerleşme boyunca görülen fırın (genellikle güneyde) ve gömüt (yetişkinler genellikle, evin ana odasının kuzey ve doğusuna gömülmektedirler) yerlerinde de değişimler görülür. Devamlılık ve değişiklik arasında bir gerilim olduğu düşünülmektedir.

Bu yaz Çatalhöyük’de belki de en büyük ekibimizle çalıştık. Stanford-İngiltere, İstanbul ekibi (Mihriban Özbaşaran başkanlığında) ve Polonya ekibi (Arek Marciniak ve Lech Czerniak başkanlığında) dışında, Ahmet Tırpan ve Asuman Balıran başkanlığındaki Selçuk Üniversitesi ekibi Doğu Höyüğü’nün doğusundaki Klasik alan ile Batı Höyüğü’ndeki Bizans gömütlerinde çalıştı. Batı (Kalkolitik) Höyüğü’nde ise iki yeni ekip vardı; Peter Biehl başkanlığındaki Cambridge ekibi ve Burçin Erdoğan başkanlığındaki Edirne Trakya Üniversitesi ekibi. Ekibin çoğu Ağustos sonu ve Eylül’de ayrılınca, kazı evimiz Douglas Baird başkanlığındaki Boncuklu kazı ekibine (ayrı bir izinle) ev sahipliği yaptı.

Şu andaki büyük ekibimiz sayesinde, daha önceleri yaptığımız ufak boyutlu kazı çalışmalarımızın aksine devamlılık ve çeşitliliği daha iyi yakalayabiliyoruz. Özellikle Çatalhöyük’deki bina kullanımıyla ilişkili tekrarlama ve devamlılık üzerine bir çok kanıt elde ettik. Bu kanıtların en önemlisi Güney Alanı’ndan geldi.

Güney Alanı’nın doğu kısmında yer alan ve daha önceden kazdığımız Bina 10 ile hemen altında bulunan Bina 44 (Tabaka IV’ya tarihlenmektedir) yaklaşık olarak aynı plana sahiptir. Sonraki kazılarda ortaya çıkan Bina 44’ün altındaki Bina 56’nın da (Tabaka V) aynı plana sahip olduğu görülmüştür. Güneye yerleştirilmiş fırın ve ocaklar, doğuda bulunan merkezi platform ile onun güney kısmına doğru uzanan bir seki ve kuzeydoğu ile kuzey merkezde bulunan bir platform tüm evlerde aynı pozisyonda yer almaktadır. 2006 sezonunda Roddy Regan ve ekibi tarafından tamamlanan Bina 56’nın kazısı sonucunda, altındaki binanın da (Bina 65) hemen hemen aynı olduğunu gördük (Fig.2). İnce işçilikle yapılan bir fırının bulunduğu güneydoğu yönündeki ufak odaya rağmen, Bina 65 içindeki fırın ve ocaklar üst binadaki fırın ve ocaklarla aynı pozisyondadır. Platform düzenlemeleri aynı olmasına rağmen, güneydoğu yönündeki bir oda tarafından yerleri değiştirilmiştir. Her iki binada (Bina 65 ve 56) merdivenin giriş platformuyla birleştiği yerde tabana yerleştirilmiş tüm bir çanak bulunmuştur. Bina 65’in tabanı Bina 56’ya benzer olarak, doğu ve kuzeydoğudaki beyaz renkli platformlar tarafından bir çok bölüme ayrılmıştır. Bina 44 ve 65’de sosyal fonksiyona ait devamlılığa dikkat çeken öğütme ve cila taşı toplulukları ortaya çıkmıştır. Alınan sonuçlara bağlı olarak, Bina 65,56,44 ve 10’a ait devamlılıkların genelde rastlanmayan özelliklere sahip olduğu ve bu yüzden de çok önemli olduğu düşünülmektedir. Fakat bazı değişikliklere yorumlanan kanıtlar da vardır. Bina 65’de saklama depolarının da dahil olduğu, batıya bakan bir

depo ve yemek pişirme odası bulunmaktadır. Bu bina sıralaması, yan odalarda bulunan depo ve yemek pişirme alanlarının zamanla daha az kullanıldığına dair bir izlenim verir. Çeşitli fonksiyonların zamanla azalma hali Bina 17'nin 'Tapınak 10' sıralamasında da görülmüştür. Ancak bu evlerde yaşayan insanların üretimdeki başarılarını bazen ata kültü ve dini aktivitelerine yansıttıklarını söylemek için erken olabilir.

Bina boyutlarındaki çeşitliliği henüz statü ve dini aktivitelerde görülen çeşitlilikle bağdaştıramadık. 2006 sezonunda 4040 Alanı'nda bulunan ve çok ufak bir bina olan Bina 49'da çalışmaya devam ettik. Daha önceki sezonlarda bu binada bulunan çok sayıda boynuz ve figürin, binanın büyük bir özenle yapıldığına işaret etmiştir. Bu sezon aynı binada bulunan omuz kemiği olmayan, kolsuz, bacaksız bir iskelet (Fig.3) ile kuzeybatı platformu çevresindeki geometrik duvar resmi (Fig.4) bu fikri daha da kuvvetlendirmiştir. Yerleşim içinde görülen yerel bir stille yapılmış olan bu resim Bina 1'in kuzeybatı platformu etrafında bulunan duvar resmiyle benzerlik gösterir. Kat kat sıvalanmış duvar ve tabanlar evin içinde çok uzun bir süre yaşanmış olduğunu gösterirken, platform yüzeylerinde görülen alçaklıklar platformların altında daha bir çok gömüt bulunabileceğine işaret eder.

Bina 49'un ufak ve önemli bir bina olduğu anlaşılmaktadır. Bu sezon yine 4040 Alanı'nda, Bina 49'un hemen karşısında bulunan ve çaprazlama 8m boyutundaki, daha az önemli olduğunu düşündüğümüz büyük bir bina kazdık. Bina 59'un ana odası ve bu odayla bağlantılı olan batı odası Fig.5'de görülmektedir. Batıdaki odada saklama depoları ile ocak ve fırın yerleri bulunmaktadır. Aynı zamanda ana odanın kuzeydoğusuna eklenmiş olan başka bir odada bulunan saklama depolarının sayısı, diğer binalarda da karşılaştığımız (ufak binalar dahil) genel sayının dışına çıkmamaktadır. Ana oda büyük platformlara sahiptir. Kuzeybatıdaki platform en yüksek platform olup, yükseltilmiş bir kenarı vardır. Doğudaki ana platform da yüksek kenarlı olup, etrafındaki duvarın alt kısmında kırmızı bir şerit (Fig.6) ile güney kenarı boyunca uzanan bir seki bulunmaktadır. Kuzeydoğu, kuzeybatı ve merkezdeki doğu platformlarının kenarlarında tabanlık izlerine rastlanmaktadır. Ana odadaki batı duvarın merkezinde büyük bir temel çukuru ya da duvar izi bulunmaktadır. Odanın güneydoğu köşesindeki merdiven izi ile etrafındaki kirli taban ayrıca dikkati çekmektedir.

Bina 59'daki platform kenarlarının ne kadar temiz görüldüğüne hepimiz hayret ettik. Kirli tabanlar ile kat kat sıvalanmış duvar ve tabanlardan evin içinde yaşandığı bellidir. Ancak bina çok özenli bir şekilde inşa edilip, korunmuştur. Böyle bir binanın önemli bir statüye sahip olduğu düşünülse de, Çatalhöyük'de görülen ve belirgin olan sosyal statüyle bağdaşan bazı işaretler bu binada görülmemektedir. Mesela binanın kısa bir hayat sürecine sahip olduğu düşünülmektedir. Duvarlarda bulunan bir kaç sıva tabakasına ek olarak, ana odadaki direk çukurlarını boşalttığımız zaman sadece bir kaç tane taban tabakası olduğunu gördük. Aynı zamanda, bu direk çukurları gömütlere zarar vermemiştir ve platform yüzeylerinde taban altı gömütlerine işaret eden oyuklar yoktur. Çatalhöyük'deki en önemli binalar en çok gömüte sahip olan ve en uzun süre ayakta kalmış olanlardır. Ama bu önemli binalar çok büyük değildir (Bina 1 ve 5 gibi) ve belli sayıda saklama depoları, ek alan ve odaları yoktur (Bina 1,5,7 ve Mellaart'ın 'Tapınak 10'u gibi).

Diğer yandan Bina 59, özenli bir şekilde terkedilmiş ve doldurulmuş (genelde özel bir statü işaretidir) olup, aynı plan üzerinde daha erken ve geç binalara ait kanıtlar vardır. Bitişik bina daha farklı kullanılan bir binaydı. –Bina 64 önce doldurulup sonra çöplük (Fig.7) doldurmak için kullanılan çukurlar kazılmıştır. 4040 Alanı'nda çok sayıda çöplük alanı kazdık ve bunun sonucu olarak buluntu yönünden, surat betimli çanak parçasının da (Fig.8) dahil olduğu zengin bir sezon geçirdik.

Ayrıca zaman sürecinde bir çok çeşitlilik de vardır. TP Alanı'ndaki Bina 61 ve 62'nin kazısı, ev içindeki düzenlemenin yerleşimin en üst tabakalarında çok farklı olduğunu gösterir. Batı Höyüğü'nde başlayan yeni çalışmalar bu değişikliklerin Kalkolitik'deki devamını takip etmemizi sağlarken, İstanbul Ekibi tarafından yapılan çalışma erken döneme ait gelişmelerin bazılarını (özellikle yerleşimin batı kenarında) ortaya koymaktadır.

### **Diğer Etkinlikler**

Shell ve Coca-Cola tarafından sponsorluğu yapılan eğitim programımız bu sene de devam etti. Programın amacı hem Konya çevresinden hem de Türkiye'nin diğer bölgelerinden gelen çocuk ve gençleri Çatalhöyük ve arkeolojinin Türkiye için önemi konusunda eğitmektir. Bu sene 600 çocuğu ağırladık. Hergün 20 çocuk, Çatalhöyük hakkında bilgi edinirken daha önce hazırlanmış toprakta kazı yapıp, Çatalhöyük duvar resimleri ile evlerinin maketlerini hazırladılar. Eğitim programımız, aynı zamanda çocuklar için Çatalhöyük hakkında bir kitap hazırlayan Gülay Sert tarafından yürütülmektedir (Fig 9).

Global Heritage Fund'dan verilen destek sayesinde bayan işçilerimizi duvar resmi konservasyonu alanında yetiştirmeye devam ederken (Fig.4), Batı Höyüğü etrafına bir çit çektik(Fig 10). Ayrıca Çatalhöyük'deki kadın ruhaniliğiyle ilgilenen bir grup, ortaklaşa düzenlenen seminer sonrasında kazı evinin kuzeyinde oluşturulması planlanan bahçe için maddi destek verdi. Çalışmalarına başladığımız bu bahçe, köy ve çevresindeki kadın ve çocuklar tarafından oluşturulacak ve inşa edilecek olan çit kazı eviyle bahçeyi birbirinden ayıracak (Fig 11)



Bu seneki Basın Günü'müz, İstanbul İstiklal Caddesi'ndeki Yapı Kredi Sanat ve Kültür Merkezi ile sponsorlarımızdan biri olan Yapı Kredi tarafından organize edilen Toprakta Sonsuzluğa adı altındaki sergi ile bağlantılıydı. Çok başarılı olan sergi, çok sayıda ziyaretçi ve reklam topladı.

*Figure 12: Our main Press Day was associated with an exhibit on Çatalhöyük called Toprakta Sonsuzluğa (From Earth to Eternity) organized by one of our sponsors (Yapı Kredi) was produced in collaboration with the project and Yapı Kredi Arts and Culture at their gallery in İstiklal Caddesi in the centre of İstanbul. James*

and Arlette Mellart with their son Alan were at the opening in May and the press visited the site in June.



Templeton Kuruluşu tarafından desteklenen proje bir grup antropolog, teolog ve filozofu Çatalhöyük’de bir araya getirerek iş birliği içinde yapılan bir yorumlama deneyimi sağladı. Ağustos ayında Çatalhöyük’de bir hafta geçiren grup, yerleşmeyle ilgili yapılan yorumlara katkıda bulundu.



Figure 13: A project funded by the Templeton Foundation involved a group of anthropologists, theologians and philosophers coming to the site to experience collaborative interpretation ‘at the trowel’s edge’

Küçükköy halkını bu sene yine Çatalhöyük’e davet ederek çalışmalarımız hakkında bilgi verip, onların fikirlerini aldık. Köyü genel olarak rahatsız eden bir konu, Çatalhöyük’de uygulanması planlanan giriş ücretiydi. Ancak bu ücret Kültür ve Turizm Bakanlığı tarafından konulmaktadır.



Figure 14: Villagers from Küçükköy were invited for tours and dinner at the site.

4040 Alanı üzerine inşa edilmesi planlanan çatıya verdiği destek dolayısıyla, Kültür ve Turizm Bakanlığı’na minnettarız. Aynı zamanda kazı evinin doğusuna yeni depolar inşa etmeyi planlıyoruz. Bu depolarla beraber, Çatalhöyük’ün girişine yapılması planlanan iki deneysel ev için de izin başvurusunda bulunduk. Şu anda varolan deneysel ev çok başarılı olmakla beraber, İstanbul’daki sergi için yapılan rekonstrüksiyon kabartmaların bazıları yeni deneysel evlere konulacaktır.

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The main sponsors are Yapı Kredi and Boeing. Our long term sponsors are Shell and Merko, and other sponsors are Thames Water and IBM. Our main institutional partner and sponsor is Selcuk University. In Britain support has been provided by the British Institute at Ankara, and University College London. In America funding has been received from the John Templeton Foundation, the Global Heritage Fund, Stanford University, the Kress Foundation and the Martha Joukowsky Foundation. In Poland thanks are due to the University of Poznan, and the Polish Heritage Council. Other support is provided by the Friends of Çatalhöyük and the Turkish Friends of Çatalhöyük, and we are grateful as ever to Jimmy and Arlette Mellaart. Special thanks are extended to Ömer Koç for his continued support of the project, and for his visit to the site this year.

The other institutional partners of the project are Cambridge University, Stanford University, University College London, The Museum of London, Poznan University, Istanbul University, Middle East Technical University (Ankara).

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## TEŞEKKÜRLER

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<b>South Area excavations:</b>	Simon McCann, David Brown, Roddy Regan, Candemir Zoroğlu, Peter Connely, Charlie Newman.
<b>IST excavations:</b>	Mihriban Özbaşaran, Guneş Duru, Heval Bozbay, Nejla Kurt, Turhan Ülgür, George Bodi, Füsün Ertug, Ece Bircek.
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<b>Finds:</b>	Julie Cassidy.
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<b>Image and Media:</b>	Jason Quinlan.
<b>Faunal Team:</b>	Louise Martin, Nerissa Russell, Katheryn Twiss, Sheelagh Frame, Rebecca Daly, Marina & Rafael Lizarralde, Kamilla Pawlowska, David Orton, Andy May, Arzu Demiregi and Joe.
<b>Amphibian &amp; small mammals:</b>	Rhian Mayon-White.
<b>Human Remains:</b>	Simon Hillson, Clark Larsen, Lori Hager, Başak Boz, Scot Haddow, Marin Pilloud, Bonnie Glencross, Lesley Gregoricka, Patrick Beauchesne, Christopher Ruff.
<b>Palaeoethnobotany:</b>	Glynis Jones, Amy Bogaard, Michael Charles, Nicola Stone, Meryl Shriver-Rice, Kim NG, Müge Ergun.
<b>Phytoliths:</b>	Arlene Miller Rosen, Philippa Ryan.
<b>Micromorphology:</b>	Wendy Matthews, Lisa-Marie Shillito.
<b>Isotopes:</b>	Jessica Pearson.
<b>Chipped Stone:</b>	Tristan Carter, Nurcan Kayacan, Marina Milić, Marcin Was.
<b>Ground Stone &amp; bead technology:</b>	Karen Wright.
<b>Ceramics:</b>	Nurcan Yalman, Hilal Gültekin, Duygu Tarkan, Joanna Pyzel.
<b>Figurines &amp; Miniature Clay Objects:</b>	Lynn Meskell, Carolyn Nakamura.
<b>Clay materiality &amp; sourcing:</b>	Chris Doherty.

**Architectural Analysis:**

**Summer School:**

**Community Archaeology:**

**Research Projects:**

**Study:**

**Artist in Residence:**

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**Residue Sorters:**

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Arif Arslan, Metin Eken, Mustafa Eken, Tarik Eken, Haşim Ferahkaya,

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Yaşlı, Ismail Buluç, Mustafa Zeytin, Sefa Comert, Mesut Comert,

Sirkan Salmancı, Mustafa Torun, Mehmet Ali Motuk,

Emine Bayram, Saliha Eken, Saliha Sivas, Fadimana Yaşlı, Fatima

Yaşlı, Rabia Yaşlı, Suna Yaşlı.



## **EXCAVATIONS**

### **Introduction to the excavation areas – *Shahina Farid***

#### ***Areas of Excavation 2006***

Excavation took place in four areas on the East mound, two trenches were opened on the West mound and 4 evaluation trenches excavated off-site. (Fig 1.). The four areas on the East mound were: the 4040 Area, an area that was scraped in 2003 on the northern eminence of the mound; the TP Area, an area excavated by Team Poznań since 2001 at the crest of the mound; the South Area, an area excavated since 1995, incorporating the 1960s trenches and covered by a shelter constructed in 2002, and the IST Area in its second season on the lower southwest slope, south of the South Area. On the West Mound Trenches 5 and 6 were opened on the eastern edge towards the south. Off-site the three evaluation trenches were located in fields to the east following results of a geophysical survey conducted last season.

Teams work with specific aims and research questions in areas across the East Neolithic and West Chalcolithic Mounds.

#### **Excavation Teams 2005**

##### ***TP Area Team***

The team from Poland, headed by Professors Lech Czerniak and Arkadiusz Marciniak from the Institute of Archaeology and Ethnology, Polish Academy of Sciences and the Institute of Prehistory, University of Poznan direct a team of students from Poland. The TP team have worked in an area at the southern crest of the East mound since 2001 to study the latest phases of tell occupation, dated to the end of the seventh millennium BC and located next to the 1961 trench where James Mellaart had defined Levels I – III.

The team continued excavations at the highest point of the East Mound (Fig. 1). This area was targeted to investigate the latest levels of the site, which were neither represented in current excavations on the northern eminence of the mound nor in the South Area. TP Area is located immediately to the east of where Mellaart had excavated Levels I-IV (Farid 2000). The area proved to be heavily utilised in the historic period overlying the latest Neolithic levels, which have been identified as Levels 0 – II by linking the TP trench with the 1960s trench and joining buildings from both excavations. The aim is to continue to explore the later Neolithic sequence expanding westwards. The study of these later periods is providing significant data for the transition of Neolithic to Chalcolithic at Çatalhöyük and thus linking work on the both the east and west mounds.

##### ***IST Area Team***

Team IST is mainly comprised of members and students from the University of Istanbul, Department of Archaeology, Prehistory Section under the direction of Assoc. Prof. Dr. Mihriban Özbaşaran and were joined by a student from Romania.

Team IST has formerly excavated sites in Central and Southeast Anatolia. Since 1989, its members have been working at Asikli Höyük and Musular, the two Aceramic Neolithic sites located in the east part of Central Anatolia - west Cappadocia. Aşıklı and Musular, respectively, are the predecessors of Çatalhöyük in chronological terms.

Aşıklı is radiocarbon dated to the 9th-8th mill. and the latter to the 8th-7th mill. BC. With such a background, Team IST is focusing on the early/earliest development of the site. The most promising and suitable area to fulfill this objective of excavating the early phases of the settlement in large areas is the southwestern slope of the mound.

In 2006 the team traced Neolithic structures up to the site perimeter fence, which clearly indicates that the sequence lies below a public dirt track that runs between the East and West Mounds. In 2007 the team plan to extend their area of investigation to an orchard area on the other side of the track.

### ***SEL Area Team***

In 2005-2006 a team of students under the direction of Prof. Dr Ahmet Tırpan and Dr Asuman Baldıran of Selcuk University, Konya, conducted a geophysical and surface collection survey off-site to the SE of the East mound to assess the location and extent of the Classical and later remains that are known to lie in this area.

Evaluation trenches opened in 2006 were targeted over areas that were shown as anomalies in the geophysical survey but upon investigation proved negative. It is therefore assumed that the historic sites lie further a field and that the surface scatter of classical date are residual.

In the 3<sup>rd</sup> year of their five-year involvement in the project, the SEL Team will work on the Classical and later activity on the West mound.

### ***4040 and South Area Teams***

Under direction of the Project, excavation teams in the 4040 and South Areas comprised contract excavators employed from the UK, Turkey, the US and Romania and assisted by field schools from Stanford University, UC – Berkeley – Individuals were from Selcuk University – Konya and Oxford University – UK. The aim is always for students to work along side professional excavators to gain a good and thorough grounding in excavation skills, recording and integrated interpretation. Excavation teams are therefore grouped based on experience with specific aims for the seasons work accounted for.

### ***5-year excavation programme***

In terms of the excavation programme the research aims for the current 5-year phase of the project (2003-7) deal with the social geography of the settlement and larger community structure. We aim to answer questions on: how were production, social relations and art organised beyond the domestic unit? How did this organisation develop over time? Does the social geography of Çatalhöyük involve groups of houses clustered around dominant houses or is all social and economic life decentralised and based on equivalent domestic units of production?

In order to address these questions we moved away from detailed analyses of individual buildings, their construction, occupation and closure, which were the focus of the previous 5-year phase of work (1995-99, see forthcoming volumes), and we concentrated on large ‘neighbourhood’ areas.

#### **4040 Area**

Thus the 4040 Area to the north of the east mound was scraped in 2003 and integrated with the area exposed by surface scraping in 1993-5. The subsequent plan exposed a large number of houses that defined groups of similarly aligned Neolithic houses possibly separated by 'streets' or 'alleyways'.

The aim is to excavate as many buildings within the 4040 Area to their latest occupation horizon and to cover the area with a structure that will be open to visitors throughout the year, as well as providing cover for the archaeologists to continue excavating in the summer months (see South Area). The next phase of work will then target specific buildings and spaces covering a range of building type and phase.

Each year since 2004 10x40m strips on a N-S alignment and straddling a number of 'zones' of structures separated by 'streets/alleys' have been excavated to the latest occupation horizon in buildings whilst only delineating 'open' area spaces where excavation was only conducted to extrapolate stratigraphic relations (Fig.15).

Preliminary phasing of the first season (2004) indicated that in fact the 10x40 strip straddled different Neolithic occupation periods ('Levels'). This approximate phasing held true the following year in the 2005 10x40 strip. Based upon the pottery and chipped stone assemblages it showed that the latest structural activity attributed to Level IV – III was located in the central cluster of buildings, then Level V-IV in the southern most cluster of buildings and the earliest Level VI and earlier in the northern zone of buildings. The 'streets' were primarily midden deposits and may in fact be the result of temporal shifts in areas of occupation and midden discard around zones of housing.

The current approximate phasing of the 2004 – 2006 30x40m area is that there appears to be a central group of similarly aligned buildings, which are roughly contemporary (contemporary means that at some stage the buildings would have been in use concurrently not, that they were all constructed at the same time). These lie to the west of the excavated area where a large expanse of midden represented as Spaces 279 and 280 (excavated in 2006) and Spaces 267/268 (excavated in 2005), are phased to Level V and in use /contemporary with Building 60. The stratigraphic relationship to the eastern buildings could not be satisfactorily investigated being obscured by the temporary shelter along the eastern edge, which restricted access for excavation. However Building 55 was sealed by middens ((10396) etc.), which may relate to midden Spaces 279 and 280 also.

Sealed by the above middens are Buildings 64, 66 and possibly 55. Building 64 is contemporary with Building 59 (below Building 60); therefore this set of buildings can be grouped as contemporary with a relative degree of certainty. As excavation progresses it will be possible to include other buildings in this group

Another group of apparently contemporaneous buildings lies in the central zone of the excavated area, which include Buildings 57, 58 and 67 (of this group of buildings on plan - Fig. 15, Building 54 is demonstrably later). A firm stratigraphic relationship or, the order of construction, will not be possible to assess until excavation of these buildings is complete but based upon visible wall relationships the buildings appear

contemporary. Buildings 58 and 67 are interlinked at their latest phase but the order of which predates the other will not be ascertained until complete excavation.

Building 55 could also be phased along with this group of buildings, which, if proved correct would connect the whole swathe of central buildings and phase them to Level VI, which in turn would link them to the northern group of buildings (Buildings 52, 49 etc. – which will be investigated by the excavation of the between midden Spaces 260, 271 & 232/240), and further more to the previously excavated buildings of the North and BACH Areas (see Fig. 1).

The anomaly of the central group of buildings being allocated to Levels IV – III when excavated in 2004 was based upon the tentative dating of Building 47 (see Archive Report 2004), which may still be as late in phasing reflecting a re-use of an earlier building outline. Once again these relationships need further excavation to resolve.

Little work has been conducted to further assess the phasing of the southern zone of buildings (Space 273, Building 45), since 2004 and therefore remains tentatively phased to Level V – IV.

### ***South Area***

To compliment our research aims in the 4040 Area covering contemporary neighbourhoods, in the South we aim to explore more fully the temporal processes that produce phases of settlement because the buildings remaining from the Mellaart and our excavations occur at different levels. Thus it is possible to examine the chronological development of houses in relation to each other from the very base of the mound. We also work towards expanding the area where we reached natural lake marl in 1999 (Farid 1999 Archive Report). This requires strategic planning of where and to what depth to excavate in order to achieve this in a safe and coherent manner. The trench where natural was reached in 1999 falls in the centre of the South Area. In order to extend this trench we need to excavate surrounding structures in a stepped manner. Therefore, in order to reach our ‘natural’ target we have first to move further away from that focal point, but whilst doing so we will be fulfilling the aim of excavating a temporal sequence.

Therefore continuing on from last year we concentrated on excavation of two of the buildings that occupy the highest sections of the area. To the east, in an area previously known as the Summit Area, excavation of Buildings B.10, B.44, B.56 and B.65 currently dated to Levels spanning IV-VI is on going. This sequence is located over a large section of stratigraphy, which we hope to reduce over the course of the next few years.

The second building excavated was located to the centre of the south side where Building 42 of c. Level V was found in 2005. It was from this building that a painted plastered skull was found buried, cradled in the arms of a woman against her chest and a marble figurine retrieved from another feature (2004 Archive Report). The earlier sequence excavated below Building 42, consists of a midden area and part of a building (Building 53). Notably this earlier building has so far reflected none of the exceptional features of its successor. Absence of continuity is also conspicuous in the fact that the two buildings were not directly superimposed, which is perhaps associated with the use of the area for midden.

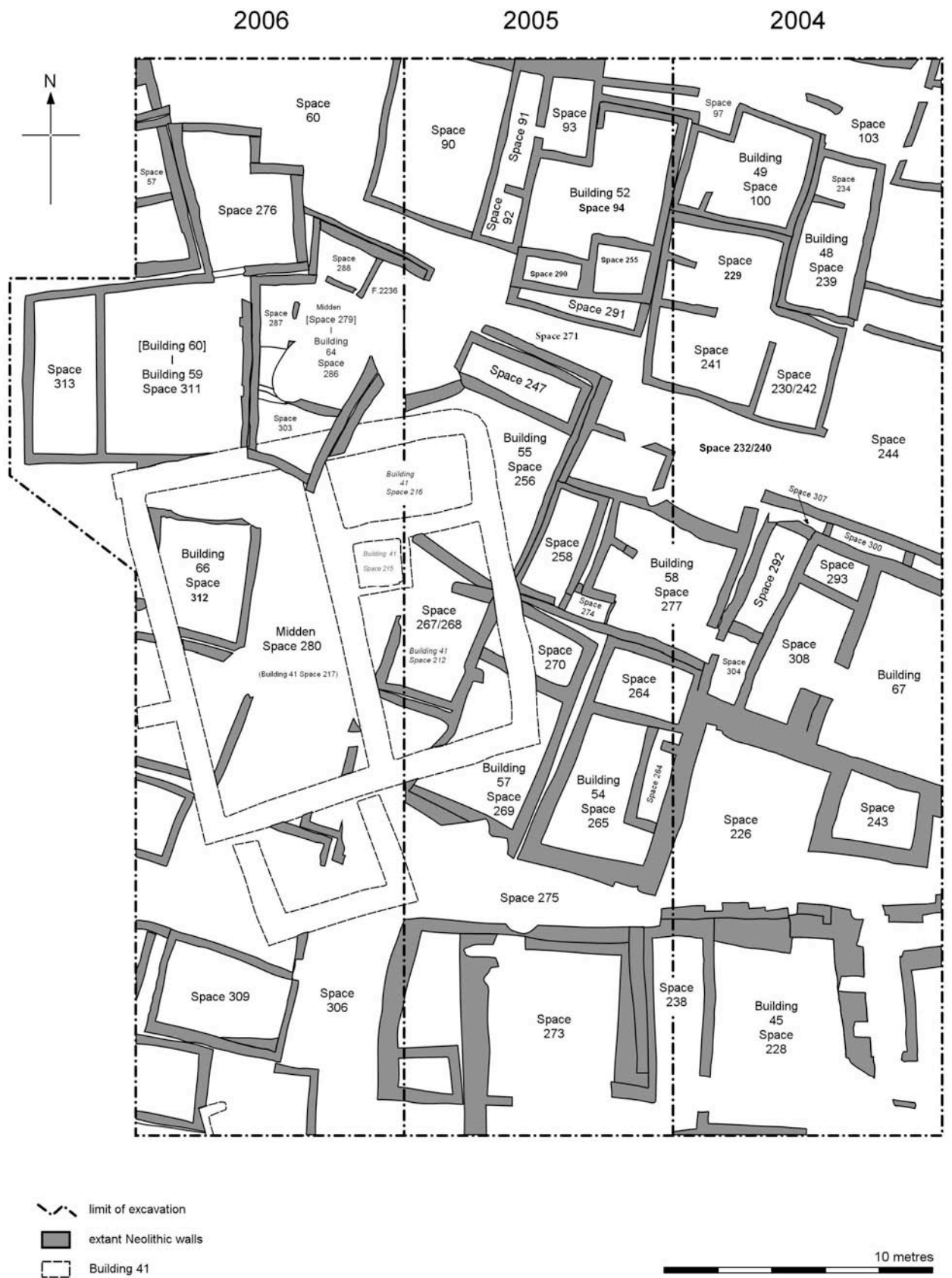


Figure 15: Buildings excavated in the 4040 Area by year

## 4040 Area

Supervisors: Doru Bogdan, Lisa Yeomans, Dan Eddisford, Richard Turnbull, Mike House, Jody Deacon, Maria Duggan & Simon McCann, David Brown (Building 59), Cordelia Hall, Dave Mackie (Building 51/52)

Assistants: Rachel King, Ilana Lohr-Schmidt & Silvana Rosenfeld (Stanford University Field School), Colleen Morgan (University of California Berkeley), Kelsey Traher (Oxford University)

### ***Post-Neolithic activity / Neolitik Sonrası Aktiviteler – Doru Bogdan, Lisa Yeomans, Shahina Farid***

#### **Abstract**

The post-Neolithic phase in the 10x 40 m area excavated in 2006 consisted of the western half of Building 41 and a number of graves. Building 41 was first exposed in plan in 2003 (see 2003 Archive Report), and subsequently under excavation since. The structure was identified by a series of wall foundations creating a large square building of c.14m square which we currently think is Byzantine in date. Five spaces were identified within Building 41 with traces of a hard gypsum-type plaster floor in 2 small rooms. As the solid clay wall foundations of Building 41 were excavated along the western edge of the trench it became obvious that the plan of the building extended to the northwest, beyond our limit of excavation, which had not been identified in the initial exposure of this structure in 2003. To the south of the main square structure, possibly representing a later addition or a porch was a small square room represented as a shallower foundation cut. Space 215, in the northwestern corner of Space 212, was also represented by narrow walls and shallow foundations which, may indicate non load bearing internal walls as opposed to later additions or single storey.

Eleven post-Neolithic graves were found in the sector excavated in 2006. The stratigraphic relation between all but one is known to pre-date the Byzantine structure, Building 41. Eight of the excavated skeletons were adults and two were infants. Only three were placed in simple rectangular cuts, one had a stone capping while the others had mud-brick or tile lining. There were no grave goods associated with any of the skeletons.

#### **Özet**

2006 senesinde 10x40 m'lik bir alanda kazılan Neolitik sonrasına ait evre, Bina 41'in batı yarısı ile bir takım mezarlar içerir. Bina 41 ilk olarak 2003 yılındaki planda açılmış olup (2003 yılı Arşiv Raporu'na bakınız), kazısı hala devam etmektedir. Bu yapı, büyük ihtimalle Bizans dönemine tarihlenen ve bir sıra duvar temelini oluşturduğu 14m boyutundaki geniş, kare biçimli bir bina tarafından tanımlanmaktadır. Bina 41 içinde belirlenen 5 alandan ikisi, sert-gypsum alçısından yapılmış taban kalıntılarına sahiptir. 2006 senesinde kazılan Bina 41'e ait kilden yapılmış duvar temelleri sonucunda (2003'de yapılan ilk kazıda belirlenmeyen bir şekilde), binanın planı kuzeybatıya doğru genişlemiştir. Yapının düzgün bir kare biçimindeki



planı (büyük ihtimalle daha geç bir dönemde), sığ bir temel kesiti olarak betimlenen ve güneye doğru uzanan ufak, kare şeklindeki yapı tarafından bozulmuştur. Alan 212'nin kuzeybatı köşesinde ufak bir oda olan Alan 215'in, dar duvarları ve sığ temelleri dolayısıyla (daha sonraki eklemeler ve tek katın aksine) ağırlık taşımayan iç duvarlara sahip olduğu düşünülmektedir.

2006 senesinde kazılan kısımda Neolitik sonrasına ait 11 adet mezar bulunmuştur. Bir tanesi hariç diğer mezarlar arasındaki stratigrafik ilişki, bir Bizans yapısı olan Bina 41'den daha önceye tarihlenmektedir. İskeletlerden 4'ü yetişkin, bir tanesi ise çocuk iskeletidir. İskeletlerin sadece iki tanesi basit, dikdörtgen kesitler içine yerleştirilirken, diğerleri tuğla-kerpiç veya kiremit ile döşenmiş olan mezarlarda bulunmuşlardır. Bu iskeletlerle ilişkili olan hiç mezar buluntusu yoktur.

### **Building 41**

Building 41 was first exposed in 2003, in the centre-west of the 4040 area (Fig.15). The almost completely defined house was identified by a series of wall foundations and associated wall collapse, immediately under the topsoil. The demolished debris and some plaster floors were excavated at the time and a number of pottery sherds were recovered, but the dating of the structure was not established. The eastern half of the building was fully excavated in the 2005 season, the foundation trenches being emptied in order to expose the Neolithic houses underneath. The clay foundations were relatively sterile of cultural material, which included residual Neolithic objects but the discovery of a few glazed Byzantine sherds prove beyond doubt that the building was constructed no earlier than this historic period.

In 2006 the western half of Building 41 was excavated. The northern outer wall F.1219, the partition wall F.1220 and the southern outer wall F.1217 had been partially excavated in the previous season and therefore only the western ends of their foundations were still present. In addition, the partition wall F.1214 and the western outer wall F.218 were excavated, all of them having been constructed in the same time. The foundation trenches were dug as a continuous cut and filled by a solid layer of battered clay. The plan of Building 41 changed after the 2006 excavations, as another room on the northwestern side, Space 282, was identified. It abuts the west wall of the building, its southern wall F.1478 having been excavated for a length of 1.4 meters. This room was part of the original design of Building 41, having the same continuous cut as wall foundations and its north wall being actually the continuation of F.1219.

Two postholes, F.1468 and F.1469 associated with the construction phase. These were located in Space 216, next to the division wall F.1220. These were probably part of a scaffolding installation used for the construction of the walls. Another feature was F.1472, a post base made of substantial rectangular stones placed inside a cut, located between Spaces 217 and 225. These spaces were not separated by a partition wall but were distinguished by the floor that covered one of them. The pillar was probably necessary for supporting the roof of an otherwise very large single space. A possible entrance to this room may be indicated in the south wall of Building 41 where there

was an indication as a gap in the clay foundation and mud-bricks holding the clay back, maybe for a timber threshold.

The initial square plan of Building 41 was altered by the addition of the small southern room and the northwestern room. Abutting the southern wall Space 281 was created by the construction of three walls placed in a shallower cut. The fact that the construction cut was not as deep and not flush against the square foundation and that wall F.1217 was already standing, suggests it was a later addition but perhaps in the construction phase, not necessary as a much later alteration, rather the shallow depth of this cut could indicate that Space 281 was a single storey as well as not a load bearing wall.

Space 215, a very small room in the northwest corner of Space 212 was represented as a square cut with a basal clay make-up layer and two narrow walls against the edges, closing the space. The cut did not extend up to the foundations of the walls of Space 212, the gap left between them indicating that these walls were already built at that time. A solid, white mortar floor that stepped down in the central area



Figure 16: F.1470, Building 41

covered the interior of this small room. This also sealed a strange feature. F.1470 that looked like an oval grave cut with typical dimensions for a Late Roman/Byzantine burial. However, within the cut were two tree trunks placed parallel to each other. One interpretation is that it may represent some form of drainage channel in association with the hard mortared, and possibly water proofed floor above.

### **Late Roman/Byzantine Burials**

In the post-Neolithic periods the mound was extensively used as burial ground. Graves were found all over the 4040 Area some of which were excavated in 2006.

A few meters south of Building 41 a skeleton (12398) was exposed through surface cleaning. This was very close to the surface and therefore badly affected by the erosion. Despite its poor condition it was possible to establish that the skeleton was placed dorsally extended in an E-W grave cut with the head to the west. The grave was dug slightly deeper to the edges and vertical mud-bricks were placed there, forming a lining against the soft soil it was cut through. There were no grave goods nor traces of a coffin associated with the skeleton within burial F.1467.

There was no stratigraphic relationship between F.1467 and Building 41 but four other graves excavated in the area clearly predated the Byzantine building as they were all truncated by the construction cuts of the clay foundations.

Only the lower part of skeleton (12645) was found within grave F.1474. The E-W oriented burial was truncated by one of the wall foundations, all the upper body and skull being removed. Wall F.1473 also truncated burial F.1236, which was a larger grave cut with mud-brick lining, the skeleton was lifted in 2003 when first exposed.

The foundation trench of the west outer wall of Building 41 cut through the fill of grave F.1475. The skeleton (12651) was not disturbed however and it was found placed on the right side in an E-W cut with the head to the west. No mud-brick lining was used on the edges of the cut and no traces of a coffin or other grave goods were found.



*Figure 17: Burial F.1475 in a simple grave cut.*

On the eastern edge of the excavated area an infant burial F.1476 was found. The partition wall F.1214 of the Byzantine building truncated the upper part of the grave. The skeleton (12664) of a 1.5-2 year old baby was placed dorsally extended, head to the west in a narrow cut with lined edges. Roman tegulae and a couple of stones were used as lining around the very well preserved bones. The skeleton and a lower grave fill were subsequently covered with tiles.



*Figure 18: Burial F.1476, stone lined sides. Truncated to the west by foundations of Building 41.*

Towards the centre was a narrow grave F.2245, with stone capping that contained an extended burial lying on its right side with the head to the west.

In the southern part of the 10x40, in the area marked as Space 306 were two rows of Late Roman/Byzantine burials. The first of these F.2246 was adjacent to a clay-lined grave excavated in 2003 that had been truncated by the southern annex to Building 41. The similarity of the style of the interment and the alignment of the graves in a row indicates that this cluster of burials are roughly the same date and earlier than Building 41.

Burial F.2246 contained an adult lying with the head to the west and in an extended position. The body had been laid slightly on the right side and must have been pressed up against the clay lining of the grave. South of this burial, other graves were found cut from below a layer of redeposited midden (13188). In F.2551 was skeleton of a child placed in a simple cut grave. Grave F.2550 had sides constructed from mudbricks with a capping. The skeleton was an adult lying slightly on the right side with the head to the west and the lower legs crossing at shin. A further burial to the west F.2247, was interred in a lined grave cut with the head to the west but the skeleton was disturbed by animal activity and most of the bones were not in-situ. None of these burials were interred with any grave goods and no coffin nails were found in any of the graves. This is similar to the graves excavated last year in the southern part of the 4040 Area to the east.

The layer of redeposited midden (13188) that sealed some of the late burials had also built up next to a late wall F.2552 which was aligned N-S and formed a western side of a structure continuing to the east. The wall had been constructed from white, clayey bricks with a dark grey, sandy, silt mortar. At the northern end, the wall was truncated by the foundation trench for the annex to Building 41 indicating, that like the burials, the wall belonged to a structure earlier than Building 41. The alignment of the wall seems to respect graves to the west possibly suggesting a similar date. This structure was not investigated further in 2006 since the internal part was located beyond the limit of excavation for this year.

## **Neolithic Sequence / Neolitik Sıralama**

### **Space 60 & Space 90 / Alan 60 & 90 – Lisa Yeomans**

#### **Abstract**

At the northern end of the 40x10 strip under excavation in 2006, Space 60 was suggested as a 'street' or path when first exposed in 2003, connecting to Space 271 (see 2005 Archive Report) and Space 232/240 (see Archive report 2004). Whilst the deposits appear to have been external in composition they were formed of homogenous dumping/levelling deposits as opposed to accumulated domestic debris (midden), which abutted Space 90 to the east and Building 59 to the south. The finds from the excavated deposits gave no indication (in terms of damage and wear) that the external space had been extensively used as a pathway, but as only the upper part of the sequence was removed these may have been affected by later erosion.

## Özet

40x10m'lik alanın kuzey taraftaki bitiminde bulunan Alan 60, ilk olarak kazıldığı 2003 yılında Alan 271 (2005 Arşiv Raporu'na bakınız) ile Alan 232/240'e (2004 Arşiv Raporu'na bakınız) bağlanmış ve 'cadde' ya da 'dar yol' olarak tanımlanmıştır. Burada bulunan birikintilerin dışardan gelmiş oldukları düşünülürken, bu birikintiler doğuda Alan 90 ve güneyde Bina 59'a bitişik olan eve ait birikmiş çöplerin aksine homojen yapılı artık ve tabakalama birikintilerinden oluşmaktadır. Kazı birikintileri içinde bulunan buluntular dış alanın yoğun olarak kullanılan 'dar bir yol' olduğuna hiç bir işaret göstermezken (zarar ve aşınma açısından), sadece üst kısmın sıralaması kaldırıldığı için bu buluntular daha sonraki aşınmalardan etkilenmiş olabilir.

To the northeast of Building 59, are external Spaces 60 and 90. Space 90 was, for the most part, excavated last year and only a small area was left at its western edge. The excavated sequence comprised of possible dumping/levelling deposits (12937)/(12942) that extended under the single wall (F.2211) dividing Space 60 and Space 90 (Fig.15) and were therefore left unexcavated. The deposit that was stratigraphically later than the wall was a more homogeneous fill (13129) that was potentially related to the use of the space. A later cut (12934) through this deposit contained redeposited midden material and maybe related to later use of the area. This was the latest stratigraphic feature excavated in Space 90.

Space 60 was only partly excavated and contained midden layers (12961) and (12945) separated by a mudbrick demolition layer (12946). The finds from these units gave no indication (in terms of damage and wear) that the external space had been extensively used as a pathway, but only the upper part of the sequence was removed, which may have been affected by later erosion.

## Central midden area sealing earlier buildings

### Space 279 / Alan 279 – *Lisa Yeomans*

#### Abstract

Space 279 formed over abandoned Building 64 which gradually infilled by layers of demolition creating an external area. The deposits were then cut by a series of large inter-cutting pits, probably quarrying for brick-like deposits for reuse in the manufacture of new mud-bricks and the pits were then backfilled with typical domestic midden.

#### Özet

Yıkıntı tabakaları tarafından düzenli bir şekilde doldurulan bina, dış bir alan olan Alan 279'u oluşturmuştur. Birikintiler, kerpiç tuğla yapmak için yeniden kullanılan tuğla biçimli birikintileri işlemek için açılan ve daha sonra evlerden gelen çöpler ile doldurulan bir sıra büyük çukur tarafından kesilmiştir.

This external space, labelled Space 279 (see Fig.15), would have continued to the east beyond the limit of excavation. A series of inter-cutting pits (13130)/(13135)/(14148) were dug though the remains of the underlying Building 64 (see below) presumably to

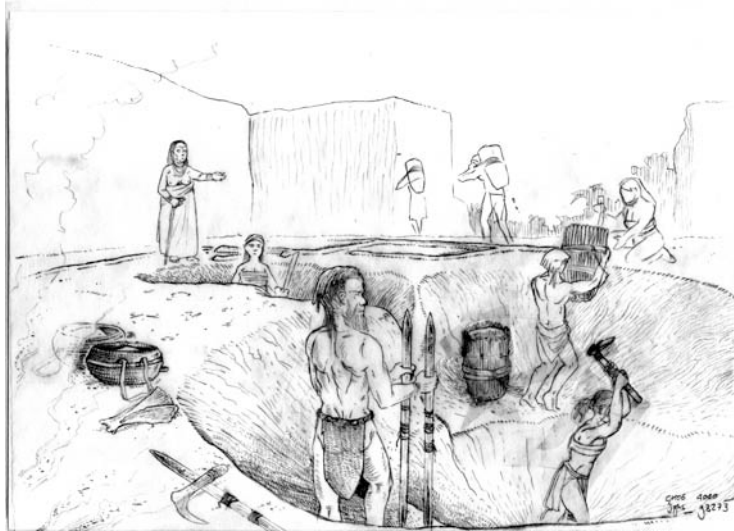
extract the material from the walls and other features for reuse in the manufacture of new



*Figure 19: A series of inter-cutting pits in Space 279 were dug through the remains of the underlying Building 64.*

mud-bricks (Fig.19). The pits were all dug at approximately the same time and the whole series remained open for short while before they were backfilled with midden leaving only the basal fills as discrete deposits with the cuts. For this reason the stratigraphic sequence left no indication of the order in which the pits were dug. Pit (13130) was the western pit but may have originally started as two pits that merged as the base is uneven with two deeper parts in the northeast and southwest of the cut. In the base of the northeastern depression a discrete fill was encountered which was unlike the midden deposits in the upper fills. This fill (13131) was mid greyish brown silty clay and appeared to be washed in room fill suggesting that the pit was open long enough for the layers that it cut to begin to erode into its base. A similar deposit (13136) was interpreted as slumping against the northwest side of the pit. The eastern edge of the pit is uncertain as it merges into pit (13135) which itself merges into pit (13148). Unit number (13148) was assigned to eastern most exposed part of the pitting comprising of three separate merged pits that were dug deeper than (13135). The cut continued past the limit of excavation leaving a large section through the infilling sequence. As with pit (13130), an area of slumped in room fill is visible against in the northern side. Where the pit was cut at its deepest the base of the pit could not be excavated because the height of the section made working too dangerous. The edge of the southern most of the merged pits was just clipped by the limit of excavation resulting in uneven cut visible in the exposed section. The foundation trench to the late Building 41 truncated the upper part of the fill to the south higher up.

John Swogger drew a reconstruction (Fig.20) of the pit digging as it may have looked as the inhabitants were extracting material for building bricks. In the background Building 60 is visible since a later building was constructed upon the remains of



*Figure 20: A reconstruction of pit digging as it may have looked as the inhabitants were extracting material for building bricks.*

Building 59 and it is suggested that Building 60 was roughly contemporary with the pitting activity or perhaps the mud-bricks manufactured from the material were used in the construction of Building 60. The midden deposits that built up in the pits, after a short period of inactivity, are interpreted as contemporary to Building 60 and probably contained waste from the

inhabitants of that building as well as other surrounding households. Excavation of the midden had to avoid cutting across depositional layers but defining an individual unit was problematic when much of the deposit consisted as fine laminated tip layers. Overall these tip layers sloped towards the centre of the pits but many were discontinuous and impossible to follow. However, occasionally continuous lenses that were heavily burnt and charcoal rich were encountered and these were usually directly associated with light, but slightly variable grey sandy silt lenses. The section (Fig. 21) shows these deposits and how the midden built up. Tip lines suggest how the waste material was dumped in the pits from the sides but the evenness of the width of the laminated midden between the burning horizons indicates that, as the midden and settled and compacted, the deposits gradually slumped down into the pits.



*Figure 21: Tip lines suggest how the waste material was dumped in the pits between the burning horizons*

The presence of discrete events in the midden that resulted in the formation of similar deposits sequence is interesting and one possible theory was that it may represent

lime-burning for plaster preparation. Whatever the activity, it seems to have occurred on a regular basis and may perhaps be linked to a seasonal task. Although it is still uncertain what these deposits represent, numerous samples were taken by many of the lab. teams and hopefully these questions can be answered in due course.

After the first layers of midden (13140)/(13129)/(13172) had begun infilling the inter-cutting pits, a slightly later pit was dug to the southwest of the previous pits with the north-western corner of the pit just truncating the edge of cut (13130). This pit (13128) was backfilled with midden but the lowest fill (13127) was not finely laminated suggesting that it was deposited as a single event and is interpreted as redeposited midden that had been shovelled into the pit after it had been dug. As with the slightly earlier pits, pit (13128) would have been dug to extract building material and perhaps this was associated with a building event/repair in the local area. After sufficient building material had been removed the pit was rapidly backfilled up to a safe height with midden and, given that pottery refits have been found in the midden layers excavated in the area, this must have derived from the immediate vicinity. No slumped-in deposits were found in pit (13128) indicating the rapid infill of the lowest part of the cut.

Further sequences of midden deposition occurred across the area with a substantial midden deposit (13103) covering all of the pits. A small area of washed in mudbrick material (12993) sealed this layer which itself underlay a midden deposit (12988) which extended across the central area of the pits. The latest layer of in-situ midden was (12980) and is visible in the section along the eastern limit of excavation.

All of the midden deposits were completely sieved and, although somewhat variable, they produced rich assemblages of animal bone and the flotation samples taken will also provide evidence of the plant resources used at the site. The volume of midden excavated has enabled substantial assemblages of pottery, obsidian, worked bone, figurines, beads and stone artefacts to be recovered.

## **Space 280 and Building 66 – Alan 280 ve Bina 66 - *Richard Turnbull***

### **Abstract**

Located in the centre of the 10x40 lay a large area of typical finely stratified domestic waste midden Space 280. This area and its sequence is equated to Space 279 to the north, physically separated by the foundation trench cut of the Byzantine structure, Building 41.

Eventually released from the midden was a building (Building 66) towards the west. Whilst the building has been delineated its occupation sequence has yet to be excavated. It appears that Building 66 along with other contemporary structures were abandoned and the area used as a waste ground.

### **Özet**

10x40'lık alanın merkezinde bulunan Alan 280, ince bir şekilde tabakalanmış ve evlere ait artıklardan oluşan bir çöplüktür. Bu alan ve sıralaması kuzeye bakan Alan 279'la eşittir ve bir Bizans yapısı olan Bina 41'in temel açması tarafından Alan 279'dan ayrılmıştır.



Çöplükten ayrılmış olan ve batıya doğru uzanan bina, Bina 66 olarak tanımlanmıştır. Binanın kesin pozisyonu belirlenmesine rağmen, yerleşim sıralamasının kazısı daha yapılmamıştır. Diğer çağdaş yapılarla birlikte Bina 66'nın da terkedildiği ve bu alanın artık atılan bir alan olarak kullanıldığı düşünülmektedir.

Space 280 was an external space and includes the area that lies within the lines of the Byzantine foundation cut (see Fig. 15), and extending beyond to the east and to the south. To the north Space 280 is contiguous with Space 279. Typical midden deposits lay over much of this space, to the west overlying Building 66 and over apparent mudbrick dumps to the south and northwest. Excavation this season concentrated on the midden deposits that lay in the part of the trench within the confines delineated by the Byzantine trench – the midden deposits that lie to the east have been left for future excavation.

Towards the southern edge of the midden, (13134, 13137 & 13173) proved to be re-deposited as they sealed the stone capping to the late burial F.2245.

An extensive midden unit (12652) lay over these deposits. Probably most of (12652) was a bona fide Neolithic deposit but perhaps with some re-deposited material included on the southern edge.

Most of the midden units lay to the east but some extended further to the west sealing Building 66. Of these midden (12654) completely sealed Building 66 and further deposits lay within the walls. These were 'typical' midden deposits, but with some more unusual deposits interspersed – principally the deposits that were conjectured to be associated with a 'lime-burning' activity, of the type that was first identified in Space 279. There appeared to have been 3 major episodes of 'lime-burning' in Space 280 in addition to the 2 that were identified in Space 279. The typical sequence within the lime-burning horizons consisted of an upper loose ashy material, then a very distinctive layer of loose pale greenish-grey 'lime', underlain by a dark brown/black burnt layer and finally a layer of scorching. There was often a lot of animal bone associated with these 'lime-burning' horizons. These deposits generally lay in the form of a shallow bowl, circular in plan, possibly within a deliberate cut. (lime-burning' sequences and deposits:(13139/13141/13142/13150; 13161/13164/13165/13166; 14127/14132; 14135).

There were also two possible cess units – identified by their distinctive green colour. One of these deposits (13172) was a very thin crust of material and limited in extent. The other however, (14121), was a fairly large deposit, up to 0.30m thick, which had been truncated to the north by a pit (13169) and also by the Byzantine foundation cut. Another unusual deposit was (13183). This was marked by a distinctive pink colour as well as by a high concentration of animal bone, and the layer also included a high density of phytoliths. It lay directly under the thin crust of cess material (13172) and therefore may be associated.

The majority of the midden deposits were orientated N-S within the space, generally tipping into the centre from the north, south and west. At the northern end of the space a pit (13169) had been cut into the midden, and this had been filled by further midden deposits (it also contained a sequence of lime burning deposits). The more typical

midden deposits often contained a large amount of animal bone, as well as significant numbers of ‘small finds’, usually recovered from the dry sieve. These included many beads, worked bone points, and obsidian projectile points – but also many figurines: animal, female and possibly phallic (Fig.22). We also recovered 2 unusual figurines [in greenstone?] that we tentatively identified as either paws or crabs.



Figure 22: Examples of clay figures from midden deposits in Space 280. From left to right 13167.X10, 13167.X7, 13143.X3 & 13142.X3.

At the end of the season there were still extensive midden deposits to be excavated in this space, which look to be sealing probable dumps of mudbrick material to the north and the south. These deposits in turn appear to be abutting the eastern and northern walls of Building 66.

### **Building 66. Space 312.**

The excavation of the midden eventually released Building 66, and from the few units so far excavated and the appearance of the deposits that can be seen in section it would appear that the building was abandoned rather than ‘closed’ and infilled with the intention of immediate rebuilding. The layer at the top of this sequence (14136) was a layer of loose pinkish ash, and in the NE & NW corners of the building we



Figure 23: Horncores (13194) in abandoned Building 66.

excavated further layers of ash and collapsed mudbrick. In the NE corner there was a layer of ashy material (13194) that contained 2 sheep horncores (Fig. 23). The larger of these lay with its tip apparently still plastered into the wall. In the NW corner there was deposit of dark burnt material and ash (14145), which contained a lot of animal bone. This lay over a deposit that consisted of a mix of ash and mudbrick material, and towards the north wall of the building this was a distinctive reddish orange indicating burning. It was also noticeable that some of the wall plaster in situ on the north wall in this corner had been charred. A small bit of a structure was revealed in

this corner with the removal of these layers. It is possible that these deposits and the charred plaster might be associated with an oven or some other kind of fire installation.

Most of the end phase of Building 66 remains to be removed. However some features of the building have begun to emerge. On the eastern wall are two post type features, and also near the eastern wall the plastered edge of a bin is now visible.

### **Space 306 & Space 309 / Alan 306 & 309 – Lisa Yeomans**

#### **Abstract**

The southern sector of the 10x40 was investigated to determine the relationship between clearly defined areas of building activity. An external Space 306 was identified which consisted of finely stratified domestic waste in a midden area. These midden deposits were investigated as far as to relate them stratigraphically to Space 309, a single roomed structure (see Fig. 15). The upper building fill had been cut by a multiple Neolithic burial from a later building, which has since eroded. The internal sequence indicates that this is a southern storage room to a building extending to the north and that a separate building is located to the south neither of which was investigated this year.

#### **Özet**

10x40'lık alanın güney kısmı, bina aktivitesiyle ilgili olarak belirlenmiş alanlar arasındaki ilişkiyi anlamak için kazılmıştır. Dış bir alan olan Alan 306, bir çöplük alanı içinde ince bir şekilde tabakalanmış evlere ait artıklardan oluşmaktadır. Bu çöplük birikintileri tek odalı bir yapı olan Alan 309 ile stratigrafik açıdan ilişkilendirmek için incelenmiştir. Üst kısımdaki bina dolgusu erozyona uğramış ve daha geç tabakalara tarihlenen bir binada bulunan Neolitik döneme ait çok sayılı bir gömüt tarafından kesilmiştir. İç kısma ait sıralama bu alanın kuzeye doğru uzanan bir bina içindeki güney doğrultulu bir saklama odası olduğunu gösterirken, ne kuzeyde ne de güneyde bulunan binalar bu sene araştırılmamıştır.

In the southern part of the 4040, external Space 306 was investigated in an attempt to understand the stratigraphic relationship between clearly defined areas of building activity.

A layer of redeposited midden (13188) sealed some of the late burials (discussed above) had also built up next to a late wall F.2552 which was aligned N-S and formed a western side of a structure continuing to the east. The wall had been constructed from white, clayey bricks with a dark grey, sandy, silt mortar. At the northern end, the wall was truncated by the foundation trench for the annex to Building 41 indicating, that like the burials, the wall belonged to a structure earlier than Building 41. The alignment of the wall seems to respect graves to the west possibly suggesting a similar date. This structure was not investigated further in 2006 since the internal part was located beyond the limit of excavation for this year.

The redeposited midden (13188), although containing large quantities of Neolithic material, had been washed/eroded into the space adjacent to the later structure. Below

the redeposited midden a layer of eroded mudbrick from wall F.2252 had formed around the outside of the wall. A further layer (13199) of redeposited midden was excavated before in-situ midden (14106)/(14122) was encountered extending underneath wall F.2552 and therefore a straight section along the side was wall F.2552 was used as the limit of excavation so that the Neolithic deposits could be investigated without excavating out of stratigraphic sequence.

The midden (14106)/(14122) was 0.1m deep at the northern part of the space and 0.4m deep in the southern part of the space. After removal of this deposit and a layer of mudbrick collapse (14124), further midden deposits extended underneath Neolithic walls to the west. Excavation had to, therefore, move to the west to start exposing the Neolithic building (Space 309) that overlay unexcavated midden in Space 306.

### Space 309

Space 309 was clearly defined after the surface scrape in 2003 as a room within a Neolithic building (although the full extent of the building could not be established because of limited time), separated from the external Space 306 by a single mudbrick wall (Fig. 24). The roomfill in the



*Figure 24: Space 309 in the southern sector of the 10x40. The multiple burials were excavated from the circular cut shown on the ledge to the top right of the photograph.*

northwest corner had been cut by a multiple Neolithic burial from a higher, eroded building. The earliest of these was the heavily disturbed skeleton of an adult female (14167). Subsequently the location had been used to inter a child (14104), a juvenile (14108), a neonate (14109). Later in the sequence of burials were two further neonates (14101)/(14107). The final body laid in the grave was an adult (14102) that had been buried with an armlet/bracket containing several bone and shell beads.

Below the room fill in Space 309 was a very patchy, partly plastered floor (14168)/(14169). This suggests that Space 309 was probably a southern storage room to a building extending to the north with a separate building located to the south, which was not investigated this year. The walls of the room had not been plastered except for a thin layer on the northern wall. The lower floor layers in Space 309 had been cut by a number of Neolithic burials. In the southwest corner five neonatal skeletons (14137), (14138), (14146), (14164) and (14165) had been buried. In the southeast corner a further neonate (14148) was interred as well as a juvenile burial (14150), which cut an earlier neonatal burial (14162).

## **Building 64 / Bina 64 – Lisa Yeomans**

### **Abstract**

Building 64 was an irregular wedge-shape in plan as it was tightly constructed into a space between pre-existing buildings. It's four spaces internal spaces were similarly irregular but consisted of the usual suite of rooms. Space 286 was the larger room with a plastered platform in the northeast corner with a small square room Space 288 in the northwest corner, which may have once been part of the main room. Space 287 formed a western side room, with a platform in the SW corner and Space 303 was a room to the south.

At the end of its life history the was not closed with the intention of immediate re building but rather was left to be gradually infilled by layers of demolition which created an external area Space 279.

### **Özet**

Daha önce kazısı yapılmış olan binaların arasındaki bir alanda bulunan Bina 64, düzensiz ve üçgene yakın bir plana sahiptir. Binadaki 4 adet iç alan da aynı şekilde düzensiz olup, genel tarzdaki odalardan oluşmaktadır. Ana odanın bir parçası olduğu düşünülen, kuzeybatı köşedeki küçük kare şekilli Alan 288, kuzeydoğu köşesinde bulunan ve sıvalı bir platformu olan, geniş boyutlu Alan 286'nın bir parçasıdır. Güneybatı köşesinde bir platformu olan Alan 287 batıya bakarken, Alan 303 güneye doğru yönlendirilmiştir.

Bina 64 terkedildikten sonra Çatalhöyük'de sık olarak görülen bir şekilde yıkılan duvarlar, binanın daha geç bir zaman sürecinde açık bir alan olarak kullanıldığını göstermektedir. Yıkıntı tabakaları tarafından düzenli bir şekilde doldurulan bina, dış bir alan olan Alan 279'u oluşturmuştur. Birikintiler, kerpiç tuğla yapmak için yeniden kullanılan tuğla biçimli birikintileri işlemek için açılan ve daha sonra evlerden gelen çöpler ile doldurulan bir sıra büyük çukur tarafından kesilmiştir.

Following the disuse of Building 64 the walls were not knocked in to the same extent as often found at Çatalhöyük, which signified its later use as an open area. It was gradually infilled by layers of demolition thus creating an external area, Space 279. The deposits were then cut by a series of large inter-cutting pits, probably quarrying for brick-like deposits for reuse in the manufacture of new mud-bricks and the pits were then backfilled with typical domestic midden.

Unlike the consecutive phases of building which witnessed Building 59 replaced by Building 60; the plot of land immediately to the east had been used as both an area to construct a house and later as an open area where rubbish accumulated. Building 64 would have been contemporary to Building 59 and was built, in terms of its shape, as a very irregular structure (see Fig.15). Rather than rectangular, the southern wall of Building 64 measured just 2.43m compared to the northern wall which measures c.4.5m (estimated since it extends beyond the limit of excavation). Although the building has many of the familiar internal features of the houses at Çatalhöyük, the internal spaces have wedge-shaped plans that allowed the building to nestle between

pre-existing buildings (Fig. 25). To the east of Building 64 was Building 55 uncovered during the

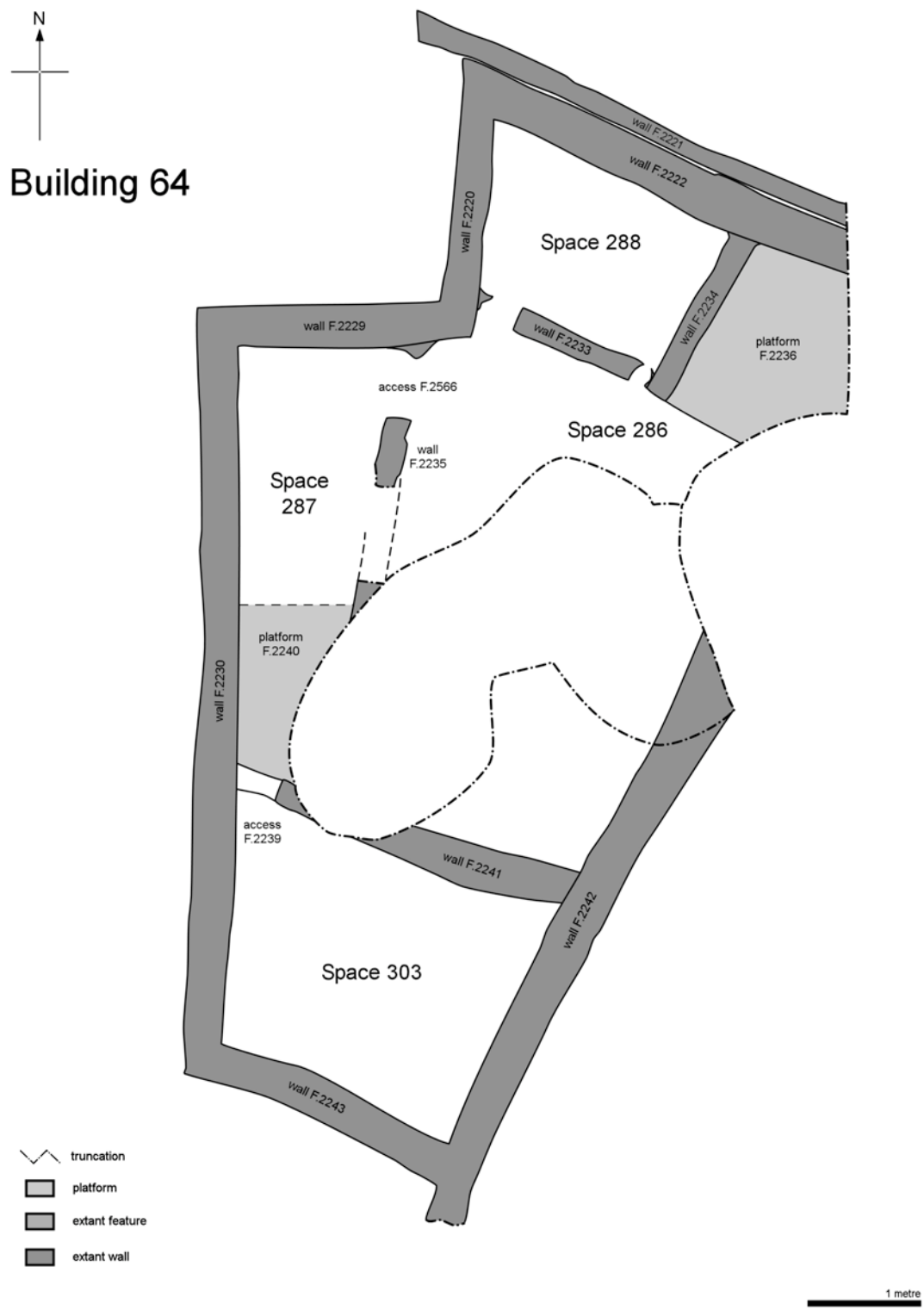


Figure 25: Plan of Building 64

2005 season. The western wall of Building 55 appeared to have been truncated by later pitting and subsequently used as a midden area. This is the same sequence as in Building 64 (see above) suggesting that Building 55 and 64 were contemporary. The midden deposits to the west of Building 55 were not excavated last season and it now

seems that there would have possibly been a western side room to Building 55 with the limit of the building also defined by double wall at the eastern side of Building 64. Perhaps, with Building 55 and 59 already constructed, Building 64 was designed to fit into the wedge of space between the two buildings. Later pitting exposed sections through the floors layers and the presence of multiple floors indicate that the building had been occupied for some time before its abandonment and also suggests that earlier buildings underlay Building 64 and therefore the construction of Building 64 may have followed the layout of earlier structures.

Figure 25 shows that Building 64 was comprised of four spaces. Space 286 was the main room in the building but was heavily truncated by later pitting which may have destroyed features such as the oven or heath. In the northeast corner a plastered platform F.2236 had survived intact except for the southeast corner which was cut through by the latter pitting. Evidence for final activities in Space 286 was limited to the phytolith remains of a basket (13158.X1) located on the floor just to the southwest of the platform. Space 288 was a small square room that may have once been part of the main room. Wall F.2234 appears to have been a buttressing wall against which platform F.2236 was constructed. This wall also formed the eastern wall to Space 288 with wall F.2233 perhaps a later addition resulting in an additional space. Since wall F.2233 only survived to a limited height, it is uncertain if a crawl-hole would have provided the access in to the room.



*Figure 26: Heavily pitted Building 64, looking south.*

Space 287 formed a western side room in the building separated by a narrow (0.13m wide) wall F.2234. The later pitting had destroyed the southern part of the wall but the northern part survived. The wall stopped approximately 0.5m short of the northern wall forming an access-hole F.2566 between Space 286 and 287. In the southern part of Space 287, a platform F.2240 had been built against the southern wall and filling the width of the room. The eastern side of the platform had been truncated leaving a

section to reveal its construction showing that a single layer of plaster was laid over the platform suggesting it has been constructed towards the end of the use of the building. On the surface of the platform lay both horncores of a wild sheep (13153) which were still connected by part of the skull (Fig. 27). The plaster on the surface of the platform lipped up to a crawl/access-hole (F.2239) that allowed access into Space 303. This crawl/access-hole was not blocked in before the abandonment of the building but the subsequent fill that had built up inside could not be removed because the stability of the structure. The plaster which lipped down into the roof of the crawl/access-hole from the dividing wall (F.2239) was thick suggesting that the access between the two was part of the



*Figure 27: Horncores of a wild sheep (13153), found on platform F.2240, were still connected by part of the skull.*

original design of the building. The thin layer of plaster which lipped up onto the floor of the crawl/access-hole was only constructed during the last phases of building use and originally the crawl/access-hole would have been greater than its 0.26m in height.

Space 303 was formed by the converging double-walls of Building 64 with wall F.2243 built across the southern end. Inside the walls were only thinly plastered suggesting it was a storage room rather than a room where the occupants spent much of their time. Excavation during 2006 stopped at the final phase of use of Building 64

#### **Abandonment**

Following the disuse of Building 64 the walls were not knocked to the same extent as often is the case at Çatalhöyük. Wall F.2230, for example was left standing to a height of 1.35m and although the surviving depth of the walls was shallower in the northern part of the building, this may have been caused by subsequent erosion rather than the deliberate dismantling of the walls. Since no building was intended to be built above the remains of Building 64, there was no need to push the walls into the internal spaces of the room to form an even, solid grounding for the following structure. Typical room fill (13171) was found in Space 303 but only filling the basal 0.65m of the room. Above this were layers of demolition (13160)/(13107) that contained large fragments of animal bone that may suggest that some activity was taking place in the area as the rooms were gradually infilled. A cut (13121) into the lower roomfill (13118) in Space 287 contained the disarticulated bones of an adult human right arm and left leg. Although disarticulated from the main body, the individual limbs (13120) were still articulated suggesting that they were moved when still fleshy, perhaps when disturbed by a later burial. The two limbs were lying in an impossible anatomical position proving that the bones were not just the remains of a truncated burial. Other layers of roomfill (13149)/(13117)/(13112) rose the level of the infill in Building 64 but they did not reach the height of the upstanding walls.



### **Changing use of the area**

Following the abandonment and partial infill of Building 64, the use of the area changed. This external space, labelled Space 279 (see above), would have continued to the east beyond the limit of excavation. It was at this time that the series of inter-cutting pits [13130]/[13135]/[14148] were dug though the remains of Building 64 presumably to extract the material from the walls and other features for reuse in the manufacture of new mud-bricks

### **Building 60 / Bina 60 – *Mike House***

#### **Abstract**

Building 60's proximity to the surface meant that erosion was a major problem with the survival of the complete building, the true extent of which can only be speculatively based on the size of the underlying Building 59. If this is the case the excavated portion likely only represents just over a quarter of the building, with significant survival only occurring in the southeast corner. The surviving architectural elements consisted of 6 platforms; a bench, a central hearth/oven and an entrance ladder scar the southeast.

Truncation to the south by the east west cut of a Byzantine buildings foundation trench (12628) provided some insight into the depth of floors present in building 60.

The correlation between many of the with those below in building 59 probably indicate that the outer walls of building 59 can be used as a probable indication as to the overall size of building 60.

#### **Özet**

Bina 60'in yüzeye olan yakınlığı, tüm binanın ayakta kalmasını engeleyen ciddi bir erozyon problemi olduğunu göstermektedir. Bu binanın gerçek boyutları sadece altında bulunan Bina 59'ın boyutlarına bağlı olarak belirlenebilir. Bu yüzden kazılan kısım, güneydoğu köşesinde bulunan kalıntılarla beraber, binanın yalnızca çeyreğinden fazlasına işaret eder. Ayakta kalan mimari öğeler arasında 6 platform, bir seki, merkezi bir ocak/fırın ve güneydoğuda bulunan girişe ait bir merdiven izi bulunmaktadır.

#### **Floors**

The flooring comprised predominately of a series of dirty floors in the SE with occasional off-white or cream plaster surfaces laid over brown or orange brown make up or trample deposits, a sequence of make-up and floor surface that proved 'normal' within most of the flooring events. The wall plaster and plastering of platforms F.2225, F.2219 and bench F.2213 to the north of this area appear to have used more fine white and off white plasters, despite being applied in thicker layers the depths are considerably lower than those to the south (Fig. 28).

The floors, where possible, were removed in layered blocks based on their stratigraphic relationships with features and other floor surfaces in Space 278, as such the depths varied from unit to unit.

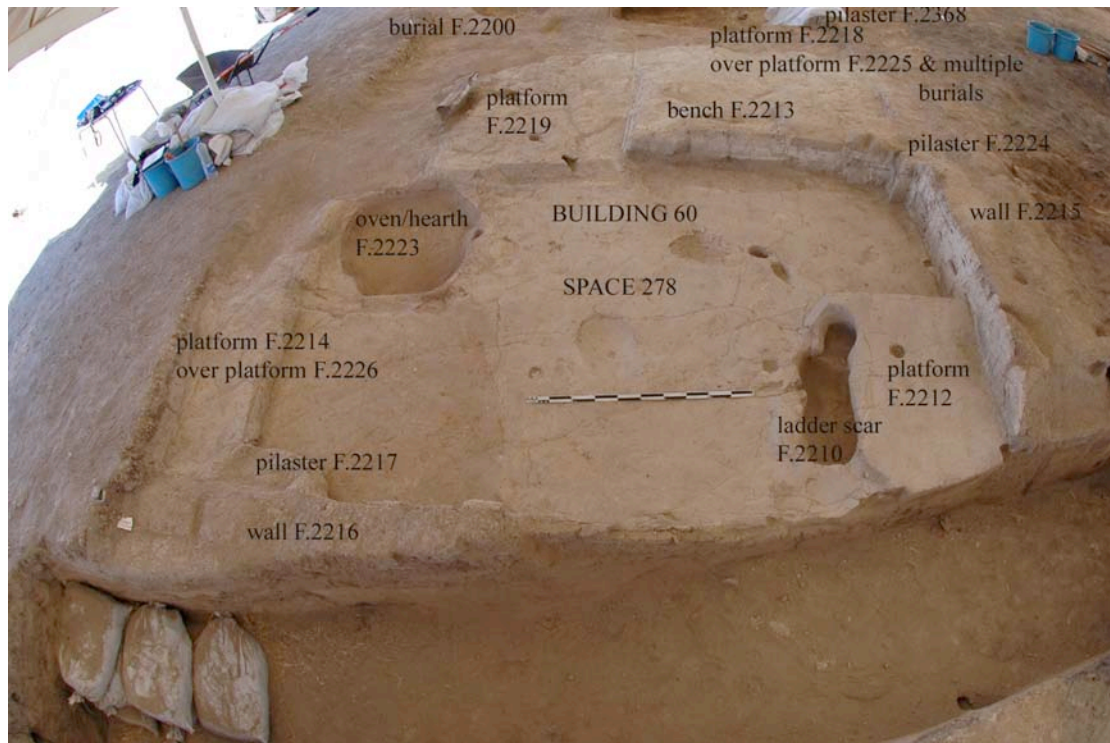


Figure 28: Surviving portion of Building 60, looking N. The trench was extended W in the last weeks the season.

The SE corner would appear to be the main area of activity in Space 278. This is where the ladder was situated and thus saw most traffic in and out of the building. Accordingly the floors in this area had been repaired and re-plastered many times during the long life of the building. From the open space in the SE, seven block deposits were removed in sequence (13114), (13110), (12989), (12982), (12969), (12964), and (12955), the thickest being (13110) at 60mm containing at least 13 floor surfaces and make-up layers. The overall depth of floors in this SE area was 0.28m containing approximately 53 layers of floor and make-up, only (13114) extended up on to the walls.

Cutting floors (13110) in the far SE corner just to the west of platform F.2212 in the area that would have been below the ladder was a small oval scoop (13109), which contained a cluster (13111) of six worked obsidian objects (Fig. 29). This including three finished projectile points two roughs and a primary flake. Due to the grouping of the objects it is possible they were contained in a bag, several other debitage flakes were found within the back fill (13108) of the scoop.

In the SW the floor sequence follows that of the SE up to (12982) the rest of the sequence is restricted to the SW area covering the late platform F.2214, the sequence being (12973), (12963), (12960) and (12947).

In the NE the stratigraphic sequence of flooring was as follows (13451), (13456), (13454), (13450), (13449), and (12995), which lead directly into the sequence for the NW (12994), (12991), (12964) which also extended into the SE, (12958), (12954), (12952) and (12953).



Figure 29: Scoop (13109) by the ladder scar contained a group of obsidian pieces (13111)

#### Engaged pilasters F.2217, F.2224 and F.2368

These three engaged mud-brick pilasters are all that remains of the structural support for Building.60 and were some of the first architectural features to be constructed. All demonstrate slightly different building techniques; yet appear in phase with each other. To the SE a mud-brick pilaster (13475) was constructed flush to the southern wall F.2216, and was engaged only by plastering (13114), although not truly engaged the lack of any other pillars or posts along the southern wall means this must have been a structural rather than decorative element. The pillar was built directly on the compacted infill (13115) of the underlying Building 59, unlike pilasters F.2224 and F.2368 on the eastern wall which were placed in cut pits.



Figure 30: Pilaster F.2224 after the removal of platform F.2225 to the left and showing bench F.2213.

Pilasters F.2224 and F.2368 were spaced at even intervals of between 2.40 - 2.50m from the corners of the building and each other along the eastern wall, this spacing indicates further the direct correlation between the size of Building 60 and its predecessor Building 59. Pilaster (13465) of F.2224 is situated in the southern quarter of Space 278; its cut (13466) was

clearly defined and strangely truncates the un-plastered early mud-brick core (13467) of bench F.2213 suggesting the bench was constructed prior to the roof, or that the engaged pillars replaced another system of roof support (Fig. 30). This may well be the case as pilaster (13461) F.2368 2.50m to the north of engaged pilaster F.2224 was clearly constructed against an earlier post scar.

#### SE Platform F.2212 and Ladder scar F.2210

This small platform was located in the far SE corner of Building 60 at the entrance point, and was constructed around the entrance ladder visible in negative as a scar F.2210 which is located to the western edge of the platform. This platform was one of

the earliest features and other than being raised by the application of plaster repairs and resurfacing the space remaining in use with little change throughout the life of the building,

The sequence for the platform construction was a mud-brick core (13459) 0.94m NS x 0.74m EW x 0.12m thick, built directly on the infill (13115) of Building 59 below, against the already plastered walls (13477, and 13478). The platform was then, in conjunction with the SE floors, coated in light grey plaster (13114), this process was repeated up to 44 times the layers removed as block units (13110), (12989), (12982), (12969), and (12964) forming a total depth of 0.16m. The only plaster phase in the SE of Space 278 not to cover the platform was (12955), which lipped up to the base. Despite the presence of one white floor layer in (12982) and one in (13110) all the other floor layers were what is referred to as dirty floors and make up or trample layers, this clearly demonstrates the functionality of the southern area. The final event prior to the infilling (12911) of Space 278 was the removal of the entrance ladder forming the ladder scar F.2210, the ladder was located parallel to the south wall, and based on the angle of the scar/cut would have raised to the west away from the platform.

#### **NE Platform F.2218**

This heavily degraded and truncated platform is one of the latest features in the development of Building 60. It abuts and extends north from bench F.2213, sitting directly above platform F.2225. Only a fragment remained the core being mud brick (12949) with four layers of plaster rendering (three white and one off white) raising the level to that of bench F.2213. The ever changing and linked morphology of features F.2213 and F.2225 (see below) makes this late platform more than likely a phase of their development rather than a feature in its own right, incorporating the bench F.2213 into one large platform.

#### **NE Platform F2225 and Bench F2213**

These two features provide an interesting insight into the development of the space and are discussed together due to their shared origin as their developmental morphology is heavily integrated. They are centrally located against the eastern wall F.2215 and extend north from engaged pillar F.2224. As with F.2212, both F.2225 (platform) and F.2213 (bench) were original features of Space 278. They remain in one form or another throughout the buildings life, being exposed to a series of changes in morphology, influencing both form and function.

The sequence of features F.2225 and F.2213 were as follows, a mud-brick bench core (13467) was constructed directly on to the crushed compacted back fill of the underlying Building 59 (13115). The bench was constructed flush with the eastern wall and extended west 1.80m, it was 0.55m wide and 0.12m deep. Originally it appeared to have been plastered although only sporadic patches remained, possibly having been scoured away. During this phase of construction another platform core (13468) of F.2219 was constructed to the west, and the proto bench F.2213 was truncated by the engaged pilaster F.2224, probably a replacement to another form of earlier roof support. Based on construction events occurring within the space, this early bench form was short lived, being superseded, covered and extended north by a lipped mud-brick platform core (13458) of F.2225, the lip of which followed the exact alignment of the earlier benches northern limit, but was later cut back. This meant it

only covered half of the benches width. During this phase a thin layer of plaster (13451) was applied to both elements of the platform and a section of the west facing wall and pilaster.

Next in sequence came a mud-brick extension (13457) to the lip extending it 0.20m to the north bringing it in line with the width of the pilaster. This was covered in a layer of thick white plaster (13456), which extended onto the west facing wall. In conjunction with this stage of the features development, the room/space saw the first clear application of red ochre paint (13453) to the wall, however fragments of red paint were found at most stages of the platforms development including flecks within the mud-brick cores. Little of the painting survived due to its proximity to the surface and hence the effects of surface erosion, and what remained appeared to be pictorial rather than geometric in design. The painting was contained to the central eastern wall space between pillars F.2224 and F.2368; its location is mirrored in the wall painting on the eastern wall of Building 59 below, which had a solid red painted strip, located between two robbed out pillars.

The next events appear to have been some form of repair work and remodeling, the northern face of the bench/lip of F.2213 was damaged and reconsolidated with mud brick (13455) it was then replastered with a layer of thick white plaster, removed as a single layer (13454) in conjunction with a layer of greyish occupation material and another thick layer of white plaster. The bench was then elevated 0.10m using a single course of two mud bricks laid on their beds header to header; measuring 1.60m EW and 0.40m NS. Both bench F.2213 and platform F.2225 were then plastered in a sequence of eight mixed grey and off-white floor and occupation layers 30mm thick, (removed as a single unit), the plaster lipped up to and over the bench but had been truncated/scoured from the top.

#### **Burials in Platform F.2225**

Platform F.2225 was plastered three more times, a sandwich of two thin greasy grey occupation or make up layers between two thick white plaster layers (13449), which were removed as a single layer. Truncating the upper white plaster layer in this sequence were two clear grave cuts. The first (13101) in the south east corner, contained a single infant burial skeleton (13100) orientated with the head to the west, in a flexed position. The skull was badly crushed, and beneath were possible phytoliths, a sample of which was taken. No associated materials were found with the infant.

The second grave cut was located in the northern central part of the platform, the sequence of which was far from simple. Due to truncation through erosion only half of the latest cut (12998) was visible on the platform surface, to the north where the platform had eroded completely away and the cut could only be seen truncating the back fill of Building 59 below. The cut visible in the upper white plaster was the latest grave cut in a sequence of multiple burials, eight individuals were identified (Fig. . The earliest included a woman (13162) with an unborn foetus (13163). The head of the women was missing and had not been redeposited in the back fill of any later interments. Another more disturbed skeleton (13133) was also believed to have been placed in this early burial cut (13476). The other buried individuals (13124) and (13125) may well have been in a single cut yet were highly disturbed by the latest burials, skeletons (13132), (13135), and (13126) in cut (12998). It is clear that at least

one other burial cut occurred in the sequence. However, only two cuts were clear, the earliest (13476) and the latest (12998), which truncated all other burials, making it impossible to place where they were cut from on the platform into a clear stratigraphic sequence. The latest cut was then sealed by a sequence of three thick white and off white layers of plaster (12995), the top layer representing the platform's final condition at the abandonment phase of Building 60.



*Figure 31: Multiple burial cutting platform F.2225, looking SW*

#### **NW Platform F.2219**

This large platform (1.60m x 1.52m x 0.30m surviving) that would be originally placed towards the centre of the building, however large scale erosion truncation to the north has removed all architectural traces of Building 60, and eroded the northern and western extensions of the platform. The platform was covered with a sequence of white and off white floors between layers of brown made ground and dirty grey clay floors; the whiter floors were more frequent later in the sequence. The sequence of floors was as follows, (12953), (12952), (12954), (12958) and (12964), at which point they become tied into the SE area sequence with (12964) being sealed below (12967) a re-plastering of the southern wall, and being laid above SE floors (12969). The floors sequence ends with deposit (12991), which covers the mud-brick core (12992). This core seals a patch of degraded dirty flooring (12994), all of which is above the latest phase of flooring (12995) on platform F.2225 to the east making this a later platform. However, lower in the sequence was a possible earlier core to what could be the same feature, yet associations were unclear due to historic intervention (plaster removal) and erosion truncation.

#### **SE Platform F.2226**

Situated adjacent to the southern wall F.2216 of Building 60 is a platform F.2226 and extended north until it abutted platform F.2219. Much of the platform lay beyond the limit of excavation to the west, with only 0.5m of its east west extent visible, with the north south extent being 2.00m. This was a large platform mirroring those uncovered in Building 59 below and demonstrating some form of continuity. The platform was constructed on a core of mud-brick (13469) 0.12 thick, this would probably be plastered with (13114) a patchy primary surface.

The platform was later extended to the east with a brick extension (13113) and both were covered in a sequence of floors 0.11m thick, the sequence of floor deposits being (13110), (12989), (12982) and (12963). The first three floor units extended over the entire southern half of the space and may well have extended to the north (truncation).

All three were predominately made up of dirty grey and brown floor surfaces and occupation build up. The later floor layers (12963) came after the construction of the late curbed platform F.2214 and only extended over the two features.

#### **SE central platform F.2214**

This small platform with a curbed eastern edge was located to the south west of the excavation area in Space 278; it extends north from the southern wall 1.22m its east-west alignment measuring 1.08m. Like the hearth to the north of it, this feature was a late addition to the space, being constructed on a well established sequence of approximately 30 floor and occupation layers. The platform was constructed with a core of burnt crushed mud-brick (12979) above which was a molded layer of clay mixed with fibrous organic material (12977) forming the lip/curb. The platform curb was then plastered with a thick white clay plaster (12973), and a sequence of floor units from 12963 continued to be laid to the east lapping up to and respecting the platform. To the west of the curb a sequence of three dirty floors (12963), which also covered the adjacent earlier bench F.2226 to the west, were removed as a single unit. The platform curb was then re-plastered again in white and finally two more floors and associated trample surfaces (12947) were laid on the platform before the structure went out of use and was back filled with (12911).

#### **Hearth/Oven F.2223**

Located at the centre of Space 278 was a square area of intense burning, this was a fire installation either a hearth or oven; however no lining or superstructure remained. The intense burning and removal of any structure made stratigraphic sequencing around the feature cut (12966) very difficult.

#### **Burial F.2200**

In the northwest where the building had been eroded away a single crouched burial (12906) was excavated cutting the back fill (13115) of Building 59 below. This grave was almost certainly associated with Building 60 and would most likely been situated below a north central platform against the northern wall. The burial was aligned east-west with the skeletons (12905) head in the west, it was an adult male in a standard crouched position on his left side. The burial was just below the current surface and as such root damage was present on the skull and long bones as well as burrowing animals displacing bones around the pelvic area.

#### **Building Morphology - Phasing sequence**

As with many of the buildings excavated at Catalhoyuk, there is a very fluid sense to the development of the internal features in Building 60, piece meal, ad hoc development driven by repair needs and internal restructuring. This means the building morphology can only be discussed in very broad phases, the relationships between individual features and floors being discussed in the body text above.

#### **Construction phase 3**

Building 59 was demolished and in filled with crushed mud brick (13115), forming the platform on which to construct Building 60. This construction phase saw the erection of the superstructure of Building 60; Space 278, walls F.2215 and F.2216 were constructed and plastered and reinforced with engaged pilasters. The internal structural elements were then built using mud brick cores for platforms, F.2212, F.2226, F.2219, F.2225 and bench F.2213. These were built directly on the compacted mud-brick infill of Building 59, and a sequence of earliest plaster floors were applied in Space 278.

### **Development phase 2**

The building saw many changes to the internal structural elements with the most radical of these regarding the development of platform F.2225 and bench F.2213. The bench saw at least two phases of truncation modification to the south, whilst being extended north and raised in height by the application of mud-brick extensions.

Platform F.2226 was extended to the west, and after the application of the last floor in the block sequence (12982), a new curbed platform F.2214 was added in the south west of the excavated area abutting the earlier platform. The addition of this platform, and a late hearth F.2223 directly to the north radically altered the open-plan feeling to the southern entrance area of the Space 278.

This phase also saw the burial of nine individuals in platform F.2225 and at least one phase of decoration with red paint on the central portion of the east wall above this platform.

### **Abandonment Phase 1**

All internal elements of Building 60 (Space 278) were present, including 6 platforms, a bench, a central hearth/oven and an entrance ladder scar in the south east corner. The building was then back filled (12911) of which only a small amount remained due to erosion truncation.

### **Western extension trench – *David Brown***

The western extension to the 4040 area to determine the extent and nature of Building 59 required the total excavation of the remaining parts of Building 60. This consisted of the western part of the truncated remains of platform F.2226 whose component contexts were excavated to reveal a total width of 5.4m. Further to the west were some heavily truncated floors (13484) whose extent did not exceed 0.85m by 0.52m. Between this platform and area of floor was a short single course of three mud bricks running N/S, F.2369.

This feature is notable for two clusters. The first (13490) consisting of 16 ground stone fragments was recovered from the mortar between F.2369 and southern wall F.2216 of Building 60. The second (13491) consisting of 12 obsidian flakes was found all in the same place within the same brick, the northern most of the feature. These significant deliberate deposits suggest this feature had some prominence/importance in the building and so may be the remains of a bench rather than a wall.

The removal of a thin make up/levelling deposit below these features completed the excavation of Building 60.



## **Building 59 / Bina 59 – David Brown**

### **Abstract**

Building 59 is a relatively large sized building of c. 8m across, consisting of a large room Space 311 which houses very large platforms (Fig.32). One in the northwest is the highest and most clearly marked by a raised edge. There is also a raised edge on the central east platform, which has a brilliant red dado on the lowest part of the wall running along the platform and a bench along the southern edge. The northeast, northwest and east central platforms all have traces of pedestals on their edges. There is a large retrieval or foundation pit or wall scar in the centre of the west wall of the main room and there are traces of a ladder in the southeast corner and the usual 'dirty' floors in this area. A western room Space 313, houses storage bins and an oven A third room appears to be a later extension to the north Space 276, which is again a relatively but large bare space except for two storage bins against one wall.

### **Özet**

Köşeden köşeye 8m boyutlarında geniş bir bina olan Bina 59, çok büyük platformları olan Alan 311'e sahiptir. Kuzeydeki platform en yüksek platform olup, yükseltilmiş bir kenar tarafından açıkça belirginleştirilmiştir. Doğudaki ana platform da yüksek kenarlı olup, etrafındaki duvarın alt kısmında kırmızı bir şerit ile güney kenarı boyunca uzanan bir seki bulunmaktadır. Kuzeydoğu, kuzeybatı ve merkezdeki doğu platformlarının kenarlarında tabanlık izlerine rastlanmaktadır. Ana odadaki batı duvarın merkezinde büyük bir temel çukuru ya da duvar izi bulunmaktadır. Odanın güneydoğu köşesindeki merdiven izi ile etrafındaki kirli taban ayrıca dikkati çekmektedir. Batıda bulunan Alan 313'de saklama depoları ile bir fırın bulunmaktadır. Kuzeydeki Alan 276'ye daha sonradan eklenmiş olan üçüncü bir oda, bir duvara dayanmış iki saklama deposu dışında geniş bir alana sahiptir.

Building 59 is located on the western edge of the 4040 area, lying below Building 60. The excavation of Building 59 was conducted in two stages. Initially, the east half of the building was revealed with the removal of the room fill after the excavation of the overlying Building 60. This initial area was defined by the limits of this season's 10x40 LOE to the west (Fig. 33). This part of the excavation was carried out under the supervision of Mike House. Significantly, the removal of the room fill revealed on the east wall a 2.15x0.55 meter red panel wall painting between 2 post retrieval pits and beautifully preserved and large platforms (Fig 34). As a result of this, it was decided to extend the excavation west to take in the complete area of the building. This involved initially the removal of 3 pits (2 of which are probably of post Neolithic date), and the western remains of the overlying Building 60. This released the complete extant remains of Building 59. The removal of the room fill revealed a number of features, and also 7 post retrieval pits. These post retrieval pits were also excavated to gain insight into the history of Building 59 as well as a 'window' into the building below.



Figure 32: Plan of Building 59.

This report is made up of 2 sections: (A) the removal of the room fill and subsequent revealed floor plan of Building 59, and (B) the results of the excavation of the post retrieval pits.



Figure 33. The initial area excavated was defined by the limits of this season's 10x40 LOE to the west (looking N). Platforms in the NE corner were exposed and a threshold leading into Space 276 (top right).



Figure 34: Exposing the 2.15 x 0.55 meter red panel wall painting between 2 post retrieval pits on the east wall and a beautifully preserved and large platforms with a bench to its south..

#### **(A) Room fill removal.**

The size of this part of the building was revealed to be 7.95 x 6.3 meters, from east to west and north to south respectively. The removal of the room fill resulted in the exposure of the floor plan of the building. Two general spaces became evident: a large eastern space (Space 311) (Fig. 35) and a smaller western space (Space 313). A partition wall F.2375, abutting the north wall and running N-S for 2.05 meters, functionally divides these two spaces.

#### **Space 311**

The larger room is made up of 5 platforms, and a sunken 'dirty' area in the southeast corner where there is a ladder scar in the south wall face (Fig 35). The northern space of this part of the building appears to be the clean part where there are 4 plastered 'clean' platforms that run around the northeast corner. All have centrally located removal scars at the edges (Fig. 36), which may have been to place of small pedestals,

and there is a trace of a bench at the southern end of the eastern platform. The fifth platform is a dirty earthy platform situated to the west of the sunken 'dirty' end of the building.



*Figure 35: Space 311 is made up of 5 platforms and a sunken 'dirty' area in the southeast corner where there is a ladder scar in the south wall face. The northern space of this part of the building appears to be the clean part where there are 4 plastered 'clean' platforms that run around the northeast corner.*

Four post retrieval pits and an unknown feature has been identified in this space of the building. The post retrieval pits are located along the north, the east (2 in number), and the south walls of the building. These are respectively (14607), (14601), (14603), and (14605). The unknown feature is a raised area situated in the southeast corner of the building. A ladder scar is found on the south wall in this corner also and there may be a link between this and the unknown feature.

A red rectangular panel of red painting is located on the east wall F.2371 of this space, between the 2 post retrieval pits (14601) and (14603) (see also Fig. 6). It should be emphasised that a few washes of thin white plaster were removed to reveal the red painting, so it would not have been visible at the close of this building.



*Figure 36: NW platform in Space 311 showing centrally located removal scars at the edges.*

### Space 313

The western space of this part of the building is thought to be the domestic utility area of the building. The floor has a 'dirty' appearance (that is, it is not white plastered), four bins (and/or basins), an oven and a hearth have been identified in this area of the building (Fig. 37). The floor covers the entire space, excepting the features. Three of the bins are located along the west wall of the building, with one of these in the northwest corner. The other bin is located along the southern wall. The oven is situated in the southwest corner and the hearth is situated to the east of this space, beyond and to the west of the partition wall. Two red bricks to the north and west of the hearth are imbedded in the floor and may relate to space/activity around it. These bricks may also demarcate a division in this space, with a new space being defined in the north from the bricks. This, however, will need further investigation. All the domestic related features have suffered from a degree of truncation associated with the closure/backfilling of the building.



*Figure 37: Space 313, looking NW. Oven in the SW corner, hearth centre right- against a large retrieval pit and remnants of basin/bin features against south and west walls.*

This western space also has 3 post retrieval pits (14609), (14611) and 14613). (14613) is located mid way along the western wall. (14609) is located almost midway along the southern wall. And (14611), very elongated in shape is located immediately south of the N-S partition wall F.2375. It cuts through and damages the eastern side of the hearth.

### Finds

Finds recovered from the removal of the room fill included some animal bone, stone, pottery, obsidian, and some clay objects (including clay ball fragments, 2 figurines and a bead).

**(B) Excavation results of the post retrieval pits.**

Functionally, all the pits are interpreted as post retrieval pits that would have once held posts, which with the aid of the walls would have supported the roof of the building. This is suggested by the central position of one pit with the rest located against the inside walls of the building. Excavation of the post retrieval pits



*Figure 38: Post retrieval pit (14603). Sequence of floors and make-up layers can be seen in the sides.*

involved half sectioning to assess any stratigraphic concerns and then total removal of the fill. With one exception all the pits were found to have a homogenous fill. This consisted of the backfill of the removed material mixed with plaster fragments. The plaster fragments here presumably deriving as a result of the posts being removed from the plastered walls. The exception was with pit (14603) (Fig. 38), where the upper part of the backfill consisted of the room fill that had slumped into the top of the pit.

The occupation sequence of the building was visible in the sides of all the post retrieval pits. All the pits though cut through a unique part of the building, so linking them would no doubt lead to errors at this early stage. Generally though the stratigraphy seems to point to a conservative occupation history of the building. A general sequence, including pre Building 59 activity is as follows:

**Pre Building 59**

In 3 of the pits, (14605), (14611), and (14613), deposits relating to the building below can be seen. Pit (14605) has a thick layer of charcoal running around the north inside part of the pit. This charcoal layer does not reach the south wall because it has been cut through by an earlier lineal feature that would seem to run parallel to the wall. This feature appears to cut the lower part of the room fill, but predates any of the floor layers. It is not clear how it functioned. Excavation is needed here to clarify this. What is apparent though is that the charcoal layer is most likely linked to a feature/event associated with the building below. It comes in at a depth of c.0.5 meters, below the top of the pit.

Pits (14611) and (14613), both cut through earlier walls belonging to the building below. In pit (14611), the cut through wall can be seen to turn west towards pit (14613). However, the bricks do not look of the same construction here. The depth that they appear is also different. In pit (14611), the bricks are directly under the n-s partition wall F.2375 of B.59 and in (14613) they are visible at about c.0.3 meters below the floor surface. The bricks in this pit do not appear to be cut though, as they go off at the same level into the side of the pit.

**Adding of the room fill.**

Room fill was added into the building below to make up ground for the new building. This is seen to go to a max depth of 0.89 meters in pit (14601), against the east wall. No signs of occupation belonging to the building below can be seen here. This type of room fill appears to give way in all the pits 0.15-0.10 meters before the top. Subsequent to this a slightly different type of room fill takes over. The material is very similar but has a more uniform appearance. It may belong to a compaction/consolidation episode. This layer appears to give way to the first floor layers.

**Features**

Features can be seen in 3 of the post retrieval pits. The hearth is visible in (14611), a bin in (14609) and 2 bins in (14613). With the exception of the bin situated to the south of (14613) no flooring appears visible, so these features were likely to have been incorporated in the initial design of the building. The bin to the south of pit (14613) looks to have had a couple of layers of activity before it was constructed.

**Floor layers**

The best sequence of floor layers is seen in pit (14605). The thickness here is about 7cm. However, there is a ladder scar on the south wall in this area, so the thickness may relate to heavy traffic of this area rather than prolonged occupation. The other pits don't show this much build up of the floor layers.

**The red panel**

The red panel painting was probably incorporated in the early design of the building. It goes under the platform below, so dates to a time before this. It has a number of repainting episodes, 3 to 4 can possibly be seen alternating with white plaster washes, so it may have had some years of exposure before it was painted over for the final time. This final application also appears to extend under the platform, essentially ruling out a contemporary relationship with the painting and this platform.

**Platforms**

A relationship between the floors and platforms can be seen in 2 of the pits, (14601) and (14603). In both these instances the platforms appear to be later additions with a small build up of floor layers before platform construction. The platform along the east wall looks to have been built up at least twice. In pit (14603), its construction can be seen to postdate the floors. In pit (14600), this same platform is visible, but here it has been built up further.

**Finds**

Finds recovered from the post retrieval pits included some animal bone, antler, stone, pottery, obsidian, and some clay ball fragments. Excepting the clay ball fragments, no worked objects were recovered from the pits. However, of interest, was an angular piece of bone that was vertically planted into and sticking up from the base of pit (14601). Its deposition did not have a natural appearance to it.

**Space 276 / Alan 276 – Lisa Yeomans**

Space 276 formed a large northern storeroom to Building 59 with a series of storage bins along the western wall. The shape of the space was fairly irregular (Fig. 32) leading off the north-eastern corner of the main room in Building 59 and appears to be built around a further building that is just lying within the 4040 Area and has not been

investigated since it falls mostly outside the of excavation limit. This space looks to have once belonged to another building, until the wall was knocked through and the resulting space being incorporated within Building 59.

Removal of the room fill (12902) revealed that the room had few features aside from three storage bins. These bins must have been emptied when the building was abandoned as the fills were similar to the room fill above. The floor was a 'dirty' patchy floor although plaster survived in the southwest corner of the room where a fine stepped threshold would have provided access into the storage room. A single post-scar adjacent to the step on the western wall was the only indication of additional supporting structures in Space 276 differing from the numerous posts in the main room of the building. In the same way that the main room to Building 60 replaced the main room of Building 59, the northern storage space appears to have also been rebuilt. Above the southern wall of Space 276 were traces of a later wall on the same alignment but heavily eroded with only the lowest course surviving. This is all that remained of the storage room to Building 60 with the rest of the structure eroded away.

### **Building 58 / Bina 58 - *Maria Duggan, Shahina Farid***

#### **Abstract**

This season saw the continued excavation of Building 58, which was originally exposed in the 2004 and 2005 seasons. There were a number of changes to the layout of Building 58 during its lifetime (as described in the 2005 Archive Report), but its latest phase comprised three Spaces, 227, 258 and 274. During this season excavation was only carried out in Space 227 – the larger space at the east of the building. Space 258- a narrow space at the west of Space 227 and the small, blocked off Space 274 at the south were not excavated.

#### **Özet**

Bu sezon, 2004 ve 2005 sezonlarında açılan Bina 58'in kazısına devam edildi. İçinde yaşanıldığı süre boyunca birçok değişikliğe uğrayan bina 58 (2005 Sezonu Arşiv Raporu'nda tanımlandığı gibi), en son evresinde üç alandan oluşmaktadır: Alan 227, 258 ve 274. 2006 sezonunda sadece, binanın doğusundaki en geniş alan olan Alan 227 kazılmıştır. Alan 227'nin batısında yer alan ve dar bir alan olan Alan 258 ile güneyde bulunan, ufak ve kapatılmış Alan 274 kazılmamıştır. Space 227

Internally measuring approximately 4.0m x 4.0m this space was contained by wall F.2000 to the west, F.1564 to the north, F.1565 to the east and F.1566 to the south. The internal layout comprised a central floor area of 3.6m x 2m – F.2129 with platforms to the east, west and south. At the north-west a raised platform F.2123 and kerb F.2192 were separated by internal wall F.2001 from a central cell F. 2125. This cell was also separated from the main floor surface by a kerb- F.2193. At the south-west of Space 227, to the east of blocked off Space 274, there was a raised platform- F.2128. On this platform a large, freestanding square hearth had been constructed, together with a rectangular oven against the south wall. The east of Space 227 consisted of a fairly typical sequence of two platforms, F.1567 at the north-east and



the central F.2136, then a bench- F.1568, with another platform F.2137 in the south-east corner.

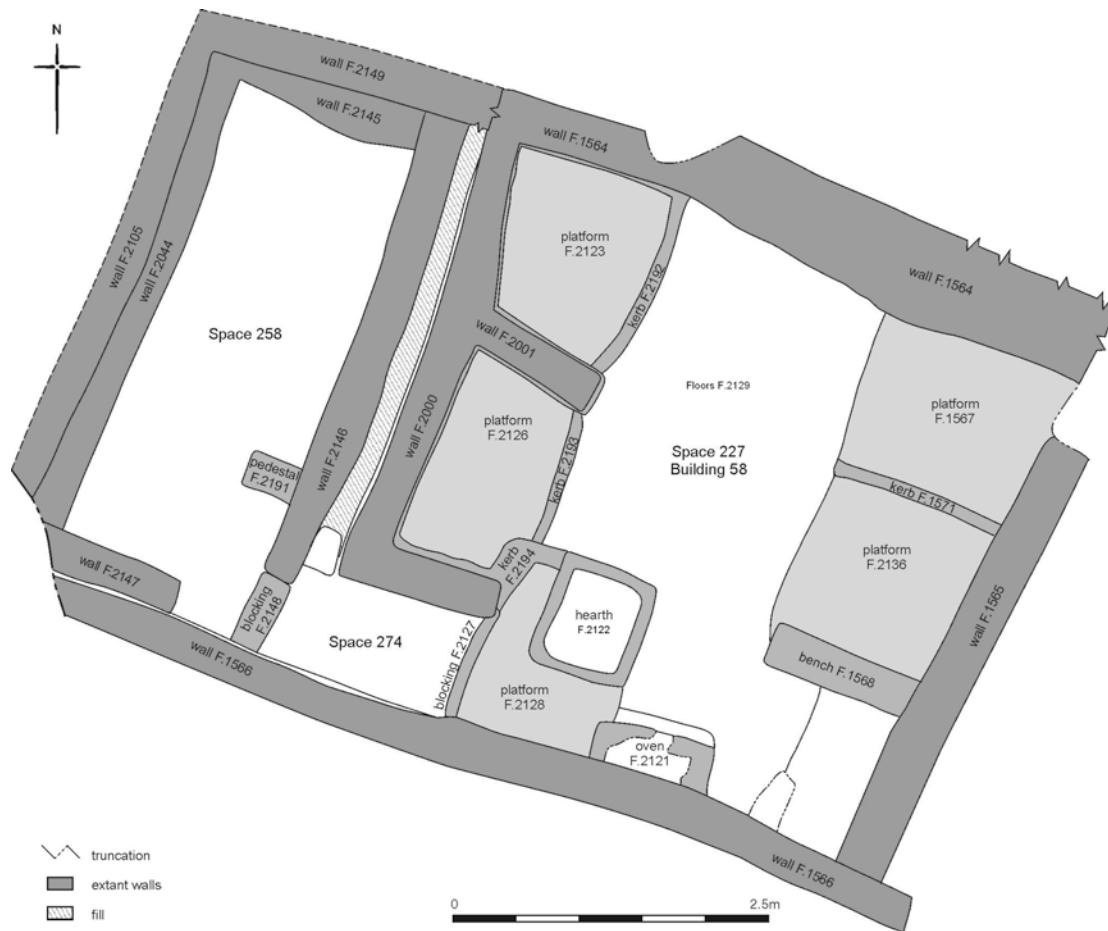


Figure 39: Plan of Building 58.

### Floor F.2129

This season's excavation in Building 58 concentrated primarily on the removal of layers from the central floor area- F.2129. Although several floor surfaces were excavated none of these were seen to extend over the surrounding platforms and subsequently these features could not be released stratigraphically. This could suggest that at least in the latest phase of the building the main floor was subject to considerably more re-plastering than the associated platforms. A number of truncated/heavily scoured floor surfaces were removed which became increasingly more defined and continuous with depth. These included dark greasy layers (possibly occupation surfaces), isolated white plaster layers as well as make-up material. The latest, isolated surfaces including deposits (13206) (13207) (13208) were concentrated in the north-west part of the floor, abutting but not releasing kerb F.2192.

(13219) was a group of plaster surfaces and make-up material that extended across the main floor abutting platforms F.1567 and F.2136 and kerb F.2192 (the relationship with F.2193 is not clear). Beneath (13219), (13220) was a distinct, though heavily scoured plaster surface that again abutted the north-east and east-central platforms as well as kerb F.2192. A packing layer directly under (13220) – (13221) only extended across the northern part of the floor, as did (13229), a possible occupation surface on packing layer (13230). This fairly compact deposit (up to 0.05m deep) extended right

across the main floor from the north wall F.1564 to abut the south-east platform F.2137. If (13229) is indeed an occupation surface on this packing material it may suggest that it was exposed for at least some time. (13230) produced some of the few artefacts from the excavation of the main floor area, including pottery, obsidian and a clay figurine –possibly animal (13230.X1) found at the far north of Space 227 against wall F.1564 and just at the top of F.2251. The earliest floor surface excavated down to was (13239), which although again seems to extend right across the main floor, abutting but not extending onto the eastern platforms and bench as well as the north-west kerb. This was a particularly clear white plaster floor. Although the south-east corner of Space 227 was not fully exposed (13239) appears to extend toward the south wall. This is somewhat surprising as a threshold to a ‘dirty floor’ area would be expected in this corner, in front of the platform supporting the hearth and oven. It may be that at least in this phase the dirty floor area was confined to the south-west corner of Space 227, on platform F.2128 itself.



*Figure 40: A number of floors from the central area of Space 227 were excavated in order to release surrounding features (looking N), which exposed small pits cutting the floors.*

Three small pits were separately revealed by the removal of the floor surfaces (Fig. 40). Although they were cut through different layers each was situated toward the northern end of Space 227. F.2250 was cut through layer (13221). It contained a small cluster of fragmentary clay objects sitting on what appeared to be re-deposited ash. F.2252 was a small pit cut through (13229) which contained no obvious group of finds, whilst F.2253, cut through (13239), produced a group of heavily worked obsidian as well as a marine shell (13238 X2).

An unusual feature was revealed against the north wall of Space 227. F.2251 was a depression against wall F.1564 containing loose mud-brick material as well as lumps of what appeared to be wall plaster. As each floor layer was removed from (13219) down to the earliest exposed floor (13239) they were all seen to dip down into this depression. Although not



Figure 41: Enigmatic feature F.2251 against the north wall.

fully excavated the feature has been tentatively interpreted as a post retrieval pit or a possible niche against the north wall that was respected by/ re-plastered with successive floor layers. Later it seems to have been partially filled by the slumping of wall F.1564, pushing loose mud-brick as well as wall plaster into the depression.

#### Hearth F.2122

It became clear that a number of floor surfaces had been excavated that were earlier than the plaster on hearth F.2122 and that layers needed to be removed from the hearth to return the building to sequence (Fig 42). The square, rimmed hearth which was positioned at the north-east corner of platform F.2128 seems to have been significantly damaged at its north-east corner. There also seems to have been some attempt to repair this damage, although until the hearth is fully excavated



Figure 42: Hearth F.2122 sitting the NE corner of platform F.2128.

this is uncertain. The upper layers of the lip and surface of the hearth were significantly truncated. A number of plaster and make-up layers were removed down to (13265). A distinctive white plaster layer (13251) is partially visible beneath (13265) and has traces of red paint showing on the lip and outside edge.

#### Platform F.2128

Two layers were also removed from platform F.2128 at the south-west of Space 227 with the intention of releasing hearth F.2122. (13253) and (13254) appeared to be distinctive 'dirty floor' layers, probably associated with rake-out deposits from the hearth and possibly oven. (13254) was a particularly dark, greasy deposit with ashy patches. Both deposits produced a few small stones and fragments of bone, in contrast to the almost completely sterile deposits on the main floor. Platform F.2128 was excavated down to (13259).

## **Building 67 / Bina 67 – Mike House**

### **Abstract**

Located in the far southeastern area of this season's 4040 excavation was Building 67. The vague outline of the structure was exposed after the removal of Building 47 in 2004 season. Building 47 was believed to be of later levels (c.Levels IV – III) and also demonstrated architectural features similar to the Chalcolithic buildings excavated on the Çatal west mound and was therefore, believed to be very late in the levels of occupation of the east mound, a possible transition phase. Building 67 also appeared to differ in architectural style and as such was also thought to be considerably later than nearby buildings such as Building 58 to the west. This season has seen the removal of infill from the internal spaces (292, 293, 304 and 308) in an attempt to see the full, in phase, extent of the structure, and understand its relationship with Building 58 to the west.

The main building appears to be formed of three spaces, a large rectangular room Space 308 to the west and a small cell Space 293 to the north. To the east is a large space equal in size to all the other spaces combined, it has a plastered floor with the remains of a large platform. However, it has suffered heavily from erosion. To the west of the main building an extension appears to have been constructed creating two side rooms Spaces 292 and 304, these unadorned rooms were probably used for storage or functioned as a work space based on objects removed from the basal deposits or those in situ on the floor.

### **Özet**

Bu sezon 4040 Alanı'nın ötede kalan güneydoğu kısmında Bina 67'nin kazısı yapıldı. Yapının tam olarak belirgin olmayan sınırı, 2004 sezonunda kaldırılan Bina 47'den sonra ortaya çıkarılmıştır. Bina 47 daha geç tabakalara tarihlenip (Tabaka IV ve III civarında) Batı höyüğünde kazılan Kalkolitik binalara benzer mimari özellikler gösterir. Bu yüzden de Doğu höyüğündeki yerleşim tabakaları içinde geç bir döneme (büyük ihtimalle bir geçiş evresine) yerleştirilmektedir. Mimari stil yönünden ayrıca farklılıklar gösteren Bina 67'nin, batısındaki Bina 58 ve diğer yakın binalara nazaran daha geç bir tabakaya ait olduğu düşünülmektedir. Bu sezon yapının tüm uzantısını, evresini ve batıdaki Bina 58 ile olan ilişkisini anlamak için iç kısımdaki bazı alanların (292, 293, 304 ve 308) dolguları kaldırıldı.

Ana bina üç alandan oluşmaktadır: geniş ve dikdörtgen bir oda olan, batı doğrultulu Alan 308 ve kuzeye bakan ufak bir hücre biçimindeki Alan 293. Doğuda bulunan ve sıvalı bir platform ile büyük bir platformun kalıntılarına sahip olan geniş alan, boyut açısından diğer alanların hepsinin büyüklüğüne eşittir. Ancak bu alan büyük ölçüde erozyona uğramıştır. Ana odanın batı kısmında, iki yan odası (Alan 292 ve 304) bulunan bir uzantı yapılmıştır. Bu odalar büyük ihtimalle saklama deposu olarak ya da taban birikintilerinden ayrılmış veya hala tabanda duran objelerle ilişkili bir çalışma odası kullanılmıştır.

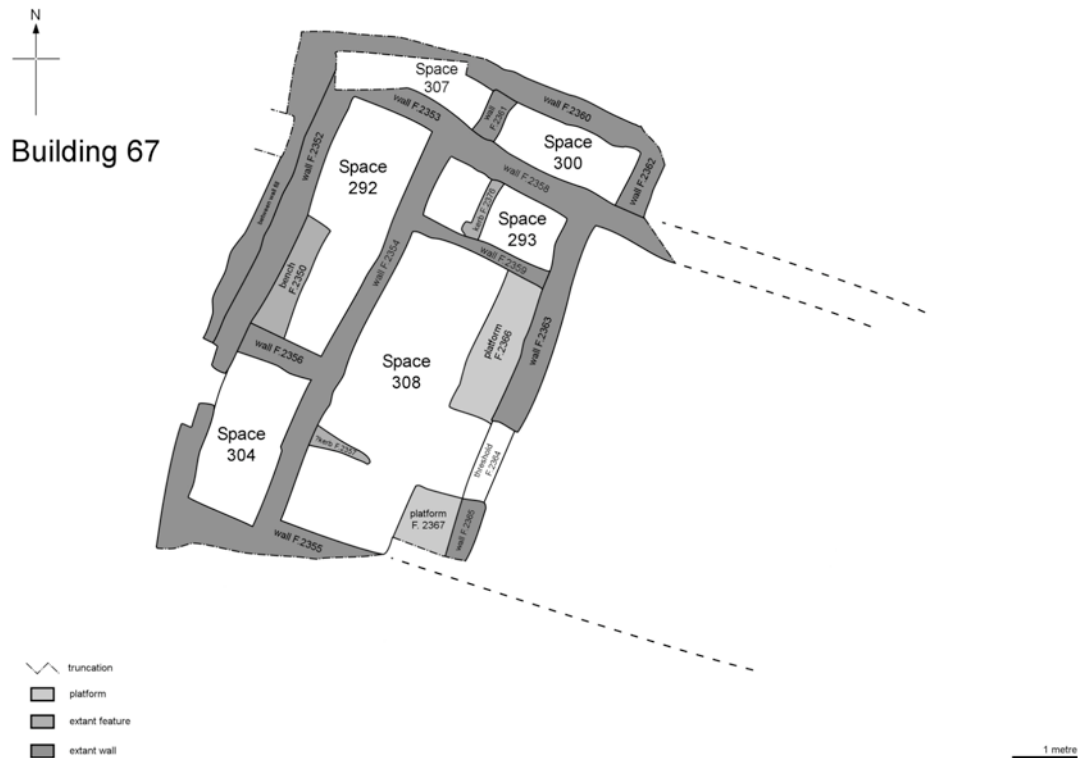


Figure 43: Plan of Building 67.

Two small spaces to the north of the building were also excavated both of which turned out to be external spaces (300 and 307) between the outer northern wall F.2358 and some form of external retaining wall F.2360; within this space were two rough bracing stub walls features F.2361 and F.2362. The between wall space between Building 58 to the west and Building 67 was also excavated. The main building appears to be formed of three spaces, a large rectangular room, Space 308, to the west and a small cell Space 293, to the north separated from Space 308 by a dividing wall F.2359. To the east is a large space equal in size to all the other spaces combined, it has a plastered floor with the remains of a large platform. However, it has suffered heavily from erosion and no walls east of F.2363 remain. No excavations were conducted in this area during the 2006 season; however it will be looked at in future seasons. To the west of the main building an extension appears to have been constructed creating two side rooms Spaces 292 and 304, these unadorned rooms were probably used for storage or functioned as a work space based on objects removed from the basal deposits or those in situ on the floor.

#### Extension Spaces 292 and 304

Space 292 in the north west corner and Space 304 in the south west make up what appears to be a western extension to Building 67. The extensions walls abut the original western wall F.2354 of Building 67. However they do not follow the exact alignment to the east-west aligned walls to the north and the south. The two spaces were originally connected by an entrance through the east-west aligned internal dividing wall F.2336 (Fig 44). Both spaces were completely devoid of any plaster unlike the spaces to the east and produced a varied an interesting assemblage of artefacts, both within the infill and deliberately placed on the floor prior to infilling.

Space 292 was a medium sized rectangular room, its internal dimensions measuring 3.90m N-S and 1.30m E-W. The room's most prominent feature was a dirty metallised floor (13425) of small rounded river pebbles of varying shapes and sizes. The floor was less than 2cm in thickness and had been scoured away in the northern end of the space revealing (13430) a consolidation deposit below. The only feature of the room was a possible bench F.2350 located in the south west corner of the room abutting the western wall F.2352, the bench as with the rest of the room was devoid of any plaster or signs of having once been plastered. The bench was created using a compacted core of mud brick (13482) capped with a single (remaining) course grey mud brick (13421). Another explanation of this feature may be as a strengthening wall or buttress to prevent the further collapse of the western wall. This explanation appears more likely when the relationships between Spaces 292 and 304 are viewed in conjunction (see Space 304 below).



*Figure 44: Building 67, looking SE. The eastern portion (top left), has not been defined and neighbouring Building 58 is seen bottom left.*

The backfill of Space 292 was far from sterile containing frequent animal bone including an articulated bird wing; moderate pottery shards and stone (including a flat polished/ground stone) and schizist fragments; occasional quartz like crystals, obsidian flakes and a fragment of cobalt ore. The fill produced eight X-finds scattered throughout the fill, including a polished green stone axe, a stone grinder, an obsidian projectile point and arrow head, two flint sickles or blades, a single bead and a worked bone point. This assemblage alone was of great interest, especially when viewed in conjunction with those objects found in Space 304 (see below).

However restricted to the fill at the northern end of the space (Fig. 45), a large cluster (13418) of more than 80 sheep/goat astraguli was found in association with a similar number of small flat round river pebbles of comparable size and shape (some grey and some white). A small percentage of the astraguli were worked being flattened on one or two sides and some both worked and un-worked were burnt black. Such an assemblage could have served many possible functions such as a divination tool, counting or gaming system or a mixture of all three. Twenty-six were planned and



*Figure 45: Space 292, the metalled surface is to the top in front of bench F.2350 and the cluster of astraguli and pebbles were found in the foreground. Note the unexcavated gap between Building 67 and neighbouring Building 58 to the right.*

photographed in situ as they appeared to be located where the floor level (13425) that would have been in the northern end of the space. However, with further investigation they appeared to be continuing within the consolidation layer below the floor (13430). The astraguli and stones removed from this material were allocated a new cluster number (13431). It is likely that those found in the deposit above (13416) were redeposited, an event more than likely associated with the scouring out of the floor to the north, however the large number (more than 100 astraguli in the combined two clusters and more unexcavated in (13430)), not only provide valuable information regarding flock or herd size, but also raises questions about the buildings function as a possible administrative centre (or gaming house as the building was nicknamed casino 67).

Space 304 in the southwest corner of Building 67 was a small unremarkable, unplastered room measuring 2.04m N-S by 1.20m E-W, containing no internal structural features and floored with a compacted clay surface. This space was defined by southern wall F.2355 and with Space 292 shares a western wall F.2352, eastern wall F.2354, and the two spaces were divided by a small internal wall F.2336, which was the point of access between the two areas. This access way was later blocked off; this abandonment of Space 304 was due to the collapse of a southern portion of its western wall F.2352, this event may also be the reason for the strengthening of the wall in Space 292 with F.2350.

Prior to abandonment of Space 304 a cluster of objects (13436) were deliberately placed on floor just in front of and to east of the entrance. This assemblage included a pestle and mortar type grindstone set, a flint sickle and large quantity of gypsum crystal. It has been suggested that ground down gypsum crystal could be mixed with the clay plaster to produce a very white superior plaster. The space was then back filled with reddish brown compacted brick crush (13429), this infill contained frequent animal bone fragments and pottery sherds, moderate stone and quartz like crystal, and occasional shell and obsidian flakes. Built above the fill using the west

wall F.2352 and the internal east west aligned wall F.2336 as foundations were two mud bricks (13438), these appear to be a remnant of a later structure probably a foundation element of Building 47. The fill (13429) was then sealed by a loose light grey ashy layer (13413) which, extended over the eastern wall into Space 308, but did not cover the two bricks (13438); similar material is present as a capping deposit above the infill to several other spaces in Building 67.



*Figure 46: Plastered alcove looking E from Building 58 links the two buildings stratigraphically.*

This sealing deposit was cut by features excavated in previous seasons, a large pit which truncated the eastern wall F.2354 and an east-west aligned Byzantine grave cut which truncated the western wall F.2352. The western wall at this point was also truncated during the Neolithic period by a plastered alcove being cut into the western wall from the east end of neighbouring Building 58 (Fig. 46), making the two structures broadly contemporary,

however it also appeared to truncate a remnant of Building 47, two in situ bricks (13438) laid on their beds in an east-west alignment sealing the in fill of Building 67. If these bricks represent a later phase of architecture then it pushes Building 67 into an earlier phase in the Çatalhöyük building sequence.

A majority of Space 308 was exposed during the excavation of Building 47 in the 2004 season. This large room measuring 4.80m N-S by 2.20m E-W, the walls of this space have little or no plaster, the floor however had been plastered, at the centre of the room was a hearth cut form Building 47 which gives some idea (0.12m approx.) of the depth of stratigraphy built up from repeated phases of re-plastering and associated makeup layers. In the far northeast corner running south parallel to the eastern wall F.2363 was a large mud brick bench or platform F.2366. To the west of this bench are the outlines of more unexcavated features, one of which may be the hearth relating to this building phase. In the southern half of the eastern wall is what appears to be a blocked-up access or door F.2364; the entrance would have allowed access to the large unexcavated room to the east.

In the south east corner of the space excavations revealed the southern extent of the room and the building, as well as the remains of much degraded plastered feature F.2357, its function is unknown however its location in the south east corner and a small scorch halo indicate it was some form of fire instillation either a hearth or more likely an oven. In the south east corner adjacent to the eastern wall F.2365 (same as F.2363 continuation of N-S aligned wall), a mud brick wall F.2367 had been added extending west into the room, it may have been added as support to stop wall collapse however once again further excavation in this area is need to explain its function as it



appears to continue south past the limit of excavation. The infill of this area follows the same sequence as in the other spaces in the building with a compact mud brick crush (13423) which contained frequent animal bone, moderate pottery sherds, very occasional shell a small white plaster ball and an X-find that is an obsidian projectile point. Sealing this basal deposit was a thin ashy layer (13420).

Space 293 was a small cell or storage room measuring 2.04m E-W by 0.90m N-S a thin dividing wall F.2359 separating it from Space 308 to the south and had what could have been an access point. However, the limited depth survival of the wall and the lack of plaster makes interpretation difficult and it could simply have been a missing central brick removed during antiquity prior to infilling. The space itself is roughly divided in half by a thin low lying N-S aligned wall or lip F.2376, to the west of which was a plastered feature F.2369 dividing this smaller space approximately in two. The plaster appears particularly hard as it would with an oven or hearth feature although no fire halo was visible and its form and location seems more in keeping with a bin or storage area. The make-up or back-fill to the south behind the feature (13440) was rich in finds producing moderate quantities of pottery, obsidian flecks; frequent animal bone as well as several X-finds including five beads (3 white & 2 green), a figurine fragment and small worked bone object. The infill of the feature itself (13439) was sterile containing only charcoal and plaster flecks. Cut into this infill was a shallow half circular pit (13410) filled with (13409) which contained several fragments of clay coated burnt posts, these could have been structural elements from a hearth or oven, yet the lack of discolouration on the mud brick below indicates that the material was probably imported from elsewhere.

East of the small internal wall/lip the level drops considerably onto a dirty compacted clay floor, which may be related to an earlier phase of Building 67 development. The space above this floor was infilled (13441), bringing it up to the height of the wall however no occupation surface or floor was seen at this level.

The space was then sealed by layer of crushed compacted mud-brick (13408) containing the same standard assortment of cultural material as the other in filled spaces in Building 67. This was then capped with a very loose grey ashy deposit (13407) similar in make up to midden material.

External Spaces 300 and 307 are situated to the north of Building 67 and were initially believed to be small side rooms. Both were fully excavated to depths of 0.60m and 0.63m respectively their basal deposits sealing either foundation walls or the walls of an earlier building superimposed by 67. Space 307 the smaller of the two measuring just 0.86m E-W x 0.80m N-S contained a single homogenous fill (13406-13437) and was truncated to the east by a Byzantine grave excavated in a previous season. This fill contained a large quantity of animal bone mainly from sheep or goat, and may represent a feasting deposit.

Space 300 saw a sequence of dump deposits (13432), (13428), (13422), (13417) and (13411) all containing varying quantities of animal bone including a cattle horn core and two pairs of mandibles, as well as several structural elements of redeposited plaster. Many of the layers contained significant charcoal deposits and as with space 307 maybe associated with the disposal of feasting deposits.

The two spaces are separated by a roughly constructed bracing wall F.2361 and may well have at one time been the same space; it is likely other external space(s) exist to the east.



Figure 47: Obsidian blade core (13446.X1) found in the between wall gap.

The between wall gap between Building 67's western wall and the eastern wall of Building 58 was a long narrow space, which like the external spaces to the north had at some point been braced with mud brick stub walls. A single fill was excavated to reveal that it's base is either foundation walls or more likely an earlier phase of architecture superseded by Building 67. At the interface of earlier walls and fill (13446) was beautiful obsidian blade core (13446.X1).

### **Buildings 51 and 52 / Binalar 51& 52 - Doru Bogdan**

#### **Abstract**

In the 2006 season Building 51 was fully excavated. It was re evaluated and re phased as the final phase of Building 52 and therefore not a house in the real sense of the word but a reopened, reused space within the walls of Building 52. Fire caused the roof and walls of Building 52 to collapse but it seems that the NE corner of the central room was less affected and probably why this space was chosen to be emptied of room fill. The burnt debris was retained out of this NE half of the room by an L-shaped wall, keyed in the existing ones. A small living space was created and some of the existing features such as the two north platforms, were reused by re applying a thin layer of plaster over them. In the southern half a new hearth, pedestals and a double basin were constructed directly over earlier ones from the burnt house. The re-opening of this part of Building 52, recorded as Building 51, probably occurred immediately after the fire and the new living space appeared to have been occupied only for a short period of time as only a single layer of plaster had been applied to the walls. It appears that the reopening of the NE area (Building 51) of Building 52 was a temporary solution, a small space designed to accommodate its inhabitants until they were able to replace their burnt house with another one.

#### **Özet**

2006 sezonunda Bina 51'in tamamı kazılmıştır. Bu bina, Bina 52'nin en son evresiyle ilişkili olarak yeniden değerlendirilip, evrelendirilmiş ve böylelikle tam anlamıyla bir ev olmadığı ancak Bina 52'nin

duvarları arasında yeniden açılarak kullanılmış bir alan olduğu anlaşılmıştır. Bina 52'ye ait çatı ve duvarların yangın nedeniyle çökmesine rağmen, ana odanın kuzeydoğu köşesi daha az etkilenmiştir (Bu durum, bu alandaki oda dolgusunun boşaltılmasına sebep olarak da gösterilebilir). Yanmış olan kalıntılar varolan duvarlarla bağlantılı olan L şeklindeki bir duvar tarafından, odanın kuzeydoğu tarafındaki kısmın dışında bırakılmıştır. Ufak bir yaşama alanı yaratılırken, örneğin kuzeyde bulunan iki adet platform gibi, varolan bazı öğelerin üzerleri ince bir sıva tabakasıyla kapatılarak yeniden kullanılmışlardır. Odanın güney yarısında bulunan bir ocak, tabanlık ve çifte tekne, yanmış ev içindeki benzer öğelerin direk olarak üzerine inşa edilmişlerdir. Bina 52'nin bu kısmının yeniden açılması işlemi, büyük ihtimalle yangından sonra olmuştur. Yeniden açılan bu yaşama alanı sadece kısa bir süre için kullanılmış olup, duvarlar tek bir sıva tabakasıyla kaplanmıştır. Bina 52'nin kuzeydoğu alanının (Bina 51) yeniden açılması, yanmış evlerinin yerine yeni bir ev yapana kadar ev halkını barındırmak için geçici bir çözüm olarak görülmüş olabilir.

Building 51 was first exposed through surface scraping in 1993 and the room fill excavated in 2005. It appeared as a self-contained building with only one space (Space 98) of reduced dimensions, measuring 2.7 x 4.3 meters. The internal layout of the house was described in the 2005 excavation report (see 2005 Archive Reports/Building 51), but as our understanding of the construction and function changed after further excavation in the 2006 season, the entire space will be re-discussed.

Upon excavation in 2006 it became clear that the small rectangular Building 51, which appeared to have been inserted into the NE corner of Building 52 was in fact keyed into the extant walls of Building 52. Prior to the

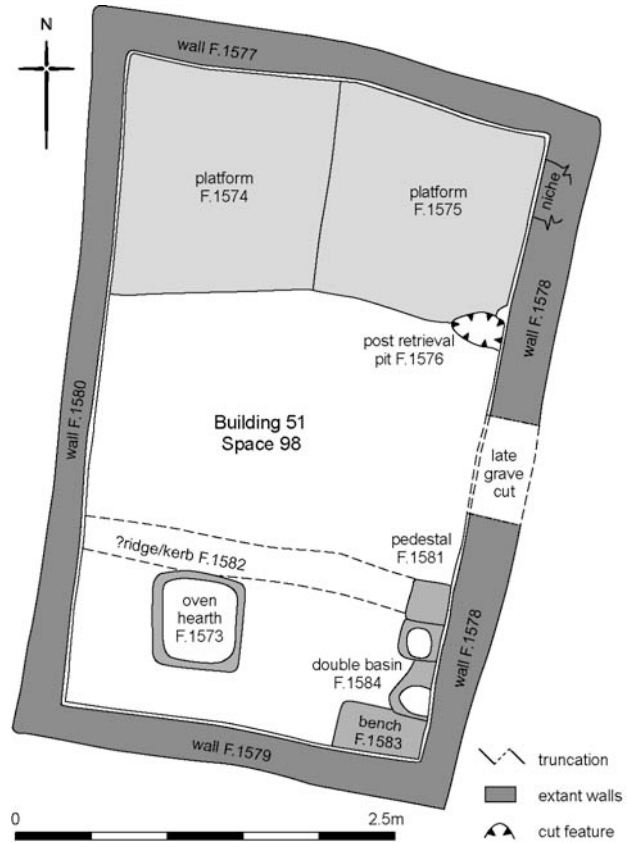


Figure 48: Plan of Building 51 as excavated in 2005.

construction of Building 51 the central room, with the bucranium on the wall extended east and north incorporating the entire area of Building 51. The north and the east walls (F.1577 and F. 1578) as well as the northern end of the west wall (F.1580) of Building 51 were actually reused walls of this large room of Building 52 (Fig.49).

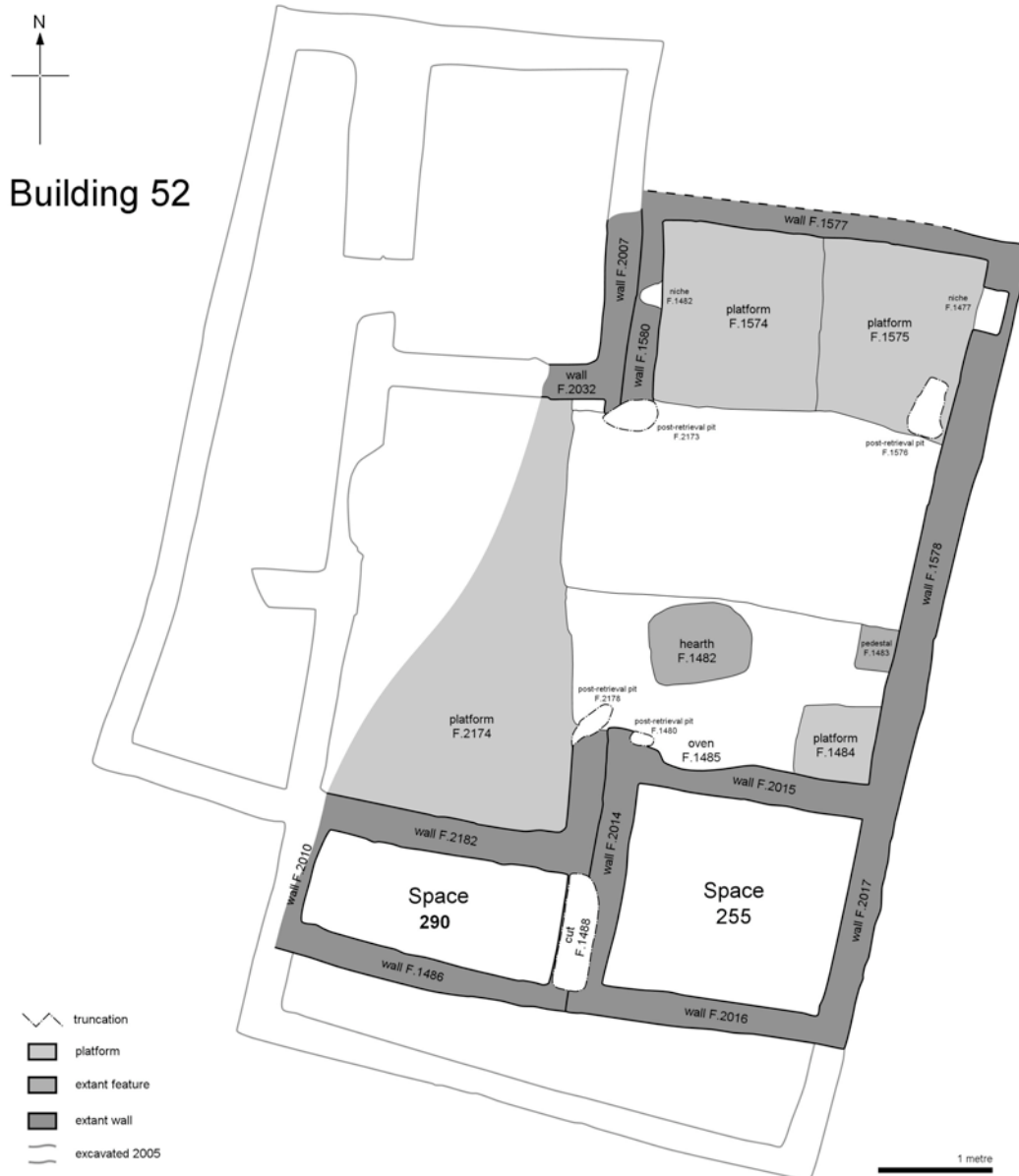


Figure 49: 2006 excavations took place in greyed outline of Building 52, set within outline of current building plan combined with last season's work.

The western part of Space 94 excavated in 2005, consisted of platforms with a bench between them, stepping down onto a highly burnt floor on the lower area to the east (Fig. 50). Incorporating this season's work this floor covers the southern end of the newly exposed space, which seems to be the food preparation/"dirty" area of the house. Cut into the southern wall (F.2015) was a semicircular niche-like feature plastered with multiple layers of white clay, which were clearly fire affected, despite the fact that these plaster layers were exposed to the fire that destroyed the house, the location and form suggest that it is very likely the back of an oven F.1485. Close by and in front was the remains of another fire installation, which may have been the hearth F. 1482.

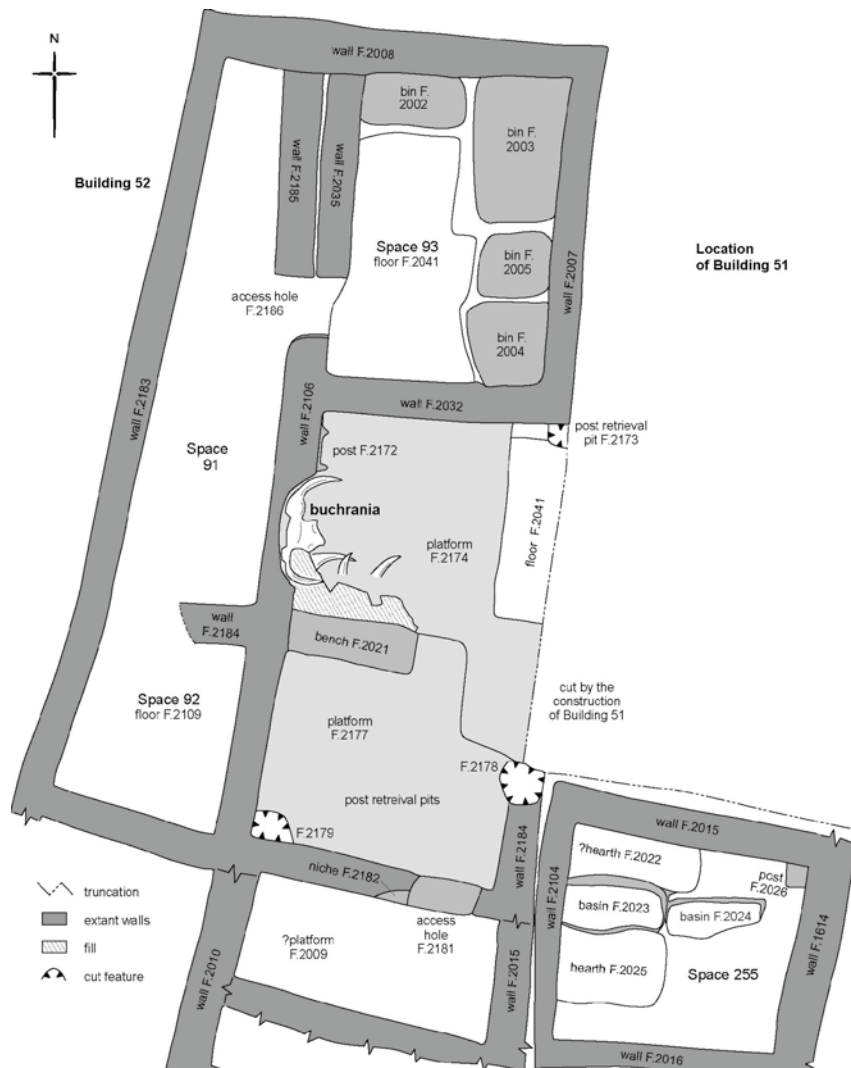


Figure 50: Plan of Building 52 as recorded in 2005.

Next to the hearth, in the southeastern corner of the room there was a pedestal F.1483 covered with numerous layers of plaster. The upper part of this installation was truncated when Building 51 was constructed, the foundation of one of the walls having cut through it. Traces of a possible ladder base were also identified in the area (Fig. 51).

The eastern and the western halves of Space 94 were demarcated by timber posts placed at the ends of partition walls. These posts F.2173 and F.2178, burnt in situ. Against the southern wall of the room close to F.2178 was a smaller timber post F.1480 also burnt in situ with fewer plaster layers suggesting that it was later added to the building, maybe in order to reinforce that part of the house.

The northern end of the room represented the ‘clean’ area and housed two raised platforms (Fig. 52). The NW platform F.1574 was a few centimetres lower than the NE one F.1575. They are equal in size and both of them present signs of subsidence in the center, perhaps indicating the location of human interments. The plaster layers covering these platforms were exposed to the fire, but they are not as highly calcined as the floors around the hearth, the NE corner of the house was in fact almost

unaffected. Against the east outer wall F.1578, between the raised platform and the lower floor, a post F.1576 seems to have survived the fire.



*Figure 51: NE portion of Building 52 after the removal of Building 51, looking S towards hearth and oven area. Depression on top of the right platform in the foreground perhaps indicates the location of a burial.*

Two niches were found in the west and east walls some 30 centimeters above the platforms. F.1477 was a square niche in the east wall. The function of this feature is uncertain as it seems to have had the lower part back-filled at some point indicated by several wall plasters having sealed it and therefore was subsequently used as a smaller niche. The niche F.1481 in the west wall was a very small oval feature. It was clearly used throughout the life of Building 52 as it was fully lined by all the wall plaster layers.

Building 52 was in use for a long time, enough for 1-2 centimeters of fine plaster layers to be laid on its walls and floors. At least two of these layers were painted red that appear not to have been restricted to wall surfaces but perhaps also to floors, platforms, pedestal and other features.

#### **End of Building 52 and construction of Building 51**

It was evident at the onset of excavations in 2005 that Building 52 was destroyed by fire. The floors, walls and internal features were all exposed to high temperatures. The house seems to have burnt down its complete household assemblage including food in the storage bins, grinding stones on the floors, horns in the bench, bucranium fixed in the wall.

The floors to the south were highly calcined. This seems to have been the area with the highest heat exposure and therefore with the most damage caused by the fire and therefore the suggested starting point of the fire around the hearth. The post placed against the nearby wall was not retrieved but it burnt in situ. The fire was

concentrated in this part of Space 94 and seriously affected Space 93 as well, but it seems to have been less intense in the northeastern corner of the room. The plasters on the platforms only turned black, not red like the lower floor and the northeastern corner of F.1575 was not burnt at all. Post F.1576 probably survived under the 2 centimeters of plaster.



*Figure 52: NE portion of Building 52 after removal of Building 51, looking N towards 'clean' zone of the house and the location of the platforms. The wooden box to the left of the photograph protects the bucrania and horncores excavated last season.*

After the fire and the collapse of probably most of Building 52, the NE part of it was cleared and reused. This area of the house was perhaps chosen because it appears to have been less damaged. After clearing this space it was outlined back by two mud-brick walls keyed into the extant ones the whole covered with a thin make-up layer of brown clay.

The west wall F.1479 was keyed in the end of the extant wall F.1580 of Building 52. At its southern end a few mud-bricks were also keyed between the existing bricks of wall F.2014. This wall was constructed simultaneously with the south wall F.1579 forming a single structure. In order to create the new living space (Building 51), the eastern end of this wall was also keyed into the east outer wall of the burnt house. The lower bricks in these two walls were placed either directly on the floors of Space 94, or in shallow foundation trenches cut through existing features. The south wall F.1579 was built right in front of the existing wall F.2015, which judging by the fire reddened bricks was probably too damaged to be reused.

This re use of the NE part of Building 52 probably occurred immediately after the fire. Substantial parts of the new space were simply covered with a layer of plaster.

The two north platforms were covered with the clay make-up layer and plaster. The internal features at the southern end of the space were remodelled. It was no accident that hearth F.1573 of Building 51 was placed exactly on top of the hearth F.1482 of Building 52. Bench/pedestal F.1583 in the SE corner of the new room was built in the exact same location with bench/pedestal F.1483 of the burnt house. A double basin and a small square pedestal were added against the east wall. The western niche in the wall above the NW platforms was not used but sealed by the layer of plaster that covered the floors and walls of the new living space.

The single plaster layer suggests that the new space was occupied only for a short period of time. It appears then, that the small Building 51 is not representative of an building history but a reuse of part of a destroyed house. It looks like the inhabitants of Building 52 lost their house and they needed a small place to live until they were able to build a new one. The fire maybe occurred outside the construction season and therefore a temporary solution was needed.

The debate over the intentional or accidental character of the fire that destroyed building 52 (see 2005 Archive Reports/Building 52) is still open, but new elements can now be added to the discussion.

### **Space 290 - *Daniel Eddisford***

To the south of the building a space originally recorded in 2005 as platform F.2009 in Space 254 was reviewed and found in fact to be a space, Space 290. It is accessed from the north through crawlhole F.2181 and is a possible storage space. It appears to have been 'closed' not abandoned after the burning of Building 52. No wall plaster survives on N or W walls and the floors are scoured out. A small area of truncated floors survives in the SE corner. A feature (F.1487) is visible in the E side of the room, probably a shallow basin, however it is sealed by later floor layers.



*Figure 53: Space 290, looking E.*

A cut F.1488 at the E side of the space was originally interpreted as a

construction cut for wall F.2013 but appears looks like a truncation of wall F.2013, possibly by basin F.1487 or another feature such as a niche.

The space must have fallen out of use directly after the rest of Building 52 was destroyed by fire. The space was not burnt (or at least not to the same extent) and appears to have been deliberately 'closed'.

A double wall divides the centre of Building 52 (F.2013 and F.2014). Although obscured by F.1488 this appears to continue to the S extent of Space 290 suggesting Spaces 290 and 255 to the E were not constructed at the same time.



## Building 49 / Bina 49 - Daniel Eddisford

### Abstract

Building 49 had been previously excavated during the 2003 and 2004 seasons by the Stanford University Field School, and was reopened in the latter part of this season. Excavation of the Building 49 continued with the removal of a number of internal features and floors, with the aim of bringing the building into a single occupation phase. These features included post retrieval pits, a burial with the limbs removed prior to interment, a hearth, a raised basin and an unusual bin. Red and black geometric wall paintings were exposed in the NW corner of the building, directly over the NW platform. Building 49 continues to be both an interesting and complex structure, which, despite its diminutive size, was constantly modified over its long inhabitation.

### Özet

2003 ve 2004 sezonunda Stanford Üniversitesi öğrencileri tarafından kazılan Bina 49, bu sezonun ikinci yarısında tekrar açılmıştır. Bina 49'un kazısı, binayı tek bir yerleşim evresine ulaştırmak için bazı öğe ve tabanların kaldırılmasıyla devam etmiştir. Bu öğeler, direk çukurları, gömülmeden önce kol ve bacakları kesilmiş olan bir gömüt, bir fırın, yükseltilmiş bir tekne ve farklı tarzdaki bir depodan oluşmaktadır. Binanın kuzeybatı köşesindeki platformun hemen üzerinde, kırmızı ve siyah boyalı, geometrik duvar resimleri ortaya çıkarıldı. Ufak yapısına rağmen kompleks ve ilginç bir bina olan bina 49, içinde yaşanıldığı uzun süre boyunca devamlı olarak değişikliğe uğramıştır.

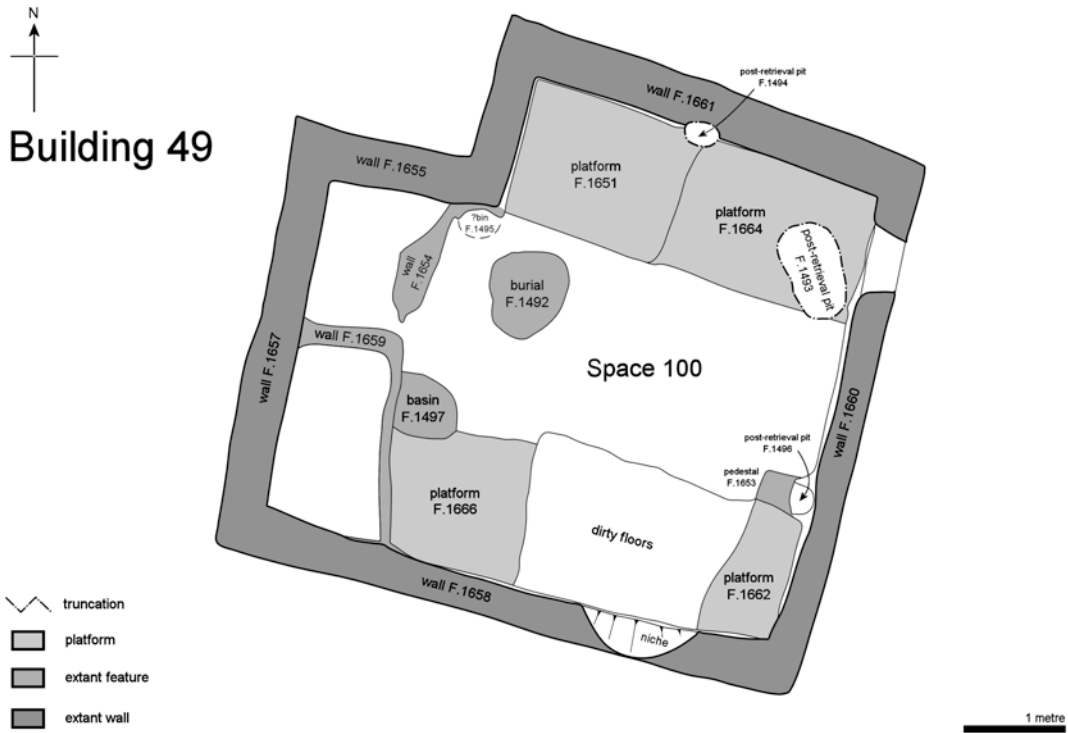


Figure 54: Plan of Building 49 as at the end of 2006 after excavation of late features.

### Post Retrieval Pits

Feature F.1494, the only post retrieval pit on the N wall (F.1661), was located at the junction of platforms F.1664 and F.1651. Both of these platforms had, at least in their later phases, been constructed against the in-situ post. F.1494 was oval in plan measuring 0.30m by 0.20m and was filled by (13661,) a mixture of crushed mudbrick and plaster, much of which was painted red.



Figure 55: Post retrieval pit F.1496 at back of pedestal F.1653 with red paint.

Feature F.1496 was located in the SE corner of the building against the E wall (F.1660). Platform F.1662 and pedestal F.1653 again appear to have been constructed against an in-situ post. F.1496 contained a crushed mudbrick fill (13671) similar to the fill of F.1494



Figure 56: A small horn core (13640.X1), a juvenile horse skull (13640.X2) and burnt cattle radius (13640.X3), were within the fill of post retrieval pit F.1493.

Feature F.1493, in the NE corner of the building also abutted the E wall. Post retrieval pit [13641] measured 0.80m by 0.43m and the base of the cut had a square plan where squared timber had been set at an angle to wall. The section of [13641] clearly shows that a large number of floor and make up layers, which form platform F.1664, are later than the earliest plastering

of F.1493. F.1493 was filled by crushed mud brick and moulded plaster (13640). In the base of the pit a broken grinding stone (13640.X4) may be the remnants of post packing. Near the top of the fill was a small horn core (13640.X1), a juvenile horse skull (13640.X2) and burnt cattle radius (13640.X3), all were within the fill of the feature with no obvious indication they had been deliberately placed.

All three-post retrieval pits are of similar appearance and clearly held plastered vertical timbers, which were removed during of the abandonment of Building 49. The features were filled with crushed mudbrick, typical of the material used to fill and level buildings, and moulded plaster which was removed from the post prior to their removal. The presence of animal bones within F.1493 is of interest as a number of

similar horn cores were found within room fill in this area of the building during the 2004 excavations. Whether the horn core and other animal bone within F.1493 were placed deliberately is unclear, certainly the material appeared to be dumped and not intentionally placed.

The function of the plastered posts represented by these three features is puzzling. If intended to be structural they would each have required a matching pillar opposite that would have supported a crossbeam. This is not surprising as the diminutive size of Building 49 means it would not have required such structural support. The posts appear to have been either purely decorative, note the red plaster with F.1494, or served another function such as supporting more ephemeral cloth or matting room divides. The final obvious possibility is that they allowed material to be hung on the wall, be these functional items such as tools and pottery or the horn cores and skulls found in the E area of the building.

#### Platform F.1656

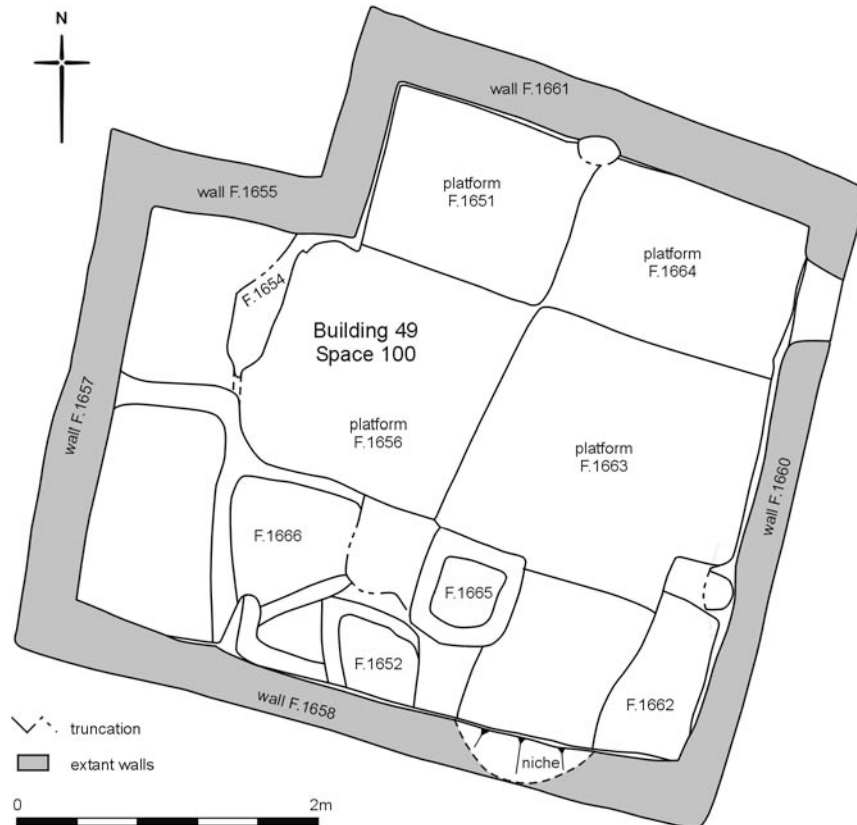


Figure 57: Plan of Building 49 showing late features.

A central platform F.1656 consisted of a primary make up layer of mid brown silty clay (13632). This was sealed by a series of thin truncated floors (13658), which only survived at the S edge of the platform, the rest of the floors being worn away while the building was in use. These were sealed in turn by floors (13604) and (12699). A cluster of obsidian flakes lying on the later ‘dirty’ floor (12699) was recorded as (13000). The tool being manufactured was not established but it is easy to imagine someone sitting on the platform directly to the south whilst working the obsidian. In the SE corner of platform F.1656 a small ashy deposit (13698) is contemporary with the knapping activity and contained semi-articulated fish bones. It is likely these

represent food waste and may have been deliberately swept into the corner of the platform. This activity area was sealed by a white plaster floor (12693), which was in turn sealed by the heavily truncated remains of a series of at least five floors; recorded as (12692) this season and (7944) in the 2004 season. This final deposit survived only in a small area to the W of the platform and may represent deliberate scouring of the platform as part of the process of closing the building.

#### **Burial F.1492**

This burial was cut into the initial make up of platform F.1656 and may even be the reason this central platform was initially created. The burial was filled by a friable mid grey brown silty clay (13607). The grave did not contain any grave goods but was of interest as the skeleton was missing its leg bones, feet, arm bones, hands, clavicles, and scapulas. The individual



*Figure 58: Limbless skeleton of an older male F.1492*

was an older male and had been placed in a position slightly on its side that replicated a flexed position had it had limbs position on its left side. The skeleton was incomplete but articulated when it was interred, however no cut marks were identified to suggest the limbs were removed immediately after death. This may suggest the remains were at least partially de-fleshed prior to burial, possibly by exposure to the elements, to allow the removal of the limbs. Interpreting such a burial is difficult however it is similar to many of the ritual burial practices seen across the site, and is also in keeping with complex ritually nature of Building 49. The location of the burial, under a platform in the centre of the room is not unusual however (eg. Building 6, Level VIII).

#### **Feature F.1495**

Constructed at the same time as platform F.1656 an enigmatic feature was recorded at the junction of external walls F.1661 and F.1655 and internal wall F.1654. Initially this feature was interpreted as post scar, similar to those described above. However, the back of the feature was heavily plastered and there were a series of plaster surfaces in its base (13692), roughly level with the central floor level. The plaster inside of the feature had a



*Figure 59: Enigmatic bin-type feature F.1495*

blackened oily appearance and the wall plaster either side of the feature lipped up where it had originally covered the exterior of the feature. The feature was filled by (13664), a mixture mudbrick and plaster, similar in appearance to room fill. This feature appears to be some form of bin, possibly with some form of lightweight internal support. Possible functions of this feature include a storage bin, the contents of which left an oily residue on the plaster, or some form of lighting installation designed to contain a candle or lamp.

#### **Platform F.1651**

A single plaster floor (13668) was removed from this platform. The section of post retrieval pit [13668], through the platform, shows a series of plaster floors and packing layers filling the centre of an earlier lipped/curbed platform. A large depression in the centre of the platform is still visible, strongly suggesting the presence of one or more burials below.

#### **Platform F.1663**

A series of white floors, dirty floors and make up layers (13615), (13614), (12697), (13610) and (13605) were removed from platform F1663. These floors appeared to have been used relatively heavily and were often patchy and hard to follow due to wear and repair. The relationship of these floors and those on platform F.1656 directly to the W had been lost, however it is likely these deposits would have originally continued over this platform and could be associated with the latest truncated floors (12692) on platform F.1656. Generally concentration of 'dirty', ashy floors could be seen in the SE area of the building, associated with a hearth F.1665 and a possible disused oven, which survived as a niche in the S. wall. The northern floors on platform F.1651 and F.1664 were much 'cleaner' and included many more white plaster surfaces. The floors in the centre of the building, on platforms F.1656 and F.1663 were more mixed and included both 'dirty' and 'clean' floors, suggesting a more varied range of activities in this central area of the building.



*Figure 60: Looking W with oven/hearth F.1665 mid left.*

### Hearth/Oven F.1665

Hearth or oven F.1665 was located in SE corner of Building 49, a typical position for such fire installations. This feature was sub-rectangular in plan and built against platform F.1666 and a combination of hearth rebuilds and additions to the platform resulted in an expansion of platform F.1666 to the E. Several phases of hearth or oven were identified; the earliest (14407) consisted of a small area of burnt hearth base that had been truncated by later rebuilds. A later more complete structure was constructed with cut [13645], which was lined with a layer of baked clay (13638). This was sealed by a layer of sand (13637) apparently used to insulate against heat. A super structure (13634) consisted of a raised lip around the edge of the feature constructed of mudbrick like material, which was sealed by a final heavily burnt base (13636). Later additions to the super structure (13625) and (13626) had been vertically truncated and it was unclear if they had originally formed a domed roof or not. This latest phase of F.1665 was sealed by the series of floor layers on platform F.1663 described above.

### Platform F.1662 and Pedestal F.1653

In the SE corner of Building 49 a small platform F.1653 consisted of a large number of floor and make up layers. The latest of these were removed as (13611) and (13612), both of which rose up to the S before being vertically truncated. This suggests a raised area in the SE corner of Building 49, given the position of the hearth and oven it is possible this would have been the base of a ladder. Platform F.1662 had undergone a number of alterations during the occupation of Building 49. The W side of the platform had been cut back and the northern end, in front of post retrieval pit F.1496, was turned into a small pedestal. Although not fully excavated numerous white plaster surfaces and brown make up layers were removed from F.1496. Several of the later plastering events (13674) and (13677) included traces of red paint and it seems likely the pedestal and possibly the plastered post behind it were painted red for at least part of the building history (see Fig.55).

### Platform F.1666

Feature F.1666 has been used to describe a southern platform associated with several basins and possibly used as a food preparation area (Fig. 61). The platform was not fully excavated however it appears to have originally



Figure 61: Features on and around platform F.1666 in the SW corner.

consisted of a much smaller feature against internal wall F.1659. The platform was extended to the N and E through a number of additions. A plaster basin F.1497 was built against the N edge of the platform before being covered over by a construction

layer (13670), which extended the platform further to the N. A similar later plaster basin F.1498 survived only as a shallow depression in the internal wall F.1659, this basin also fell out of use and was filled by a series of floors (13678).

#### **Feature F.1652**

The latest feature associated with platform F1666 was a complex structure thought to be some form of raised basin. Like so much of Building 49 this feature underwent an almost constant process of modification. Originally a small narrow basin at the E side of the platform a second basin was added to the W to create a double basin. Additional plastering and make up layers were added over time until the basins were connected to internal wall F.1656. A final phase of construction was recorded in 2004 and consisted of a single raised basin, approximately 0.40m off the ground.

#### **Pits (13602) and (13648)**

Two small pits were excavated, one cutting platform F.1663 and one cutting platform F.1666. Both were sub-circular in shape and measured approximately 0.10m deep, neither contained any significant finds. The function of these pits is unclear, however they may have been used small storage pits for caches of objects. As pit (13602) was the latest event recorded on platform F.1663 it is also possible it is related to the abandonment of the building, and may represent a robbing scar of some form.

#### **Paintings on Walls F.1661 and F.1491**

Towards the end of the season it was decided to attempt to remove the wall plaster from the walls of Building 49. This was necessary as exposure had caused the plaster to dry out, leaving it cracked and unstable, if nothing was done any wall decoration would have been lost permanently. Fatima and Suna from the local village had been trained to remove wall plaster last season and they set to work removing the plaster layer by layer (see Fig.4). In reality the thinness of the layers, their proximity to the surface and drying out meant it was not possible to remove entire layers stratigraphically.



*Figure 62: Geometric painting on wall F.1661.*

Work started in the NW corner of the building with wall F.1491 and the W extent of wall F1661 both of which flanked platform F1651 (Fig. 62). A series of wall paintings were identified on both walls, sadly their poor preservation meant it was difficult to interpret much of the detail of the paintings. The earliest painting (13669) on the northern wall F.1661 consisted of geometric designs in red and black paint. This was not a single painting but at least three layers of wall painting directly on top of each other. As removing the plaster to a single painting event was just not possible a large portion of the painting was conserved in-situ and lifted. It is possible detailed conservation may be able to identify individual painting events. This initial phase of painting was sealed by numerous layers of white plaster, only one of which (13667) contained fragments of red paint, suggesting the entire wall was painted red briefly.



Wall F.1661 was again painted with a geometric red and black design early on in the occupation of Building 49 (Fig. 63). As on the adjacent wall the several layers of paint were present (13676). Interestingly the painting appears to have been plastered over and an identical image repainted, in precisely the same location, a number of times. A visual examination of micromorphology samples taken from wall F.1491 suggest an initial packing or rendering layer, typical to most plastered walls, was sealed by layers of painted plaster (13676). This was sealed by a second thicker make up layer, which is not typical and suggests the paintings were rapidly hidden from view by a thick layer of render prior to the wall being plastered. This interpretation requires verification by further analysis of the micromorphology samples taken.

*Figure 63: Detail of superimposed geometric patterns on wall F.1661.*

The paintings on both walls continued below the current level of platform F.1651 and are associated with earlier phases of the building. Excavations in future seasons will hopefully be able to link these paintings in with the rest of the building so they can be interpreted in their wider context.



## **SOUTH Area**

### **Building 53 and Space 261 / Bina 53 ve Alan 261**

Supervisors: Simon McCann, David Brown,

#### **Abstract**

Excavation continued from previous seasons' work on the southern ledge in the South Area on a series of structures and associated middens spanning c. Level IV – VI. At the end of the 2005 season part of a building (Building 53), had been exposed to the abandonment phase in the two rooms of this structure. This structure is only partially represented in our excavations as it continues beyond the limit of excavation (L.O.E) to the south and is heavily eroded to the north and west. Space 257, which appears to have been the larger room, housed platforms to the NE and E with white plaster floors covering the entire room. Space 272 to the west consisted of a series of occupation ('dirty') floors with deposits and caches of artefacts, pits and 4 infant burials.

To the east of Building 53 was an area of midden, Space 261. The sequence excavated illustrated that its use was both contemporary and later than Building 53. Unusually the area was not a straightforward place for waste disposal but had been cut repeatedly by large pits, probably quarrying pits.

#### **Özet**

Geçen senelerdeki çalışmanın bir devamı olarak, Güney Alanı'nın güney kenarında bulunan bir sıra yapı ve bu yapılarla bağlantılı olan çöplüklerin (Tabaka IV ile VI arası) kazısı devam etti. 2005 sezonu sonunda Bina 53'ün bir kısmı, bu yapının iki odasında görülen terkedilme evresine ulaşmak için kazıldı. Kazı sınırının dışında (L.O.E) güneye doğru devam ettiği ve kuzey-batı doğrultusunda aşındığı için bu yapıyı sadece kısmen sunduk. Daha büyük bir oda olan Alan 257, tüm odayı kaplayan ve beyaz sıvalı tabanları bulunan kuzeydoğu ve doğu doğrultulu platformlara sahiptir. Batıya doğru olan Alan 272, buluntu toplulukları ve birikintiler, çukurlar ve 4 çocuk gömütünden oluşan bir sıra yerleşme (kirli) tabanı içermektedir.

Bina 53'ün doğusunda, bir çöplük alanı olan Alan 261 bulunmaktadır. Kazılan sıralama, bu çöplüğün hem çağdaş hem de Bina 53'den daha geç olduğunu gösterir. Aslında bu alan çöp tanzimi için uygun olmayıp, büyük çukurlar ve belki de taş çalışma çukurları tarafından tekrar tekrar kesilmiştir.

### **Building 53, Spaces 257 and 272 – Simon McCann**

This season saw the resumed excavation of Building 53. Only the northern part of this building is exposed as the southern part extends beneath the shelter foundation. At the end of last season room fill was removed to reveal the abandonment phase features in Space 257, these were excavated this season. In Space 272, room fill had been

removed and a start already made on the deposits within, excavation of which continued this season.

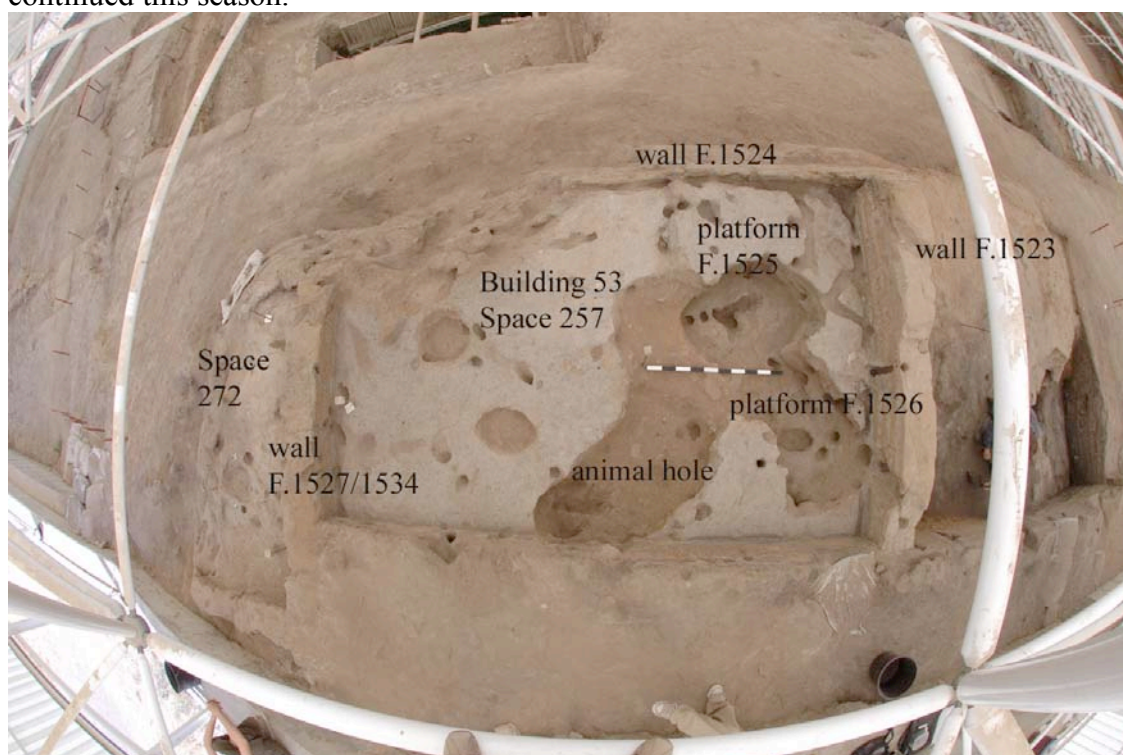


Figure 64: Plan of Building 53 and features.

#### Space 257

The extent of Space 257, an area approximately 3.8m by 2.4m is defined by east wall F.1523, partition wall F.1527/F.1534 to the west and the eroded north wall F.1524, with the southern limit of excavation being the shelter foundation.

The internal features comprise a NE platform F.1525, an eastern platform F.1526 and floors to the west. The entire area had suffered severe truncation from badger burrow F.1528. The floor area appeared to have been worn or scoured as plaster remained only in patches, the platforms however remained fairly well plastered. The walls also retained a patchy covering of plaster and in the centre of the eastern wall the remains of a pillar F.1529.

The 2006 excavation of this space uncovered a single burial, F.1532 in the NE platform and revealed that the eastern platform had been modified.

Burial F.1532, was that of an adolescent, tightly flexed and laid on its back, phytolith remains suggest a binding around the body and legs, also two bone pins may point to burial within a shroud; otherwise 3 beads were recovered as the only grave goods: an oval turquoise blue bead, from the neck area and two smaller beads on the left elbow. The grave was cut through the initial plaster surface on the NE platform and once filled both this platform and E platform, F.1526 were re-plastered.

It was some time prior to this re-plastering that platform F.1526 was modified, having its western edge extended. Mud bricks were placed along the edge and only this addition plastered. Presumably this extended along the length of this platform but due to truncation it is not possible to say if this was the case or if this represents a shorter more discreet modification.

In the floor area of Space 257 three small shallow pits were located on a NW/SE alignment. The southernmost two, F.1537 and F.1538 both contained obsidian blade and ground stone fragments, while the northern most, F.1539 contained an obsidian flake fragment and four possible bead blanks. These all look to be cut at the same time through the earliest floor surface which is contemporary with the initial plaster on the platforms. They presumably represent retrievals of various caches or deliberate depositional events in their own right. Evidence of approximately nine further floor surfaces including four of plaster overlay these pits, in contrast to two main plastering episodes on the platforms.

Pit F.1539 also truncated burial F.1500 with its northern edge, which enabled the stratigraphic positioning of this burial. This was first excavated in 2004 as it was falling out of the northern eroded slope of this area and contained an infant with a shell necklace.

Although the area was very heavily eroded it appears as if this infant was buried beneath the floors in the NW corner of Building 53/Space 257. However due to the erosion it is unclear whether the grave was cut through the floor or buried before the floor was laid, even in a possible foundation trench for the N wall? Nevertheless, this burial now has a more certain context.

**Construction phase, Space 257:**

The initial construction/laying out elements of this space were revealed next and although the building is yet to be fully excavated some things can be said about this phase (Fig. 65).



*Figure 65: Construction phase of Building 53.*

A make up deposit (14302) extended across the space onto which was laid out the internal features of this space, i.e. the platforms, which were outlined with mud brick and then a packing layer within. A single thin uniform mortar make-up layer extended

over both the platforms and the floor area. This deposit exhibited a curious aspect in that all around the edge where it came into contact with the walls it dipped down to create a small gully which varied from 6cm to 9cm in width and approximately 5cm in depth. This has been preserved in the southern limit of excavation, which incidentally will provide a cross section through this house. Was this shallow gully a deliberate element of the construction process or caused by the downward force of the wall?

It was during this phase that pillar F.1529 was integrated into the structure being situated on the junction of the north eastern and eastern platforms. It may have had a timber or mortar core but an animal burrow had disturbed this area. In any case it is not a large feature measuring no more than 15cm in diameter suggesting it was more decorative than structural.

At this time also a cluster, (12516) (Fig. 66) was placed into the NE corner of NE platform F.1525. It consists of 17 groundstone fragments, several mudbrick fragments and two obsidian flakes. The cluster was pushed right into the mortar make up of the platform and actually into the gap between platform make up and walls mentioned above.



*Figure 66: Cluster of stones (12516) found at the construction phase of Building 53 in location of NE platform F.1525.*

It was then that the cluster, platforms, pillar and floor were covered with the first plaster layer with evidence of up to three separate main plastering events on the floor, walls and platforms over the life of the building.

A large shallow circular pit (14320) was found below make up deposit (14302) located centrally in Space 257 and seems to be connected with the construction phase of the building even though its precise function is unclear.

A number of deposits require excavating prior to the release of the north and east walls although on the external side of wall F.1523 in Space 261 there is the suggestion that this wall may have a foundation cut. This remains to be resolved next season.

### **Space 272**

This space lies to the west of Space 257 and is bounded by walls F.1527 on the east and F.1534 to the south, with the northern and western sides severely eroded. It occupies the northwest part of Building 53 and could be considered a dirty space in contrast to Space 257. Within this area were a series of pits as well as four infant burials.

Crawl space F.1535, provided access between Space 272 and Space 257 through the southern wall F.1534 of this space. It appears that both spaces were in use during the life of the building and this access was blocked prior to abandonment.

Below a floor removed last season containing numerous groundstone fragments was a make up layer containing a cluster (12503) of three ground stone fragments.

It was below this floor that the first infant burial F.1530 was found. It was in a very shallow cut right up against wall F.1527 and contained no grave goods.

Beneath this were three layers, some poorly defined, all truncated and which may represent dirty surfaces. The remaining pits and burials are associated with these and are best explained from the bottom up, i.e. from the earlier activity on. The lower part of this space remains to be excavated next season although one pit can be seen at this time to belong to a pre Building 53 phase.

The earliest excavated pit is heavily eroded and is cut into an as yet unexcavated deposit, above this is the first surface with groundstone and clay ball fragments a bone point and a fragment of an incised plaster object. Cut into this surface are two pits, one shallow and very poorly defined the other in the SE corner deep and well defined; F.1544. This was probably originally used to store certain items/goods which were recovered prior the second surface being laid. Placed (there was no cut) on the upper fill of this pit and prior to this second surface was the skeleton of a foetus F.1541. After the contents of pit were recovered this baby was deposited here within this next surface. Was it a convenient place/time to dispose of the body as the floor was made up or was this death an impetus for this change?

Into this second surface were cut two pits, F.1543 and F.1542. The first, F.1543 was fairly well defined and within the backfilled deposits were ten groundstone fragments, again this appears to have been a recovered cache/storage pit. This was then cut by pit F.1542, which is fairly poorly defined, the only thing of note really being that the fill is truncated by/contains infant burials F.1536 and F.1540.

Burial F.1536 contained an infant no more than six months old in a shallow poorly defined cut. Directly on the north side of this was burial F.1540 again of an infant and again in a shallow poorly defined cut. It is likely they were buried at the same time as they are so close and yet neither one disturbs the other. Possibly even a double burial?

The deposition/burial of two infants within the limits of this pit suggest it was known about and probably the digging and filling of this pit occurred only a short time before the burials, which appear contemporary.

Was this pit just a convenient location for the burials or was it in fact dug specially and the burials placed in it and their separate cuts not exist?

The third surface/levelling deposit in this space covered the burials and it is this deposit into which the first burial mentioned F.1530 is cut along with a further pit. So a total of six pits and four burials are contained within this space. The pits appear to represent storage pits with either the recovery of caches or maybe more everyday items and are associated with new surfaces being deposited. Perhaps when items were

recovered a new surface was levelled? This area also appears to have started as a dirty/messy area and remained so.

The infant burials beneath the floors in this dirty space are in common with many of the houses at Çatalhöyük . In this space it suggests either an opportunistic use of recently dug pits and the activity of recovery, as a convenient time/place for burial or maybe the death of an infant may be the determinant of these actions. The death of an infant may prompt the renewal of the space and so caches are recovered and floors levelled or merely that burial is required beneath a surface so these additional actions are a just a by-product.

### **Space 261/Alan 261 – David Brown**

Space 261 holds an area of midden. It is located in the south shelter and is thought to belong to Levels V/VI. The space is bounded to the west by the external wall F.1523 of Building 53, to the south by the southern edge of the shelter, to the north, by the eroded slope of post 1960s excavations, and to the east, it is arbitrary defined. The space is 5.5 meters by 3.08 meters east to west and north to south respectively.



*Figure 67: Building rubble, pits and midden in Space 261.*

Excavation of this space began in the 2005 season and continued through the 2006 season. At the end of the 2006 season the excavation of the space remains incomplete. From the excavation to this point, however, 4 broad phases of activity for life of the space and midden, can now be recognised. Starting with the latest phase:

#### **Post-Building 53.**

This phase contains deposits (11377) and (11370). The deposits are layers of midden that have built up over the wall of Building 53, therefore post dating the activity associated with Building 53. Both units are described as compound layers, with

formation occurring from a mixing of general landscape erosion in association with domestic dumping.

**Contemporary with Building 53.**

In stratigraphic order from top to bottom, this phase contains (11379), (11397), (12500), and (12501). All these deposit layers have the same formation process as the Post-Building 53 phase. They are, however, seen to abut the wall F.1523 of Building 53, so the layers are likely to be contemporary with Building 53 activity. It is difficult to say, how many buildings were using the midden for dumping during this time, but it is likely that a good proportion of this material originated from Building 53 activity. (11379) is of particular interest, containing two animal bone clusters (11392), and (11393). The clusters appear to have been deposited synchronously and may represent activity of special significance (Faunal archive report 2005). Stratigraphically, they are held within the last layer to have formed before the closure/demolition of Building 53. It is tempting to draw a link between the two episodes.

**Construction of Building 53**

This phase contains a pit cut F.1531 and a cut (14321) mainly for the wall F.1523, but also for F.1533 (3 extant bricks only). Both features cut through layer (12502), the last layer seen to have formed before Building 53 was constructed.

**Wall cut (14321)**

At the end of the 2006 season the wall was not released on its west side. On the east side of the wall a cut has been tentatively identified. Not including the layers associated with walls F.1523 and F.1533 (which technically belong in the cut), the cut contains layers (14322), (12552), (12525), and (12521). These layers appear to have functioned in the following way:

(14322) may have acted as the initial foundation layer. This layer goes under the walls. (12552) acting as further foundation material and also backfill. This layer was seen to go under and also against the outer part of the wall F.1523. Further backfill with layers (12521) and (12525). Both of these layers were seen to be above the last course of both F.1523 and F.1533.

It should be noted though, that removal of wall F.1523 and further excavation under the wall is needed to clarify the certainty of the cut area and the subsequent sequence of events that appear to follow.

**Pit F.1531**

The pit is located in the far northeast corner of Space 261. Its full extent is not known due to the limits of excavation here. The pit was excavated in broad stratigraphic layers. This approach was dictated by the extreme lensing of the midden material in the pit. Despite this though, a likely sequence for the pit could be determined. From earliest to latest this sequence is as follows.



Figure 68: Pit F.1531

*Cut (12518).* Construction /excavation of the pit. Why was it cut? Two functions are suggested here for the pit, a primary quarry function and a secondary midden function.

*Quarry function.* This is suggested here as the pit's primary function, because of its location. It cuts through an area of midden containing old bricks, natural sediments,

bone, ash, charcoal, and obsidian. This type of compound layered material is often evident in the matrix of the bricks and mortar used for walls, which suggests that the material recovered from the pits excavation could also have been used in this way. If this was the case, this essentially gives the pit a construction function.

*Midden function.* This is discounted here as the primary function of the pit, as it seems unlikely that an established in use area of midden, was cut into to dig a pit for the purpose of dumping more midden. It is clear, however, by the layers that formed in the pit, subsequent to its cut, that the pit had a secondary function for dumping midden into.

*Layer (12514).* This layer was incompletely excavated due to its continuation below 1.2m against the baulk section. Formation of the layer is probably in part, a result of feature side and ground surface erosion. This is suggested by the broken brick material, which is visible in the west facing section. A similar type of material is evident in the north and northwest sides of pit, probably acting as the redeposited source material for some of this layer. In general, this layer has an unsettled appearance to it, suggesting some uncontrolled deposition.

*Layer (12558).* This layer contains a very high quantity of thin ashy lenses. Some rubble brick material can also be seen in the layer suggesting some continued instability of the surrounding space. The tight banding of ash and charcoal lenses, however, suggests the material is being anthropogenically deposited.

*Layer (12511).* This is a very homogenous layer, which appears isolated to the north area of the pit. The homogeneity of the layer suggests a slump of some sort or a large dump, probably relating to a single episode of formation activity. The layer bears some similarities to floor construction material. If so, it may be excess construction material being dumped. The layer splits (12558) and (12504).

*Layer (12504).* This is the continuation of (12558). In this part of the layer the charcoal and ash lenses are very tight and clear. The source of the material may be



from hearth and/or oven rake-out cleaning and then dumping. This layer was prioritised with this question in mind. It was hoped especially that the analysis of the obsidian from the heavy residue would point to something, as pressure flaking debitage can show up in hearth/oven rake-out waste. No conclusive answer was however, evident. It is hoped though that further post excavation analysis of samples taken will add to the interpretation and clarify the source material for this layer's formation.



*Figure 69: Section through midden filling pits.*

*Layer (12529).* This is an earthy layer containing animal bone in high quantity. It may have once spread out beyond the cut of the pit. Similar areas were noticed with the excavation of (12502), and it seems quite likely that some of (12502) would have eroded into the pit. The layer has a tertiary like look to it, but the animal bone quantity suggests the pit was probably still in use as a visible and utilised feature.

*Layer (12501).* *Similar to (12529).* In summary, there are two features discussed in this section, a wall cut, and a pit cut. Both can be argued to have a building construction function. The wall cut, to set the foundation for building of Building 59 and the pit to supply material for brick and mortar construction. As mentioned above, both features cut layer (12502), the last layer seen to have formed before the building of Building 53. Both features are then stratigraphically in phase with each other. This raises the question as to whether or not they were related activities. At this stage this question is difficult to answer. It may however be possible in the future to get closer to an answer when compositional analysis of both the midden material and the bricks and mortar is completed. If a direct link could be established by similarities in material, then the pit's function becomes integrally caught up with the construction of Building 53.

*Pre-Building 53.* This phase contains midden layers (12502), (12508), (12519), (12524), (12526), (12532), (12539), (12540), (12549), and (12553). This section of the midden can be divided into 4 groups A-D.

*Group A.* Layers (12502), and (12508), have a similar appearance to each other. Both are compound layers, containing lenses of ash and charcoal mixed with natural sediments. Formation of the layers then seems likely to be from a mix of intentional dumping in association with natural silting events. The natural silting may indicate that the midden was used sporadically, and/or that there was some unstable material nearby eroding into the space. If there is a visible difference between the 2 layers, it is that towards the middle to lower part of (12508), ash and charcoal lenses become more numerous.

*Group B.* Layers, (12519), (12524), and (12526), can also be defined as a broad group. They are also compound layers, but they all contain a much higher element of ash and charcoal lensing. The concentration of pure midden waste, is therefore much higher than (12502) and (12508). The ash and charcoal seems likely to be derived from hearth and oven clean out associated with domestic activities.

Layer (12524) deserves some special mention. Along with the compound layer material, this layer contains (not fully excavated) at least two sequences of alternating charcoal and a lime like lenses. The lime lenses reach a maximum thickness of 50mm and the charcoal, a max thickness of 25mm. There is some suggestion that these lenses have formed in situ, as a reddish, scorched like surface is visible beneath the lower lense of charcoal. The significance of these lenses is not yet known, as excavation of this area had to be put on hold and will now continue next season. Various samples have been taken for analysis. There is, however, some suggestion, that the lenses represent in situ lime burning events with the aim to create material for the plastering of the walls, platforms, bins etc., for the buildings.

*Group C.* This section of the midden contains layers (12532), (12539), and (12540). Layers (12532) and (12540), are made up from the dumping of a burnt demolished building. Both layers contain high quantities of burnt bricks and burnt plaster. Layer (12539), splits layers (12532) and (12540), as it did not contain the element of burnt bricks and plaster that (12532) and (12540) have. However, it appears that all layers belonged to the same activity associated with dumping of demolished material.

*Group D.* Two unrelated layers make up this group, (12539) and (12553). They lay under (12540) but are physically separated from each other. Layer (12539), contained compound midden material, as well as some burnt building material, and layer (12553), was a thin layer of charcoal. The charcoal layer is interesting as it separates (12540), from another episode of burnt building material. Laying physically under (12539) also is further burnt building material. Excavation for the 2006 season had to finish at this point, but the question for next season here will be to determine why this burnt demolished building material is stratigraphically separated. It could be that there is more than one event of burnt building clearance, or it could simply be that the midden had undergone extensive post depositional changes, obscuring relationships and in turn making interpretation difficult.

### **Finds recovered from midden in Space 261**

Finds recovered from the midden area included: domestic waste material, such as, pottery fragments, stone, animal bone, and obsidian waste. Personal and utilitarian objects, included; beads (made from stone, bone, clay and shell), clay balls (small and large), clay figurines (zoomorphic and humanoid), a greenstone axe fragment, horn core fragment, worked bone points, and worked obsidian blades and flakes and projectile points. Two pigment stones were also recovered, adding an esoteric element to finds from this space.

### **Buildings 56 & 65 / Bina 56 & 65 - Roddy Regan**

Supervisors: Roddy Regan

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### **Abstract**

This seasons work concentrated in Buildings 56 and 65, currently attributed to Level V and VI respectively. As between Buildings 44 and 56 (see Archive reports 2004 & 2005), the structures would appear be intricately linked, with similar closure activities observed alongside the internal layout of the buildings. Although there were some differences both buildings displayed similar layout with an arrangement of platforms and benches laid out along the eastern wall, a platform in a northern bay area, with a platform in the southwestern corner. Both buildings also had a storage area lying within a narrow room at the west. Ovens were cut into the southern walls of the structures, although Building 65 was also provided with southern and northern rooms unlike its successor. Only two burials were associated with the internal space of Building 56, while Building 65 appears to have a much more involved sequence of inhumation.

As with last years excavation a number of interesting closure / construction events and deposits illustrated the continuity and possible 'ritual' nature of moving from one house and into another.

Work was also undertaken on the area to the north, within Spaces 118 and 119, with excavation of remnants of Building 10 and Building 44 along with two other structures, Building 68 and Building 69.

### **Özet**

2006 sezonundaki kazılar, şu an için Tabaka V ve VI'ya tarihlenen Bina 56 ve 65'de yoğunlaştı. Bina 44 ve 56 arasında da olduğu gibi (2004 ve 2005 Arşiv Raporları'na bakınız), binaların iç dizaynı boyunca görülen benzer kapatma aktivitelerinin sonucu olarak yapılar birbirlerine bağlanmışlardır. Aralarında bazı farklılıklar olmasına rağmen binalar, doğu duvarı boyunca uzanan seki ve platformlar, kuzeye bakan bir platform ve güneybatı köşedeki bir platformdan oluşan bir dizayn sergilemektedir. Ayrıca binaların her ikisi de, batıya bakan dar bir oda içine yapılmış saklama depolarına sahiptir. Bina 56'dan farklı olarak güney ve kuzeye bakan odaların bulunduğu Bina 65'e rağmen, fırınlar yapıların güney duvarları içine yerleştirilmiştir. Bina 56 ile ilişkili olarak sadece iki adet gömüt bulunurken, Bina 65 daha fazla sayıda gömüt vermiştir.

Geçen sezonlarda yapılan kazılarda da görülen bir takım ilginç kapatma/inşa aktiviteleri ve kalıntıları, bir evden diğer bir eve taşınmayla ilgili olan doğal bir rituel ve devamlılık olduğunu göstermektedir.

Kazı çalışması kuzeyde bulunan Alan 118 ve 119 ile Bina 10, 44, 68 ve 69'da da devam etti.



*Figure 70: Working shot of Building 65 to the left (looking W), Building 68 top right and Space 119 foreground right.*

### **Space 123**

This area was defined by the western limits of previous year excavations and the large 1960s Section to the east (Fig. 71). This upper stratigraphic sequence contained a series of N/S aligned walls that no doubt represented the eastern foundations to buildings that must have existed to the west, these eroded over time or partially truncated by the 1960s excavations. The upper building was represented by wall F.2072 that cut into a levelling deposit (13341). This sealed wall F.2033 that in turn cut wall F.2084 and this last wall lay over the room fill of Building 56.



Figure 71: Space 123, on the edge of the excavation area, E is to the top.

### Spaces 118 and 119

This area lay to the north of previous years excavations, although the area had been partially truncated by a large Hellenistic pit at the south and 1960s excavation at the north. The area divided into two spaces as defined by a series of N/S aligned walls dividing this area into western and eastern spaces, respectively Space 118 (becoming Building 68) and Space 119 (becoming Building 69) (Fig. 72). The exception to this was the small remnant of truncated floor/s (13374) that extended over both areas.

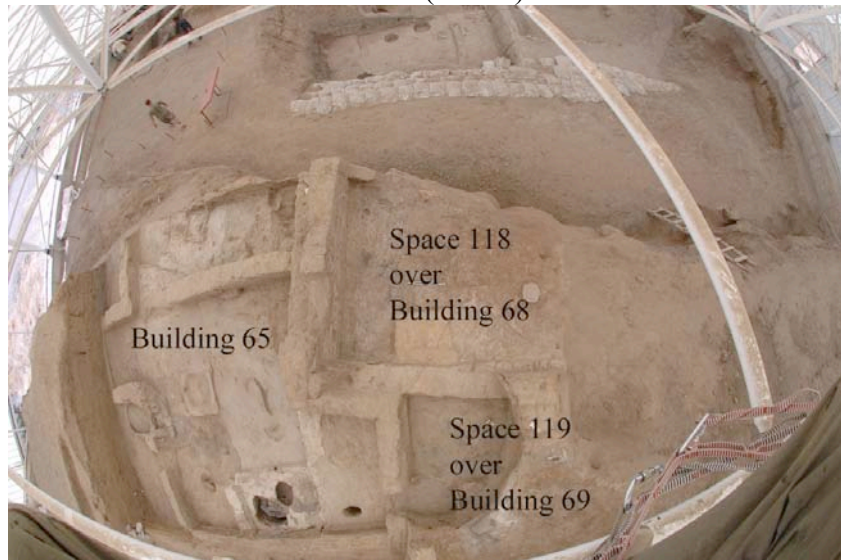


Figure 72: Location of Spaces 118 over Building 68 and 119 over Building 69.

As expected the excavation of Space 119 linked deposits to the previously the excavated sequence to the south.

### Building 10

The upper deposits within Space 119 appeared to be truncated dumps of ‘midden-like’ material, (14028), (14034) and (14038). These dumping/levelling events sealed the northern wall of Building 10, F.2534.

The wall of Building 10 lay over levelling/dump deposits (14044) and (14059) these sealing the stump of an E/W aligned wall F.2538 this also lay over the eastern wall of Building 65, although what this truncated foundation represented remains elusive.

**Building 44**

The truncated wall lay over a plaster floor (14006) that was associated a blocked crawl hole, (14068). The crawl hole would have given access through the northern wall of Building 44 into the rest of the building indicating that the floor represented a northern room or space.

**Building 69**

This structure was defined by walls F.2542 and F.2543 although these were badly truncated. Within the walls were floor (14070), make-up (14071) and construction/levelling deposit (14073). It may be that this structure was contemporary with Building 56 as the southern wall lay partially over the foundation cut for that building.

**Building 68**

This building was defined by walls F.2546 and F.2547 forming the surviving south east corner of this mostly truncated structure. The upper deposit consisted of room fill (13375) that contained cluster (13390) this lying over plaster floor (14000). A second plaster surface was removed to reveal the infill and mud-brick revetting of the remnants of platform F.2518. The Platform lay over a series of truncated floors and levelling deposits (14004), (14014) and (14015), with (14014) possibly representing the worn surface of a platform. These deposits sealed plaster surface (14025) and platform F.2522, this sealing over another possible eroded platform surface (14039). The platform sequence sealed a series of plaster floors and their make-ups, sequentially (14060), (14061), (14063) and (14067). The earliest floor surface lay over an organic deposit (14072) (as represented by a thick layer of phytoliths) that contained a number of bone and stone artefacts. The organic deposit lay around the truncated remnants of a basin F.2541 and small platform F.2544. Both these features were fully excavated. The year finished with the reduction of the eastern and southern walls of the building, respectively F. 2546 and F.2547.

## Building 56



Figure 73: Building 56. West to the top.

As mentioned in last years archive report layout of Building 56 and its arrangement of internal features was very similar to Building 44. The major difference in layout between the two structures was the use of the area to the west, as defined by walls F.2066, F.2073 and F.2067 with a room to the south of this. While the much of the western wall of the building had been truncated the original E/W dimensions of the structure ranged between 6.0m-c.6.5m, with the N/S dimensions measuring 4.40-4.60m (Fig. 73).

Wall F.2068 formed an internal division, while the southern and eastern walls, respectively F.2069 and F.2070, were cut away by the construction cut of Building 44. Walls F.1323, F.1342 and F.1339 at the north of the building had been maintained and reused within Building 44.

The internal layout of the building consisted a series of platforms and benches laid out along the eastern wall, from south to north; platform F.2055 containing ladder base F.2064, bench F.2056, platform F.2057 and platform F.2058. Another platform, F.2059, occupied the northern bay area of the building. The south west corner of the building was occupied by platform/room, F.2060. An oven, F.2061 was centrally placed along the southern wall of the structure and either abutted or was originally cut into the south wall, although this relationship is unclear as the wall and back of the oven were cut away by the foundation of Building 44. To the north and west of the oven and positioned over the north east corner of platform F.2060, was square plinth

heath F.2064. A plaster/mortar floor occupied the central area of the building beyond the oven and platform areas. The south western room contained a plaster/mortar floor and a very truncated bin F.2085. Also set within wall F.1323 at the north east of the building was a blocked niche F.2065. The blocking of the niche was removed last season and while the niche was empty of artefacts a placed deposit of a shell necklace was found directly below the blocking.

As with previous reports the sequence of events pertaining to each individual feature will be discussed.

#### **Platform F.2055 and ladder base F.2064**

Two fills were removed from the backfilled ladder base the upper (12802) possibly represented a remnant of room fill from the abandonment of the building. The lower deposit (12803) might represent some form of repair, but as with excavating this type of feature in the past, edges are blurred/disturbed and the sequence of events is never that clear. What was clear is that both these deposits were later than the upper plaster surface of the platform, (12821). This surface appeared contemporary with a pot cluster (12839) that lay along the edge of the ladder base, and may represent the remnants of one vessel. Pottery clusters and complete pots have been noted as placed around the ladder base within later buildings and we will return to this point. Continued excavation of the platform revealed a second plaster surface (12842), this overlying make-up/levelling deposit (12860). These two plaster surfaces would appear to be the only re-plastering events within the platform make up, possibly attesting to the short lived nature of this building a pattern seen within the other features of the structure. The initial 'roughing out' of the platform was seen with clay make up/levelling deposit/s (12873) that contained a cluster of obsidian working debitage (12872), suggesting someone was producing obsidian tools as the building was being prepared for the initial construction phase of the internal features.

#### **Bench F.2056**

The sequence of construction of the bench was relatively straightforward with a single thick white plaster coating, (12822), lain over a make-up layer that was shared with platform F.2057 to the north, 12874. The sequence of plaster and make-up would appear to predate the plaster coatings on platform F.2055 to the south and F.2057 to the north suggesting the bench was the primary installation, within the central east suite of features. The bench was also coated with a distinct white plaster, as were platforms F.2057, F.2058 and F.2059. This was a different treatment than that applied to the rest of the buildings floor surfaces and the other platforms, which had grey/brown surfaces, again a repeated pattern seen within other buildings in this sequence.

#### **Platform F.2057**

Only one plaster surface, (12823) was discerned coating this platform during excavation, this lying over a make-up layer (12856). Beneath this was located a deposit of human bones, F.2081, that lay within a possible small cut. The disarticulated bones appear to represent at least one adult individual (12863), possibly female, mixed with that of a child (12876). The bones would appear to have been collected elsewhere and deposited within the platform, possibly contained within a bag given the configuration and constrained nature of bone deposit. Two mud-bricks were also seen lying either side of the bone deposit and may have been used as packing around the bones, prior to the application of the upper platform surfaces. As



mentioned above the primary construction make up of the platform was shared with bench F.2056.

#### **Platform F.2058**

The upper plaster surface of this platform, (12824), sealed make-up layer (12867) and this in turn covered levelling/construction deposit (13316).

#### **Platform F.2059**

The removal of the upper plaster surface and make up from the platform, respectively deposits (12825) and (12867), revealed burial F.2082 (Fig. 74). The skeleton (12875) was of a young male placed in a crouched position with its head to the west and facing north. The presence of cordage remains in the form of phytoliths suggested the body was bound prior to



*Figure 74: Burial F.2082 that cut through the NW platform in the alcove of Building 56. Phytolith traces of binding can be seen across the legs.*

its insertion within the platform. The burial cut lower plaster surface (12070), this lying over make up deposit (12883) with levelling deposit (12884/12885) and construction deposit (12886) respectively below that.

#### **Niche F.2065**

The blocking of this feature was removed last season revealing a plaster ledge, (12877), which appeared to have been designed/moulded to perhaps support a shelf within the niche itself. The ledge had superseded primary plaster surface (12878), which coated both vertical and horizontal faces within the niche.

#### **Platform F.2074**

This platform was located within a north eastern 'bay'/room of the building and had been blocked, possibly having gone out of use at the end of the buildings life, although for what reason remains unclear. The blocking wall F.2071 retained room fill deposit (11694), this in turn sealed an ashy deposit (12808) with which was associated with basket (12806) and stone and bone tools cluster (12807), which would appear to be deliberately 'placed' or 'left' deposits. This cluster of tools lay over plaster surface (12829) and make-up (12879), which would appear to have been the only plaster surface within the platform.

#### **Platform F.2063/F.2077**

Upper plaster surface (12828) and make-up sealed an ash lens dump that may have been associated with either the hearth or oven sequences to the east of the platform area. Covering the lower remodelled platform, F.2077 was a demolition

dump/levelling deposit probably derived from the associated lower hearth F.2075, given its burnt nature and that it covered both features. The eastern edge of the lower platform was constructed further to the west than its successor and was covered with plaster surface (12843), an earlier plaster surface and make up were apparent within this lower platform phase, these lain over construction deposit (12861).

#### **Ovens F.2060 & F.2076**

Two major phases of oven sequence were revealed during the excavation with later oven F.2060 replacing the earlier F.2076. Oven F.2060 was filled with demolition/dump (11695), this was removed to reveal a dark ashy deposit (11696) that contained a grindstone cluster (11696). The ash and stone cluster lay directly on the burnt floor of the oven (11698), this retained within clay walls (12809) coated with plaster facing (11699). Three dumps or levelling deposits, (11835), (11836) and (11837) were removed in sequence to reveal the lower oven sequence F.2076. This oven had two floor phases (12846) and (12852) these both retained within mud-brick and mortar construction (12847/12857).

#### **Hearths F.2061 & F.2075**

Placed on top of hearth surface (12820) and no doubt deliberately left there was grindstone fragment (12805), this again a repeated pattern that we shall return too. The removal of the upper hearth plaster revealed levelling demolition deposits (12833/12837) these in turn sealing the lower hearth sequence F.2075. Reflecting the oven sequence the lower hearth had two phases as represented by plaster surface and make-up, respectively (12844) and (12845) that sealed burnt hearth floor and plaster walls (12850) and (12851). Beneath this a square strip of mud brick provided the 'rough-out' moulding for the initial construction phase.

#### **Northern 'clean' floor area.**

This area of the building was provided with at two floor surfaces, (12826/12830) and (12840) separated by a possible post impression (12848/12849). The lower floor surface was constructed over make-up/levelling deposit (12858), which also spread over into the southern part of the building.

#### **Southern 'dirty' floor area**

Here the building was provided with three successive floor episodes, (12827), (12841) and (12853), the need for an extra floor resurfacing perhaps explained by more constant wear in this area of the building. An ash spread, (12831) separated the lower floor surface from levelling deposit (12858).

#### **Western 'storage' area**

This area to the west had remained unexcavated until this year and thus this room had lain previously unnoticed lying up against the large 1960s section. The room was filled with deposit (13344), which included a stone and painted shell necklace/bracelet, which lay directly on plaster floor (13350). The room also contained the remnants of a storage bin F.2085 containing fill (13353) and constructed of mud brick and plaster (12254/13355). It may be that an entrance to this room lay to the west of the south west platform F.2077, as no wall existed along this side. Previously it was thought that the wall absence was due its collapse or demolition this being replaced by the foundation to Building 44. However it now seems likely that wall absence was explained by the presence of a crawl-hole or entranceway into the western room.

### **Walls**

The removal of the walls to the building within the north of the structure was a relatively straightforward affair, in that they sat directly over the underlying deposits. However at the south of the building the walls were far more substantial with their lower courses set within foundation cut (13352). This pattern was repeated within later Building 44 that was also provided with substantial foundations at this southern end of the building. The reason for this was probably the instability of the underlying midden/dumped material on which the building appears to have been constructed. This perhaps was causing subsidence of the structure at the south and might be the cause of the relatively short lifespan of the successive buildings. However in recognising this problem and attempting to solve it with building successive structures on massive foundations may have exacerbated the problem adding extra heavy loads to already unstable ground. Plaster coatings were removed from walls F.1323, F.1339, F.1342, F.2066, F.2067, F.2068 and F.2073. These and walls F.2069 and F.2070 were then removed.

### **Inter -building activity and construction**

Between the completion of the backfilling of the Building 65 and the start the construction of Building 56 several events were noticed indicating the use of the space during this transitional period (Fig. 75). Sealing roughing out deposits to the south of the building was ash dump (12831), which had a similar signature to deposits normally associated with middens. Here it can possibly be explained as a spot of 'fly tipping' when the Building 56 is undergoing its primary construction with the space being left relatively open. Some of the material within this ash deposit had undergone secondary burning and this might be associated with localised lime burning as seen with deposit (12865), which appeared as a reduced white powder-like substance. Other burning events were also noticed within distinct scorched area (12866) seen on top of dumped/levelling deposit (12882), although what the burning represented in this case is less apparent. A centrally placed post hole, (12880/12881), located between the dump (12882) and the scorching event suggests that some form of temporary structure may have been erected over the open area possibly while Building 56 was constructed and some of these events are taking place.

It would also seem in this case that the construction of the foundation of Building 56 and the backfilling of Building 65 were part of the same process, a sequence we suspected last year with the relationship between Building 44 and 56 but less easy to display. Here it would seem the basal courses of the wall of Building 56 were laid alongside corresponding backfill dumps, these being built up at the side of each brick course within in the lower foundation levels of the southern wall with more rapid backfilling occurring elsewhere.

Less easy to explain but lying between Building 56 and 65 was wall foundation F.2084 it is possible this was the corner of an intermediate building to the west but as it had no other associated deposits it is difficult to be sure about its exact nature.



*Figure 75: Inter-building activity horizon.*

### **Building 65**

The removal of the lower construction deposits of Building 56 revealed the upper walls of Building 65 (see Figs 2 and Fig. 76), which appeared to be divided into 3 rooms or spaces. These were Space 297 the largest room with Space 298 to the west and Space 299 to the south west, the room fills removed from these areas respectively (13352), (13356) and (13360).

The building was defined by walls F.2517, F.2512 and F.2513 at the north, with truncated wall F.2515 at the west and wall F. 2510 at the east. The walls defining the south west of the structure were F.2505 and F.2506, while the presumed southern and eastern walls of Space 299 lay beyond the edge of excavation. Internal walls F.2508, F.2509 and F.2514 divide the three spaces which are linked by entrance gaps or crawl holes.

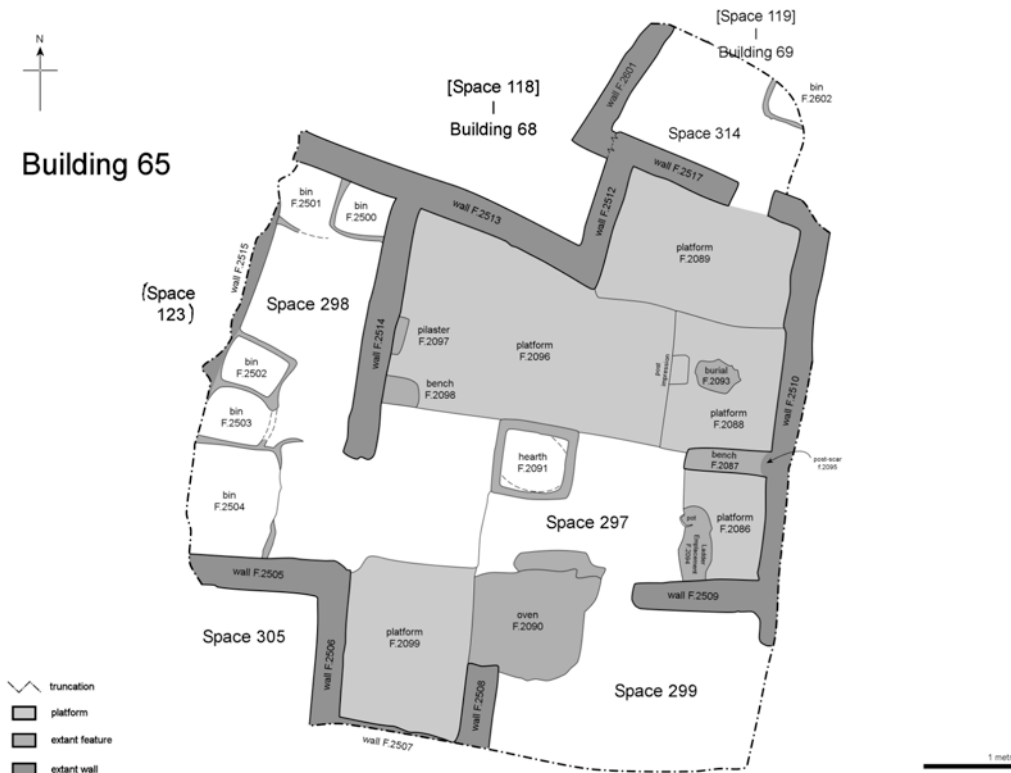


Figure 76: Plan of Building 65.

### Space 297

This had a series of features along its eastern side, these from the south; ladder base F.2094 which ‘cut’ into platform F.2086, bench F.2087 with post scar F.2095 at the east, platform F.2088 with platform F.2089 at the north. Platform F.2089 and F.2088 step down to the west onto platform F.2096, which had a small raised pedestal or bench F.2098 at the south west and a pilaster, F.2097 on the west wall. This platform in turn steps down to the south onto a slightly raised plaster surface (13380). Platform F.2099 is located within a small rectangular bay to the south west of the space. The entrance to oven F.2090 was located at the centre south of the building, the oven itself constructed into the corner of walls F.2508/F.2509 mainly within Space 299. Hearth F.2091 was located near the centre of the building north of the oven in the north west corner of floor (13380).

### Space 298

This area would appear to have been utilised as a storage space as it contained the remains of 4 definite and a possible fifth bin. Bins F.2500 and F.2501 lay at the north of the room and bins F.2502, F.2503 and (possible bin) F.2504 located at the south west of the room.

### Space 299

This contained no apparent features apart from the back of oven F.2090.

The removal of the room fills revealed that several objects or groups of objects had been deliberately deposited or left prior to the backfilling of the building. Several horn cores came from the plaster surfaces of Space 297 as well as scapula from platform F.2088. A cluster of obsidian blades and a bone point, (13359), was also recovered from the north east of the space near pilaster F.2097. A bone and stone cluster,

(13365), was recovered from possible bin F.2504 in the western room, Space 298. Another cluster, (13370), lay to the south of oven F.2090 in the southern room and included a complete pot, amongst numerous stone and bone tools.



*Figure 77: End-phase of Building 65, looking NW.*

Only the latest surfaces/features were removed from the building this season and these excavated deposits will be described by the sequence within each individual feature.

### **Space 297**

#### **Platform F.2086**

Removal of the room fill deposit from Ladder Base F. 2094 revealed the rim of a complete pot set into the floor presumably at the foot of the ladder itself. The removal of upper plaster surface and make up layer from the platform, respectively (13376) and (14029), revealed the upper edge of the pit that contained the rest of the pot.

#### **Bench F.2509**

A thick layer of white plaster, (14062), was removed from the front of the bench to reveal a lower plaster surface

#### **Platform F.2088**

The upper plaster surface of the platform had been cut into by pit F.2093, the fill of this, (13367), contained numerous fragments of disarticulated human bones representing at least an adult and juvenile. The plaster surface of the platform, (13377), also had the impression of a rectangular post or pedestal placed along the central western edge of the platform. Removal of the plaster surface revealed the presence of burial F. 535. The skeleton, (14032), was a crouched adult with its head to the north east. The removal of the surface make-up along with a levelling deposit, (14024), revealed a further sequence of possible burial cuts (at least 6). Of these

F.2521 was fully excavated, this a truncated burial (with only the head surviving in situ) while burial F.2548 was only partially excavated.

#### **Platform F.2089**

Cleaning of the surface of the platform revealed a plaster resealing deposit (14006), this covering infant burial F.2520, which had been cut through the upper plaster surface (13378), which in turn sealed levelling deposit (14027) all of these units removed this year.

#### **Platform F.2096**

Removal of the upper plaster surface (13379) revealed ash dump, (14012), and clay levelling deposit, (14037), both of which were removed. As the ash deposit was so discrete and lay directly under platform conforming to its limits, it can only be assumed this 'midden-like' deposit had been located elsewhere and brought in as make-up material rather than being a primary deposit. The plaster make-up of small 'bench' F.2098 also lay above ash deposit (14012), except for a small circular area lying directly beneath the 'bench'. This 'clear' area contained cluster (14009) with stones, crystal fragments and a bone point, its nature suggesting the cluster might have been contained within a bag and deposited at the same time as ashy material (14012).

#### **Platform F.2099**

The upper plaster surface of platform, (13382), was removed to reveal cluster (14019) this mainly animal bones and stone objects including a marble polisher (Fig. 78).

#### **Floors**

Plaster surfaces (13381) and (13380) were removed from the lower floor areas and from around the oven and hearth.

#### **Hearth**

The central hearth contained the remnants of what may have been its last use namely ash deposit (13358), this also contained a fragment of grindstone reminiscent of that found on upper hearth F.2061 within Building 56. The upper plaster construction (14013) was removed along with make-up deposit (14017) to reveal lower hearth F.2549.



*Figure 78: Cluster (14019) of mainly bone and stone found on top of platform F.2099.*

### Oven F.2090



Figure 79: Entrance to oven F.2090 pre-excitation, charcoal/use deposit (13373) seen in the entrance (left), stone packing (14078) on the base of the oven (right).

The oven within the building was well preserved with a portion of the roof surviving above the entrance (Fig. 79). The sequence of use and construction was fairly straightforward but long, so a brief summary is presented here from latest to earliest. The oven had been partially demolished, this material sealing a charcoal/use deposit (13373), this lay above the only floor of the oven floor (14074). Another deposit within the oven worth mentioning was stone packing deposit (14078) set under compact mortar (14077). The incorporation of the stones was possibly for heat retention, however, if these stones had been found in any other context we would be calling it a special deposit but here their presence would appear functional. Removal of the oven along with floor (13380) revealed the base of an earlier oven F.2600, this partially cut into wall F.2509.

### Space 298

Little was removed from this space this year apart from cluster (13365) and small patches of the plaster surfaces from the floors for sampling purposes.

### Space 299

Cluster (13370) and upper plaster floor surface (13389) were the only deposits removed from this space this year.

Exploration of the area the north of wall F.2517 revealed a blocked crawl hole into a northern room, Space 314, probably associated with the early phase of the structure. The blocking, (14036), was removed along with the upper roomfill of the building (13369). A small post hole/depression was revealed below this (14055/14047), this lying above or cut into another dumped deposit (14046). The removal of this revealed the floor of the room and a plaster bin F.2602 around which had been placed bone cluster (13398).





*Figure 80: Mid-phase Building 65, looking SW.*

### **Space 305**

This lay to the south west of the excavated area and would appear to have lain without Building 65 but beneath Building 56. At the base of the foundation cut of Building 56, (13363), there was the placed remains of a small child F.2517 (13396/13395). The removal of a dump/levelling deposit (13369) revealed a second child skeleton F.2519 (13369/14005). This might indicate that some individuals (in this case very young children) are placed without the walls of the 'house'. Alternatively it could be argued both were placed within deposits that became part of the next structure namely a levelling dump and a foundation cut. The levelling deposit lay over ashy deposit (14018) that appears to be uppermost deposit of a 'midden-like' sequence of similar

#### **Questions of continuity and space**

The layout of Buildings 65, 56, 44 and probably 10 would appear to suggest the same family group has occupied the same space throughout the building sequence given the continuity of layout and the repeated events seen within the four structural phases.

Here again we have seen the placing or leaving of objects between transitional periods within the life of building, this usually represented by an object or groups of objects left or placed prior to the space or feature going out of use and subsequently becoming something else. If the left objects themselves give an indication of the activities within the building then stone tool production and the working of bone would appear to be high on the list.

Other behaviour that appears common to Building 56 and Building 65 was the deliberate demarcation of the use of white plaster within the buildings. This appears to have been confined to the benches and the north eastern platforms, the walls, the oven and within the storage area at the west, while a darker grey/brown plaster is used

within the rest of the building. It could be argued that the use of the white plaster might demarcate 'clean' areas, sleeping areas on the platforms and around the storage spaces, although the area of the oven is less obviously a 'clean' space.

We have also now seen the repeated placement of pots around the base to the ladder in Buildings 44, 56 and now building 65. The reason for this has not yet been established but it could be that some form of libation was being practised as a person left/entered the house, an examination of the residues within the more complete vessels may yet give a clue.

The opening up of the excavated area has meant that we have been able to observe the movement of the buildings around their peripheries, in that rooms/spaces around the main areas of the building appear to go in and out of use. Why this is the case is not yet apparent. It is perhaps easier to try and explain why areas are taken into use, through family expansion and the need for more space or 'unused' areas being taken into 'possession' of the group. This of course raises a whole host of questions about the use of space around and between buildings and whom it might belong to. Do whole groups of buildings or neighbourhoods, for example, belong to a family group or clan? If this was the case are spaces interchangeable between them as families within that group grow or decline in numbers? Less easy to explain is why some rooms or spaces appear to go out of use, being apparently blocked off and backfilled while the rest of the building apparently continues to function?

## **TP Area – *Lech Czerniak, Arkadiusz Marciniak***

Site Assistants: Patrycja Filipowicz, Lukasz Klima, Arkadiusz Klimowicz, Katarzyna Regulska, Kludia Sibilska, Monika Kwiatkowska.

### **Introduction**

The TP (Team Poznan) team made of eleven archaeologists and students of Institute of Prehistory, University of Poznań and Institute of Archaeology, University of Gdańsk conducted its sixth excavation season at Çatalhöyük. This year works began on June 22 and continued until July 18, 2006. The excavations continued in an extension trench 5 by 10 meters on top of the east mound, in a strip between the main TP trench, excavated in previous seasons, and the east trench dug by Mellaart in the 1960s. Since the excavated structures turned out to be larger and more complex than originally expected, the excavation area was slightly expanded horizontally to the west.

The previous excavation season resulted in a complete recognition and excavation of the latest phase of the Neolithic occupation of the mound dated back to Level 0. Hence, the main aim of the 2006 season was to investigate various structures placed underneath these youngest Neolithic deposits and to bring these into phase with the main trench excavated in previous seasons. This would allow a better understanding of the architecture and use of space in the late Neolithic, and reveal similarities and differences from the earlier Levels.

Overall, this season brought about a complete excavation of a sequence of two Buildings 61 and 62 and some kind of occupation area placed directly beneath. This sequence was located in northern part of the extension trench and varied considerably from the stratigraphic situation in its southern section.

The excavations continued also in the area directly south and east to the sequence of Buildings 61 and 62 along with the occupation levels underneath. This comprised infill layers deposited in an area deliberately cut off prior to construction of Space 248 and probably adjacent spaces. This event took place after abandonment of Building 62 dated tentatively to Level II.

### **Özet**

2006 sezonundaki kazılar, önceki sezonlarda kazılmış olan ana TP açması ve 1960'larda Mellaart tarafından kazılan doğu açması arasındaki bir şerit içinde bulunan 5x10 metrelik uzatılmış bir açmada devam etti. Kazılan yapıların beklendiğinden daha geniş ve kompleks olması dolayısıyla, kazı alanı yatay olarak batıya doğru genişletildi.

2005 kazı sezonu, höyükteki Neolitik yerleşmenin Tabaka 0'ya tarihlenen en son evresinin kazısı ve tam olarak tanımlanmasıyla sonuçlanmıştı. Bu nedenle 2006 sezonunun ana amacı, en geç Neolitik birikintilerin altına yerleştirilmiş olan çeşitli yapıların araştırılması ve bu yapıların daha önceki sezonlarda kazılan ana açmanın evresine getirilmesiydi. Bu çalışma, geç Neolitik dönemdeki alan kullanımı ve mimariyi daha detaylı bir şekilde anlamamıza yardımcı olurken, erken Tabakalarla arasındaki benzerlik ve ayrılıkları da ortaya koyar.

Bu sezon genel olarak iki ayrı bina (Bina 61 ve 62) sıralaması ve bu binaların altına yerleştirilmiş olan bir çeşit yerleşim alanı kazıldı. Bu sıralama, uzatılan açmanın kuzey tarafında yer alırken, güney kısımdaki stratigrafide çeşitlilik gösterir.

Kazılar ayrıca güney ve doğuya doğru olan alanda, Bina 61 ve 62'nin sıralaması ve bu binaların altındaki yerleşim tabakaları boyunca devam etti. Bu durum, Alan 248 ve buna bitişik olan alanların yapılışından önce amaçlı şekilde kesilen bir alandaki dolgu birikintisinden ödün verilmesine neden oldu. Alanlardaki bu değiştirme hareketi, Bina 62'nin terkedilmesinden sonra gerçekleşmiş olup, Tabaka II'ye tarihlenebilir.

### **Building 61**

This year season began by excavating a large structure recorded as Building 61 located in the north part of an extension trench and placed directly next to the area excavated in the 1960s. This Building was discovered and partly excavated in the 2005 season and was tentatively dated to Level I. This chronological attribution was based upon very straightforward stratigraphy in the west section of an extension

trench, directly between TP area and the trenches from the 1960s. It refers to two parallel and N-S oriented walls placed in this area. Both of them comprised part of Building 61 in different phases of its occupation. The outer wall (11229 – bricks, 13034 - mortar) was dated back by Mellaart to Level I while the inner one (11583 – bricks, 13036 - mortar) to Level II. The former wall was made of dark brown mudbricks while the latter one was constructed of brown and light brown bricks. A relative chronology of these walls was established as a result of re-analysis of the 1960s plans in 2005. These walls were not excavated in the 2006 season.

An overall shape and size of Building 61 cannot be precisely defined. Its northern edge is placed outside the excavated area while its southern part was badly truncated by later occupation of this part of the mound, mainly by Hellenistic pits and Byzantine burials. A total length of the building from its western wall to the eastern platform is c. 6.2 m.

The Building was reconstructed a number of times as indicated by a complex sequence of floors and partition walls. The oldest phase of the building was recognised by a compact solid brownish floor placed on a thick compact clay make up layer. This floor was further rebuilt by adding yet another floor layer placed this time on a thin clay make up layer. In the following phase of the building reconstruction, its almost entire surface was deliberately truncated and then filled out by a layer of white pebbles. This very unusual make up layer was used for construction of another solid floor marking the youngest phase of the building occupation. Erecting two partition walls dividing the building space into separate rooms further strengthened this substantial modification.

The oldest floor of Building 61 is made of grayish and pretty solid silty clay followed by a light brown and relatively thin striation (maybe a make up layer) and then grayish, less compact than the first striation but a slightly thicker floor surface layer (12289) (Fig. 81)). This is indicative of at least



*Figure 81: Building 61. The oldest floor*

two episodes of the oldest floor reconstruction. An entire sequence is placed upon a solid c. 10 cm thick layer of clay make up that is light and mid brown in colour (Fig. 82). Due to later reconstruction of the building, a complete sequence is only preserved in small fragments. Hence, it is difficult to say whether it actually existed on the entire surface of Building 61 at this level or whether large fragments of this floor were destroyed during preparation, manufacture and/or use of the following sequence of floors in the building. A small fragment of hearth was recorded (12297) in western

part of the building. No other features were discernible on this floor. They may have been dismantled before the younger floor was built.



Figure 82: Building 61. A solid clay make up layer of the oldest floor

The following floor is hardly preserved as it was deliberately truncated by the youngest floor associated with a considerable reconstruction of the building interior and characterized by a very distinct make up layer marking the youngest phase of Building 61. Only tiny fragments of

this floor (12283) were preserved in the eastern part of the building. It was placed against the eastern platform of the building recorded as (11529), which indicates that both the floor and the platform were elements of the same phase of occupation (Fig 83).



Figure 83: Building 61. A small band of truncated floor (12283) from the middle phase of the Building occupation along with the eastern platform (11529).

This youngest floor was built on a make up layer of special character. It was made of white small pebbles, which is the first discovery of this kind at Çatalhöyük. A thin whitish striation was placed on its surface making it smooth. This make up layer has been subdivided into 4

arbitrary layers (as seen from the east): (12295), (11780), (12268) and (11729) (Fig. 84). The most solid is its eastern part. The floor itself was made of greyish and relatively compact layer of silt and silty clay (Fig. 85). Its surface was artificially divided into small layers, such as (11724) and (11745), as they were discontinuous in places. It appears as if both make up layer and floor were also functionally associated with adjacent platform recorded as (11529). The space of the building in its younger phase was divided by two mudbrick partition walls into two parts – western and eastern. One of them was placed in western part of the building against the platform

recorded as (11529). Another wall (11715) was built in central part of the Building along N-S alignment (Fig. 86).



*Figure 84: Building 61. Make up layer (u. 12295) of the youngest floor made of white pebbles.*



*Figure 85: Building 61. Brown floor (12294) from the youngest phase over white pebble make up layer (12295).*



*Figure 86: Building 61. Partition walls from the youngest phase (11715, 12280 and 11792). The latter wall placed against the eastern platform (11529) from older phase*

A detailed stratigraphic analysis indicates that all floor deposits of Building 61, marking three phases of its occupation, were undoubtedly functionally related to the platform placed in its eastern part and recorded as (11529) (Fig. 87). A preserved fragment of the platform is built of four



*Figure 87: Buildings 61 & 62. Eastern platform (u. 11529) during excavation.*

horizontally placed mudbricks of different colour. It was badly truncated by later activities, probably related to construction of the above located Space 248 excavated in the 2005 season. Both horizontal and vertical surfaces of the platform were plastered by c. 1.5 – 2.5 cm thick lime whitish and brownish striations. It looks as if the platform horizontal surface was plastered regularly, at least three times, as indicated by a sequence of these whitish striations. Outer horizontal and vertical platform surfaces were probably plastered at the same time as indicated by a continuous layer of plaster on both of them. The platform itself seats on an older platform/wall that is particularly well visible in its N section.

Stratigraphic relationship between floor surfaces of Building 61 and its western wall indicates that the oldest floor was undoubtedly linked with the wall from Level II (11583). It may indicate that Building 61 was built in Level II, in the understanding of the Mellaart relative chronology scheme. A stratigraphic position of the youngest floor in relation to the western walls is unclear due to later destruction of this section by post-depositional processes. Hence, it is difficult to say whether the floor built on a white pebble make up layer stretched as far as the wall recorded as (11229), dated to Level I, or whether it was built against the wall (11583) from Level II.

## **Building 62**

Further excavations revealed existence of older house recorded as Building 62, which was placed directly underneath Building 61. Removal of infill deposits underneath Building 61 revealed patches of floor running across most of the building space with signs of trampling and rich organic material (Fig. 88). The floor of Building 62 was recorded as (13043) (W part) and (13040) (E part). Concentrations of organic material, mostly charcoal, were recorded in eastern part of the building as separate layers: (13046), (13047) (13048). A presence of these features does not simply imply that we are dealing here with some kind of activity areas as no other features corroborating this space division was distinguished. However, a separation of patches of organic material may help in discerning possible activity areas in the future thanks to results of heavy residue & palaeobotanical analysis. The same situation took place in western part of the Building when a similar patch was distinguished and recorded (13050).



Figure 88: Building 62. Floor with centrally placed oven (F.1933) and two partition walls (13025 & 13026)

Building 62 underwent at least two occupation episodes as indicated by presence of two partition walls. The N-S wall (13026) aimed to divide the building space into two roughly equal parts, while the E-W wall (13025) is indicative of yet another division of space. However, the latter cannot be inspected any further as this part of the building was badly destroyed by later pits, the result of which only a small fragment of the wall was preserved. This stratigraphic relation implies that the walls are to be associated with younger phase of the Building 62 use. A small partition wall (13032 and 13026) was also recorded in the southern part of Building 62.

Only a few features were revealed in this building. A solid square oven (F.1933) was placed in its central part. It was composed of two superstructures, one placed on top of the other, which is indicative of two phases of its construction (Fig. 89). Interestingly, the oven was built in a place that was earlier used by previous inhabitants of this area to construct some kind of fire installations.



Figure 89: Building 61. Oven in central part of the Building (F.1933)



The younger oven (13030) had a very solid superstructure made of a grayish silty clay wall, especially distinct from the east and the south. It was c. 8 cm high from these two sides. The oven interior comprised dark brown/reddish clay formed as a result of its exposure to heat. It seems that this younger oven was some kind of reconstructed version of the older oven recorded as (13029). It seems as if both ovens were built and used on the floor of Building 62 (13040) as indicated by the oven infill sitting directly on the floor. Some details such as a floor plaster on the oven wall indicates that it was certainly used in younger phase. A wall bottom was built of numerous striations full of charcoal.

Fragments of burnt soil (hearth?) were placed directly underneath the floor on which a partition wall (13026) was later put up. This corroborates a hypothesis about two phases of the floor use, which further implies that we are dealing with two phases of the building occupation. A fragment of southern wall of Building 62 composed of greyish layer of bricks was recorded as (13024). Unfortunately, this cannot be specified any further as only a very small fragment of this structure was preserved.

#### **A sequence of deposits underneath Building 62**

An interesting sequence of occupation levels was discovered underneath the building 62 floor (13041, 13079, 13509 and 13522). The latter layer is the last element in a sequence underneath Building 61 & 62 that sits between their east, south & west walls. A character of this sequence is unclear. No floor remains were discovered. An entire sequence is composed of infill, destructional and midden-like deposits, which degree of homogeneity varied considerably. At the same time, a presence of five fire installations of different size and character is indicative of some sort of activity area (F.1940, F.1942, F.1943, F.1944, F.1945) (Fig. 90). All of them were carefully designed and manufactured and without doubt were placed in situ. In some cases, they were located on a layer of destroyed bricks, which indicates that they were constructed after the bricks were dumped/ collapsed.



*Figure 90: A sequence underneath Building 62. Two hearths (F.1944 & F.1945) in the courtyard*

The most distinct is a well preserved oven placed in central part of this ‘occupation’ level and dated to its oldest phase (F.1940). Elements of its wall superstructure were preserved in situ while some others were found in the oven infill. Interestingly, it was built in a place that was later used by subsequent inhabitants of this area to construct other fire installations as indicated by location of hearth (F.1930) and oven (F.1933).



*Figure 91: A sequence underneath Building 62. A cluster of rubble*

A sequence of heterogenous deposits directly underneath Building 62 marks some sort of occupation level mixed with a considerable concentration of destruction material, mostly in the form of clusters of rubble and clay (Fig. 91). The deposits are relatively shallow and their depth almost identical

throughout entire deposits. These may indicate that they were formed as a result of the same process, possibly a collapse of the roof. These rubble and clay patches were certainly not deposited as a result of a deliberate dumping aiming to level the occupation surface. Hence, these cannot be regarded as a make up layer.

It is unclear whether this ‘occupation’ level was constantly used throughout its entire surface. It is possible that some features may have been used in different time. Hence, it appears as if this was an area outside houses, possibly some sort of ‘industrial’ and temporarily used courtyard placed between the houses. Interestingly, the oldest level of a solid floor of Building 62 followed a space division from this phase. It is interesting that both Buildings 62 and 61 were built on top of this occupation space. One may speculate that after a long occupation of this courtyard, the inhabitants decided to construct some kind of dwelling structure (Building 62) and later a solid building (Building 61) built on a thick and solid clay make up layer in a place that to this date was not used in a permanent manner. An entire sequence, from the ‘industrialized’ occupation level up to the floor built on a white pebble make up layer,

can be regarded as one Level in the mound stratigraphy. An awful lot of reconstruction/rebuilding took place within this level.

The last element in this sequence excavated in the 2006 season was an uneven structure of unspecified character placed under midden/infill layer (13522), which itself was the oldest element in a sequence of the courtyard occupation described above. The structure slopes down towards the east. It has a relatively even and clear surface in its northern part and wavy and difficult to distinguish in the central and southern part. A clearly distinguishable platform was observed in its eastern section (Fig. 92). An entire sequence is very similar to ‘the roof’ from the main TP trench excavated in previous seasons. Both structures slope towards the east and are clearly parallel. They had either a similar function and/or were formed as a result of the same large scale event. This sequence was then truncated in Level II (Building 61 & Building 62) that is during construction of the walls of Building 62. As seen in this perspective, a formation of occupation levels underneath Building 62 may have been related to the levelling a highly uneven surface before erecting this building. At the same time, the inhabitants may have reused the building western wall, following probably its slight reconstruction, which means that this wall is actually later than Level II.



*Figure 92: A sequence underneath Building 62. Slopped structure along with a small platform underneath the oldest layer in this sequence.*

The second truncation of an uneven structure took place shortly before construction of Space 248 from Level 0. It is when southern walls of Building 61 & Building 62 were dismantled/destroyed and a sequence of N-S walls (between the TP main and extension trench) were built. The latter walls were then used as construction elements of Buildings 33 & 34 and later Space 248. As mentioned earlier, deposits between these N-S walls and both Building 62 and Building 61, are younger than the walls

themselves and where deposited there shortly before construction of Space 248 (see below).

**A sequence of deposits east of Building 61 & Building 62**

Two layers of heterogeneous destructional material (12277 & 12282) were recorded directly to the east of a sequence of floors of Building 61 & Building 62. They were deposited in a deliberately truncated space that took place after abandonment of Buildings 61 & 62, dated tentatively to Level II. This is indicated by a clearly discernible diagonal cut through the platform (11529), in particular its southern part, and walls east of Buildings 61 & 62. As a result, only small fragments of both structures were preserved.

Two layers of heterogeneous destructional material (12277 & 12282) were deposited in the space formed after this deliberate truncation. Their consistency was relatively loose, which may imply a relative short depositional event. No layers/striations within these layers were discerned. Interestingly, infill of the layers contains a lot of constructional material, including fragments of platform (11529), which indicates that the space was at least partly filled in with elements originating from the previously destroyed Building 61. A sequence is delimited from the east by a poor quality mudbrick/wall (12274).

As regards stratigraphy, it is clear that both layers were deposited after abandonment of Building 61 and before construction of Space 248. Hence, these layers are younger than the N-S walls (12274 & 12279), which are probably dated to Level I. This implies that a sequence of these two layers is of a post-Level I date but at the same time is older than Level O. It was probably deposited as a result of destruction of Building 61 or during its natural abandonment. Interestingly, it is worth stressing that it was the eastern platform that was truncated after abandonment of Building 61. It may have been a deliberate act aimed at searching for bucrania & human skulls and other prestigious objects, that may have been later re-used during construction of Space 248.

**A sequence of deposits south of Building 61 & Building 62**

It seems as if a preserved fragment of the youngest floor in Building 61 and dated to Level II comprised the very southern edge of this floor. It may have been delimited by the building southern wall. Only fragments of northern edges of this wall were preserved in situ. Interestingly, numerous wall fragments were found against the floor edge in a bricky layer (12278) directly to the south of Building 61. In particular, a number of broken bricks, forming small piles in some sections, were found in the north part of this layer. They seem to contain elements originating from destruction of the building from Level II implying that this layer is younger than Level II.

A space south of Buildings 61 & 62 was also deliberately truncated, similarly to a sequence south of Buildings 61 and 62, and this may have been a contemporary activity. This is indicated by destruction of southern wall of Buildings 61 and 62. Consequently, all layers in this section of the excavated area were younger than deposits within Buildings 61 & B62. A sequence of layers in this area reached the N-S walls between the TP main and extension trench (see above). This implies that these walls were built at the bottom of a previously dug space. As regards stratigraphy, this indicates that the walls are dated to the post-Level II period.

An interesting element in a sequence south of Building 61 & Building 62 is a solid wall placed at W-E alignment (12503). The wall was clearly put up on an sloped surface heading the east. Therefore, prior to building the wall itself it proved necessary to build up in a construction made of two courses of bricks and solid mortar from its eastern part aimed at levelling the foundation surface. In total, c. 60 cm of difference was leveled between the higher western part and the lower one from the east. It means that the wall was placed on a surface which was originally horizontal and which was probably later destroyed by a large scale event. This formed a slopping surface, very similar to the adjacent 'roof' excavated in the 2004 season, which was probably also formed by the same event. The same certainly happened to a slopped structure underneath a sequence of deposits below Building 62 (see above). If this is the case, the wall construction is older than Level II. Hence, it may be dated to Level III. This also means that Building 61 & Building 62 are younger than this wall.

#### **Summary**

Work in the next season will continue in the same zones of the TP trench and will focus on identifying and then excavation of late Neolithic structures from Level III and IV. It will also aim at analysing and reconsidering stratigraphic relationships between midden deposits and the 'roof' excavated in the 2004 season as well as architectural elements discovered this year in order to understand a complexity of the late Neolithic occupation in the part of the mound.

#### **IST Area / İST Alanı - Mihriban Özbaşaran, Güneş Duru**

Site Assistants: , Heval Bozbay, Nejla Kurt, Turhan Ülğür, George Bodi, Füsün Ertug, Ece Bircek

#### **Abstract**

The objective of our work in the 2006 season was to continue working in the same area investigated in 2005. By the end of this season we exposed a large building, Building 63, with three defined spaces. A large room to the southeast is made up of two sections. Space 284 has two square platforms placed side by side with traces of a hearth on one of them and Space 285 has a pedestal in one corner and a clay box against the west wall.

Space 283 lies to the southwest corner of Building 63 which houses a series of storage bins. One which lies to the west (F.1967) contained a substantial amount of barley as well as a variety of ground and natural stones, and a clay figurine depicting 'life and death'.

Space 289, the northwest room of the building, is separated from Space 285 by a partition wall.

Space 253 lies south of Building 63, which is part of a building that continues beyond the limit of excavation, under a public dirt track between the East and West mounds.

East of Space 253, lies an open 'midden' area (Space 294), and two further spaces of another building were excavated on the very south of the trench, Space 295 and the east, Space 296. A north-south wall

separates the area into two: Space 302 on north and Space 302 on south.

## Özet

Çatalhöyük'deki genel amacımız erken tabakalar üzerinde çalışarak, bu tabakaları Orta Anadolu Neolitik'i içinde anlamaktır. Daha önceden Aşıklı ve Musular'da (Orta Anadolu'nun doğusunda bulunan Batı Kapadokya'daki iki Akeramik Neolitik şehir) çalışmış olan ekibimiz, Çatalhöyük'deki en erken tabakaların Orta Anadolu'nun doğusu ile (Batı Kapadokya, Konya Ovası, Aşıklı, Musular ve Çatalhöyük-Aşıklı ve Musular Çatalhöyük'den önce gelip M.Ö 9. ve 8. Millenyuma tarihlenmektedirler) karşılaştırılması ile ilgilenmektedir. Daha erkene tarihlenen Boncuklu'da başlayan yeni kazılar, Orta Anadolu'daki Neolitik döneme ait kronolojik sıralamanın kesinleşmesine yardım edecektir.

Bu sezon, 2005 yılında çalıştığımız alanda kazmaya devam ettik. 2006 sezonu sonunda, üç belirgin alanı bulunan ve büyük bir bina olan Bina 63'ü ortaya çıkardık. Güneydoğuda bulunan geniş oda iki kısımdan oluşmaktadır. Alan 284, yan yana yapılmış kare şeklindeki iki platforma (platformlardan birinin üzerinde ocak kalıntıları yer almaktadır) sahipken, Alan 285'in bir köşesinde, bir tabanlık ve batı duvara dayanan kilden yapılmış bir kutu bulunmaktadır

. Bina 63'ün güneybatı köşesinde yer alan Alan 283, bir sıra saklama deposuna sahiptir. Batıda bulunan depolardan birinde (F.1967) arpa kalıntıları, doğal taşlar ve öğütme taşları ile yaşam ve ölümü betimleyen kilden yapılmış bir figürin bulunmuştur.

Binanın kuzeybatı odası olan Alan 289, bir ayrışım duvarı tarafından Alan 285'den ayrılmaktadır.

Bina 63'ün güneyinde bulunan Alan 253, kazı sınırının dışında olan ve Doğu ve Batı Höyükleri arasındaki yolun altına doğru devam eden binanın bir parçasıdır.

Alan 253'ün doğusunda bulunan açık bir çöplük alanı (Alan 294) ile diğer bir binada yer alan iki alanın da (güneydeki Alan 295 ve doğudaki Alan 296) kazısı yapılmıştır. Kuzey-güney doğrultusundaki duvar alanı ikiye ayırmaktadır: kuzeydeki Alan 302 ve güneydeki Alan 302.

Excavations in Area IST in 2006 started in the first week of July and lasted for four weeks. The team consisted of archaeologists, Ph.D, MA and BA students. We were also joined by George Bodi, an archaeologist and a friend from Romania.

The fieldwork was supervised by Güneş Duru. Heval Bozbay, George Bodi, Turhan Ülgür, Ece Birçek worked on the field; Füsün Ertuğ joined the team for 10 days. Nurcan Kayacan studied the chipped stone industry of the area and was assisted by Nejla Kurt. Hilal Gültekin and Duygu Tarkan worked in the pottery laboratory, while Müge Ergun in the botany laboratory.

The general aim of our work at Çatalhöyük is outlined as : to work on the early levels of Çatalhöyük and understand it within the context of Central Anatolian Neolithic. Our group, with former experience from Aşıklı and Musular (both Aceramic Neolithic sites located in West Cappadocia, East Central Anatolia), is interested in the earliest levels of Çatalhöyük to compare the east of Central Anatolia, i.e. Cappadocia to west, the Konya Plain, Aşıklı, Musular and Çatalhöyük – the first two being the predecessors of Çatalhöyük chronologically and dating to 9th and 8th mill. BC respectively – In addition the new excavations begun at the earlier site of Boncuklu will certainly establish a firm sequence for the Neolithic of Central Anatolia in the near future.

The objectives of our work in the 2006 season were; to continue working in the same area, i.e. the ‘slope trench’ that was opened in 2005 (Fig. 93); to reach the floor horizon of Space 252 which was partially exposed in the previous season; continue digging on the southern half of the trench where Space 253 and the open space east of Space 253 are located; to work on the stratigraphical relations; then remove the level totally in order to excavated deeper. Although the work began with such objectives our aims had to be adapted as work progressed and thus our strategy developed.

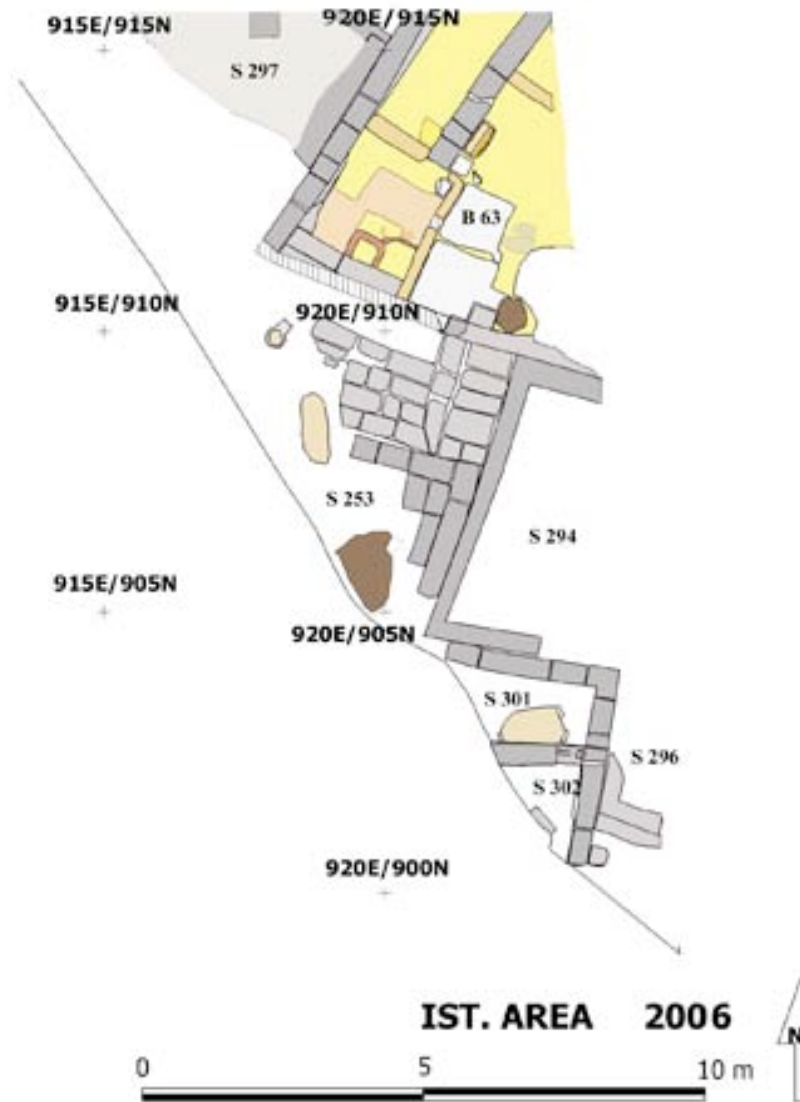


Figure 93: General plan of IST Area 2006

Space 252 turned out to be a complete building, Building 63. It is a large building with two building phases exposed so far. A large room to the southeast measures 2.60 x 4.0 m and is divided into two sections: Space 284 and 285. Space 284 has a pedestal on one of the corners and a clay box (F.1980) against the west wall (F.1964 – Fig. 94). The box (measuring 0.70 in length and 0.30 m in width) is very finely plastered on its exterior, and burnished. A medium sized cattle skull was embedded in the clay box and then covered – possibly hidden. When analysing the fact that the kerpiç blocks covered the skull completely along with the ‘use-level’, and then the ‘surface’ with obsidian and flint finds over it (exposed in 2005, see discussion of (11898)) and the position and the elevation of the skull in the box, it is possible to think that the skull was set into the box intentionally and then it was covered and plastered. The preserved height of the box measures ca. 0.40 m where the skull was set ca 0.15 m deeper than the level of the kerpiç blocks.



Figure 94: Plan of Building 63

Space 284 has two platforms (F.1993 and F.1994) placed side by side, both square in plan and almost of the same size (Fig. 95). Both are well plastered and there is a gap between the two. Their location, plan, order and relation to a destroyed fire installation (hearth/oven?) to the south imply that this part could be the main room of the building. On the floor, close to the east section of the trench, a cluster of charcoal, phytoliths, animal bone, natural stone and barley remains were found. Our initial interpretation is that the assemblage could represent a fallen down pouch or a bag – that had once hung from the roof rafters (?). Alternatively, it may represent remains of a food preparation stage, a stew of meat and barley, etc. left/destroyed before it was consumed (?).



Space 283 lies to the southwest corner of Building 63. It is 2.0 x 2.0 m in dimensions. The significant internal architectural features of the space are the storage bins (F.1967 and F.1984) – that were first excavated in 2005. The bin to the west (F.1967) has yielded a substantial amount of barley when first excavated last season and more samples were collected in 2006 which indicates it was full prior to the fire which caused the collapse, possibly the abandonment and then the rebuilding (see below) of Building 63.

In 2005, Space 283 had already provided a variety of ground stones, natural stones, a mace head, etc., together with the clay figurine depicting “life and death” (?) (see 2005 Archive Report). In 2006 a finely worked second mace head, fragment of a stalagmite, two polishing stones, some natural stones, one of which resembles quartz, were found in a group as if they were intentionally collected and stored. The northeast corner of the same space houses the lower and the upper slabs of a grinding stone with about two cms of earth in between. The floor of the room could only be exposed in the northwest corner. The heavy fire probably caused the destruction of the space and the floor, where many fragments of kerpiç plaster were found in the fill, which displayed impressions of reeds and/or branches. Such finds and features have led us to interpret the space as the working section of the building.

Space 289, the northwest room of the building, is separated from Space 285 by a partition wall. The floor of the room is a compact soil with a rough plastering. A rectangular basin, plastered white on its sides base, with a small clay ‘cup’ in situ, lies on the southeast corner. A threshold limits the space to the south and separates it from Space 283.



*Figure 95: Building 63*

pottery that was found on its base indicates that the pit is a late-period, intrusive pit. Overall the plan, location, characteristics and the layout of the features indicate that Building 63 is not far from the typical Çatalhöyük buildings known elsewhere on the settlement.

Building 63 is not completely exposed due to the unexcavated sections to the north and east. Two intrusive pits excavated in 2005 with pottery probably dating to the Roman period cut its south wall and southeast corner and a channel-like destruction had been identified. To the west of this area, on the west slope, the base of a large pit was exposed. Wheel-made

The above-mentioned level of Building 63 is the late/renewal level of the building. The hearth (F.2305) unearthed under the plaster of the platform F.1993, another platform, totally red painted, lying under F.2305, the lower/early floor of the space as well as the burnt fill exposed under the floor level in Space 283 show that a similar plan (the early phase of the building) will be exposed under the present level of Building 63. In other words, the present excavated level should have been the renewed level of an early building phase, similar in order and in plan of the inner

architectural features. The renewal could well be because of the fire which caused the partial destruction of the building. Whether the fire was accidental or intentional is not yet known, but the bins full of barley, the various and numerous finds in Space 283 imply that it could be accidental, that started somewhere on the southwest corner of the building.

South of Building 63, another structure lies which is also partially excavated. It is the northeast section of a Space 253. The rest of the space/building lies under the village road to the west of the mound. The floor level of Space 253 had already been reached in 2005. The floor of a fire installation (F.2000) which was renewed five times was found under the floor level of the building suggesting that at present there are two building phases for the space.

The kerbs and/or any superstructure of the hearth were not preserved, however five successive floors, quite well preserved, were exposed in a total depth of 0.24 m (between 1005.02 and 1005.26 m).

East of Space 253, is an open area Space 294 (Fig. 96). Deposit (12456) presented a concentration of finds in layers resembling a midden, sloping from north to south. It contained animal bones, obsidian, natural stones/pebbles, pot sherds and phytoliths, charcoal pieces, ash and a small bead. Although a few Celtis remains were easily recognisable by naked eye during the excavating, the floatation results presented low density in botanical samples in general. Analyses on the finds by the lab. teams has shown that the space was a midden area, i.e. an open space exposed for a long time – without being used, without being trampled. Stratigraphical relations show that the midden was in use when Space 253 was in use.



Figure 96: Space 294

Two further spaces, i.e. two rooms of another building were excavated to the very south of the trench. A north-south wall separates the area into two: the west section was first called Space 295 and the east, Space 296. A partition (?) wall (F.2304) in an east-west direction with an opening on the east divides Space 295 into two: Space 302 to the north and Space 302 to the south.

The excavated section of the building seems to be the northeast corner. The walls of the building are made up of kerpiç blocks of various sizes, small ones measuring 0.40 x 0.28 and the largest more than 1.20 in length and 0.38/0.40 m in width. Differing from other buildings in this area is the thick white wall plasters in this structure space.

The building continues beyond the site perimeter fence under a public dirt track that runs between the East and West mound. The deepest elevation reached is 1004.11 m AD in the northwest corner of Space 301 which is ca. 0.60 m below the village road to the west.



Figure 97: Spaces 301 & 302

East of the building lies another space, Space 296, which is only partially preserved. It may well be related to Spaces 301 and 302 however the excavation area is so limited that it was not possible to continue excavating. Work stopped in the 2006 season with the aim of excavating on the other side of the road in the near future.

A number of features found in isolation on the west slope of the mound, removed from their contexts due to erosion have presented interesting contents. Inside a 0.40 m deep, finely plastered pit (F.1999), we found half of a clay pot, 13 natural pebble/cobbles, one worked bone, the long bone of a cattle, eight pieces of knuckle bones, and one fragmentary obsidian.

Another pit, oval shaped, 1.20 m in length and 0.50 m width (13904 and 13905) also presented an interesting cluster. 21 stones, two bones and a finely worked mace head (?) were found in the pit. However due to the erosion, it was not possible to relate them to any other feature.

The aim to have all of the structures together as a whole and try to understand the relation between the buildings and the open spaces on the southwest slope of the mound caused us to change our 2006 excavation strategy. The objective of removing Building 63 and excavating the lower level could not be achieved in 2006 season. The well preserved state of buildings, interesting open spaces used as midden areas with a rich variety of finds, hindered us to proceed as formerly planned due to the complex nature of the stratigraphy.

Consequently, our work in 2006 had shown us that the southwest of the mound had been densely inhabited during and/or later than Level VI of the 1960s chronology. The southwest slope mirrors the Neolithic inclination of the mound and as no cut has yet been identified for terracing, one can call the exposed buildings as part of a 'slope settlement'; in other words a slope settlement was maintained during and/or after Level VI. The location of the exposed buildings shows that the original edge of the settlement is far larger than the present limits (i.e. the fence surrounding the mound on the southwest); and it is very possible that more structures are to be found under the present village road. Therefore our wish for the coming excavation season is to dig on the other side of the road if possible, in a wider area in order to reach the earlier level.

**West Mound – Peter F. Biehl (University of Cambridge), Burcin Erdođu (University of Thrace), Eva Rosenstock (Free University Berlin)**

Site Assistants: Tom Birch, Catriona Gibson, Jonathan Last, Helen Lomas, Naoise MacSweeney, Nick Soderberg, Christoph Skowranek, Ingmar Franz, Gülgün Gürcan, Hanife Yalçın, Sedef Polatcan, Nejat Yücel, Gülay Yilankaya, Esra Irmak.

**Abstract**

In this year's four-week field season we opened up two trenches (trenches 5 and 6) on the eastern fringe of the West Mound. We excavated and documented 18 late Roman/Byzantine burials and we unearthed parts of the architectural remains of 3 Early Chalcolithic (EC) buildings, including a plastered floor and plastered walls in two of the buildings.

**Özet**

Dört hafta süren bu seneki çalışmalarımız Batı Çatalhöyükün doğu eteklerine doğru iki açmada (5 ve 6) gerçekleştirilmiştir. 18 Geç Roma/Erken Bizans dönemine ait mezar belgelenmiş ve kazılmıştır. Bunun yanında 3 Erken Kalkolitik yapıya ait mimari kalıntılar saptanmıştır ki yapıların ikisinde plaster taban ve duvarlar bulunmuştur.

**Background**

The West Mound at Çatalhöyük was first excavated by J. Mellaart in 1961 (1965). He dug two small trenches (I and II) and distinguished – based on the pottery analysis – two phases of the Early Chalcolithic (EC I and EC II). In 1998, 2000, 2001 and 2003, the excavation was resumed by J. Last and C. Gibson (1998; 2000; 2001; 2003a). Their excavation focused on the areas close to the two trenches excavated by J. Mellaart in 1961; where large parts of a building (Building .25) on the highest point of the mound have been excavated and documented. While Mellaart's (1965), Gibson and Last's main trenches (Last 1998, Gibson et al. 2000, Gibson/Last 2001, Gibson/Last 2003) were located on the summit of the mound, the two trenches (Trench 5 and 6) we opened up in 2006 were positioned on the eastern fringe of the mound (see Fig 1). Each trench measures 10m by 10m though Trench 5 was extended southwards with a trench of 10m by 2m.

**Research aims**

One of the main research objectives is to reach and excavate the earliest layers of the West Mound (probably Late Neolithic), to establish the site's full stratigraphy (Early Chalcolithic EC, ca. 6000-5800 cal BC) and to link it with the East Mound (Late Neolithic Level 0-I on the East Mound, ca. 6000 cal BC). The area most likely to reach these early layers is on the eastern fringe of the West Mound. This area is 'closest' to the East Mound and it is already heavily truncated by soil robbing and farming activities (cf. Pollard et al. 1996) and subsequently heavily eroded. As Çatalhöyük East has been successfully settled for centuries, one research objective is to date the beginning of the new settlement on the West Mound and to better understand why and how the people settled there as well as to analyse and contextualise the nature of the socio-economic changes taking place during the transitional period (cf. Biehl/Erdođu 2005). These are all questions, which link our project with the research of the University of Poznan team in the TP area (Czerniak/Marciniak 2005).

### **The teams**

From July 22nd until August 13th 2006 a joint team from Cambridge and Edirne under the direction of Peter F. Biehl and Burcin Erdoğan resumed the excavation of the Early Chalcolithic (EC, 1st half of the 6th millennium BC) on the Çatalhöyük West Mound or Küçükhöyük, as the locals call it. The collaboration of Catriona Gibson and Jonathan Last between July 29th and August 6th provided the continuity necessary for a smooth handover. We are grateful to the Selçuk team directed by Asuman Baldıran, who supported us in the excavation of the late cemetery from July 31st through August 9th; we are also most grateful to Başak Boz and Scott Haddow, who supervised the students and excavated the skeletons throughout the whole season.

### **Late Roman – Early Byzantine cemetery**

The late cemetery, which was already documented by Gibson and Last (2003), extends onto the eastern slope. The graves belong to the Late Roman or Early Byzantine periods and were dug into a very homogenous and loose soil, which seems to be mostly the result of agricultural activities that took place after the abandonment of the prehistoric site. Given the Hellenistic and Early Roman construction activity which has been observed in the TP area on the East Mound (Czerniak et al. 2002) and the Hellenistic pottery collected on the summit and the eastern fringe of the West Mound (Last 1996, 153), they can tentatively be dated to the Classical time (Matthews 1996, 99). A short stub of a stone wall (F.2452), which has been truncated by pits or graves – not yet excavated – on both ends, could not yet be dated, but might belong to the same period. This wall is made of at least four rows of flat limestones and has a width of ca. 0,6m, and runs in a N-S direction.

On the basis of the excavated graves, we can say that the cemetery consists of irregular rows of graves (E-W oriented) and seem to have a general N-S layout. The bodies are usually in an extended supine position and were placed with their heads in the W. Especially the feet and hands often suffered from dislocation by heavy rodent activity (most probably the ground squirrel *Spermophilus citellus*, cf. Pollard et al. 1996, 64). Apart from an exceptional tile lined grave (F.726), which was excavated in 2001 (Gibson/Last 2001), three types of grave constructions among the 18 excavated graves can be distinguished: (a) simple inhumation pits, which was the most common construction type; (b) then graves with a mudbrick construction (F.2403, F.2412, F.2454 and F.2455); (c) and finally, graves with a stone-lined construction (F.2403 and F.2456). One grave (F.2458) was made of both stones and mudbricks. While frequent finds of nails indicate coffin burials (e.g. in grave F.2405 and F.2401), grave-goods were rare – even in undisturbed contexts - and consisted only of personal items. With a few exceptions - F.2405 cutting into F.2409, which again overlies F.2412 – the graves are spaced at 0,5 to 1 m intervals. The loose and homogenous matrix makes it impossible to establish a relative chronology of the graves at this stage. But once we have excavated all the graves, the differences in orientation – e.g. between the mudbrick-lined graves F.2412 or F.2403 and the simple pit graves – will make a chronological analysis easier. Furthermore, we will be able to use typological attributes of the different grave constructions: the stratigraphy tells us that the strictly rectangular mudbrick-walled graves (similar to F.2412 and F.2403) were the earliest type in the TP excavations (Czerniak et al. 2001).

Though there seems to have been some sort of order and rule not to disturb/dig into earlier graves, the frequent occurrence of post-inhumation manipulation of the tombs

makes the analysis difficult. We have evidence that these disturbances happened shortly after the funerals. For instance, the articulation of the female (for details on the anthropology of the material excavated in 2006, see the report by Başak Boz and Scott Haddow) skeleton (13744) in the simple pit grave F.2405 must have been intact to allow the whole upper body to be tilted to the left, when the head was removed, which is evidenced by a later pit (13741 and 13742). The body was, however, not re-deposited right away; the head of skeleton (13881) in grave F.2458 was most likely dislocated in the course of the cut of another grave (W of this grave), which is not yet excavated. Pit F.2457 (with an articulated hand) as well as a skull pit (F.2935 excavated in 1998 by Last (1998)) can help us to better understand the post-depositional activities and missing body parts. Also grave F.2404 can help us here: its stone lining (13757) was damaged when people dug into the grave (14208) and removed the head and upper body of skeleton (13778). It seems likely that someone then replaced the upper row of stones and tiles – which are clearly different from the other grave construction of grave F.726 (14209) – after backfilling (13780) the grave and eventually covering the whole grave again with large limestone slabs (13722) – pretending the grave has never been opened.



Figure: 98: Glass ring 13746.x1 and bone distaff and spindle 13743.x6 and 13743.x7 from grave F.2403

Grave ‘robbing’ was most likely not the motive for the post-inhumation activity; the sparse grave goods, such as a glass bracelet (13745.x1) from which only a fragment could be recovered from the disturbed fill of grave F.2405 seems to be the exception. Another exception is the female (13746) in her elaborate grave F.2403, which had only one glass ring (13746.x1) and two bone objects (13743.x6 and 13743.x7) (Fig. 98). The grave construction consisted of a yellow mudbrick wall with grey mortar, which was set in a rectangular grave cut (13751) of ca. 0,5 m depth (dimensions ca. 2 by 1,2 m). The final analysis of this grave has to wait for next year since the eastern part of the grave lies under the profile baulk, which separates trench 5 and the extension trench 5. The iron nails which we found in two parallel rows along the skeleton form the remains of a wooden coffin – one nail (13743.x4) was still attached to a small piece of wood (Fig. 99). Furthermore, we found a ring on the skeleton’s pelvis (at the place where the dislocated hands had been positioned) and bone artefacts (a distaff carved into an animal head and a simple drop spindle) laid at the woman’s feet. This assemblage of grave goods resembles those in grave F.700 (Gibson et al. 2000). In another simple pit grave (F.2406) with a male skeleton we found a bronze ring 13771.x1 next to the left upper arm of the dead. But as already mentioned most graves did not contain any grave goods, as we can see at the pit graves F.2401 (with an exceptionally tall male skeleton 13705) and F.2409

The funeral rites seem to prescribe the burial in a supine extended position. The normal position (there are only two exceptions: the badly disturbed skeleton (13802) in grave F.2450 and skeleton (13840) in F.2454; both bodies have been bent slightly

to the left side). The arms were either crossed over the breast ((13705) in F.2401), one arm ((13746) in F.2404 and (13881) in F.2458) or both arms were half-extended with the hands lying on the pelvis ((13744) in F.2405), or both arms were lying parallel to the upper body ((13778) in F.2404, (13790) in F.2409). The feet were usually placed next to each other, though the skeleton (13881) in grave F.2458 had them crossed. As mentioned above, due post-depositional activities as well as subsequent erosion many shallow graves were poorly preserved (e.g. grave F.2407 and the lower legs of skeleton ((13790) in F.2409). We have to consider the possibility of post-depositional



Figure 99: Remains of coffin (13762) in grave F.2403

relocation of some bones (e.g. skeleton (13815) in the stone cist F.2451). The same is true for child burials: there were only some dislocated stones and bones left from the child burials F. 2402 and F.2456. F.2400 had a stone lining with a grinding stone (13706.x1), which was placed upright at the W end. Unfortunately, there were stones missing at the S and E sides of the burial and no bones were preserved.

A more precise date for the Late Roman/Early Byzantine cemetery cannot be given at the moment, which is due to the lack of published and comparable material in the region (Last 1996, 145). But we hope that the excavation of further stratified material (e.g. diagnostic x-finds such as 13743.x1) will help us to establish a secure chronology for the graves from the West and East Mound and to contextualise it with other cemeteries from this period in Central Anatolia. As for now we can at least note that the orientation of the graves, the few grave goods and the frequent occurrence of hands folded over the breast most likely show Christian burial rites. It is also interesting to point out that the chronologically early grave F.2403 was so far the richest one. The post-depositional practices in the 4th to the 8th centuries AD still have to be scrutinized, but there might be other reasons for it than looting. We would like to avoid terms such as ‘looting’ or ‘robbing’ here; new work on this topic shows that such practices may be deeply embedded in the social practices regarding death and funeral rather than a ‘criminal act’ (cf. Kümmel forthcoming).

#### Early Chalcolithic settlement

The Early Chalcolithic (EC) architecture which we have uncovered so far (Fig. 100) is heavily truncated by Late Roman/Early Byzantine graves as well as later pits. This clearly makes it difficult to understand the form and function of the EC architectural remains, but at the same time gives us a quick window into the EC stratigraphy. For instance, in the cut of grave F.2461, we could distinguish two horizontal surfaces of white plaster. One of them slopes upwards along a mudbrick wall F.2463 and is oriented roughly N-S; it runs close to the N profile of Trench 6 into an E-W oriented wall F.2462. These lines might either be plastered floors or wall plaster downwash. Although we could not yet assess the ceramics of deposits (13894) and (13895) associated with them, a first preliminary examination revealed only prehistoric material. We hope, therefore, to be able to corroborate an EC date for these domestic architectural remains in Trench 6 next year (they begin just 0,4m below the topsoil).

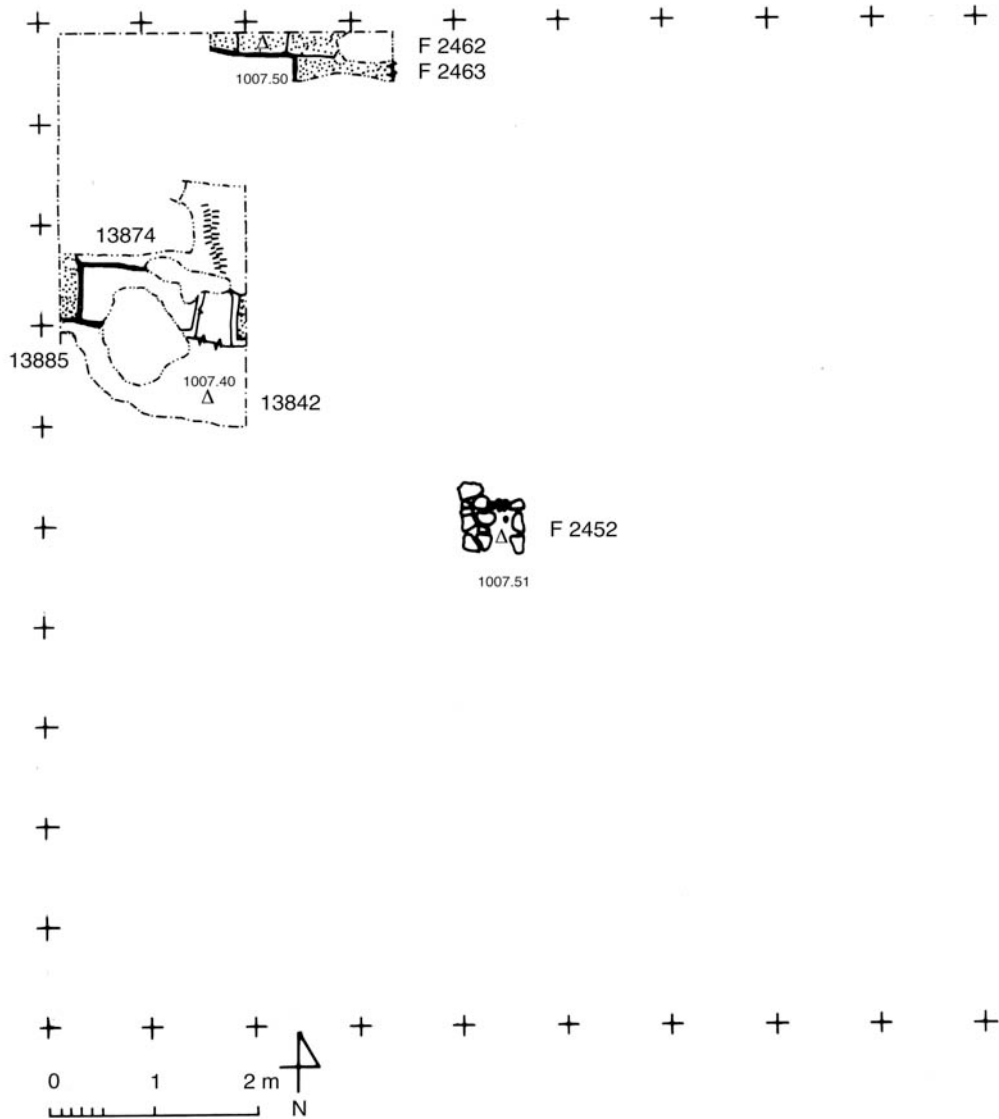


Figure 100: Plan of the EC architecture in Trench 6

Also their stratigraphical and chronological relationship to the stone wall F.2452 (see above) can only be understood after further excavation next year. Unfortunately, the later pits truncated these architectural remains and their relationship to the plaster associated with F.2462 and F.2463 is still unclear (though their similar level at ca. 1007.45 m a.s.l. strongly supports that the plaster floor (13842) is linked to them). Small plaster rims (13885 and 13874) – which actually lies on top of it – with a preserved height of 5 to 10cm enclose a rectangular plaster surface (13875 and 13776) of ca. 1,2 m (E-W) by 0,6 m (N-S). Though a final interpretation is not yet possible, it looks like these structures represent internal room installations, which are similar to the darker (so-called ‘dirty’ area) in the NE of (13842). But we have to keep an alternative interpretation in mind: these structures could also be mortar between mudbricks, which has already been disintegrated. Though the consistency and look of these structures are different from the mortar between the EC mudbricks in Trench 5 (Fig. 101), the width of 0,6m and the fact that they abut mudbricks close to the W



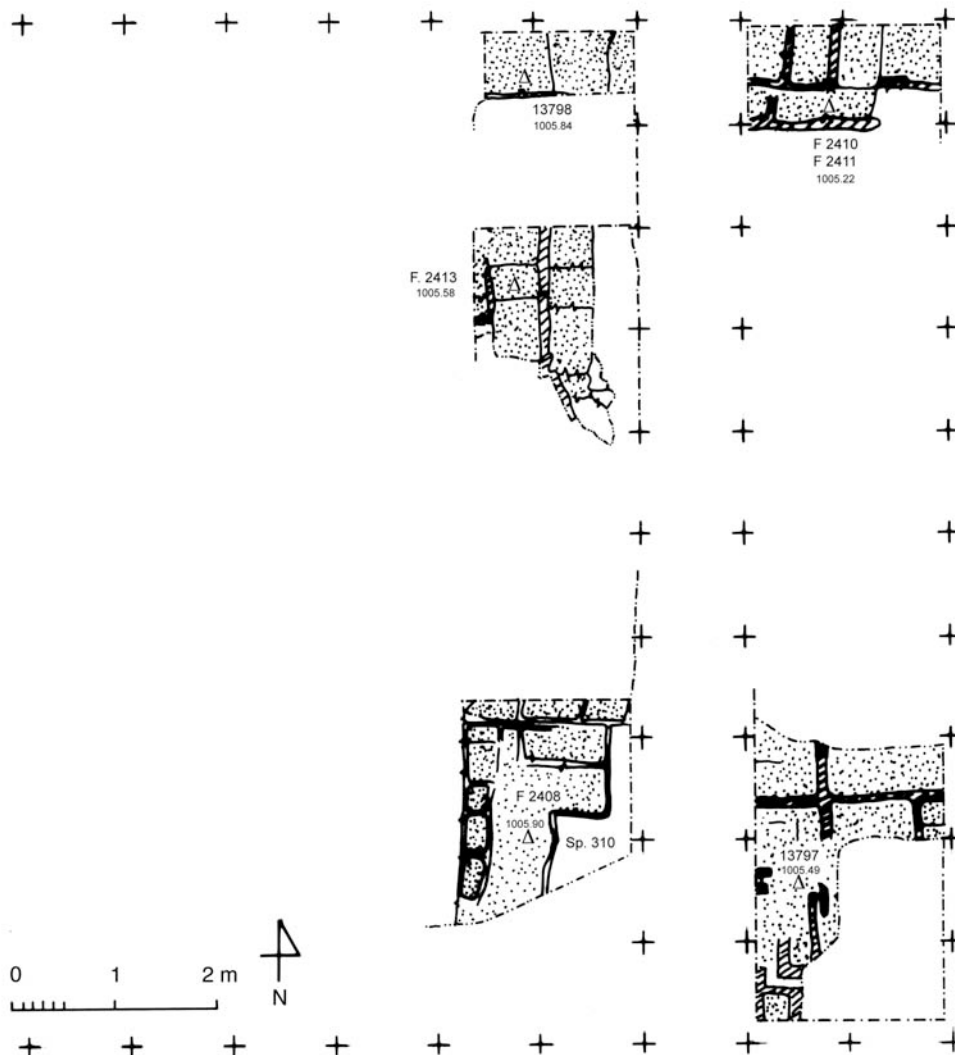


Figure 101: Plan of the EC architecture in Trench 5

profile of the trench as well as the presence of two more mudbricks (13868), which continue eastwards from it, could support the latter interpretation.

In Trench 5 EC architecture was visible in the eastern part of the trench directly after the removal of the topsoil (at ca. 1006,10 m a.s.l.). Here, a wall (F.2408) consists of two rows of grey mudbrick. In the W and E the bricks show a layout with a N-S orientation and have a width of ca. 0,9m (Fig. 102). The latter mudbrick wall was truncated in S by grave F.2403 and runs exactly N for ca. 1.1m before it binds into a buttress, which juts towards the E. The wall in this section was covered with bright white plaster (13726) facing towards the

buttress. The wall could be traced for another 0.9m and is then covered by a layer of darker soil, which we will remove next year. But it is interesting to note that it seems to continue further N (though the mudbrick wall F.2413 is truncated by later pits down to a level of ca. 1005.75 m a.s.l.). Close to the N profile, another line of white plaster runs E-W (13798) and links up with a wall F.2411 in the N end of the Trench 5 extension. This wall can be connected to wall F.2410 which is visible in the N profile and they form a corner where the two walls meet. In the SE part of Trench 5, we have labelled a recognizable Space 310 (E of wall F.2408); its interpretation as an

‘inside space’ is corroborated by a grey loose deposit W of the wall, which very much looks like ‘outside’ or ‘between’

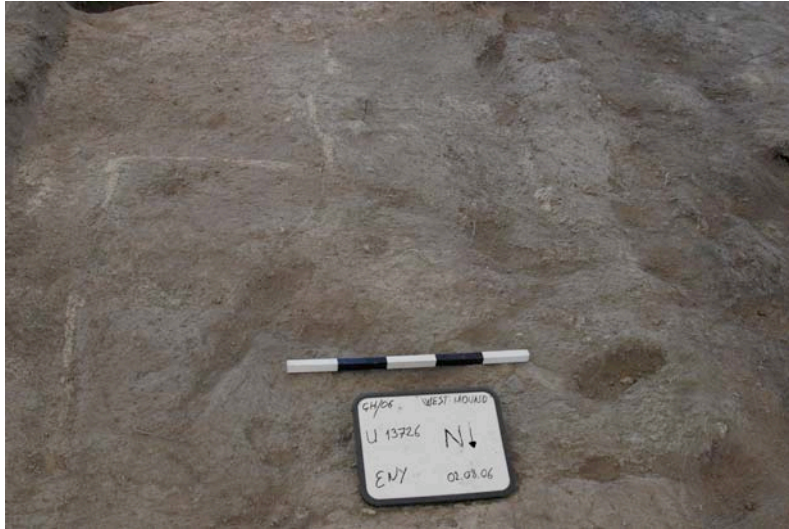


Figure 102: Wall F.2408

midden areas, which have been documented in previous campaigns (Gibson/Last 2003, 63). The deposits excavated in this part (13763, 13793 and 13796) consisted of white plaster lumps and large fragments of EC pottery. The subsequent excavation of levels below the excavated grave F.2403 have so far not yet revealed any structures such as a plastered floor (The base of the wall F.2408 has not yet been reached). In the S part of the two metre wide extension of Trench 5, we have not yet a clear understanding of the architectural remains. We are able to recognize mudbricks (13797), which show grey mortar between the bricks, but we are not yet sure whether we have here a collapsed or (very thick) standing wall of mudbricks. Once we clarify their stratigraphy, we will hopefully be able to better understand the nature and function of the criss-cross pattern (13735) (Fig. 103) ‘on top’ of the mudbricks.



Figure 103: Criss-cross plaster pattern (13735)

It consists of almost pure plaster and could either be a means of bonding bricks together or a sort of wall decoration. But it has also been suggested that it could be the product of insects burrowing and excreting wall plaster from elsewhere; the occurrence of lumps of the same or similar material in the fill of grave F.2403 makes its interpretation even more difficult. In addition to the chemical and micromorphological analysis it will be the careful excavation of the at least half a metre of EC architecture in the area, which will bring us to a closer understanding of its meaning.

Generally, the grey colour of the mudbricks of the EC architecture is hardly distinguishable from the colour of the gritty mud mortar. In contrast to the brown-yellow East Mound bricks, it seems that more recycled materials from middens or house rubble has been used making the EC bricks .



Figure 104: A selection of EC shards



Figure 105: Two relief-decorated shards with a representation of an animal – one of them probably represents a deer

Except in Space 310, EC pottery has only been found without any secure context so far (Fig. 104) and a detailed study of the material will start in 2007. Among those the most significant finds were two relief-decorated shards – one with a representation of an animal; probably a deer (Fig. 105) – as well as a tray-like small vessel with a red painted human figure on its inner base (Fig. 106). It's also interesting to note the find of a shard from a probably later phase of the Early Chalcolithic (Fig. 107). We also found fragments of two anthropomorphic and one zoomorphic clay figurines, which will be described elsewhere (see report Meskell).



Figures 106 & 107 A tray-like small vessel with a red painted human figure on its inner base, Decorated EC shard

## **Acknowledgements**

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### **Future plans for the West Teams – *Shahina Farid***

The results of the 2006 season defined a new three-fold research approach for the West Mound excavations. It was decided that the new excavations would approach a two fold Chalcolithic research agenda and the third would focus on the Classical and later periods.

- West Team Trenches 5 & 6 will be led by Peter Biehl (University of Cambridge) and Eva Rosenstock Free University Berlin.

This team will continue to work in Trenches 5 and 6 opened in 2006 on the southeastern slope. The aim is to excavate a step trench down to natural in order to reach the earliest levels of occupation on the West Chalcolithic mound. The results combined with those from the TP Area on the East mound will inform on the nature of transition from Late Neolithic on the East Mound to Early Chalcolithic on the West Mound or, illustrate that the two sites were at some stage occupied concurrently.

- West Team Trenches ‘to be decided’ will be led by Burçin Erdogu (University of Thrace).  
This team will focus on excavations to the northwest of the mound to correlate Chalcolithic occupation sequences at Çatalhöyük to other Chalcolithic sites in Central Anatolian such as Can Hasan.
- West Team Classical and Later activity led by Ahmet Tırpan and Asuman Baldıran (Selçuk University).

It is known that the west mound was used heavily as a burial ground in the historic periods. So far, little by way of occupation or other associated activity has been found. To date teams excavating on the West mound have only excavated late burials in trenches in order to release the Chalcolithic deposits, the focus of their research. The Selçuk University team will concentrate on excavating late burials and any other activity in both Trenches 5 and 6 and those that occur in the new areas opened by the Erdogu and his team. This will enable the team to view a much wider and meaningful late burial assemblage in a holistic manner and thereby release the other teams to concentrate on their research agendas.

### **Future research in Trenches 5 and 6 – *Peter Biehl & Eva Rosenstock***

The architecture at Çatalhöyük West plays a pivotal role and we hope that uncovering the structure of the settlement will enable us to understand the reasons for the shift from the Çatal East to the West Mound. This is a particularly vital question because Schoop (2005b) has argued that significant socio-economic changes in the Late Neolithic and Early Chalcolithic of Anatolia occurred: according to him, Hacılar (Mellaart 1970), Ilıpınar (Roodenberg 1995) and other Western Anatolian sites represent a segregate settlement pattern differing from the conglomerate structures of

the Central Anatolian plain which span from Aşıklı Höyük (Esin and Harmankaya 1999) over Çatalhöyük East to Can Hasan 2B (French 1998; see also Cutting 2005). While buttresses and benches or platforms in Building 25 and in wall F.2408 in Çatalhöyük West resemble roughly contemporaneous architecture from Can Hasan I (Gibson/Last 2003, French 1998), it is too early to make any definitive comparisons. Therefore the focus of the next season will be to continue the excavation of the EC buildings by extending Trench 5 further east and Trench 6 further northwest. At some point we will also continue to excavate Building 25 in order to link this central part of the EC settlement – it is located at the highest point of the mound – with the outskirts of the settlement on the eastern side of the mound. We thus hope to better understand the architecture of the EC buildings as well as their spatial organisation.

Another main research objective is to establish the site's full stratigraphy (EC, approx. 6000-5800 cal BC, but maybe even Late Neolithic) and to link it with the East Mound (Late Neolithic Level 0-I, approx. 6000 cal BC). The finds of EC material on the East Mound (see report Czerniak et al.) and the hints pointing to a deep stratigraphy on the West Mound (see report Chris Doherty) shed new light on the question of if there was a hiatus between the two Çatal mounds or not (Mellaart 1965 vs. French 1966, see also e.g. Parzinger 1993, Özdoğan 1999, Schoop 2005a). We thus aim in the long run to excavate down to the earliest layers of the West Mound in our trenches in order to establish a well-stratified ceramic sequence. In addition, we plan to clean a profile in the cut for the adjacent modern canal as this might give us a quick window into the deepest layers of the West Mound on its eastern fringe. In addition to providing a date for the beginning of the new settlement on the West Mound, we want to test our current hypothesis that there was no hiatus between the two Çatal mounds, but instead two contemporaneous settlements within two circumscribed places for many generations. Bettering our understanding of economic, social, political and religious similarities and differences will be the focus of our research in coming years.

#### **Future research in of ECII - *Burçin Erdoğu***

When Çatalhöyük West mound was first excavated in two small trial trenches (I and II) by J. Mellaart (1965), on the basis of the pottery he divided the occupation into two phases - Early Chalcolithic I (EC I) and Early Chalcolithic II (ECII). EC II was represented in a series of pits in Trench II to the northwest part of the site and pottery similar to EC II was noted Can Hasan I, phase 2B.

The aim for our next excavation season will be to focus on the northeast part of the site where the EC II occupation was first noted. We will investigate the EC II occupation at Catalhöyük West and explore how it developed from the EC I occupation as well as address how to contextualise the transition from EC I (c.a. 6000-5700 cal BC) to EC II (c.a. 5700-5500 cal BC).

#### **West Mound criss-cross "plaster" feature - Chris Doherty (Oxford)**

An unusual observation was of a branching series white curvilinear features (Fig. 103), apparently of a material similar to plaster and exposed on the upper side of a collapsed wall. Originally thought to be decorative, these showed the following characteristics:

- 1) these linear/curvilinear forms maintain parallel sides and are typically of 2-4cm thick.
- 2) they show low relief of 3-5mm.

- 3) some are branched, with 2 or 3 branches of equal thickness arising from a single node.
- 4) they show cross-cutting relationships with early and late members having the same appearance.
- 5) typically these have slightly raised margins and a concave centre, forming a shallow trough.
- 6) these linear features are segmented by frequent fractures perpendicular to their length.
- 7) compositionally the white material is a very fine grained limestone or limestone/ marl mix.

There is little or no contamination from the host matrix. Some textural variation is observed: generally the texture is of a fine powder but this occasionally becomes coarser and saccharoidal. A few small (less than 2mm) harder cores are present and break with sub-conchoidal fracture. This material is very similar to that observed in an associated grave immediately upslope. Here, small microfossils were preserved, indicating that the material had not been fired.

Together these characteristics suggested that these were originally sub-horizontal insect burrows or feeding galleries. This was confirmed as excavation revealed a series of 20-40 perfectly preserved cylindrical insect burrows inclined within the vertical section of the adjacent plastered wall. These had equivalent diameters and occurred singly or in clusters, being the equivalent of the unbranched and branched/overlapping features (respectively) in the floor/collapsed wall section.

The above observations can be fully interpreted as follows:

- 1) insects burrow through a grave features which contain significant amounts of marl.
- 2) burrowing continues through a plastered wall which, because of its relative mechanical strength, has preserved the original tubular form of the burrow, complete with calcified lining.
- 3) burrows spread out horizontally along the collapsed wall feature, this horizon being relatively loose packed and attractive for the development of branched feeding galleries.
- 4) during use and/or abandonment these galleries gradually fill with fine marl moving downslope from the grave fill feature and plaster wall. This is a gradual process resulting in little mixing with the darker floor sediment. These burrows are only partially infilled, giving the shallow concave form observed. Unlike the plastered wall, the substrate here did not have sufficient strength to preserve the original tubular form.
- 5) finally, shrinkage of the marl infills results in spaced fractures developing perpendicular to their length.

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## **SEL Area / SEL Alanı - Asuman Baldıran, Zafer Korkmaz**

Site Assistants: Vildan Konaç, Tuncay Özdemir, Seda Akarsu, Zeliha Yüksel, Sevgi Gürdal, Nesime Özdemir, Leyla Akgün.



*Figure 108: Trench A The trench was initially excavated down to 50cm but no architectural remains or structures were found.*

2006 yılı kazı sezonunda çalışılacak olan alanı belirlemek amacı ile öncelikle Doğu Çatalhöyük'ün güney ve güneydoğu eteklerinde Selçuk Üniversitesi ekibi olarak yüzey araştırmaları yapılmıştır. Bu araziler içinde tapu kadastro kayıtlarında 192 ve 193 numara ile gösterilen parsellerin yüzeyinde bulunan obsidiyen ve seramik malzemenin yoğunluğuna göre, T.K.İ. personeli tarafından yapılan Jeofizik araştırmalarının raporları göz önüne alınarak, 24.07.2006 tarihinde Selçuk Üniversitesi

Arkeoloji Bölümünden Yrd. Doç. Dr. Asuman Baldıran başkanlığında altı kişilik bir ekiple çalışmalara başlanılmıştır. 2006 yılı Selçuk Üniversitesi Ekibi Çatalhöyük kazılarının birinci etabı höyüğün doğu yönünde bulunan iki parsel içinde oluşturulan dört açma ile gerçekleştirilmiştir.

Kazıların birinci etabında Doğu Çatalhöyük'ün doğu yönünde bulunan parselde iki ve güney doğu yönünde bulunan parselde iki olmak üzere dört açma oluşturulmuştur. Bu açmalar oluşturuldukları tarih sırasına göre A-B-C-D olarak adlandırılmışlardır (Fig. 108). Açma A ve Açma B olarak isim verilenler 192 numaralı parselde, Açma C ve Açma D olarak isim verilenler ise 193 numaralı parselde bulunmaktadır.



## Açma A:



Figure 109 & 110: NW of Trench A

Çatalhöyük kazıları çerçevesinde 24 Temmuz 2006 tarihinde 4x4 m. ölçülerinde “Trench (Açma) A” adı ile ilk açma oluşturularak kazılara başlanmıştır. Oluşturulan bu açmada ilk etapta 50 cm. derinliğe ulaşılmış (Fig.108), ancak mimari kalıntı veya yapı ögesine rastlanmaması sonucu, açma içinde kuzeybatı yönünde ¼ lük alanda, 2x2 m. ölçülerinde bir açmada derinleşmeye karar verilmiş (Fig. 109) ve bu alanda 2 m. derinliğe ulaşılmıştır (Fig. 110).

Açmada Hellenistik, Roma ve Bizans Dönemine ait olduğu düşünülen ağız, gövde ve kaide parçalarından oluşan seramik malzeme ile çeşitli tiplerde kesici ve delici özelliğe sahip obsidiyen ve cam parçaları bulunmuştur. Açmada 100 cm. derinlikte konunun uzmanları tarafından at veya eşeğe ait olabileceği belirtilen omurga ve bacak kemiği kalıntılarına ulaşılmış ve fotoğrafları çekilerek ilgili laboratuvara teslim edilmiştir (Fig. 111 - 112).



Figures 111 & 112: Spinal and leg bones identified as horse or donkey were found at 100cm depth

“Açma A” da hiçbir mimari kalıntı veya yapı ögesine ulaşılamamış, ayrıca belirtilen seramik, obsidiyen ve cam örneklerin stratigrafi takip etmediği anlaşılmıştır. A açmasının tamamının alüvyon dolgudan oluştuğu saptanmıştır. Açmada 50 cm. daha inilip gerekli kontroller yapıldıktan sonra açmadaki çalışmaya son verilmiştir.

Kazı çalışmasında diğer üç açma için de aynı durum söz konusudur. Yüzeyden 1 m derinlikte karşılaşılan 50 cm kalınlıktaki yoğun miktarda killi oldukça sert yapıdaki bir tabaka ile karşılaşılmıştır. Jeofizik çalışmasında bu tabakanın tarım toprağına göre daha fazla elektrik direnci değeri vermesi sonucu, jeofizik raporunda bu alanlar

mimari kalıntı olarak değerlendirilmiştir. Ayrıca açmada 150 cm. derinlikten itibaren herhangi bir arkeolojik malzemeye rastlanmaması bu düşünceyi desteklemektedir (Fig. 113 - 114).

A açmasında ilk bir metrelik etapta stratigrafiye bağlı olmadan bulunan seramik ve obsidiyen malzemenin varlığı ise büyük olasılıkla höyük üzerinden gelen akıntı toprak ve höyük çevresinde sürdürülen tarımsal faaliyete bağlı olmalıdır.



*Figures 113 & 114: Trenches B, C and D at 1m depth, we found a hard, clay layer which was approx. 50cm in thickness.*

26 Temmuz 2006 tarihinde A Açması'nın güneydoğu yönünde, 2 m. uzaklıkta 2x2 m. ölçülerde oluşturulan B açmasında 2 m. derinliğe ulaşılmıştır. B açmasında da A açmasında olduğu gibi Hellenistik, Roma ve Bizans Dönemine ait olduğu düşünülen ağız, gövde ve kaide parçalarından oluşan, ne var ki stratigrafi takip etmeyen seramik malzeme ve çeşitli tipte obsidiyen aletler bulunmuştur. Açmada 1 m. derinlikten sonra herhangi bir buluntuya rastlanmamış ve gerekli kontroller yapılarak açmadaki çalışmalara son verilmiştir.

#### **Trench (Açma) C:**

1 Ağustos 2006 tarihinde jeofizik raporundan elde edilen verilere bakılarak 2. parselin kuzeybatı köşesinde oluşturulan 2x2 m. lik açmada başlanan çalışmalarda 1 m. derinliğe kadar ulaşılmıştır. Açmada herhangi bir buluntu, mimari kalıntı ve yapı ögesine rastlanmamıştır.

#### **Trench (Açma) D:**

2 Ağustos 2006 tarihinde jeofizik raporundan elde edilen verilere bakılarak 2. parselin güneydoğu köşesinde oluşturulan 2x2 m. lik açmada başlanan çalışmalarda 3 m. derinliğe kadar ulaşılmıştır. Açmada herhangi bir buluntu, mimari kalıntı ve yapı ögesine rastlanmamıştır.

## Bati Çatalhöyük çalışmaları:



Figures 115: A glass ring was found in grave F.2406

Yukarıda adları belirtilen dört açmadan yapılan çalışmaların tamamlanmasının ardından, 2005 yılında Batı Çatal Höyükte yapılan gezilerde yüzeyde karşılaşılan geç dönem malzemesinin araştırılmasına karar verilmiştir. Bu amaçla Kazı Başkanı Prof. Ian Hodder ile görüşülerek, Cambirdge ve Trakya Üniversitesi tarafından Batı Çatalhöyük kazılarını yapmak üzere oluşturulmuş kazı ekibine, Selçuk Üniversitesi ekibi olarak 3 Ağustos 2006 tarihinde dahil olunmuştur.



Batı Çatalhöyük kazılarında SEL ekibi olarak yeni bir açma oluşturulmamış, bunun yerine daha önce Cambirdge ve Trakya Üniversitesi tarafından kazılarına başlanmış olan iki açmada büyük olasılıkla Bizans Dönemine ait olduğu düşünülen mezarlarının kazıları yapılmıştır.



Figures 116, 117 & 118: The graves were made of a variety of materials, stone, soil and mudbrick.

3-10 Ağustos 2006 tarihleri arasında ekibimiz yapılan çalışmalarda onbir adet mezar ortaya çıkarılmıştır. Mezarlardan sadece 2406 Öge numaralı mezarda iskeletin baş hizasında bir adet bronz yüzük bulunmuştur (Fig. 115). Ortaya çıkarılan mezarların tamamı doğu batı yönlüdür ve

hepsinde tek gömü yapılmıştır. Mezarların tamamında iskeletler sırt üstü yatar durumda mezara konulmuşlardır.

Saptanan mezar tipi ise çeşitli malzeme ile yapılmış sandukadır. Mezarlar taş sanduka mezar (Fig. 116), basit toprak mezar (Fig. 117) ve kerpiç sanduka mezar (Fig. 118) tipindedir. Mezarlar alttan üste doğru inşa edilmiş olmalıdırlar. Mezarların yapımında en alt kısımda sıkıştırılmış toprak veya kerpiç (Fig. 117), mezar duvarlarının da dört veya beş sıra kerpiç tuğla (Fig. 120) ve üst yüzeyde ise yassı taş kullanılarak mezar kapatılmıştır (Fig. 119).



Figure 119 & 120: Examples of stone capped and brick lined graves

### **SEL Area**

In order to decide the area to be excavated in 2006 season, we surveyed the south and southeast slopes of the East Mound. According to the concentration of obsidian and pottery fragments which were found on the surface level of the subdivisions 192 and 193 of these fields as well as to the results of the Geophysical survey reports, Yrd. Doç. Dr. Asuman Baldiran and her team from the Selçuk University started their work on 24.07.2006. The team initially excavated 4 trenches within the two subdivisions that were on the east of the mound.

Two of these trenches were opened on the east of the East Catalhoyuk, whilst the other two were on the southeast of the mound. According to their opening order, the trenches were named as A,B,C,D. Whilst the Trench A and B were opened within the subdivision 192, the Trench C and D were located within the subdivision 193.

Trench A: An area of 4x4m started being excavated on 24.07.2006. The trench was initially excavated down to 50cm (Fig.108), but no architectural remains or structures

were found. Therefore it was decided to open an area of 2x2m within the area of ¼ on the northwest side of the trench and to excavate it down to 2m (Fig.109 & 110).

We found a number of rim, body and base fragments of pottery which might date to Hellenistic, Roman and Byzantine periods as well as a variety of obsidian and glass fragments. In addition to these, some spinal and leg bones were found in 100cm depth which were studied by the Faunal specialists and decided to belong to a horse or a donkey (Fig.111 & 112).

We could not find any architectural remains or structures in Trench A. It was also clear that the ceramic, obsidian and glass fragments found in this area did not follow a stratigraphy. It was decided that the Trench A was made up of an alluvial infill and the work was ended after excavating down 50cm more.

Trenches B,C and D also presented the same conditions. In 1m depth, we found a hard, clay layer which was approx.50cm in thickness. Since this layer was highly affected by the electric current during the Geophysical surveying, it was thought to be an architectural remain. And the fact that there were no evidence of any archaeological material from 150cm downwards, also supports this view (Fig.113 & 114).

The existence of any ceramic and obsidian material, which were decided to be out of stratigraphy may be explained due to the soil flow that comes from the mound or the agricultural activities undertaken around the mound.

Trench B: An area of 2x2m started being excavated on 26.07.2006. Trench B was located on the southeast of the Trench A (2m in distance) and excavated down to 2m. Similar to the Trench A, a number of rim, body and base fragments of pottery which might date to Hellenistic, Roman and Byzantine periods as well as a variety of obsidian fragments were found, but none of these fragments followed a stratigraphy. The work was ended after 1m depth due to the non-existence of any finds.

Trench C: An area of 2x2m was opened on the northwest of the second subdivision and the work commenced on 01.08.2006 as we excavated down to 1m. No finds, architectural remains or structures found in this area.

Trench D: An area of 2x2m was opened on the southeast of the second subdivision and the work commenced on 02.08.2006 as we excavated down to 3m. No finds, architectural remains or structures found in this area.

### **The Work on the West Mound**

When the work was completed on the trenches explained above, it was decided to investigate the later material which was observed during the survey undertaken on the West Mound in 2005. Therefore it was agreed with Prof. Ian Hodder that the Selçuk Team would join the West Mound team (Cambridge University and University of Thrace) on 03.08.2006.

Instead of opening new trenches on the West Mound, we excavated the burials which possibly date to the Byzantine period and were already started being excavated by the West Mound team.

During the excavations between 03-10.08.2006, 11 burials were excavated. Only in one of the graves (F.2406), we found a glass ring where the skull laid (Fig.115). All graves were orientated in the east-west direction and they were single burials. The skeletons were laid on their backs.

The graves were made of a variety of materials (stone, soil and mudbrick) and were in the form of a box (Fig. 116, 117,118). They were thought to be built from the bottom to top. The bases would be made of a compact soil or mud (Fig.117), then the walls of the graves would be made up by using four or five rows of mudbrick (Fig.120) and finally a horizontal stone would be used to cover the grave (Fig.119).

## CULTURAL AND ENVIRONMENTAL MATERIALS REPORTS

### **Animal Bones - Nerissa Russell (1), Katheryn Twiss (2), Kamilla Pawlowska (3), Liz Henton (4)**

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#### **Abstract**

The faunal team recorded nearly 50,000 bones during the 2006 season, bringing the total recorded over 700,000. This year's work focused on middens and abandonment deposits. Isolating midden material as the best reflection of overall consumption patterns, sheep/goat increases in proportion starting at Level VI, at the expense of cattle and especially equids. We discuss abandonment deposits found in Building 65 and elsewhere that include freshly deposited remains of final meals and dumped stores of bones, particularly sheep/goat metapodials, equid phalanges, and astragali of various taxa. We also discuss dog remains in abandonment and other deposits, in particular partial dog skeletons in plaster boxes.

#### **Özet**

Zooarkeoloji ekibi 2006 sezonunda 50.000 kemik kaydederek, toplam kayıt edilen hayvan kemiği sayısını 700.000' e ulaştırdı. Bu sezon yapılan çalışmalar çöplük ve terk edilme birikintileri üzerinde yoğunlaştı. Ayrılan çöplük malzemesi, genel tüketim örneğini en iyi şekilde yansıtmaktadır. Sığır ve özellikle atgiller sayısının Tabaka VI'da azalmasına rağmen, koyun ve keçi sayısında orantılı bir artış görülmektedir. Ayrıca, Bina 65 ve taze biçimde korunmuş olan en son yemek kalıntılarının ve kemik atıklarının (özellikle koyun/keçi ön ve arka ayak kemikleri, atgillerin parmak kemikleri ve çeşitli sınıflara ait aşık kemikleri) bulunduğu diğer alanlardaki terk edilme birikintilerinin yanısıra, köpek kalıntıları da (özellikle sıvalı kutular içindeki kısmi köpek iskeletleri) tartışıldı.

#### **Introduction**

During the 2006 field season, 49,991 faunal specimens were analyzed, bringing the total number of analyzed bones and bone fragments to 708,448. Despite this, the quantity of unanalyzed bone at the site increased, as the excavation of massive quantities of midden produced 51 new crates of faunal bone: a nearly 20% increase in the total quantity of ÇHRP faunal material.

The zooarchaeological team's analytic foci of the 2006 season included middens and special deposits from the 4040 and TP areas, bone clusters in the South Area, and a fragmentary bucranium from the IST area.

#### **Collaboration with Selçuk University**

The faunal team was quick to benefit from the new collaboration initiative between Selçuk University and the Çatalhöyük Research Project. Selçuk's Vice-Dean, Kursat Turgut bey, is a veterinary scientist who enthusiastically gave much of his time to us. Through his liaison we met Dr. Mehmet Ali Kaya bey, of the Selçuk Education

Department, whose research focuses on the wild Anatolian sheep in the nearby Bozdag Reserve. These wild sheep, and Mehmet bey's research, are invaluable to our understanding of sheep in the Çatalhöyük environment. Kursat bey then won us permission from the Environment and Forestry Department to visit the reserve, where a great and useful day out was had by all, culminating in the viewing of a wonderful film on these wild sheep. Kursat bey is now negotiating with the Environment and Forestry Department both for a complete skeleton of a fallen sheep for the faunal lab's reference collection, and a collection of mandibles to be used for baseline work by Liz Henton in her PhD research on the mobility patterns of the Çatalhöyük sheep.

## **Part I: Area Reports**

### **4040 Area**

Large midden deposits from the 4040 provided tremendous quantities of material for analysis (see below). All of these midden deposits appear to be from roughly Level V, providing an excellent sample for this period. The major lacuna in the East Mound sequence is now Level IV, from which we have very little material and no midden deposits.

In addition to middens, some special deposits were recorded from the 4040 area. A post retrieval pit in the northeast corner of Building 49 contained a complete, probably female, cattle horn (13640.X1); a large fragment of large equid skull (13640.X2), and a burnt cattle distal radius (13640.X3) (see Fig. 56) in addition to some worn pieces from the fill. 13640.X3 might have been part of the fill material, but 13640.X1 and 13640.X2 were clearly deliberately placed. These might have been placed in the pit as compensation for removing the post, as seen elsewhere, or could be part of the general spread of dismantled installations and feasting remains found on the floor of this building. However, the equid skull fragment found on the floor of the building (7940.X2) is from a mature animal while 13640.X2 is from a young animal, and the cattle horns found on the floor were from large males and were plastered while 13640.X1 is female and unplastered. Thus the character of this deposit seems slightly different.

A concentrations of sheep/goat astragali and small round stones (13418, 13431) in Building 67 was not completely excavated by the time the zooarchaeology lab closed, so full analysis will wait until next year. So far 129 sheep and goat astragali have been recorded, some abraded as knucklebones and most unworked.

North of Building 67 in between-wall Space 300 two related clusters were recovered. Cluster (13424) toward the eastern end contained a right and left cattle mandible in association. Cluster (13419) at the western end included another set of right and left cattle mandibles and a complete large equid second phalanx. This space also contained a 32 cm fragment of a probably male cattle horn core (13432.X1). The horn core might be part of a dismantled installation, and the equid phalanx may be significant in light of the cache of equid phalanges in Building 65 in the South area (see below), although those are first phalanges and this is a second phalanx. The mandibles were found in two pairs, fairly close to anatomical position. However, they are not simply dumped butchery waste but must have been carefully arranged, as they derive from four different animals.



### **TP Area**

Although the major part of the bone material that was excavated in the TP area during the 2006 season will be analyzed in future years, we describe several analyzed deposits. They come from features stratigraphically dated to between Level I and 0 (clearly post-Level I), Level I and Level II. The animal bones were excavated from Buildings 61 and 62 as well as brickly layers near the buildings.

One of them (12277), composed of a large number of constructional elements including fragments of mortar, broken mudbricks, painted plaster, and clay was probably preliminary to the construction of Space 248 (Twiss et al. 2005) and associated with the abandonment of Building 61. Stratigraphically it can be dated to post-Level I. This layer contained a small-moderate amount of animal bone. There were mostly sheep-size animals with a little large mammal. The diagnostics were mainly sheep/goat, with a few cattle and dog. The sheep-size body part distribution was fairly even, but a bit light on the vertebrae and ribs, although rib heads were well-represented. Fragmentation was moderate, with many pieces ca. 5 cm. There was some digestion and gnawing, but very little burning. Generally this deposit of animal bone looks reworked because the surface condition was somewhat variable and mostly rather worn. The material from the flotation sample was generally similar to the dry-sieved but with more burning. The few diagnostics were mostly sheep/goat with one cattle phalanx fragment. A microfauna vertebra was also found.

The comparison of brickly layers situated eastwards from Buildings 61 and 62 (13020, 12282, 12277) with those laid to the south (13022 and over it 12278) from them, will be crucial. A typical brickly layer in the east and a midden-like / infill layer on the south suggests the possibility of faunal difference, as yet unknown at this stage of investigations. A perforated pig incisor bead was recovered from one of these layers (12278.X2).

Some burnt bones (13072) together with burnt brick fragments and pottery were discovered in a hearth area: dark greyish ash with many charcoal inclusions, located in the western part of infill layer (13509), below the occupation level situated under Building 62. The dry sieve sample provided information about burnt bone, small in fragment size (2 pieces over 5 cm and only 5 pieces over 3 cm), with sharp edges, not trampled, little abrasion or polish surface, with rodent and carnivore activity and a little bit of digested bone. Although the animal bone deposit (mostly fragments of long bone shaft, sheep/goat teeth and feet) comes from a hearth, it looks as though it was near enough the hearth to become burnt, rather than material directly associated with the activities that caused the burning.

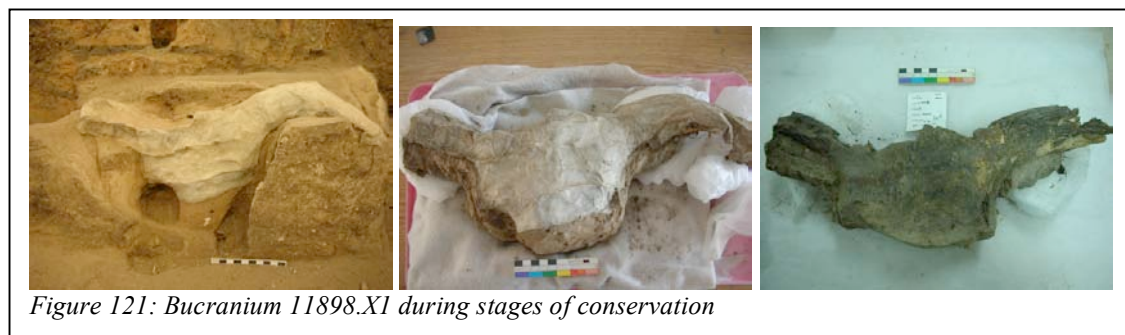
### **South Area**

Within the South Area, excavation this year centered on the Building 65/56/44 sequence and the vicinity of Building 53. Our recording was focused on the Building 65/56/44 sequence (see discussion of abandonment deposits below).

### **IST Area**

The IST area this year yielded several special faunal finds, including the fragmentary remains of the first plaster-coated bucranium discovered by the current team (11898.X1-Fig.121). The horns of this small (probably female) animal are broken, so that the right one is approximately 8 cm long and the left approximately 12 cm. The

right horn core is also burnt. The frontal was broken just posterior to the orbits, while the parietal remained relatively complete. A small amount of occipital may have been present as well, but the skull bottom does not extend much below the horns. The interior of the skull is filled solid with clay, which covers 1-2 cm of the bases of the horn cores. A layer of unpainted white plaster covers the bucranium's surface.



Other finds in the IST Area include a cluster of faunal remains (13909) discovered in Space 253. They were found along with a considerable quantity of ground stone inside an odd plaster structure resembling an in situ pot. Eight of the bones are sheep astragali, six unworked and two knucklebones. They all appear to have come from different animals. Two are digested, indicating that this collection of bones was not assembled during butchery, but collected from leavings elsewhere on site. The ninth bone in the cluster is a complete sheep metacarpal. This association of astragali and complete metapodia is a recurrent phenomenon at the site (see discussion of abandonment deposits below), suggesting that perhaps these bones had similar or complementary meanings or functions.

Another cluster (12492), found in fill in Space 294, consists of the anterior foot of a small Bos, discovered partly articulated but with the paired phalanges (i.e., the two “toes”) placed side by side, pointing in opposite directions. Excavators suggested a ritual placement, but it could as easily be the result of child’s play. The first phalanges bear evidence of carnivore gnawing, so the foot had been scavenged after dogs had access to it.

A complete dog skull (12485.F1) and a cattle horn core (12485.F7) were also discovered in the fill of Space 301. The skull included the cranium and both articulating mandibles; the horn core consisted of a base and part of the attached frontal bone.

### **West Mound**

Although excavation was renewed on the Chalcolithic West Mound in 2006, the contexts excavated were all of mixed periods, so only worked bone was recorded. Next season should bring many assemblages from secure contexts that will help to fill in our knowledge of these later periods.

## **Part II: Topical Discussion**

### **Middens: A Diachronic Survey**

Over the past four years we have been able to record considerable midden material from Levels later than VI, which was missing at the time of our first major analysis

(Russell and Martin 2005). At this point it seems worthwhile to assess some general trends in the faunal remains through time on the East Mound. We suggest that midden deposits, whose faunal material consists primarily of the remains of daily meals but includes waste from a wide range of activities, provide the best picture of overall culling patterns. Moreover, midden deposits, while difficult to link to particular houses, can usually be assigned securely to a level. Most other deposits are either the result of special activities that are likely to be less representative of overall patterns, or are redeposited and of uncertain origin. Of course, even for middens there are problems with level assignments outside of the South Area, so this analysis should be understood as preliminary, and many of the level designations are approximate and subject to change. Despite the generally representative nature of middens, contextual differences are still an issue. The earliest and latest periods have been excavated only in restricted areas (one each), and may not provide an adequate characterization of activities in those levels. This is especially true for the pre-XII levels, which are known only from an area that was apparently on the edge of the site at that time, and which seem to represent a narrower range of activities than most middens. There are also taphonomic differences, with many of the Level V middens showing particularly rapid burial and excellent preservation, while the Level III-I middens are more slowly accumulated and slightly degraded, and many of the pre-XII deposits have been worked over extensively by dogs.

Level	Sheep/ goat	Cattle	Deer	Boar	Equid	Dog	Other	Total
III-I	130 82.5%	17.5 11.1%	0 0%	4 2.5%	4 2.5%	2 1.3%	0 0%	157.5
V	670 89.4%	28 3.7%	7 0.9%	1.5 0.2%	13 1.7%	13.6 1.8%	16.4 2.2%	749.5
VI	467 87.4%	22.5 4.2%	14 2.6%	4.5 0.8%	9 1.7%	3.4 0.6%	14.2 2.7%	534.6
VII	151 57.7%	43 16.4%	1.5 0.6%	7.5 2.9%	38 14.5%	13.8 5.3%	7 2.7%	261.8
VIII	355 56.5%	107.5 17.1%	2 0.3%	32.5 5.2%	99 15.8%	15 2.4%	17.6 2.8%	628.6
XI	49.5 82.2%	8 13.3%	0 0%	.5 0.8%	2 3.3%	0 0%	.2 0.3%	60.2
XII	19.0 56.9%	8 24.0%	0 0%	1 3.0%	3 9.0%	0 0%	2.4 7.2%	33.4
Pre-XII.A	142.5 76.7%	9.5 5.1%	.5 0.3%	3 1.6%	17 9.2%	4.2 2.3%	9 4.9%	185.7
Pre-XII.B	279.5 76.3%	24.5 6.7%	4.5 1.2%	15.5 4.2%	4 1.1%	12.8 3.5%	25.6 7.0%	366.4
Pre-XII.C	43.5 82.5%	0 0%	0 0%	3 5.7%	2 3.8%	1.2 2.3%	3 5.7%	52.7
Pre-XII.D	43 83.3%	2 3.9%	2 3.9%	1 1.9%	2 3.9%	1.4 2.7%	.2 0.4%	51.6

*Table 1: Major Taxa by Diagnostic Zone (DZ)*

In particular, we wish to examine more closely the trend identified in previous archive reports toward higher proportions of sheep and goat in the later periods, peaking at

91% on the Chalcolithic West Mound (Gibson et al. 2004). We also suspected that the ratio of sheep to goats might be increasing through time. Table 1 presents the identified taxa by major categories for all levels with material recorded from middens, quantified by diagnostic zones (Watson 1979). As noted, the pre-XII levels are contextually somewhat different, and may or may not accurately represent the taxa consumed on site. Levels XI and XII have rather small sample sizes and are from deposits that show evidence of animal penning as well as midden dumping, perhaps at different seasons, and thus may not show a complete picture, either. From Level VIII on we have more reliable representation, save the notable lacuna in Level IV, where no middens have yet been excavated. Within this sequence (Level VIII-I), there seems to be less of a gradual trend than a sharp change in sheep/goat numbers, from under 60% in Levels VIII and VII to over 80% from Level VI on. While these do not rise to the over 90% proportion on the West Mound, we should note that the West Mound assemblage is not based on midden material, which has not yet been excavated there. Table 2 shows the sheep:goat ratio based on diagnostic zones from the midden material. If anything, there is a slightly decreasing trend in the proportion of sheep (which always dominate), but from Level VI on the ratio is not very different from the 5:1 on the West Mound (Gibson et al. 2004). Table 1 also indicates that as sheep and goat increase from Level VI on, cattle and especially equids decrease.

Level	Sheep:Goat Ratio
III-I	4:1
V	5:1
VI	4:1
VII	7:1
VIII	5:1
XII	6:1
Pre-XII.A	11:1
Pre-XII.B	5:1
Pre-XII.C	4:1
Pre-XII.D	6:1

*Table 2: Sheep:Goat Ratios by Level*

Further analysis is in progress to define the nature of the variability among the various midden deposits on site. Taphonomic differences are clearly apparent among middens from different parts of the mound.

Convergent features also occur. A large midden deposit analyzed this season ((10396), with 7233 fragments of animal bone) is similar to midden (8864) analyzed last year, also from the 4040 area, which contained 24,396 animal bones (see 2005 archive report). In both cases there was plenty of diagnostic and scrap material, all age ranges

(perinatal to adult), a moderate tempo of deposition (manifested in mild to moderate weathering as well as the presence of fragments gnawed by carnivores), low levels of burning (and almost all low-temperature), and several pieces of worked bone. There were few butcher marks (filleting, dismembering and consumption), most of these observed on ribs. On some fragments, such as the proximal shaft of a sheep-size rib (10396.F1666), more than one type of mark was observed, forming two generations, made during filleting and consumption. There were many (ca. 16), short and long (2 - 12 mm), oblique cut marks observed on the dorsal surface, light and medium in depth, parallel to each other in two groups.

The bone deposit from midden (8864) was more varied taxonomically (mammals: sheep/goat, cattle, equid, pig, badger, hare, fox, human; turtle; bird; microfauna) than

was 10396 (sheep/goat, cattle, equid, pig, hare, fox, wolf, red deer, human, bird), however, this may relate to the size of the sample.

### **Special Deposits**

#### **Abandonment Deposits**

The Building 65/56/44 sequence in the South Area provides an opportunity to examine abandonment behavior through a series of rebuildings that followed a similar floor plan. Specifically, we will consider abandonment deposits in these buildings. Building 44 was followed by the also similarly laid out Building 10, but this was probably too near the surface for abandonment deposits to remain undisturbed.

We define abandonment deposits as items or groups of items found on or near the floor that appear to have been placed intentionally and would not have been in that position during occupation. Elsewhere on the East Mound we have observed various kinds of abandonment behavior, including scouring of floors; demolishing features and deposition of parts of these dismantled installations; spreads of feasting remains; and deposition of special items such as scapulae, singly or as groups. Often a building will contain more than one of these deposit types.

The Building 65/56/44 sequence contains a few items that are likely to be parts of dismantled installations. Most of these are on the floor of Building 65: five large segments of cattle horn cores (13352.X1-2, X6, X9, X13) derived from at least four horns, a nearly complete goat horn core (13352.X10), and a large piece of red deer antler (13352.X7). A cattle scapula (13352.X8) is part of this same spread of items. While we have no evidence of scapulae being used in architectural installations apart from a few built invisibly into walls, they are a frequent element of abandonment deposits and may have been curated in houses as trophies of hunts or feasts. Building 56 lacks remnants of dismantled installations, while Building 44 has only a piece of antler (10602.F1) that might be from an installation but is more likely raw material for tools, and is from a context that has suffered from exposure such that it is not certain whether it was on the floor or in the make-up of a platform. Several pots were found with it.

In addition to the probable pieces of dismantled installations, which have been found in many other buildings although certainly not all, Building 65 contained a number of abandonment deposits of a different and less commonly found character. These deposits occur around the periphery of the building and contain what appear to be fairly minimally processed remains of final meals along with dumped caches of raw materials that perhaps had been curated in the house. The caches do not appear to be in their original storage location. While individual materials are concentrated in some clusters, smaller numbers are found in other clusters, suggesting that materials were gathered up from some location or locations and dumped by the basketful in these spots around the edge of the building. They do not lie directly on the floor but on top of a clay layer on the floor, suggesting they were dumped as the building was filled.

Cluster (13365) is in Space 298, the small side room on the western edge of Building 65 (Fig. 122). This room has several bins, but the cluster was dumped outside of the southernmost bin, between it and the wall. Along with many pieces of ground stone, it contained likely remains of meals: a young sheep/goat scapula, a goat humerus, and a sheep/goat femur, all minimally processed. Horns from a young sheep and goat may



Figure 122: Cluster (13365) in Space 298, the small side room on the western edge of Building 65 contained three complete sheep metatarsals, eleven equid first phalanges, from at least two and probably three equid species and at least four animals, representing collections of raw material.

also be food waste, and very likely also a red deer scapula and metacarpal. The metacarpal (13365.X32), which has been broken for marrow, was then used expediently and briefly as a pottery or plaster polisher. In addition, there are three sets of bones that appear to form collections of raw material. Three complete sheep metatarsals, one with articulated tarsals were probably curated for making points. Eleven equid first phalanges, from at least two and probably three equid species and at least four animals, clearly form a special store (there are no other equid remains in the cluster). Perhaps they were intended to be incised as were 10081.F1, 10081, X1, and 12429.X3. However, all of these worked equid phalanges are unfused, while all of those in this cluster are fused. Finally, five cattle and one red deer astragali form another collection. Some but not all have a bit of abrasion and polish from use as knucklebones ('dice' used in divination or games of chance). This is the first use of astragali of this size for knucklebones at Çatalhöyük, although there is one fallow deer knucklebone (7811.F1).

Cluster (14019) is in the southwest corner of the main room (Space 297) of Building 65, west of the oven. It contains abundant ground stone fragments and mostly meaty bones that are likely to derive from meals, with a few specimens that may derive from the same raw material stores found in (13365) but no worked bone. Here there are two cattle (and one pig) astragali, one

equid first phalanx, and one complete sheep/goat metapodial. The culinary waste is mostly sheep/goat with some larger taxa and a complete fox tibia. There are two articulated lamb's feet, from the same animal and found together and both exhibiting pathological alterations that may have influenced the choice of this lamb for slaughter. The bones are minimally processed, especially the sheep/goat. The bones of larger taxa are still in big pieces, but except for a complete equid scapula, more heavily processed and some are gnawed, hence exposed to dogs before burial, here or elsewhere. On the other hand the sheep/goat bones show considerable coherence, most probably coming from two animals: one infantile, one juvenile. The numerous unfused epiphyses still in place show that much of the sheep/goat component was dumped here while still quite fresh.

Cluster (13370) is nearby, south of the same oven in Space 299, a small room in the southeast. In addition to ground stone fragments, a few obsidian tools, and a mini-pot, it contains mainly sheep/goat bones. These are not the meaty parts, but suggest secondary butchery waste: mostly heads and feet. The surface condition indicates some period of exposure. A complete sheep metatarsal with articulated tarsals (13370.X1, F59-60) may be part of the raw material store seen in (13365) and (14019). There are three bone tools: a ring preform on a sheep/goat femur (13370.X27), a plaster tool on a cattle scapula (13370.X9), and a heavy point on a cattle tibia (13370.X8).

Cluster (13398) lies next to a bin in Space 119, a small northern extension of Building 65. The ground stone component is absent here, as are the raw material stores and the secondary butchery waste. It most closely resembles the main component of (14019), but more restricted in terms of the number of taxa and individuals. Most of the bone is minimally processed and very fresh. The majority appears to be derived from at least three sheep/goat individuals, two juvenile but of slightly different ages and one early infantile. Again, one of the older animals suffered from a pathology, a poorly healed fracture on the first rib. A few pieces of cattle bone are all from an early juvenile animal.

In sum, while each of these four clusters has its own distinctive character, there are also elements that link them. None seems to be in situ, but most have been deposited while the bone was relatively fresh. It is possible that some of the material, particularly the bone in (13370) and the large mammal bone in (14019), may have been dumped in from nearby houses while Building 65 stood empty and roofless. Much of it likely derives from one or more meals associated with ceremonies linked to the closing and filling of the house. The minimal processing and coherence of the deposits indicates a feast. However, the choice of sheep/goat usually associated with daily meals and the culling of defective animals suggests that the meal itself may not have been the focus of events or an opportunity to strive for prestige. It is particularly striking that numerous items dumped in these clusters appear to have been curated for later use, but were discarded at this point rather than brought to another building. As well as the metapodials, astragali, and equid phalanges, the ring preform was prepared but never used to extract a ring. The position of these clusters in peripheral areas (side rooms or a nook beside the oven) suggest a need to clear the central part of the building to facilitate demolition and filling, or to hold ceremonies there.

Building 56, which succeeded Building 65, lacks the dismantled installations and does not have abandonment deposits on the same scale, but does contain one cluster that bears some resemblance to those in Building 65. Cluster (12807) lay on the floor and contained several pieces of ground stone (including two axes) as well as some obsidian and flint, some bone tools, and two large pieces of sheep-size rib (not particularly suitable as raw material so probably meal waste). The tools are an antler haft (missing the tool it once held), an antler rod, and an expedient bone point. It is difficult to make sense of this assemblage as a toolkit. It may be remains from preparations for a ceremony, or things that were gathered up from the house and dumped together. Again, usable items have been left behind in what appears to be a deliberate deposit. Building 44, above Building 56, lacks faunal abandonment deposits other than possibly the antler piece mentioned above.

Abandonment deposits of dumped curated materials are not common at Çatalhöyük, but there are some other instances. This is seen most strikingly in Building 52 in the 4040 Area, which was burnt after the dumping of these materials. A large number of complete sheep/goat metapodials with articulated carpals and tarsals and sometimes phalanges had apparently been curated in this building. At least 31 were found in a cluster (11965) in Space 93, a small room with bins on the north, and six more in Space 92 (cluster 10291), another small room without bins on the southwest. The Space 92 metapodials had the phalanges left on, while the Space 93 ones did not, so these may have been two separate caches. Both these clusters included other materials. Cluster (10291) includes minimally processed and partially articulated sheep/goat meal and secondary butchery waste. Cluster (11965) also contained antler and large rib pieces that may also be raw material for tools. Nearby on the floor was considerable ground stone and some obsidian. In the fill above were pockets of grains and oily seeds and a cattle frontlet. Two of the bins in Space 93 contained collections of material. F.2003 in the northeast corner contained an antler tool; three immature wild boar mandibles, similar in age but not close enough to be from a single litter and thus most likely the result of more than one hunt; and mostly sheep/goat minimally processed meal remains; as well as an obsidian blade, ground stone fragments, and a mass of barley. F.2004 contained two mature wild boar mandibles, two pieces of antler trimmed for raw material, some large pieces of large mammal rib (two of them worked and the others possibly also raw material), a goat horn core, assorted minimally processed meal waste from a variety of taxa, and deposits of peas and oily seeds.

While the Building 52 clusters could be interpreted as stored materials that were in situ or fell from the wall during the fire, there are two arguments against this interpretation. First, many of the clusters contain waste from meals that were clearly fresh and deliberately deposited, and contrast to the relatively empty fill. These are hard to interpret as stored material. Second, there is clear evidence of dismantling and stacking of cattle horn installations in Space 94 of the building (Twiss et al. 2005), showing that there was demolition and preparations for abandonment before the fire. The cattle frontlet was probably placed in Space 93 as part of these activities. As in Building 65, there is a mix of dismantled installations; stored materials; and fresh, minimally processed remains of meals. The main difference is that the stored materials may have been left in place, rather than dumped and partly mixed as in Building 65.



Another similar cluster (10264) was recovered from the floor of Space 227 in Building 58 in the 4040 Area, as well as a major cattle feasting deposit. This cluster contained three finished bone tools; two preforms for abraded points on sheep/goat metapodials; eight sheep and goat metapodials with articulated carpals, tarsals, and phalanges; and minimally processed meaty portions of at least five sheep and goats of various ages.

Perhaps the sheep's feet and odd assortment piled in the 'lentil bin' (F.215) in Building 1 in the North area prior to burning (lentils, young sheep/goat scapula, at least 13 wild goat horns, cattle mandible) was the result of dumping house contents along the edge similar to Building 65. The same may be true of the bin with clay balls, ground stone, bone tools, and assorted bones from meals in Building 2 in the South Area. While it does not appear to be an abandonment deposit, the assemblage inside a plaster container in the IST Area (13909) might be a store such as we see dumped elsewhere (see IST section for details).

It would be useful to survey abandonment deposits systematically for all materials. At the moment, we can discern at least two variables in abandonment behavior. First, houses might be cleared of their stored items, presumably for further use in another house, or their contents might be assembled and left in the house as it was filled, clearly a deliberate choice. Second, houses might be burned or not. So far it appears that burnt houses retained their stored materials, but not all houses whose curated items were left in them were burnt. Destroying houses with their contents could be seen as conspicuous consumption, which included food remains and substantial amounts of heavy stone that had to be brought from at least 15-25 km away as well as raw material stores. But the sporadic nature of this destruction indicates it was not a routine part of house closing, but happened only under certain circumstances. Possible variables might include the social position of the house occupants, the reason for closing the house, or the intention to rebuild or not in place. In the case of Building 65, at least, we know that essentially the same house was rebuilt over it.

These deposits also provide insight into what kinds of materials were stored in houses. Along with ground stone, grain, oily seeds, and nuts, this includes antler (usually trimmed of tines), ribs and astragali of various taxa, sheep and goat metapodials (with some of the small bones still articulated, so probably still covered with skin), and equid first phalanges (so far only in Building 65).

#### **Dogs in a Box**

An interesting deposit consisted of the fill (upper and lower) from a well-defined square clay box feature in the 4040 Area ((10247), (10250)). Articulated dog remains had been deliberately placed in the box; the rest of the fauna consisted of loose pieces of caprine and cattle that are almost surely part of the background fill plus pieces from the slumping of surrounding deposits into the box.

The articulated dog remains that were intentionally placed in the box do not represent a primary interment, or indeed the remains of a single or complete animal. Rather, they consist of a selection of body segments from at least two different animals—one osteologically mature, one immature. These segments include one left jaw, a pair of adult upper forelimbs and shoulder blades, a young leg, both sides of a pelvis (but not the connecting sacrum), and two tail segments from animals of different ages. There

are no cranial remains apart from the single jaw, and no vertebrae apart from the tails. There are also no ribs. The bones are in fairly good condition, but there is light carnivore gnaw on a few of them. There are no cut marks. In total, the assemblage from the box suggests the collection of limb segments, and one jaw, from at least two partially decomposed dogs lying elsewhere on site. Significant portions of the animals were either already gone or left behind during this collection process, however: the feet, most of the heads, and almost all of the torsos.

This find was one of a small number of special deposits of articulated dog remains found at Çatalhöyük. Most of these deposits come from the 4040 and BACH Areas, raising the possibility that a ritual focus on dogs either developed during the later occupation of the site or was more important in one neighborhood than in other areas of the settlement. Apart from the clay-box deposit just described, finds include a very similar clay box discovered approximately two meters away from the first one. This second box is in poor condition, having been cut by an animal burrow, and its contents are few and jumbled. However, they do include what we suspect to be more dog remains ((11931): faunal analysis is incomplete).

Also in the 4040 Area, articulated segments of a dog (11980) were arranged both above and below a *Bos* cranium discovered pushed into an abandoned oven (Twiss et al. 2005). Segments of the dog's spine and pelvis as well as one of its tibiae were found above the cattle cranium; its humerus, ulna and radius, and other tibia were below the cranium; and the dog's own skull lay adjacent to the cattle one. This deposit is interpreted as related to the closure of Space 227, although the bones lie on fill as opposed to directly on the house floor.

The articulation and good surface condition of the bones in combination with the presence of very light carnivore gnaw on both the oven dog and the dogs-in-a-box suggest that the body parts present in these deposits were scavenged as at least partially fleshed segments from corpses originally deposited elsewhere. In other words, the animals were not newly dead, and probably not specially slain for use in these deposits, but they were still moderately fresh.

Outside of the 4040 Area, a relatively complete neonatal dog (i.e. a newborn puppy) was recovered from the fill above a platform inside a BACH area house ((3553), (2274), (2280)). The puppy may, like the 4040 Area dogs, have been decapitated and partially dismembered. A complete dog skull (cranium plus articulating mandibles) was also found in a fill unit in the IST Area (12485) this year.

Dog remains were used in other special/ritual contexts as well, and non-articulated finds appear in higher numbers in areas other than the 4040 Area. For example, dog teeth were used as beads (e.g. 11657.X2, where teeth from two dogs as well as a badger were used to make a pair of anklets in a child burial in the South Area). Dog cranial remains are particularly favored in what appear to be ritual deposits, including a skull (cranium plus mandible) and axis found together with a selection of special crane, cattle and wild goat remains associated with the construction of Building 1 in the North Area (Russell and Martin 2005). In the South Area, a dog skull and neck were discovered in the fill of a foundation cut, while another skull was found in a post retrieval pit. Dogs may also have been used at feasts, as the skeleton of a young dog was interspersed with cattle remains in an apparent feasting deposit in the South Area

(Russell and Martin 2005). Unusually high proportions of dog remains were found in the offsite KOPAL Area as well, in faunally atypical deposits that may represent feasting remains (Russell and Martin 2005). However, dog remains are also very common in middens and other patently non-ritual contexts, indicating that dogs were not exclusively or even primarily associated with feasting or symbolic behavior. Further contextual and osteological analyses of dog remains at Çatalhöyük are underway.

### **Conclusion**

This year's faunal work has focused on recording more midden material to enlarge samples of secondarily deposited animal bones reflecting overall animal use, and shedding light on abandonment behavior through the study of assorted special deposits. It is clear that there is considerable variation in abandonment behavior, but also some patterning that is emerging.

### **Acknowledgments**

We thank all the other skilled analysts for their hard work and stimulating thoughts in the zooarchaeology lab in 2006: Rhian Mayon-White, Arzu Demirergi, Andy May, David Orton, Sheelagh Frame, and Louise Martin.

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### **Worked Bone – Rebecca Daly** (*Stanford University*)

During the 2006 season 235 worked bone items were recorded, both from backlog and from current excavation. This brings the total of recorded worked bone items to 1689: these are broken down by type for both the current season and overall in Table 3. The worked bone found up to 1999 is discussed in the excavation volumes (Russell, Vol 5, chapter 16), so I will not go into great detail about each type of item here, instead concentrating on new information. The usual faunal information was recorded for each of the tools (although modification often makes identification difficult by removing diagnostic characters). In addition to noting morphological data, the tools were examined for microwear under a binocular light microscope at magnifications 25-150X. The worked bone items were mainly of types found in previous seasons. All object types found at Çatalhöyük are listed in Table 3.

## Tool Types

### Points



Figure 123: Pre-form (11644.X7) is a metapodial which has been ground flat on the dorsal and ventral sides.

Points continued to be the dominant type, accounting for 823 (or 49%) of the total worked bone items and 126 (or 54%) of the 2006 items. As previously, the predominant material used for point manufacture is sheep/goat metapodial. One of the pre-forms (11644.X7-Fig. 123)) is a metapodial which has been ground flat on the dorsal and ventral sides, preparatory to being made into points with heavily flattened or squared bases. One unusual point found in a late midden was made on a canid ulna, probably a fox (13167.X1). Three carved points were also found this season, 12831.X1, 13103.X2, 12980.F3, all from the later levels.

### Beads

Points were followed in importance by beads at 120 (or 7%) total and 21 (or 9%) for 2006, needles at 116 (or 7%) total and 10 (or 4%) for 2006, and rings at 114 (or 5%) total and 8 (or 3%) for 2006. A new type of bead, the 'chain link' bead (5411.F1), appeared, both complete and as preforms (13167.X8). These are much smaller than the other bead types, and are confined to the upper levels of the site. Most of the beads recorded during the 2006 season come from the bead-box, where a number of beads had been filed without passing through the faunal lab in previous years. Both the bodkin type of needle and the type that looks like a modern metal needle were found, although the latter appears primarily in the later levels and the 4040 Area. None of the rings were identifiable as 'pillar rings', although this may or may not be related to the excavation concentration on later levels.

### Ornaments



Figure 124: 12519.X4 can be described as a 'plaque' - flat, polished piece of bone.

Two of the ornaments, 12519.X4 (Fig.124), and 12988.F9, can be described as 'plaques'. They are flat, polished pieces of bone that have no apparent purpose. They appear to be made from cortical pieces of large bones, so it is possible that the partially worked bos jaw 11930.X6 was in the early stages of being shaped into a plaque. They may also have been intended to be made into

pendants, although the degree of polish suggests that they were used as they are. Two other 'ornament' items, 12946.F1 and 12972.F4, could be described as combs, although they have no apparent wear between the 'teeth', and both appear to have been used more as spatulas.

### **Knucklebones**

There are only 2 knucklebones that have been fully analyzed from the 2006 season. However, 129 sheep/goat astragali have been recovered so far from Building 67, units (13418) and (13431), (13414.F1). While these were initially recorded as a cluster, they appear to be well mixed with the fill under the floor, spread evenly across in what might be a single dump activity, and mixed in with small, flat, round, black or white river pebbles. The units were not fully excavated by the end of the season, so I chose to wait until I could examine them whole. However, preliminary analysis suggests that the astragali range from unmodified through a range to extremely modified, to the extent of wearing away half of the bone. The Basic Faunal Data forms record a range of taphonomic wear, including weathering, burning, and digestion, so these were clearly not all collected directly from butchered animals. Their appearance alongside the colour-selected round pebbles is suggestive of an intentional collection, perhaps for divination or gaming, but further analysis is needed. This deposit is significant not only because of the mixture of astragali with coloured stones, or their unusual wide spread under the floor level, but also because of their sheer number. Before these deposits were excavated, only 20 worked astragali had been found. While not all of these astragali are worked, those that are obviously so more than double and perhaps triple the number of 'knucklebones' found at the site. This fits with earlier observations (Russell, Archive Report 2003) that knucklebones appear after Level VI.

### **Miscellaneous**

Several more antler items appeared (12466.X2, 12652.F2, etc.) and as with previous antler items, they were roughly made, especially in contrast with the careful work on bone items.

### **Discussion**

A wide variety of tool types continue to be found. Points continue to constitute around half of the worked bone assemblage, and after analysis of the deposits begun this year, next year it is possible that knucklebones may be the second most common type. This is likely due to increased excavation in later levels, where knucklebones are more common. It is also likely that this concentration on later levels will bring a decrease in percentage of total worked bone for both rings and needles (in the bodkin sense of the word needle- like knucklebones, needles that look like modern metal needles seem to appear in the later levels).

	2006		Total	
	#	%	#	%
Point	126	54%	823	49%
Rounded point	0		17	1%
Blunted point	1	0.4%	5	0.3%
Needle	10	4%	116	7%
Harpoon	0		1	0.1%
Pick	1	0.4%	3	0.2%
Hammer	1	0.4%	3	0.2%
Pounder	0		1	0.1%
Chisel/gouge	11	5%	35	2%
Chopper	0		1	0.1%
Scraper	0		8	0.5%
Punch	0		1	0.1%
Pressure flaker	2	1%	6	0.4%
Soft hammer	0		6	0.4%
Pottery polisher	3	1%	20	1%
Burnisher	1	0.4%	14	0.8%
Plaster tool	2	1%	14	0.8%
Haft/handle	0		8	0.5%
Fishhook	1	0.4%	12	0.7%
Weight	0		1	0.1%
Sickle Handle	1	0.4%	1	0.1%
Spoon	0		4	0.2%
Spatula	6	3%	21	1%
Bowl/cup	0		2	0.1%
Knucklebone	2	1%	20*	1%
Ornament	4	2%	19	1%
Pendant	2	1%	27	2%
Bead	21	9%	120	7%
Ring	8	3%	114	7%
Belt hook/eye	1	0.4%	6	0.4%
Collar	2	1%	8	0.5%
Preform/Waste	6	3%	108	6%
Miscellaneous perforated tools	0		3	0.2%
Flute	0		1	0.1%
Palette	0		1	0.1%
Indeterminate	23	10%	139	8%
Total	235		1689	

\*The knucklebones included in the discussion were not analyzed as artefacts, and so do not count toward the recorded number.

*Table 3. Type representation for both 2006 items recorded and all items recorded*

**Human Remains - Başak Boz (1), Lori D. Hager (2), and Scott Haddow (3), with contributions by Simon Hillson (4), Clark S. Larsen (5), Christopher Ruff (6), Marin Pilloud (7), Sabrina Agarwal (8), Patrick Beauchesne (9), Bonnie Glencross (10) & Lesley Gregorika (11)**

(1) Selcuk University, (2) U.C Berkeley, (3) University College London (4) University College London, (5) Ohio State University, (6) John Hopkins University, (7) Ohio State University, (8) U.C Berkeley, (9) U.C Berkeley, (10) University of Toronto, (11) Ohio State University

## **Abstract**

The 2006 field season at Çatalhöyük yielded many new Late Roman/Byzantine and Neolithic skeletons. A total of 70+ individuals were recovered during excavations on the East Mound and West Mound at Çatalhöyük. Forty-five Neolithic burials were recovered from the East Mound in the 4040 and South Areas. No burials were found in the IST and TP Areas this year although some disarticulated human remains were found in non-grave contexts. Twenty-seven burials dated from the Late Roman or Byzantine time periods were found in the 4040 Area of the East Mound and on the West mound. Only Late burials were found on the West Mound this season. The discussion that follows is the result of our field and laboratory work during the 2006 field season. Given the large number of burials recovered this season, the laboratory results are preliminary.

## **Özet**

2006 sezonunda Çatalhöyük’de çok sayıda Geç Roma/Bizans ve Neolitik döneme ait insan iskeleti bulundu. Doğu ve Batı höyüğündeki kazılar boyunca, farklı kişilere ait 70’i aşkın iskelet kaydedildi. Doğu höyüğünde bulunan 4040 ve Güney Alanları’nda, 45 adet Neolitik gömüt bulundu. İST ve TP alanları, mezar dışı kontekstlerde bulunan bazı eklemsiz insan kalıntılarının dışında hiç gömüt vermedi. Batı höyüğü ile Doğu höyüğündeki 4040 alanında bulunan 27 adet gömüt Geç Roma/Bizans dönemine tarihlendi. Bu sezon Batı höyüğünde sadece geç döneme ait gömütler bulundu. Raporda belirtilen sonuçlar, 2006 sezonunda yapılan alan ve laboratuvar çalışması sonucunda elde edilmiştir. Bulunan gömüt sayısının fazlalığı dolayısıyla, laboratuvar çalışmasının sonuçları şu an için sadece ilk incelemelere dayanmaktadır.

The human remains team was represented by a steady contingent of researchers in 2006. These included Simon Hillson and Clark Larsen, team leaders; Başak Boz, Lori Hager and Scott Haddow who concentrated on the excavation and preliminary analysis of the burials from the 2006 field season; and Lesley Gregorika who was tasked with labelling samples from previous seasons and helping excavate and inventory this season’s skeletons. We were joined by visiting scholars Christopher Ruff, Marin Pilloud, Bonnie Glencross, and Patrick Beauchesne who were at Catalhöyük to conduct research on the collection for specific projects. A short synopsis of these projects is given later in this report.

## Neolithic Burials 2006

The Neolithic burials found in the 2006 field season have increased our sample size of juveniles and adults buried in the East Mound to approximately 280 individuals. All of the Neolithic burials were found in the context of buildings and spaces. Adults were found under the floors of the houses although the partially articulated remains of one adult were found in the reconstruction layers of a building. Children were found in houses. A few individuals were directly associated with grave goods although many were not. The associated materials included stone beads, animal bone pins and tools, pigments, and shell beads. The preservation of the bone varied from poor to good.

The Neolithic burials were in a flexed/crouched position. The orientation of the bodies varied. Some burials were single while others were multiple with several individuals interred within a confined area over a period of time. The burials were mostly primary ones. Secondary burials were also found. One notable burial was that of a pregnant female and with her full-term foetus in the pelvic and abdominal areas. It seems likely they died during childbirth. Earlier burials were often disturbed by later interments. The 2006 burials confirm that while the main human disturbance of the burials occurred for the interment of other individuals in the same space, primary burials were also disturbed for the procurement of the skull or other skeletal elements. Three individuals were found missing their heads and another individual was found fully articulated but absent the shoulders, arms and legs. In another instance, the skull, mandible, and articulated arms and legs of one individual had been placed into the grave in a simulated flexed position disarticulated from the rest of the skeleton. Finally, the incomplete skeletons of an adult and a child were found together under a platform floor.

### 4040 Area Neolithic Burials

The Neolithic burials from the 4040 Area came from Buildings 49, 60, 64 and Space 309. One individual was found under the floor of Building 49, a building that has not been fully excavated. Ten individuals were found in Building 60, 8 of these in a multiple context. Building 64 had an articulated arm and lower leg in the layers of infill. A multiple burial was found in Space 309 in the southwestern corner of the 4040 Area. Five articulated skeletons and four disarticulated ones were recovered from this mass grave. The context of the burials is unclear because the building was highly eroded and disturbed. It is possible the burials were in the north or northeast platform based on the walls from the building below it. One single grave was also found in this area. During the removal of the infill of the building below Space 309, seven juvenile skeletons (6 neonates/infants, 1 child) were found. These burials are associated either with the end of one house which is still intact or the beginning of the newer house above it which is now gone. Tables 4 and 5 summarize the age and sex determinations of the 2006 sample from the 4040 Area.

Age	4040	South	Total
Neonate/infant	13*	8*	21
Child	2	4	6
Adolescent	3	2	5
Adult	11	3	14
<b>Total</b>	<b>29</b>	<b>17</b>	<b>46**</b>

\* Includes a foetus

\*\*Includes five unnumbered individuals found in a burial context

*Table 4: Age determinations of the Neolithic Burials from Çatalhöyük 2006*



Sex	4040	South
Male	3	2
Possible Male	1	0
Female	5	3
Possible Female	1	0
Indeterminate	1	2
Not observable	18	10
<b>Total</b>	<b>29*</b>	<b>17**</b>

\*Includes two unnumbered individuals found in a burial context

\*\*Includes three unnumbered individuals found in a burial context

Table 5: Sex determinations of the Neolithic Burials in 2006

### **Building 49, Space 100**

An interesting burial (F.1492, Skeleton (13609)) was found in Building 49 (Fig. 125). The grave was in the floor immediately to the south of north platform. There was red paint on the northern part of the wall. The relationship of the platform and the grave is unclear. There are indications of other graves under the platforms of the house, which have yet to be excavated.

The older individual, possibly a male, was found in a grave with the arms, legs and shoulder bones removed. The skull and torso were fully articulated. There was no evidence of cut marks on the bones. The removal of the scapulae and clavicles would have been particularly difficult if their removal was done post-interment in the



grave. The position of the head and torso in the grave and the lack of loose bones such as fingers and toes in the grave suggest removal of the elements in another area. Moreover, while it is possible the grave was opened later to take the missing body parts, there is no evidence of this relative to the burial cut. Pre-interment removal of the body parts is possible. The removal

Figure 125: F.1492, Skeleton (13609) was found in Building 49. The older individual, possibly a male, was found in a very shallow grave with the arms, legs and shoulder bones removed. The skull and torso were fully articulated.

of the parts seems to have been done after most of the flesh had decayed but while the ligaments or other soft tissues were still holding the torso and head together.

This is the first example of removal of the parts of the bodies other than the heads. This interesting find and the burial practices of Çatalhöyük will be discussed in details elsewhere.

## Building 60



Figure 126: A single burial (F.2200, skeleton (12905) in Building 60

Three interment areas were found in Building 60. Two single graves were found. A possible adult female (F.2200, Skeleton (12905)) was found in the northwest area of the building in Space 277 and an infant (F.2227, Skeleton (13100)) was buried in the southwest corner of the east platform in Space 278 (Figs. 126 & 127). Eight individuals (F.2232) were found in a multiple context in the east

platform of Building 60 in space 278 (Fig. 128). The burials were found in a relatively confined area, and while the pit was deep, the bones were in close proximity to each other from one level to the next. The first interment in this part of the platform was a pregnant female (Skeleton. 13162) with her full-term fetus (Skeleton. 13163) who was found in her thorax and pelvis. Death in childbirth seems likely. In addition, the female was headless. An animal bone pin and green pigment found in direct association with the pregnant female. One individual (Skeleton. 13132) had black residue in the area of the ankles and feet. Found in the burial fill unassociated with a specific individual was a basket, an animal bone pin, a stone bead and concentration of green pigment.



Figure 127: A neonate burial under the east platform of Building 60



Figure 128: A multiple burial (F.2232) in Building 60

Sequence of Burial Events in Northeast Platform (F.2225)

A minimum of four burial events took place in platform over the life of the house. One burial cut (13101) was made for the single burial of the infant Skeleton (13100). A minimum of three burial cuts ((12998), (13102), (13476)) were made for the multiple burials in the platform. The sequence of burials events may have been as follows:

1. Skeleton (13162/13163) were the first to be interred in the southern portion of pit. The burial cut (13476) was made in the southern part of the platform. A basket or mat (13470) was first placed into the pit, followed by the pregnant female. Her fully articulated, flexed body was headless. It is possible the skull was taken at a later date. No cut marks were observed on the cervical vertebrae (Fig. 129).



Figure 129: A headless pregnant woman skeleton (13162) and foetus (13163) in Building 60 from the last layer of the multiple grave F.2232.

2. Skeleton (13133), a male, was put into the grave after the burial of the mother and child. The disarticulated elements included the skull and mandible, the complete left arm, the right lower arm, and both legs. They were placed aside and above the pregnant female in a simulated flexed position. The head and mandible of skeleton.

(13133) were placed to the west close to where the head of skeleton (13162) should have been. There was no evidence of a separate burial cut for skeleton (13133) although the disturbance in the upper levels may have made the cut impossible to see (Fig. 130).



*Figure 130: A disturbed male skeleton F.2232, skeleton (13133) and partial pregnant female skeleton (13162) from the multiple burial in Building 60.*

3. Skeleton (13124) and skeleton (13125), a young adult female and a juvenile of 15-18 years, were buried in the pit in the more northern area of the platform (cut (13102)). The interment of these two individuals did not appear to have disturbed the earlier individuals already in the platform. However, skeleton (13124) and skeleton (13125) are disturbed by later interments. When found, many of the bony elements belonging to skeleton (13124) and skeleton (13125) were scattered in the upper levels of the pit. Not all the bones of these 2 individuals are present in the pit (i.e., some must have been put elsewhere).



*Figure 131: A juvenile of 12-14 years (12935), a young male (13126), and an older female (13132) from the multiple burial F.2232 in Building 60.*

4. A juvenile of 12-14 years (skeleton (12935)), a young male (skeleton (13126)), and an older female (skeleton (13132)) were placed in similar positions and orientation at the same level (Fig.131). They appear to have been buried at or near the same time. The excavation of these graves (cut (12998)) expanded the size of the burial pit in a north-south direction. The interment of these 3 latest burials disturbed the skeletons of skeleton (13124) and skeleton (13125). After the interment of the 3 individuals, the burial fill, including the skeletal elements of skeleton (13124) and skeleton (13125), are put into the burial pit. The platform is replastered and no other Neolithic individuals are buried in this part of the platform.

5. Skeleton (13100) is buried in the southeast corner of the platform as a single interment. This individual was the last one to be buried in the platform

#### ***Building 64***



This building was truncated by a large midden deposit. An articulated arm and articulated lower leg (F.2231, skeleton (13120)) were found in the infill of the remaining part of Building 64 (Fig.132). There were no other skeletal elements of this individual found in the area. It is possible the arm and leg were put in the infill during the construction of the building above. Due to the nature of the

*Figure 132: An articulated arm and lower leg F.2231, skeleton (13120), Building 64.*

articulations, the arm and the legs must have been still fleshy when they placed into the infill. There are marks on the arm bones that may indicative of dismemberment but these could also be gnawing marks of an animal. These marks will be examined more closely during the next field season.

#### ***Space 309***

Two separate interment areas were noted during the excavation of the infill of a building in the southern part of the 4040 Area. One group of burials consisted of a single grave of a child burial F.2249, skeleton (14104) and a multiple burial with 9 individuals, some of which are represented by only a few bones. This group of individuals had been buried under the floors or platforms of



*Figure 133: A double infant burial F.2559, skeletons (14138), (14146) in Space 309*

a building, which was now eroded away. The second group, all juveniles, was found in the foundation layers of the building (Fig.133). These burials (F.2559, skeleton (14146), skeleton (14138), F.2560, skeleton (14148), F.2561, skeleton (14150), F.2564 skeleton (14162), F.2562 skeletons (14164), (14165 & (14137))) could have been interred either at the abandonment of the house below or during the construction of the building above. The context of these burials and the actual number of the skeletons buried within this space is not clear since the excavation of this space is ongoing.

### *Multiple Burials*

Several individuals were found in the northeast corner of Space 309. The individuals were interred in the building above which is now gone. The burials may have occurred in the northeast corner of the building, possibly under a platform, based on visible walls of the building below. The upper part of the burial pit was disturbed by later activities such as Roman/Byzantine interments or/and during the removal of the infill of the space. The upper layer of the grave contained three neonates/infants (F.2248, skeletons (14101), (14107), (14109) and an adult female (14102) (Fig.134). After removal of these individuals, the lower layer of the grave revealed an adolescent (F.2557, skeleton (14108) and an adult male (F.2558, skeleton (14139) (Fig.135). The skeleton of one female (F.2565, skeleton (14167)) was completely scattered throughout the pit. There were also some scattered bones of two additional infants found throughout. These bones may belong to one of the infants found on the upper level or they might belong to two additional individuals, raising the minimum number of individuals in this pit to nine.

### *Sequence of Burial Events for the Multiple Burials from Space 309*

The grave contained 4 articulated skeletons and the skeletal elements of 5 other individuals. The grave was opened for interment a minimum of 5 times. The sequence of burial events is as follows:

- 1) The first event was to bury an older female (skeleton (14167)). The bones of skeleton (14167) were completely scattered throughout the fill. This individual was later disturbed several times during the interment of other individuals. These include the burial of an older male (skeleton (14139)), a juvenile of 15-17 years (skeleton (14108)), and possibly the burial of three neonates (skeletons (14109), (14101), (14107)) and another older female (skeleton (14102)).
- 2) The next burial event was for the older male (skeleton (14139) and the juvenile (skeleton (14108)). These individuals were buried at or near the same time. The positions of the bodies suggest skeleton (14139) was buried before skeleton (14108). These two skeletons are lacking the skulls. The neck vertebrae of the older adult male (14139) and the juvenile (14108) were near the postcranial skeleton. In addition, the lower jaws were present. It is possible the skulls were taken intentionally since the only disturbances of these skeletons occurred in the head region.
- 3) The baby (14109) was buried next. The burial event for the baby might have disturbed the older female originally in the pit (14167). The postcranial bodies of the older male (14139) and the juvenile (14108) were not disturbed by this interment event although it is quite possible that the skulls of these two individuals were taken at this time.
- 4) Two more neonates/infants were buried next (skeletons (14101) and (14107)). The babies may have been buried at or near the same time. Skeleton (14101) was put in the grave before skeleton (14107).

5) Shortly after the burial of the two neonates/infants, an older adult female (14102) was the last person buried in this grave. During this interment, the two babies (14101) and (14107) were disturbed, and possibly the another baby (14109). The articulation of the skeletal elements of the two babies (14101) and (14107) suggest they were still fleshy when the body of the older female (14102) was interred.



*Figure 134: The upper layer of the multiple grave (F.2248, skeletons (14101), (14107), (14109), (14102) in Space 309*



*Figure 135: The lower layer of the multiple grave F.2557, skeleton (14108) and F.2558 skeleton (14139) in Space 309*

A few disarticulated bones of two other babies were also found in the burial fill/infill. It is not clear whether these burials were in this grave or if they were mixed with the infill that could have brought in from elsewhere. In addition, a partial skull fragment was found in the upper levels of the grave. The skull may belong to the highly disturbed older female (skeleton (14167)). It is also possible that it belongs to the headless older adult (14139). Skull fragments of younger individuals were also found. These may belong to skeleton (14108) or (14104).

#### **South Neolithic Burials**

Three buildings in the South Area (Building 53, Building 56, Building 65) yielded burials during the 2006 field season. Juveniles were found in higher numbers than adults. The burials were found under platforms and cutting through the infill. Preservation varied from good to poor.

##### ***Building 53***

No contextual information could be obtained from the northern and western extension of Building 53 due to heavy erosion and disturbance. The central part of the building was also badly damaged by animals. An adolescent male (12528) in burial F.1532, was found in the central floor, Space 257. Four infant burials (skeletons (12506), (12542), (12570), and (14300) were found at the western part of Space 272. The excavation of this building is incomplete. One of these burials was a very small baby, 4-5 months in utero, which suggests a miscarriage.

##### ***Building 56***

Four individuals were found in this building. Two were primary burials and two individuals were buried together in a secondary context. One primary burial (13395) was a neonate buried cut through the foundation layer of the building. A second individual was a young adult male (12875) who was found buried cutting the north platform. The young individual was bound with several braided cordages (Fig. 136).

A secondary burial of the disarticulated, incomplete remains of two individuals was found under the east platform. One individual was a young adult female (12863), the other one (12876) was a ~6 years old. The burial cut and the burial pit were quite small. The incomplete skeletons of the two individuals were completely mingled (Fig. 137).



*Figure 136: A young adult male (12875), burial F.2082 bound with several braided cordages in Building 56*



*Figure 137: A secondary burial of the disarticulated, incomplete remains of a young female and a child of 6 years in Building 56*

### **Building 65**

An infant burial was found in Space 305, burial F.2519, skeleton (14005) cut through infill layers of this building. Another infant, burial F.2520, skeleton (14010) was found under the northeast platform. Under the east platform, a multiple burial pit with at least three individuals (in burial F.2521, skeleton (14032); burial F.2535, skeleton (14020)/(14092) and burial F.2548, skeleton (14054) was found in the southeast corner. In addition, the disarticulated remains of at least three individuals were buried in another pit (burial F.2093) under the east platform along with some animal bones. Since the excavation of this area of the building is ongoing, the nature of these disarticulated skeletal elements is unclear.

#### *Sequence for Multiple Burials in East Platform (to date)*

Two grave cuts were clearly defined in the platform floor. One of these cuts (14022) was made for the burial of the adult (14032). The second cut (14058) was made earlier in the burial sequence for the interment of skeleton (14092)/(14020). The grave cut for skeleton (14054) was less clear. There were numerous pieces of obsidian in the burial fill, including small blades. While the obsidian blades may be burial related to a specific individual, it is not possible to directly associate them with anyone in the burial pit. Alternatively, the obsidian may have been in the redeposited midden that was used for the burial fill.

1. Two juveniles were buried in the southeast corner of the east platform of Building 65. They could have buried at the same time or at different times. One of the juveniles (skeleton (14020)/(14092)) was ~10-12 years of age and the other was (skeleton. (14054)) ~4-5 years of age. While skeleton (14054) was completely scattered, the head of the older juvenile (14092)/(14020) was found in situ. This could indicate that (14054) was the first one to be interred, followed by (14020)/(14092) whose interment may have disturbed it. Both were disturbed by the burial of skeleton (14032).

2. An adult female (skeleton (14032)) was found at the bottom of the pit and she was the last interment in the pit. The burial of this older female disturbed the two juvenile



skeletons whose bodies were already in the pit when the adult female was buried. There was a bone pin directly associated with this female.

#### Late Skeletons

A total of twenty-eight burials dated from the Late Roman or Byzantine time periods were found in the 4040 Area of the East Mound and on the West mound in 2006. Tables 6 and 7 summarize the age and sex determinations of the 2006 sample of late burials.

Age	East	West	Total
Infant	3	2	5
Child	1	1	2
Adolescent	2	0	2
Adult	4	15	19
<b>Total</b>	<b>10</b>	<b>18</b>	<b>28</b>

*Table 6: Age determinations of Late Roman/Byzantine Burials in 2006*

Sex	East	West	Total
Male	2	3	5
Possible Male	1	1	2
Female	0	6	6
Possible Female	0	0	0
Indeterminate	1	5	6
Not observable	6	3	9
<b>Total</b>	<b>10</b>	<b>18</b>	<b>28</b>

*Table 7: Sex determinations of the Late Roman/Byzantine Burials in 2006*

Ten late burials were found in the upper levels of the 4040 Area (Fig.138). The late graves cut through Neolithic layers. Some of the graves were disturbed during late times, particularly the late burials near the foundation trench for the large Building 41. The late burials were represented by 3 adults, 4 juvenile and 3 infant skeletons. Sex could be determined for two of the adults. Both were male. All were interred in an extended position, mostly on the back but occasionally on the right side. Orientation was head to the west and feet to the east. No grave goods were associated with the late burials from this area.



*Figure 138: A Late Roman or Byzantine burial F.2245, skeleton (13184) from the 4040 Area*

A total of 18 individuals dating to the late Roman and Byzantine periods were recovered from the West Mound in 2006 (Fig. 139). The majority are adults (15 individuals), while two are infants and one is a child. Of the adults, four are male, six are female and five could not be assigned a sex. Most of the burials showed some signs of disturbance, either through rodent activity, or due to their proximity to the modern surface.



*Figure 139: A Late Roman or Byzantine burial F.2454, skeleton (13840) from the West mound*

All of the adult skeletons derived from extended east-west primary burials (with the head oriented to the west). While the majority of individuals were placed on their backs, 2 were placed on their right side (head facing south). Based on the orientation of the bodies, these individuals can be dated to the Roman and Byzantine periods. Precise dates for the burials have yet to be assigned. The two infant and child skeletons were found disarticulated; as a result, their orientation could not be determined. In addition, a large amount of isolated human bones was found in separate fill units throughout the area.

Grave goods were found in two graves. A bronze ring was found with a probable male (burial F.2406, skeleton (13784)). A glass ring, a bone weaving tool and a hairpin were found with a female burial F.2403, skeleton (13746) (Fig. 140).



*Figure 140: A glass ring found with a female burial F.2403, skeleton (13746) from the West mound*

### **Human Remains Research Projects 2006**

During the 2006 field season, Christopher Ruff (Johns Hopkins University) and Clark Larsen (Ohio State University) continued a phase of the bioarchaeological research at Çatalhöyük focusing on behavioural and activity reconstruction based on the study of structural adaptation in adult long bones. This research addresses the broader questions of the research program relating to mobility and activity at Çatalhöyük and the potential for understanding change over time as population size increased, leading greater resource stress and the possibility that inhabitants of the settlement may have had to increase the distance travelled to acquire food, fuel, and other resources.

In order to address this problem, Ruff and Larsen are using cross-sectional geometric properties derived from the study of cross-sections of the long bones. These properties measure the “strength” or ability of bone sections to resist bending and torsion, the two forces acting on bones in life from normal activity. In order to measure the properties, Ruff and Larsen are taking x-ray sections of the long bones and measuring the amount and distribution of bone using methods developed by civil and mechanical engineers for measuring the strength of building materials.

Using the x-ray facilities at the Beyza medical clinic in Çumra, Ruff and Larsen took x-rays of one femur, one tibia, and both humeri for each individual, as available. In total, they x-rayed 15 new femora, 24 tibiae, and 38 left and right humeri, representing 30 individuals (14 femora had been included in a previous pilot study). They used a sensor designed for dental x-rays and adapted for use in this study. The sensor captures the x-ray image and imports it directly to a laptop computer for storage and later analysis. Previous research on a small sample of femora indicated that the Çatalhöyük adults were short but had relatively strong and robust long bones, reflecting a high degree of physical activity and mobility, in comparison with Neolithic populations from Europe. The research undertaken in the summer of 2006 greatly expands the earlier study and will provide a more comprehensive understanding of quality of life and lifestyle in an early settled agricultural community in Southwest Asia in general and Anatolia in particular.

Simon Hillson (University College London), Başak Boz (Selçuk University) and Lori Hager (UC Berkeley) started work on building a new Access database with the help from Sarah Jones and Mia Ridge for a catalogue of all the different elements of human remains discovered, including age and sex estimation and initial measurements. This was based on the paper forms currently used for recording. It is hoped that the computer database will be ready for logging new material from the 2007 season.

In addition, Simon Hillson and Başak Boz continued to collect data for their dental pathology study of the people of Çatalhöyük. These human remains show a very interesting range of dental conditions, in particular combining heavy tooth wear with common dental caries (decay). A full and detailed record is being made of these conditions in order to add to the discussion of Neolithic diet, using methods developed by Simon Hillson (2000). Work started during the 2005 field season and continued during 2006. Much of the Neolithic collection excavated before this date is now recorded.

Başak Boz and Lori Hager initiated a new study of anemia at Çatalhöyük. The study is designed to answer long-standing questions on the prevalence of anemia in the non-Mellaart sample of human remains at Çatalhöyük. Previous studies of the Mellaart samples have suggested a high prevalence of the physiological disorder due to malaria. Molleson et al. (2005) have confirmed that several individuals, particularly infants, were anemic. They suggest malnourishment may be a factor. The goal of the 2006 field season was to identify specific skeletons in the collection for a detailed analysis of the skeletal markers for anemia in the 2007 field season and to undertake a preliminary examination of these skeletons. These tasks were completed.

Marin Pilloud (Ohio State University) is conducting an analysis of biological distance among the Çatalhöyük human remains. This study involves the investigation of various morphological and metric traits of the dentition that have been found to be genetically inherited. Statistical analyses of these polygenic traits then yield measurements of group divergence, allowing the researcher to make assessments about the genetic similarity or dissimilarity among groups. The aim of this project is to understand social structure and mortuary practices through an interpretation of genetic patterns. To do this Pilloud plans to compare biological distances of individuals and groups to burial location.

Pilloud began collecting data for this project during the field season of 2006. For 7 weeks she recorded data on dental metrics and morphology on nearly 80% of the skeletal population.

Sabrina Agarwal (UC Berkeley), Bonnie Glencross (University of Toronto) and Patrick Beauchesne (UC Berkeley) are undertaking a study of bone loss and fragility over the lifecycle, examining aspects of bone quantity, bone quality and gross morphology in all age, sex and social groups. Several objectives are set out: a) to explore differences in bone size, bone mass, bone microstructure and bone fracture in each group and how these variables are related b) to examine age and sex-related patterns in each of these variables c) to examine the observed patterns in bone maintenance and fragility in conjunction with supporting evidence on aspects of diet/nutrition, activity patterns, and specific indicators of social structuring of health already currently being examined in the human remains at Çatalhöyük. This approach promises to contribute vital insight for our understanding of bone maintenance and fragility over the life course in not only one of the most important and transitional periods of human prehistory, but in modern populations as well.

All adult Neolithic skeletons were examined, and sampled for cortical rib samples and non-invasive study of the 4th lumbar vertebrae depending on preservation. A total number of 9 adult lumbar vertebrae (all 4th) were exported to be (not invasively) examined at UC Berkeley for trabecular architecture. A total number of 47 rib samples were taken, 42 from adults and 5 from subadults.

Identification and characterization of any bone fractures in the adult skeletal Neolithic sample was also made by Bonnie Glencross. A total of 122 skeletons were examined macroscopically for indications of bone fracture, of these 28% (34) were female, 24% (29) male, and for 48% (59) sex remains unknown. Bones analyzed include: both, the left and right sides of 6 major long bones (humerus, radius, ulna, femur, tibia, and fibula), vertebrae and hips. These specific bones were the initial focus for analysis

because they are the bones most often associated with fractures related to bone loss. Of the 50 skeletons classified as adult preliminary assessment results based on fracture prevalence data and probability models indicate an average of 1.2 bone fractures per individual at Çatalhöyük with an estimated 36% chance of sustaining a least one bone fracture and a 30% chance of never experiencing a fracture. Fractures as events are randomly distributed amongst individuals of the sample. The gross long bone fracture rate is 33.6 per 1000 individuals and when broken down further 24.4 per 1000 females (n = 41 complete long bones) and 15.2 per 1000 males (n = 66). The odds of long bone fracture among Çatalhöyük females are slightly greater than among males but the association is only moderately weak. At the moment, we conclude that risk of infra-cranial skeletal injury at Çatalhöyük appears to be relatively low and homogenous in the population. Interpretation of this data in regards to possible activity patterns and animal interaction at Çatalhöyük will be explored.

Lesley Gregorika (Ohio State University) worked primarily with previously excavated skeletons, labelling the bones of the Neolithic individuals in order to allow for large-scale comparisons of particular bones without losing provenance. In addition, she assisted in excavating, cleaning, and inventorying burials from the 2006 season in the 4040 and South Areas.

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## **Macro Botanical Remains / Makro – Botanik Buluntuları - Amy Bogaard, Mike Charles, Müge Ergun, Glynis Jones, Kim Ng, Marek Polcyn & Nicola Stone**

*The archaeobotanical team in the field, 2006*

*Team leaders: Amy Bogaard (University of Nottingham), Mike Charles and Glynis Jones (University of Sheffield)*

*Flotation officer: Nicola Stone*

*Archaeobotanical assistants: Müge Ergun, Kim Ng*

*Flotation workers: Mevlüt Sivas, Hussein Yasli*

### **Introduction**

Here we report on

- preliminary archaeobotanical results for the 2006 season,
- the new archaeobotanical database,
- the addition of ethnobotanist Dr. Füsün Ertug to the team,
- collaboration with Selcuk University,
- experimental animal feeding in Küçükköy
- modern plant collection.

### **Abstract**

Considering all of the units processed in 2006 and assessed at levels 1 or 2, c. 160 contain at least 100 items and are potentially rich enough to warrant full analysis. Around 20 of these samples are also very high in density, containing hundreds or thousands of seeds per litre soil. These particularly rich/dense samples come from the vicinity of Building 53 in the South Area (pit fill and ‘lime-burning waste’), the remainder of the bin fill full of naked barley grain from burnt Building 63 in the Istanbul area (see also 2005 Archive Report), and from the 4040 area, mostly midden units in Spaces 279 and 280.

### **Özet**

2006 sezonunda tabaka 1 veya 2 üzerinden değerlendirilen tüm üniteler gözden geçirildiğinde, 160 ünite de bulunan en az 100 adet örnek analiz edilerek, sağlam sonuçlar verdi. Bu örneklerin 20’si yoğunluk açısından yüksek sonuçlar verirken, her toprak litresi için yüzlerce ve binlerce tohum içerdi. Özellikle zengin ve yoğun olan bu örnekler, Güney Alanı’ndaki Bina 53’ün yakınlarında (çukur dolgusu ve yanmış kireç kalıntısı) bulunurken, İST alanındaki yanık Bina 63’de bulunan arpa taneleriyle dolu ambar dolgusu (2005 Arşiv Raporu’na bakınız) ile 4040 alanındaki Alan 279 ve 280 içindeki çöplük ünitelerini hatırlatır.

### **Preliminary archaeobotanical results for 2006**

The team processed 869 samples (c. 15,600 litres of soil), a significant increase from last year due to the greater length and scale of the excavation season. At least 30 litres were processed (where available) from each excavation unit; the average sample size was c. 18 litres. The number of samples processed per excavation area is shown in Table 8. We carried out level 1 assessment (quantitative assessment of crop and wild plant remains in a random subsample – see 2005 Archive Report for methodology) on all samples from the IST Area and most samples from the 4040 and South Areas. A small backlog of level 1 assessment remains to be done next year due to extension of

the excavation season into September. As in previous years, level 1 assessment was not carried out for Team Poznan samples, since the TP archaeobotanist (Marek Polcyn) is sorting all of the samples in Poland (TP samples designated as priorities in the field, however, received level 2 assessment – see below).

<b>Excavation area</b>	<b>No. samples</b>	<b>Priority samples</b>
40x40	393	4
Istanbul	44	6
South	284	3
Team Poznan	145	5
West Mound	3	0
<b>Total</b>	<b>869</b>	<b>18</b>

*Table 8: The number of samples processed per excavation area*

A total of 18 samples were selected on priority tours for specialist feedback and received level 2 assessment (Table 8; see 2005 Archive Report for methodology). While most of these samples turned out to contain a low density of ‘background noise’, several deserve special mention. From the 40x40 Area, a stratified midden unit (12980) yielded a high-density, grain-rich botanical assemblage, while the fill of a large pit dug into midden (13127) produced high-density material unusually rich in reed culm. In the IST Area, the fill of a basin (12439) in Building 63 yielded a small but high-density assemblage dominated by peas.

### **The new database**

Thanks to the hard work of Sarah Jones through the winter of 2005-6, we now have a useful new database linked into the main Access-based project system. The major tables consist of ‘basic data’ (the flot log), ‘scanning data’ (level 1 assessment), ‘priority data’ (level 2 assessment) and ‘priority reports’. There is also a historic data interface linked to data from the previous team.

### **Ethnobotanist on the team**

We are very pleased to welcome Dr. Füsün Ertug onto the archaeobotanical team as ethnobotanist. Dr. Ertug’s experience in central Anatolian ethnobotany opens up a series of new opportunities for ethnoarchaeological work in the region to answer archaeobotanical questions. We are currently working on a planned central Anatolian database combining archaeobotanical and ethnobotanical records.

### **Collaboration with Selcuk University**

We are planning collaboration with Selcuk University through Dr. Osman Tugay bey, a botanist and former student of Dr. Füsün Ertug. One or two postgraduates studying with Dr. Tugay will collect floral and ethnobotanical data in the Çumra area over 1-2 years, in consultation with the archaeobotany team. This work is scheduled to begin in May/June, 2007 and will incorporate survey of weed floras in mountain villages where ‘traditional’ crop husbandry regimes are practised.

### **Experimental animal feeding in Küçükköy**

As part of a broader research programme into the archaeobotany of animal dung fuel (cf. Valamoti and Charles 2005), we initiated experimental animal feeding and dung collection in the village of Küçükköy with the generous help and advice of Mevlüt

Sivas. We focused this season on feeding einkorn and emmer grain and chaff to sheep and cattle, to monitor the survival of glume wheat chaff, and of grain inside and outside the spikelet. The einkorn and emmer material, from the Kastamonu region, was kindly obtained by Dr. Füsün Ertug.

### **Modern plant collection on the two mounds**

With a view to assessing potential for differentiating cultivation areas using strontium isotope ratios in crop material (see also 2004 and 2005 Archive Report), we collected certain grass species along a transect from the western edge of the West Mound and across the old Çarşamba channels to the eastern edge of the East Mound. The aim is to assess variability in strontium signatures within the ancient alluvial fan, and the mounds provide the best exposure of Neolithic-Chalcolithic sediments. This research forms part of ongoing collaboration with Dr. Jane Evans of the NERC Isotope Geosciences Laboratory, Keyworth, Nottingham.

### **Reference**

Valamoti, S., and M. Charles. 2005. Distinguishing food from fodder through the study of charred plant remains: an experimental approach to dung-derived chaff. *Vegetation History and Archaeobotany* 14:528-533.

**Phytoliths / Fitolit** – **Philippa Ryan & Arlene Rosen** (*University College London*)

### **Abstract**

The collection of samples for phytolith analysis took place from 2nd July to 4th August of the 2006 excavation season. Philippa Ryan was on site throughout this time, and Dr Arlene Rosen from 2nd July to 14th July. On-site field analysis predominantly focused on priority units, but several additional samples were also examined. Only partial processing of samples is possible on site, so many of these samples have been taken for a full examination at the Institute of Archaeology, UCL. Many additional samples were also taken for future analysis in order to investigate temporal and spatial variation in plant usage. Some interesting samples analysed on-site include: unit 12438.S3, where the possibility of a basket being used in the preparation of a meal involving barley is suggested, unit 12101.S2 where visible silica skeleton remains within the perforation of a bead suggest that the bead might have been worn with cordage made from a sedge (Cyperaceae), and unit 12451.S7 where the black ashy looking material creating the impression of a burnt floor was found to be a thin phytolith layer derived predominantly from *Phragmites* sp. (reeds).

Phytoliths are particles of silt sized opaline silica that form within and in-between certain plant cells. Not all plant genera produce phytoliths, and those that do produce differing levels, and phytoliths from different genera allow varying degrees of identification. Grasses and sedges are the most prolific producers, and the phytoliths are often distinctive of plant part, plant family, genus and occasionally species. Phytoliths also occur in a high percentage of woody trees and herbaceous dicotyledons but these are more difficult to identify, and



are produced less profusely. The marshy environment surrounding Çatalhöyük during the Neolithic facilitated the production of phytoliths and thick white silica skeletons of former in situ plant material, such as woven materials, are frequently recovered. This means that two types of samples can be analyzed; sediment samples from which phytoliths have to be removed during several laboratory processes, and visible silica skeletons, which can be directly mounted onto a slide.

## Özet

2006 sezonunda fitolit analizi için gereken örnekler, 2 Temmuz ve 4 Ağustos tarihleri arasında toplandı. Phillippa Ryan tüm sezon boyunca alanda bulunurken, Dr. Arlene Rosen 2-14 Temmuz tarihlerinde çalışmalara katıldı. Alanda yapılan analiz çalışması özellikle öncelik üniteleri üzerinde yapılsa da, diğer örneklerin analizine de yer verildi. Alanda sadece kısmi olarak analiz edilebilen örneklerin bir çoğu, daha ayrıntılı olarak çalışılmaları açısından Londra'daki Arkeoloji Enstitüsü'ne getirildi. Bitki kullanımında zaman ve alana ait çeşitliliklerin araştırılması amacıyla, ilerde analiz etmek için çok sayıda ilave örnekler alındı. Alanda analiz edilen ilginç örneklerin bazıları şu ünitelerden gelmiştir: Ünite 12438'de bulunan ve içinde arpa olduğu düşünülen bir yemeğin konulduğu sepet kalıntısı (S3), ünite 12101'de bulunan bir boncuk deliği içindeki silika iskeleti kalıntısı (S2), (bu kalıntı, boncuğun büyük ihtimalle sazdan yapılmış bir ipten geçirildiğini göstermektedir.) ve ünite 12451'de görülen ve yanmış bir taban izlenimi veren siyah kül tabakası (S7). (Bu kül tabakasının kamışdan (*Phragmites* sp.) meydana gelen ince bir fitolit tabakası olduğu anlaşılmıştır).

Fitolit, belli bitki hücrelerinin içinde ve arasında oluşan alüvyon boyutlu opalin silika tanecikleri olarak tanımlanabilir. Bütün bitkilerin genleri fitolit üretmez. Sadece ayırımı tabakalar üreten ve farklı genlerden oluşan fitolitler çeşitli derecelerde tanımlanabilirler. Çimen ve sazlar en verimli üretkenler olurken, fitolitler genellikle bitki parçası, bitki ailesi, gen ve türlerin belirgin kısmını oluşturur. Ayrıca ağaç ve bitkisel tohum yapraklarında da fazla sayıda fitolit görülür. Ancak bu fitolitleri ayırt etmek zordur ve az sayıda üretilirler. Neolitik dönemde Çatalhöyük'ü çevreleyen bataklık, fitolit ve beyaz silika iskeletlerinin bulunduğu in situ bitki malzemesinin üretimini ve korunmasını sağlamıştır. Bu durum iki çeşit örneğin analiz edilebileceğini gösterir; laboratuvar analizi sırasında ayrılan fitolitlerin bulunduğu tortu örnekleri ve direk olarak ufak cam üzerine monte edilen gözle görülebilen silika iskeletleri.

## Methods

### *Sampling*

Most of the priority samples analyzed whilst on site were taken as sediment samples. Several visible phytolith samples 'white samples' were also analyzed, and these were sampled as and when they were discovered during the excavation process. A total of 281 samples were also collected and taken back to UCL for future analysis. Samples were taken from middens and from within buildings with the predominant types of

units sampled including bins, platforms, fire installations, rake outs, and floor areas particularly in proximity to features.

Samples were taken most commonly as ‘scrape samples’- which means they were only taken to a few mm (<5mm) in depth. Within buildings taking scrape samples aims to collect the occupation deposits adhering to the top of floor surfaces. Samples are taken in such a precise way because floor makeup or the fill above the floor will contain phytoliths relating to a variety of post depositional pathways or plants used in construction materials, as opposed to daily activities. Some block samples were also taken so samples from different floor lens can be analysed and compared.

Some of the priority unit analysis results that will be detailed below are taken as scrape samples, others as sub-samples from archive samples when areas had already been excavated. When a scrape sample is analysed from a unit, what is actually being analysed is a micro-unit within it, whereas a sample from an archive sample will provide a more general picture of the whole unit.

### **Field analysis**

Field processing allows an initial look at phytolith content within a sample. This allows feedback to be given during priority tours. Fuller laboratory analysis at UCL will enable a more complete removal of phytoliths from sediment, allowing the calculation of absolute phytolith counts per gram sediment, as well as a more clear identification of phytolith types.

The methodology used in the field processing consists of several steps. First around 2mg of sediment from the sample is sieved through a 125 µm mesh. 10% HCL is then added to remove carbonates. The clays are removed by placing a sample into a glass beaker, adding sodium hexametaphosphate (15ml) and filtered water to 8cm, stirring, and then pouring the solution after 1hr 10minutes. Water is re added and poured at hourly intervals until the suspense is clear. Some of the sample is then mounted temporarily with water onto a slide.

‘White samples’ do not need to go through this process, as they represent high densities of phytoliths where plants have decayed in situ. These are mounted directly onto a slide with Entallin, a permanent fixative.

### **Some observations from Sediment-Sample Analysis**

*Unit 13107.s3, Space 279, 4040 Area*

This sample was taken from the archive sample, and is from a midden layer.

Initial field analysis showed a very high level of silica cells from sedge stems, and a high level from Phragmites sp. (reeds) stems. A high number of silica skeletons from wheat husks were present which may correlate with the on-site discussion about the possible identification of this unit representing a ‘feasting deposit’.

*Unit 12980.s3, 12980.s4, 12980.s5, 12980.s6, Space 279, 4040 Area*

These samples were all taken from within the same unit which represents a midden layer, but are taken from different micro-lens apparent within it. 12980.s3 was a dark grey ashy midden lens; 12980.s4 was from a very thin lens (about 3mm depth) which appeared to be a phytolith layer, 12980.s5 was another dark grey ashy lens and

12980.s6 appeared to be dominated by charcoal and to contain a noticeably high level of animal bones.

Each had a similar array of phytolith types, although in noticeably different densities. 12980.s4 had the highest density of phytoliths. Predominantly observed phytoliths were from *Phragmites* sp. (reeds) leaves and stems and sedge stems, and also present were several wheat husk phytoliths and a high level of dendritic phytoliths (which are found in the floral parts of grasses). Additionally 12980.s6 contained a barley (*Hordeum* sp.) husk cell phytolith and 12980.s5 a dicot leaf phytolith. The sedges and *Phragmites* sp. are perhaps representative of fuel ash, possibly derived from dung cakes.

*Unit 13127.4, Space 27, 4040 Area*

This sample was sub-sampled from an archive sample. When this sample was chosen as a priority unit lab teams were asked to see whether this was a comparable deposit and possibly related to unit (12980). A high density of phytoliths and number of types were observed including - a high level from *Phragmites* sp. and sedge leaves and stems, and also a high level of wild grass husk phytoliths, and some wheat husk phytoliths. Overall there were similar types and levels to unit (12980), but they cannot be directly compared because the samples themselves represent different scales- that from (13127) representing a general picture of the unit as a whole, whilst those samples analysed from (12980) provided information relating to micro units within (12980).

*Unit 12439.s3, 12439.s4, basin F.1996 IST Area*

12439.s3 was taken as a sub sample from the flotation sample, and came from the fill of a basin. This sample was comparatively sterile and contained very few phytoliths, which were assessed as 'background noise'. 12439.s4 was taken from the base of the basin and had a comparable phytolith assemblage to 12439.s3.

*Unit 13060.s4, TP Area*

This sample was taken as a scrape sample. This deposit was originally thought to be from a rake out, but was then reinterpreted as pit infill. Phytoliths included a moderately high level of *Phragmites* sp. leaves and sedge stems, and a lesser number of *Phragmites* sp. stems. One dicot leaf "polyhedral" phytolith and a low number of wild grass husk phytoliths (2) were also present. It is possible that this pit fill may contain ashy material partially derived from rake out material.

*Unit 12456.s1, 12456.s2, 12456.s12, IST Area*

This unit was being investigated to see whether it represented an activity area or midden. 12456.s1 had been taken by the excavators as a 'white sample', but analysis yielded no phytolith signature as the sample was too small. 12456.s12 was taken from very thick visible white lines of phytoliths that were found upon a pottery sherd and the patterning looked like matting (as opposed to basketry) remains.

12456.s2 had been taken as a sediment scrape sample. This sample had extremely low phytolith levels. During sample processing, it was noted that clay levels were unusually high. An interpretative possibility for this unit is that it represents an exposure surface within a midden. Further interpretation may be possible when this sample is compared to unit (12448).

*Unit 12448.1, Space 294, IST Area*

Unit (12448) is in a midden sequence directly above unit 12456.s1 was taken as a scrape sample near the base of this unit, almost directly above unit (12456). The area from which the sample is taken was visibly ashy and approximately 5mm deep, with patches of varying dark to light shades of grey. A very high density of phytoliths was recorded including a medium level of Phragmites sp. stems and leaves, and sedge stems. Unusually, there were very high levels of woody leaf phytoliths. This strongly suggests in situ fire remains where the predominant fuel is wood, with possibly Phragmites sp. and sedges being used as tinder. A substantial amount of wood would be necessary for this level of woody phytoliths. Perhaps this micro unit within (12448) suggests the possibility of an outdoors fire upon the hard exposed midden surface suggested by the analysis of unit 12456 S2.

*Unit 12451.s4, 12451.s6, 12451.s7, Space 297, IST Area*

These samples were taken as scrape samples from what appeared to look like a burnt floor area, comprising a thin layer of a few mm (<5mm) in depth within a deeper unit (12451). The floor was very dark grey with dense light greyish patches. *12451.s6* was a scrape sample taken from one of these patches. Phytolith results showed that this white patch (circa 10cm /10cm) consisted predominantly of phytoliths, with minimal amounts of sediment. This suggests that the white patch represents the remains of Phragmites sp. reeds. Identical looking white patches occur across the unit. *12451.s7* was taken from an area of dark ashy looking sediment. Again, phytoliths consisted entirely of Phragmites sp. leaves and stems to a very high density. It would appear that it is the quantity and aerial extent of the ash created by the burnt Phragmites sp. that gives this floor surface the appearance of being burnt. Since this layer of ash is so thin, other types of data analysed from this unit might possibly be more representative of floor make up or fill, and this possibility is supported by the phytolith analysis of *12451.s4*

*12451.s4* was taken to a few mm extra depth. *12451.s4* contained a much lower phytolith density and contained a moderate amount of Phragmites sp. leaf and stems phytoliths, several grass husk phytoliths, and a low level of various other types of phytoliths. It is likely the phytolith assemblage from *12451.s4* may be reflective of background noise, and representative of floor makeup material, as well as still containing some of the ashy material. It is also possible that the fast burning Phragmites sp. leaves and stems would not have caused a charring effect upon the floor makeup, and in on-site discussions, artefactual analyses from pottery and bone did not appear to have high levels of burning.

**Some observations from visible phytolith silica skeleton samples**

*Unit 11648.s3, Building 56, South Area*

This sample was taken from pot fill; a few very faint white lines of phytolith remains were visible. 1 wheat husk phytolith and a low number of sedge phytoliths were found. Overall there was a low density and lack of any predominant phytolith types suggesting those found may just represent background noise.

*Unit 11930.s3, Space 227, 4040 Area*

This sample contrasts to 11648.s3, because the sample is taken from white lines of phytoliths adhering directly to a pottery sherd (the inside edge), as opposed to the fill. Two thin lines were sampled. These consisted predominantly of wheat husk

phytoliths, which appeared in high numbers, and this possibly suggests that this vessel was being used to store wheat.

*Skeleton 12875.s1, 12875.s2, Building 56, South Area*

This sample came from clear white lines within the sediment matrix above a burial. The sample consisted of phytoliths from *Phragmites* sp. stems and leaves. These may possibly be from remnants from a mat placed above the burial, but this was not visually clear. Such mats have been described and detailed previously (Wendrich 2005:335). Alternatively, since *Phragmites* sp. is a common construction material it is feasible that the fibrous reeds might have been used in the restructuring of the platform.

*12875.s2* was taken directly from the skeleton's bones, no sediment matrix was present. The white lines (circa 2mm wide) formed a clear criss-cross pattern. Phytoliths present were all from sedge stems, suggesting that sedge stems were being used to make some type of cordage /rope which were then used to bind the body.

*Unit 12474.s1, Space 253, IST Area*

These phytoliths were lightly scraped from a large stone artefact, which was broken in half and of an indistinct shape. The phytoliths appear in thin criss-cross patterned lines across the artefact, and visually resemble the patterning from skeleton 12875.s2. Phytoliths from (12374) will be analysed at UCL.

*Unit 13158.s2, 13158.s2, Space 286, 4040 Area*

There were clear concentric white lines of silica skeletons visible. Evenly spaced gaps between these lines suggest possibly that this was not a finely weaved basket. Two areas of the basket were sampled. Phytoliths found included bilobate and polylobate phytoliths likely from a grass from the grass subfamilies *Panicoidea* or *Arundinoidea*, and sedge stems which may reflect the usage of two types of material in the construction of this basket.

*Skeleton 13100.s1, Building 60, 4040 Area*

Some faint white lines were apparent beneath a baby skeleton skull. This was sampled, but the lines were too faint to avoid including some adhering sediment. When analysed there was not a peak of any particular phytolith type, likely because the sample was not of sufficient size.

*Unit 12438.s3, Building 63, IST Area*

This sample was taken from visible phytolith traces upon the surface of a floor area adjacent to a hearth. These phytolith traces looked like possible basketry remains. Most phytoliths present in 12438.s3 were dendritics, and from sedge stems but also present were several silica skeletons derived from barley husks. These findings may infer the possibility of a basket made from sedge stems being used in the preparation of some kind of meal. This is further suggested by the association of this context with bones, and several clay balls are recorded in this unit.

*Unit 12101.s2, 4040 Area*

This sample was taken from the perforation within a bone-bead (12101.X2), where articulated silica skeletons were visible. The phytoliths appear to be from sedge stems

or leaves. This suggests that the bead was worn with cordage made from a sedge species.

#### *Unit 13370.s4, Space 299, Building 65, South Area*

This sample was taken from an area behind the oven in the back room of Building 65. This sample had thick white lines adhering to sediment. The sediment was analysed and contained grass husk multi cell phytoliths, and also bilobate phytoliths associated with grass subfamilies Panicoidea and Arundinoidea. The thick white lines of phytolith silica skeletons were analysed, and consisted of a high number of bilobate phytolith forms. Many other visible silica skeleton fragments were apparent within the unit, suggesting that the white lines may represent fragmented basketry remains, or the remains of material stored or being dried out for basketry making. That these basketry remains may have served a special function is suggested by the unusual nature of the cluster deposit within this unit.

Also analysed from 2006 excavations were samples from units (13360), (13358), (13153), (11898), (13395), (13079) and (13072). Several baskets from previous excavation seasons were sampled and analysed: slides were permanently mounted and when they were dry it became apparent that the conservation products used prevented clear phytolith analysis. Some additional samples were then taken from these baskets and have been brought back to UCL to see if it is possible to effectively remove the phytoliths from the conservation products.

#### **Objectives**

- Phytolith analysis of samples taken from middens and within buildings will be used to look at plant usage and disposal, and at what the plants present can tell us about the local environment.
- Whether certain phytolith signatures can be related to feature types within buildings (such as differences in fire installations), and whether there are differences in plant use between and within buildings and over time will be looked for.
- Whether certain phytolith signatures can be associated with specific types of microstratigraphy within middens, and whether these can be associated with different types of depositional events/activities will be considered. This approach is necessary if phytolith assemblages are going to be temporally compared, otherwise, differences between assemblages might be representing, for example, different depositional pathways or different practices of food processing, as opposed to changes over time.
- Visible silica skeleton remains will be analysed to further investigate previous findings which appear to have shown that specific types of grass or sedge (Cyperaceae) were used for making woven materials with different types of functions (Rosen 1999:209).
- Samples taken from ‘animal penning’ archive deposits, and fresh sheep dung that has been collected in a project organized by Dr Amy Bogaard and Dr Mike Charles will be investigated for phytolith content. This work will be used to investigate the kinds of phytoliths that might appear in dung cakes in order to help understand the breadth of phytolith assemblages within fire installations, and midden areas associated with household waste.
- The phytolith content of tooth plaque taken from a small selection of sheep teeth will be examined as a pilot study (sampling of teeth organized by Liz Henton). This information may provide additional information relating to land usage.

Additional studies will also be made from a selection of pottery sherds (sampling organized by Dr Nurcan Yalman), and from grinding stones (sampling organized by Dr Karen Wright), both of which are also intended for starch analyses (by Dr Karen Hardy).

### References

Rosen, A. 2005. Phytolith indicators of plant and land use at Çatalhöyük. In I Hodder (eds) *Inhabiting Çatalhöyük: reports from the 1995-99 seasons*,. Cambridge: McDonald Institute for Archaeological Research; London: British Institute of Archaeology at Ankara, 203-212.

Wendrich, W. 2005. Çatalhöyük Basketry. In I Hodder (eds) *Changing materialities at Çatalhöyük : reports from the 1995-99 seasons*, Cambridge: McDonald Institute for Archaeological Research; London: British Institute of Archaeology at Ankara 333-339.

### Pottery Report / Çanak Çömlek – Nurcan Yalman (Istanbul University)

#### Abstract

The four areas under excavation on the East mound (4040, South, TP, IST) in 2006 yielded pottery in large numbers of which more than 2/3 of the sherds were registered during the field season. 4604 body, 1199 diagnostic, 1248 unidentified body and 323 unidentified diagnostic sherds were registered, totalling 7374 fragments.

#### Özet

2006 sezonunda Doğu höyüğündeki dört alanda (4040, Güney, TP, İST) yapılan kazılarda bulunan çok sayıda çanak çömlek parçasının 2/3'ünden fazlası sezon süresince kaydedildi. 4604 gövde parçası, 1199 diagnostik, 1248 tanımlanabilir gövde ve 323 tanımlayamayan diagnostik çanak çömlek parçasından oluşan toplam 7374 parça kaydedildi.

The registered pottery sherds are evaluated in terms of the type and the ware groups. Ware group charts also show surface treatments. Type (form) and ware (fabric) groups are generated this year for the new database system to not merely ease the registration but also to be able to compare large numbers of sherds in different area and levels. We gathered the detailed descriptions of each sherd as general characteristics with a given ware code. The type code system continued from the previous years. The evaluation of the areas has been done according to those values, as follows;

<b>4040</b>		
<b>BODY</b>	=	<b>2025</b>
<b>DIAGNOSTIC</b>	=	<b>581</b>
<b>UNIDENTIFIED</b>	=	<b>659</b>
<b>DIAGNOSTIC UNIDENTIFIED</b>	=	<b>154</b>
<b>TOTAL</b>	=	<b>3419</b>

<b>IST</b>		
<b>BODY</b>	=	<b>623</b>
<b>DIAGNOSTIC</b>	=	<b>201</b>
<b>UNIDENTIFIED</b>	=	<b>146</b>
<b>DIAGNOSTIC UNIDENTIFIED</b>	=	<b>49</b>
<b>TOTAL</b>	=	<b>1019</b>

<b>SOUTH</b>		
<b>BODY</b>	=	<b>278</b>
<b>DIAGNOSTIC</b>	=	<b>69</b>
<b>UNIDENTIFIED</b>	=	<b>91</b>
<b>DIAGNOSTIC UNIDENTIFIED</b>	=	<b>16</b>
<b>TOTAL</b>	=	<b>454</b>

<b>TP</b>		
<b>BODY</b>	=	<b>1678</b>
<b>DIAGNOSTIC</b>	=	<b>348</b>
<b>UNIDENTIFIED</b>	=	<b>352</b>
<b>DIAGNOSTIC UNIDENTIFIED</b>	=	<b>104</b>
<b>TOTAL</b>	=	<b>2482</b>

*Table 9: Sherds distributions by area*

#### **4040 Area**

There are 6 buildings that contain 16 spaces, 4 spaces without building number and 11 units without space and building numbers excavated at 4040 Area in 2006.

#### *Buildings:*

- Building 41 (Spaces: 215,216, 217, 212, 281, 282)
- Building 51 (Space: 98)
- Building 58 (Space: 227)
- Building 59 (Spaces: 276, 277, 311)
- Building 64 (Spaces: 286, 287)
- Building 67 (Spaces: 292, 293, 300)



*Spaces without a building number:*

Space 280      Space 279  
Space 60        Space 306

*Units without space and building number:*

12620            12640            12653            13440  
12622            12647            12925            13441  
12634            12648            13437

## **Building 41**

### **Space 215 (Table 10)**

Unit (12608): Levelling layer under floor (12399) in Space 215. There are only 2 body sherds within the unit.

Unit (12609): A wall foundation of a small wall on the south side of Space 215 in Byzantine Building 41. No pottery was found except one late (non-prehistoric) sherd.

Unit (12617): Fill above the timber beam (12619). Only one body sherd was found.

Unit (12625): Levelling layer inside Space 215 of Building 41. 3 sherds were found one is diagnostic base sherd.

All of the sherds are DMS (Dark Mineral Standard Ware) main group. The total number of the sherds in this space, collected from 4 units is only 6 and only 12625 has a diagnostic base sherd. Therefore, it seems as if the Space 215 was emptied in later periods.

## **Space 215**

<b>AREA</b>	:	4040
<b>SPACE</b>	:	215
<b>BUILDING</b>	:	41

Ware Code	Unit				Space Total	Space%
	12608	12609	12617	12625		
DMS-m	1			2	3	49%
DMS-sh	1				1	17%
DMS-c				1	1	17%
DMS-f			1		1	17%
<b>Unit Total</b>	<b>2</b>		<b>1</b>	<b>3</b>	<b>6</b>	
LATE		1				
<b>Burnished</b>	2		1	3		
<b>Unburnished</b>						
<b>Slipped</b>						
<b>Mottled</b>						

Type Code	Unit
	12625
B13	1

Table 10: Sherds by Space 215

**Space 216 and 217 (Table 11)**

Unit (12621): Fill of foundation cut (12628) of northern wall F.1219 of Byzantine Building 41.

Solid clay fill. There are 17 body and 4 of them are diagnostic sherds in this unit.

The dominant ware group is DMS but DMS-sh (Dark Mineral-shell like) group that the characteristic is very thin walls, seems to have a high proportion. This ware group is increasing where about level V upwards. 3 late sherds make this unit unsafe, it is a mixed unit.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	216,217
<b>BUILDING</b>	:	41

Ware Code	Unit		
	12621	Space Total	Space%
DMS-c	1	1	6%
DMS-f	4	4	24%
DMS-m	4	4	24%
DMS-sh	6	6	34%
K	1	1	6%
OP	1	1	6%
<b>Unit Total</b>	<b>17</b>	<b>17</b>	
LATE	3		
<b>Burnished</b>	14		
<b>Unburnished</b>	2		
<b>Slipped</b>			
<b>Mottled</b>			

Type Code	Unit	
	12621	Space %
H2	1	25%
B8	1	25%
B14	2	50%
<b>Unit Total</b>	<b>4</b>	

Table 11: Sherds by Space 216 and 217

**Space 217 (Table 12)**

Unit (12631): Foundation of west wall of Building 41. Although 1 late sherd makes this unit unsafe, the rest of the pottery shows a consistency; all the sherds belong to DMS ware group and they are holemouth jars, some with lugs. 13 sherds and 5 of them are diagnostic.

Unit (12650): Fill of burial cut (12649) – F.1475 - late burial Homogenous fill-presumably feature was backfilled quickly. The CM (Cream Mineral Ware) and OP (Orange Paste Ware) are existed in this unit but DMS is still dominant. Only one bowl rim fragment was found as diagnostic sherd within the 7 sherds.

Unit (12395): Foundation fill of wall F.1214 of Building 41. While the dominant ware group is DMS, OP ware group is increasing, distinctively. The number of the pottery

is quite high in this unit. It might be the base of this foundation, sitting on a midden. 33 sherds and 20 of them are diagnostic. Mostly holemouth jars and only two bowl rim sherds were found, together with some base fragments and lugs.

The number of the pottery makes us think as the space is sitting on or dug into a midden which contains pottery. The ware groups are a bit mixed but CM and OP sherds' existence may indicate either later deposits or a transition towards later levels (Level IV-III).

<b>AREA</b>	:	4040
<b>SPACE</b>	:	217
<b>BUILDING</b>	:	41

Ware Code	Unit				
	12631	12650	12395	Space Total	Space %
CM-f		1		1	%1.87
CM-s		1		1	%1.87
DMS-c	1		3	4	%7.55
DMS-f	2		7	9	%16.98
DMS-m	6	4	7	17	%32.08
DMS-sh	4		8	12	%22.64
OP		1	8	9	%16.98
<b>Unit Total</b>	<b>13</b>	<b>7</b>	<b>33</b>	<b>53</b>	
LATE	1				
<b>Burnished</b>	13	7	32		
<b>Unburnished</b>					
<b>Slipped</b>			1		
<b>Mottled</b>					

Type Code	Unit				
	12631	12650	12395	Space Total	% Space
H1	1	0	0	1	5
H2	1	0	5	6	30
BW1	0	1	1	2	10
BW3	0	0	1	1	5
B8	0	0	1	1	5
B12	0	0	2	2	10
T1b	0	0	1	1	5
T1c	0	0	1	1	5
T2b	2	0	0	2	10
<b>Multiple Attributeds</b>					
H2 + T2b	1	0	0	1	5
BW1+T3b	0	0	1	1	5
H2+T2b	0	0	1	1	5
<b>Unit Total</b>	<b>5</b>	<b>1</b>	<b>14</b>	<b>20</b>	

Table 12: Sherds by Space 217

Space 212, 215 and 216 (Table 13)

Unit (12635): Foundation fill of partition wall F.1220 of Building 41. This unit has got 3 space numbers. A total of 6 body sherds were recovered. There are no diagnostic sherds. The dominant ware group is DMS, but amount of the pottery is small therefore the statistical results don't give a clear idea.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	212,215,216
<b>BUILDING</b>	:	41

Ware Code	Unit	
	12635	space %
CM-f	1	17%
DMS-c	1	17%
DMS-f	1	17%
DMS-m	2	32%
DMS-sh	1	17%
<b>Unit Total</b>	<b>6</b>	
<b>Burnished</b>	5	
<b>Unburnished</b>	1	
<b>Slipped</b>		
<b>Mottled</b>		

Table 13: Sherds by Space 212, 215 and 216

#### ***Space 281 (Table 14)***

Unit (12641): Wall foundation of small square room added later to the southern wall of Byzantine Building 41. This is the only unit within Space 281. The total number of the sherds are 11 and 2 of them are diagnostic. 7 of them are belonging to cream and orange ware, which is lighter in colour and the paste, is different from DMS ware group.

The cream and orange paste ware groups are likely to belong to the later levels (IV-I). The percentage of them is always increasing towards later levels. Types do not give any clear results as they are only two, and 1 belongs to a holemouth jar and the other is a developed (raised) base.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	281
<b>BUILDING</b>	:	41

Ware Code	Unit	
	12641	Space %
C0-tc	1	9%
CM-c	1	9%
CM-s	3	27%
DMS-m	5	46%
OP	1	9%
<b>Unit Total</b>	<b>11</b>	
<b>Burnished</b>	10	
<b>Unburnished</b>	1	
<b>Slipped</b>		
<b>Mottled</b>		

Type Code	Unit	
	12641	% Space
<b>H1</b>	1	50%
<b>B11</b>	1	50%
<b>Unit Total</b>	<b>2</b>	

Table 14: Sherds by Space 281

**Space 282 (Table 15)**

Unit (12668): West room, wall foundation Building 41. This is the only unit that contains pottery from Space 282. The total number is 7 and 3 of them are diagnostic sherds. The dominant ware group is DMS and 1 orange paste ware. 1 bowl rim, 1 lug and 1 flat angular base. The amount of the pottery does not give a clear statistical result.

**AREA** : 4040  
**SPACE** : 282  
**BUILDING** : 41

Ware Code	Unit	
	12668	Space%
DMS-c	1	14.2%
DMS-f	2	28.5%
DMS-m	3	42.8%
OP	1	14.2%
<b>Unit Total</b>	<b>7</b>	
<b>Burnished</b>	7	
<b>Unburnished</b>		
<b>Slipped</b>		
<b>Mottled</b>		

Type Code	Unit	
	12668	% Space
<b>BW4</b>	1	33.3
<b>B12</b>	1	33.3
<b>T2b</b>	1	33.3
<b>Unit Total</b>	<b>3</b>	

*Table 15: Sherds by Space 282*

### **Building 51**

Building 51, last phase of Building 52, has only 4 sherds. 2 of them from (10310), 1 unidentified sherd from (12676) and 1 late body sherd from (12666).

### **Building 58**

#### ***Space 227 (Table 16)***

Unit (13217): Possibly redeposited brick material collapsed or packed into depression of F.2251 following the slumping of wall F.1564. This is the only unit that contains pottery within this space. Only 2 DMS sherds and 2 of them are diagnostic, 1 flat angular base and 1 pointed lug.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	227
<b>BUILDING</b>	:	58

WARE CODE	Unit	
	13217	
DMS-c	2	
<b>Unit Total</b>	<b>2</b>	

Type Code	Unit	
	13217	%Space
<b>B8</b>	1	50%
<b>T3b</b>	1	50%
<b>Unit Total</b>	<b>2</b>	

Table 16: Sherds by Space 227

### **Building 59**

#### **Space 276 (Table 17)**

Unit (12902): Room fill comprising of mudbrick fragments dumped plaster collapse and occasional areas of ashy midden material. There is only one sherd, which is diagnostic. This is a CO (Cream Organic ware) and a bowl in form. This looks as it belongs to the old level kind of pottery, which is interesting.

Unit (12916): Fill of southernmost series of bins on the western side of Space 276. Apparent deliberate backfilling of the bin prior to the room being backfilled. There are 8 sherds and one of them is diagnostic of this unit. Cream Mineral Ware (CM) and Dark Mineral Ware (DMS) are equal in number.

The existence of CO and CM may indicate a mixture or redeposition.

	4040
<b>AREA</b> :	
<b>SPACE</b> :	276
<b>BUILDING</b> :	59

Ware Code	Unit			
	12902	12916	Space Total	Space%
CM-c		1	1	11%
CM-s		1	1	11%
CO-c	1		1	11%
DMS-c		2	2	22%
DMS-sh		4	4	45%
<b>Total Unit</b>	<b>1</b>	<b>8</b>	<b>9</b>	
<b>Burnished</b>		7		
<b>Unburnished</b>	1	1		
<b>Slipped</b>				
<b>Mottled</b>				

Type Code	Unit		
	12902	12916	Space Total
<b>BW1</b>	1		50%
<b>BW11</b>		1	50%
<b>Unit Total</b>	<b>1</b>	<b>1</b>	

Table 17: Sherds by Space 276

**Space 277 & 311 (Table 18)**

Unit (12903): Backfill. No description on the unit sheet. The amount of the pottery is very small in this space and unit. But at least there is consistency in ware groups. 4 of the sherds are CM (cream mineral) ware. Which indicates later levels.

<b>AREA</b> :	4040
<b>SPACE</b> :	277,311
<b>BUILDING</b> :	59

WARE CODE	Unit	
	12903	Space %
CM-c	2	50%
CM-s	2	50%
<b>Unit Total</b>	<b>4</b>	
<b>Burnished</b>		
<b>Unburnished</b>		
<b>Slipped</b>	2	
<b>Mottled</b>	2	

Table 18: Sherds by Spaces 277 & 311



## Building 64

### Space 286, 287, 288 (Table 19)

Unit (13112): General mudbrick dump or demolition material on the West and North sides of spaces (286, 287, and 288). Total number of the sherds are 5 and 1 of them is holemouth jar rim. CM and OP ware are almost equal to DMS. But very small amount of pottery.

Unit (13118): Room fill in Spaces 286 and 287. Only 2 body sherds and 2 of them are OP.

The light coloured and later wares more dominant than the standard middle level ware group (DMS).

<b>AREA</b>	:	4040
<b>SPACE</b>	:	286,287,288
<b>BUILDING</b>	:	

Ware Code	Unit	
	13112	Space %
CM-s	1	20%
DMS-sh	2	40%
OP	2	40%
<b>Unit Total</b>	<b>5</b>	
<b>Burnished</b>	5	
<b>Unburnished</b>		
<b>Slipped</b>		
<b>Mottled</b>		

Table 19: Sherds by Spaces 286, 287 & 288

## Building 67

### Space 292 (Table 20)

Unit (13405): An ashy layer of infill between four walls, the North end contained most of the finds, including all of the x finds. North is very clear while the South is less distinct. There are only seven sherds and no diagnostics. The ware groups of these 7 sherds seems quite mixed but at least we can note that the cream mineral and orange paste ware groups are represented.

Unit (13414): Fill of small pit (13415). Only 2 DMS body sherds. Not indicative very much.

Unit (13416): : Demolition backfill of Space 292, Building67. There are 8 body sherds in this unit and just like the others contains both DMS and CM but DMS-c (Dark Mineral- coarse) ware also remarks later levels (III-upwards). But the number of the sherds is too small to comment on.

Unit (13421): Upper level of degraded - grey mud brick - possibly part of a bench built against the west wall of Building 67, Space 292. There is only 1 body sherd which is OP ware.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	292
<b>BUILDING</b>	:	67

WARE CODE	Unit					Total	Space%
	13405	13414	13416	13421			
CM-f	1					1	6%
CM-s			1			1	6%
DMS-c			2			2	11%
DMS-f	3		2			5	28%
DMS-m	1	2	3			6	32%
OP	2			1		3	17%
<b>Unit Total</b>	<b>7</b>	<b>2</b>	<b>8</b>	<b>1</b>		<b>18</b>	
<b>Burnished</b>	7	2	5	1			
<b>Unburnished</b>			3				
<b>Slipped</b>							
<b>Mottled</b>							

Table 20: Sherds by Space 292

**Space 293 (Table 21):**

Unit (13408): Building backfill. There are 13 sherds, 5 of them are diagnostic. The dominant ware groups are CM and OP, there is also 2 KO (Sandy Organic Ware). This last one is very rare, therefore described as new group, only 2 of them are known. The rest of the sherds, except the 2 DMS seem to reflect later levels.

The interesting type is a jar form with a knob (K4). The pottery sherds from this unit appear to have some different characteristics. For instance most of the mineral inclusions are mica in other units, which is quite rare in this unit.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	293
<b>BUILDING</b>	:	67

Ware Code	Unit	
	13408	Space %
CM-s	2	25%
DMS-f	1	13%
KO	1	13%
OP	4	49%
<b>Unit Total</b>	<b>8</b>	
<b>Burnished</b>	7	
<b>Unburnished</b>	1	
<b>Slipped</b>		
<b>Mottled</b>		
Type Code	Unit	
	13408	% Space
BW8	1	20%
B8	1	20%
B12	1	20%
B13	1	20%
<b>Multiple Attributed</b>		
H6+K4	1	20%
<b>Unit Total</b>	<b>5</b>	

Table 21: Sherds by Space 293

**Space 300 (Table 22):**

Unit (13411): Small fill space between three walls and truncated by a cut toward the SE. Area was very disturbed by burrows and full of building fill. 1 OP and 2 DMS, 1 of them is diagnostic and a bowl form. Small amount of pottery to be indicative.

Unit (13432): Fill between walls. Only one DMS body sherds.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	300
<b>BUILDING</b>	:	67

<b>WARE CODE</b>	<b>Unit</b>			
	<b>13411</b>	<b>13432</b>	<b>Total</b>	<b>Space %</b>
DMS-f	1		1	25%
DMS-m	1	1	2	50%
OP	1		1	25%
<b>Unit Total</b>	<b>3</b>	<b>1</b>	<b>4</b>	

<b>Type Code</b>	<b>Unit</b>
	<b>13411</b>
BW1	1
<b>Unit Total</b>	<b>1</b>

Table 22: Sherds by Space 300

**Spaces Without a Building Number:**

**Space 280 (Table 23): Midden**

Unit (12652): Very loose ashy midden layer that extends into Space 280. Clearly deposited after the collapse of the walls of Space 180. There are 141 sherds in this unit and 31 of them are diagnostic. Although the majority in ware groups is DMS, the general view is a mixed unit. The variation of the ware groups of this unit is extends from quite low levels to late levels. For instance the existence of CO-tc (Cream Organic-thick walled) ware (12 sherds) is very important because it indicates lower levels (XII-VIII) but DMO-c (Dark Mineral Organic-coarse) ware (13 sherds) refers late levels (III-upwards). Forms are also exposing a similar view in terms of the variation, but the highest proportion is the high jars.

Unit (12654): Midden layer within confines of and overlying Building 66. Didn't extend further east. Very ashy and fine and containing a lot of animal bone. Again the highest score, belongs to DMS group but the equal percentage of CO-tc and DMO-c makes things confusing. 1 late sherd also represents a later disturbance or an animal hole. There are 71 sherds and 8 of them are diagnostic. The diagnostics are not indicative.

Unit (13134): Mud-bricky ashy deposit in midden. There is only one body sherd and it is DMS-c.

Unit (13138): Another mudbrick ashy deposit similar in appearance to (13134). Clearly visible in section and seen to thin to the west. Except one body sherd which is DMS-c the assemblage is different to (13134),

Unit (13139): Layer of midden overlying possible 'lime-burning' horizon - dark band (dark brown/black) horizon of burning visible at base of unit. 43 sherds, 4 of them are diagnostic, and 2 late sherds. The continuation of CO-tc and DMO-c, CM-s variation is probably indicating an intrusion of later levels through the earlier levels.

Unit (13142): Deposit of dark brown/black burning with frequent charcoal and burnt animal bone, lying in shallow bowl; underlying layer(s) scorched pink/red. There are 20 sherds and only 3 of them are diagnostic. The dominant ware group is still DMS-c but CO is still represented by 1 sherd.

Unit (13143): Very loose ashy deposit, lies within cut on south side - appeared to spread beyond line of cut to west in section. CO ware group is disappearing but DO-c (Dark Organic-coarse) is represented by 1 sherd. The rest of the sherds have middle and later level characteristics.

Unit (13151): Mostly dark orange brown scorched layer below burnt layer (13142). There are only DMS and its variations are existing in this unit. 7 sherds and none diagnostic.

Unit (13157): Mixed midden layer containing a lot of bone fragments. There are only 3 body sherds and all of them DMS-m.

Unit (13159): Mixed midden deposit - compound layer; lens of charcoal ash etc. Generally very loose and ashy. There are 57 sherds and 11 of them are diagnostic. The dominant ware group in this unit is DMS-sh and the second one is DMS-m. DMS-sh exists in the middle levels but we think that it increases around Level IV. The K (Sandy Ware) and OP existences are also supports that view. The deep jars are dominant among the forms.

Unit (13164): Dark layer of burning - below 'lime' deposit. There are only two sherds and both of them seem to be indicate later levels, like W-f (White-fine Ware) and DMS-sh.

Unit (13167): Midden layer filling base of pit. The total number of sherds are 96 and 18 of them are diagnostic. Pottery generally weathered, burnished DMS-m has the highest amount in this unit, while the second group is OP. The view of "bits from everything" is continuing in this unit. Bowl and jar fragments are almost equal.

**AREA** : 4040  
**SPACE** : 280  
**BUILDING** : -

Ware Code	Unit												Total	Space%
	12652	12654	13134	13138	13139	13142	13143	13151	13157	13159	13164	13167		
CM-c							1						<b>1</b>	0,20%
CM-f							1					1	<b>2</b>	0,40%
CM-s	3	1			2							1	<b>7</b>	1,00%
CO-tc	12	4			2	1						2	<b>21</b>	4,00%
DMO-c	13	5			5		4					7	<b>34</b>	7,00%
DMS-c	65	30	1	1	19	12		1		1		6	<b>136</b>	27,00%
DMS-f	43	20			11	4	7	1		8		3	<b>97</b>	20,00%
DMS-m	5	10			4	2	14	5	3	15		45	<b>103</b>	22,00%
DMS-sh		1				1	9			29	1	7	<b>48</b>	10,00%
DO										1			<b>1</b>	0,20%
DO-c							1						<b>1</b>	0,20%
K										1		2	<b>3</b>	0,60%
OP							8			1		14	<b>23</b>	5,00%
OP-c												1	<b>1</b>	0,25%
W-c												3	<b>3</b>	0,60%
W-f											1	5	<b>6</b>	1,00%
<b>Unit Total</b>	<b>141</b>	<b>71</b>	<b>1</b>	<b>1</b>	<b>43</b>	<b>20</b>	<b>45</b>	<b>7</b>	<b>3</b>	<b>56</b>	<b>2</b>	<b>97</b>	<b>487</b>	
LATE		1			2					1		1		
<b>Burnished</b>	123	66	1	1	39	19	43	6	3	55	2	82		
<b>Unburnished</b>	18	3			4	1	2	1		2		8		
<b>Slipped</b>														
<b>Mottled</b>														

Type Code	Unit								Total	Space%
	12652	12654	13139	13142	13143	13159	13167			
H1	9	2				2	1	<b>14</b>	%17.28	
H2	2			1	1		4	<b>8</b>	%9.88	
H4	2	1						<b>3</b>	%3.70	
H61				2				<b>2</b>	%2.47	
H7	2					1	2	<b>5</b>	%6.17	
H12		1					1	<b>2</b>	%2.47	
BW1	1					1		<b>2</b>	%2.47	
BW3					1			<b>1</b>	%1.23	
BW3a	1						1	<b>2</b>	%2.47	
BW4	1							<b>1</b>	%1.23	
BW8							2	<b>2</b>	%2.47	
BW10							1	<b>1</b>	%1.23	
BW11	1		1				2	<b>4</b>	%4.94	
B1					1	1		<b>2</b>	%2.47	
B1a	3							<b>3</b>	%3.70	
B8	1				1		1	<b>3</b>	%3.70	
B9	1					1		<b>2</b>	%2.47	
B12	1				1			<b>2</b>	%2.47	

B13			1					1	%1.23
B14	2							2	%2.47
B20						1		1	%1.23
M1							1	1	%1.23
M1a						1		1	%1.23
Misc.	1				1		1	3	%3.70
T1a	1							1	%1.23
T1b		2	2					4	%4.94
T2a	1							1	%1.23
T2b		1						1	%1.23
T3b	1	1					1	3	%3.70
<b>Multiple Attributeds</b>									
BW3b+?+T3b						1		1	%1.23
H2+T1b						1		1	%1.23
H7+?+T2b						1		1	%1.23
<b>Unit Total</b>	<b>31</b>	<b>8</b>	<b>4</b>	<b>3</b>	<b>6</b>	<b>11</b>	<b>18</b>	<b>81</b>	

Table 23: Sherds by Space 280

**Space 60 (Table 24):**

Unit (12945): Thin skim of midden material-bounded by walls to the south F.2221, east F.2211, west F.2204 and gradually petering out to the north. Presumably the remnant of an originally thicker midden deposit that has been eroded away. Only two sherds, seems a later tradition.

Unit (12946): Layer interpreted as demolition material from Space 276 walls. Some midden material was also present perhaps suggesting that the demolition rubble built up over some time. Compared to (12945), the amount of pottery increases clearly in this unit. There are 35 sherds and 5 of them are diagnostic. The majority of the ware groups are light coloured, CM (Cream Mineral), OP (Orange Paste) and W (White) wares. Form variation is small in number. But the ware groups are saying that the unit's content is pointing the later levels.

Unit (12961): Midden dump spreading to the west of Space 60. The content of the unit in terms of the sherds are quite same as (12946), but lesser amount.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	60
<b>BUILDING</b>	:	-

Ware Code	Unit				
	12945	12946	12961	Space Total	Space %
CM-c	1	3	3	7	15%
CM-f		7		7	15%
CM-s		9	4	13	28%
CO-tc		1		1	2%
DMS-m		2	1	3	7%
DMS-sh	1	5		6	13%
OP		4	1	5	11%
W-c		1		1	2%
W-f		3		3	7%
<b>Unit Total</b>	<b>2</b>	<b>35</b>	<b>9</b>	<b>46</b>	

<b>Burnished</b>	1	29		
<b>Unburnished</b>	1	5		
<b>Slipped</b>				
<b>Mottled</b>				

Type Code	Unit			
	12946	12961	Space Total	% Space
H2	2	1	3	%42.86
H4	1	0	1	%14.29
BW3	1	0	1	%14.29
B1a	0	1	1	%14.29
B8	1	0	1	%14.29
<b>Unit Total</b>	<b>5</b>	<b>2</b>	<b>7</b>	

Table 24: Sherds by Space 60

**Space 279 (Table 25):**

Unit (12968): midden cleaning layer. 27 sherds, 3 of them are diagnostic. Shows quite a bit mixed unit characteristics, similar to Space 280 in this aspect.

Unit (12970): Thin spread of midden deposit above bricky layer which was in turn over the main midden deposits in Space 269. The quantity of pot recovered was noticeable compared to other midden deposits excavated so far this season. This is redeposited midden lying above 'late' construction debris. Actually the statement about the quantity of the pot sherds is not true for this unit. It is only 11 sherds and 5 of them are diagnostic, and 8 late sherds make this unit unsafe, it is a mixed unit.

Unit (12971): (see 13103). 29 of 140 sherds are diagnostic. DMS group and CM seems as the most dominant ware groups. There are 3 Chalcolithic sherds. Jars are dominant in forms and there are 2 basket handles.

Unit (12972): Lower fill of pit (13148). There are 182 sherds and 41 of them are diagnostic. DMS is still high in proportion but there is an interesting increase at OP ware group.

Unit (12976): Mudbrick construction debris of late date. Not very much pottery, 1 CM, but late (3) and Chalcolithic (2) sherds are existing.

Unit (12980): First identified this compound layer towards the end of our attempt to find pit edges cut through midden. Identified as a major tip line near the top of the midden-distinguished by a light grey layer with a dark burnt band at the base. The quantity of the pottery is quite high in this unit. There are 210 sherds and 60 of them are diagnostic. The sooting on sherds is a general feature within the unit. %77 of all, belong to the dark groups and large in size. The CM ware sherds seems to get much more abraded than the dark ware sherds. Comparing to the dark sherds, the cream sherds seem to be less attached to the heat or fire, some of them does not have any trace of it. This may indicate that the cream sherds were dumped in to this place later. The highest score among the base forms belongs to the raised ones, which is a developed base form. The large holemouth jars are dominant as form. But the existence of T3c (double perforated lugs) which belongs mostly to the lower levels (VI-downwards), is surprising and there are 3 of them. The idea is a later pit was dug

in to a lower level midden and then the pit was filled with later material and they all mixed.

Unit (12988): External midden deposit. The midden layers in Space 279 are interdigitated with mudbrick demolition material in the SW corner of the area. The number of the sherds are 270 and 65 of them are diagnostic. 6 late sherds and 2 Chalcolithic sherds shows a mixture. But the rise in White ware number is interesting. DMS is in high proportion in this unit as in the most of the rest. We see early and late pottery traditions together in this unit, which indicates a mixture again.

Unit (13103): Midden layer slumping to the NE of Space 279. The highest amount of pottery has been found in this unit for the whole season. The total number of the sherds is 307 and 56 of them are diagnostic. While the highest score is belong to DMS group, the increase at CM is remarkable. There are 4 chalcolithic and 1 late sherds and they are possibly came through the animal holes or later disturbances. The dominant type is hole mouthed jars but also some incised sherds are also indicative. The general view is the pottery shows the characteristics of Level V with 1 basket handle. Dark sherds have more sooting than the cream sherds. This may indicate a later pit dug into the earlier midden.

Unit (13107): Concentration of animal bone which has not been heavily processed including a probable wild sheep horncore. Possibly the remains of a feasting event. The sharp contrast in the amount of the pottery sherds (only 1 diagnostic sherd), is because of the special activity characteristic of the unit.

Unit (13127): Fairly homogeneous midden fill in pit. Becomes more stoney towards base. Animal bone also more common lower down. Possibly redeposition midden or could represent intentional use of pit. Prioritised to help decide.



*Figure 141: Deeply incised and modelled pot in the form of a human face*

The total amount of the sherds are 65 and 11 of them are diagnostic. There are only DMS, CM and W ware groups. The dominant group is DMS. Open, straight sided and hole mouths are all present. Sherds are generally large in size and the edges are sharp. The sherd with human face and its presence is still enigmatic. Insized sherds are also found in this unit. The human face pot's (Fig.141)

fragments are scattered within other surrounding units therefore the limit of (13127) is not clear in terms of the pottery. But the ware groups and their percentage are quite constant and indicate between Level V-IV. The absence of DMO is indicative for being lower levels than level III-upwards.

Unit (13129): Midden deposit within cut, probably redeposited midden. There are 53 sherds and 12 of them are diagnostic. The presence of 2 CO and decrease in CM may



indicate another mixture with the lower levels. Hole mouthed jars and the bowls are equal in number.

Unit (13131): Appears to be a washed in layer of constructional material in the base of (13130) to the northern side. Possibly equivalent to (13136). There is very little pottery in this unit 1 body and 1 diagnostic, says not much but the absence of pottery.

Unit (13140): Midden layer in pit cuts. A layer within the midden, it was excavated as one. The amount of the pottery is increasing again in this unit. DMS ware group is again the dominant one. But this time, the dominancy is quite distinctive. The bowl forms are slightly increasing and T6 (twin lug) has a remarkable number in this unit

<b>AREA</b>	4040
:	
<b>SPACE</b>	279
:	
<b>BUILDING</b>	:

Ware Code	Unit													Space Total	Space%
	12968	12970	12971	12972	12976	12980	12988	13103	13107	13127	13129	13131	13140		
CM-c	1		5	7	1	20	11	17		4	4		10	<b>80</b>	5%
CM-f	1	1	13	10		9	14	20		4			7	<b>79</b>	5%
CM-s		2	25	5		14	24	32		13	2		8	<b>125</b>	8%
CO								1						<b>1</b>	0%
CO-c						7								<b>7</b>	0%
CO-f							1	1						<b>2</b>	0%
CO-tc	3		3			1	1				2		1	<b>11</b>	1%
DMO-c	1			1			4						2	<b>8</b>	0%
DMO-f							2					1		<b>3</b>	0%
DMS-c	4		16	37		47	18	47		10	5		14	<b>198</b>	13%
DMS-f	5		13	18		11	30	18	1	9	4		15	<b>124</b>	10%
DMS-m	7	8	46	50		81	122	127		21	18		44	<b>524</b>	41%
DMS-sh	1		2	10		7	6	23			9		8	<b>66</b>	5%
K	1		6			2	1	1					1	<b>12</b>	1%
OP	2		9	41		1	17	15			6	1	10	<b>102</b>	8%
W-c				3		3	14			2				<b>22</b>	2%
W-f	1		2			5	5	5		2	3		3	<b>26</b>	2%
<b>Unit Total</b>	<b>27</b>	<b>11</b>	<b>140</b>	<b>182</b>	<b>1</b>	<b>208</b>	<b>270</b>	<b>307</b>	<b>1</b>	<b>65</b>	<b>53</b>	<b>2</b>	<b>123</b>	<b>1390</b>	
LATE		8			3	2	6	1							
CHALCO			3		2		2	4							
<b>Burnished</b>	17	11	110	126	1	164	219	266	1	63	48	1	87		
<b>Unburnish.</b>	10		24	58		44	33	33		7	4	1	34		
<b>Slipped</b>							5	5		1			1		
<b>Mottled</b>			5				3	2		2			1		

Type Code	Unit													Space Total	% Space
	12968	12970	12971	12972	12976	12980	12988	13103	13107	13127	13129	13131	13140		
H1	1		8	1		4	7	7			1			<b>29</b>	%8.95
H2		3	2	15		12	13	14	1	2	4		6	<b>72</b>	%22.22
H4				3				2		2				<b>7</b>	%2.16
H6							2						2	<b>4</b>	%1.23
H61							1	1					1	<b>3</b>	%0.92
H7	1		2			1		5					1	<b>10</b>	%3.08
H10			3					1		1				<b>5</b>	%1.54
H11						1		1						<b>2</b>	%0.62
BW1		1		1		1	4	3		2			2	<b>14</b>	%4.32
BW2							2						1	<b>3</b>	%0.92
BW2a			1			2							1	<b>4</b>	%1.23
BW3				1			1	1			3		1	<b>7</b>	%2.16
BW3b				1										<b>1</b>	%0.31
BW4						3		3					2	<b>8</b>	%2.47
BW6								1						<b>1</b>	%0.31
BW8		1		2		2	3	2					1	<b>11</b>	%3.40

BW10			1				1	1			1			4	%1.23
BW11				2		2	6	2		1	1		1	15	%4.63
BW14													1	1	%0.31
B1				1				1		1				3	%0.92
B1a				2				1					1	4	%1.23
B2						1								1	%0.31
B2a							1							1	%0.31
B3						1								1	%0.31
B4			2			3	2							7	%2.16
B4a						1								1	%0.31
B6												6	6	6	%1.85
B8				2			3	1		1				7	%2.16
B9			1					1						2	%0.62
B10							1							1	%0.31
B12			1			3		1		1		1	1	7	%2.16
B13			1	1		1	2							5	%1.54
B14			1						3					4	%1.23
B16						1								1	%0.31
B17						1	1							2	%0.62
B18							1							1	%0.31
B20			2			1		1						4	%1.23
P1				1										1	%0.31
M1				1		1	1							3	%0.92
M1a				2										2	%0.62
M2							1							1	%0.31
SQ1												1	1	1	%0.31
D7							1	2					1	4	%1.23
Misc.							1							1	%0.31
T1a	1													1	%0.31
T2a												1	1	1	%0.31
T2b			2	3		6	4				1			16	%4.94
T3b				2		3								5	%1.54
T3c					1	3								4	%1.23
T4			2		1	1	3	1						8	%2.47
T6												6	6	6	%1.85
<b>Multiple Attributeds</b>															
BW1+T2b						2								2	%0.62
BW11+T2b						1								1	%0.31
BW4+B1a						1								1	%0.31
H2+T3b						1								1	%0.31
B16+D7							1							1	%0.31
BW11+T1a							1							1	%0.31
T4+D7							1							1	%0.31
H1+D7+T4										1				1	%0.31
H1+T2a										1				1	%0.31
H2+T2a												1	1	1	%0.31
<b>Unit Total</b>	<b>3</b>	<b>5</b>	<b>29</b>	<b>41</b>	<b>2</b>	<b>60</b>	<b>65</b>	<b>56</b>	<b>1</b>	<b>11</b>	<b>12</b>	<b>1</b>	<b>38</b>	<b>324</b>	

Table 25: Sherds by Space 279

**Space 306 (Table 26):**

Unit (13188): Midden layer, directly below topsoil, appears to be a bit mixed and perhaps redeposited. Generally there is no soot trace on diagnostic sherds. Most of the diagnostic sherds have lime crustation on their external surface. The amount of the pottery is quite high just like the other midden fills. There are 180 sherds and 40 of them are diagnostic. While the dominance of DMS group is distinctive, the amount of K (Sandy Ware) is also remarkable. Bowl forms are slightly more than the jars. There are 5 late sherds.

Unit (13199): Midden deposit between buildings under looser midden layer (13188), but still redeposited, since late graves cut the layer below. there are lots of small and abraded sherds in this unit. The number of the pottery is similar to (13188) and also the percentages of the ware groups. The only difference is the forms that the jars are becoming the dominant group again in this unit but the difference in number is not big.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	306
<b>BUILDING</b>	:	

Ware Code	Unit			
	13188	13199	Space Total	Space%
CM-c	7	5	12	3%
CM-f	5	6	11	3%
CM-s	17	4	21	6%
CO-f	1		1	0%
DMS-c		2	2	0%
DMS-f		1	1	0%
DMS-c	8	7	15	4%
DMS-f	55	16	71	21%
DMS-m	36	51	87	25%
DMS-sh	20	40	60	17%
K	10	10	20	6%
OP	16	24	40	12%
OP-c	5	2	7	2%
W-c		1	1	0%
W-f		2	2	0%
<b>Multiple Attributeds</b>				
OP-c / CM-c		3	3	0%
K / CM-c	1		1	0%
<b>Unit Total</b>	<b>181</b>	<b>174</b>	<b>355</b>	
LATE	5	4		
<b>Burnished</b>	167	142		
<b>Unburnished</b>	13	29		
<b>Slipped</b>	1	2		
<b>Mottled</b>				
<b>Type Code</b>	<b>Unit</b>			

	13188	13199	Space Total	Space%
H1	1	3	4	% 5.79
H2	9	8	17	%24.63
H7	0	2	2	%2.89
H12	1	0	1	%1.44
BW1	4	4	8	%11.59
BW2	1	0	1	%1.44
BW2a	0	2	2	%2.89
BW3	1	1	2	%2.89
BW4	0	1	1	%1.44
BW6	0	1	1	%1.44
BW8	3	0	3	%4.34
BW10	1	0	1	%1.44
BW11	6	0	6	%8.69
B3a	0	2	2	%2.89
B8	2	1	3	%4.34
B11	1	0	1	%1.44
B12	1	0	1	%1.44
B13	2	0	2	%2.89
B14	1	0	1	%1.44
P2	0	1	1	%1.44
P2b	0	1	1	%1.44
M3	0	1	1	%1.44
T3b	3	0	3	%4.34
T3c	1	0	1	%1.44
<b>Multiple Attributeds</b>				
BW10+B3	1	0	1	%1.44
BW2+K6a	1	0	1	%1.44
BW2a+B4a	0	1	1	%1.44
<b>Unit Total</b>	<b>40</b>	<b>29</b>	<b>69</b>	

Table 26: Sherds by Space 306.

**Units without space and building number (Table 27):**

Unit (12616): After the removal of fill (12397) and skeleton (12398) it became clear that there was a lining of mud-bricks within the burial cut (12396). 2 late sherds and 1 body sherd.

Unit (12620): Unidentified layer- possible dump of material overlying looser deposit (12622). Therefore later than foundation of Building 41 ie. Byzantine or later. No finds. There are only 2 sherds and 1 late sherd.

Unit (12622):The fill of an assumed retrieval cut- cut following the line of the foundation of Building 41 (12630) and possibly removing some kind of structure (threshold?). 2 sherds, 1 diagnostic and 1 late sherd.

Unit (12634): (12634) was fairly difficult to distinguish in plan, but once fill (12622) had been removed 3-4 uneven courses of mud-brick were observed on either side of the 'gap' in (12629). They seem to have provided a lining- built onto and surrounded by fill (12629)- perhaps for a threshold into Building 41 (itself later removed). It was

particularly difficult to remove bricks (12634) from fill (12629) as they were formed from very similar- if not the same- material.

A lead object-weight?- was recovered from within one mud-brick as well as bone and both Neolithic and Byzantine pot. There is no late pottery in this unit but 2 neolithic body sherds.

Unit (12640): Fairly homogenous fill of rectangular pit. Fill badly disturbed by animal burrows. Difficult to distinguish in some areas from the surrounding midden deposits. 2 Neolithic and 2 late period sherds.

Unit (12647): Mud-brick lining of grave previously excavated (Burial fill and skeleton excavated in 2003). 13 late period sherds are indicating a non prehistoric deposit too.

Unit (12648): Upper midden layer in the corner created by the Byzantine foundations (12627) and (12628). There are 34 sherds and 8 of them are diagnostic. No late sherds. DMS and CM and OP percentages are almost equal.

Unit (12653): Clayey midden. It has a more firm consistency than other midden layers. There are 29 sherds and 3 of them are diagnostic. DMS is the dominant ware group one.

Unit (12925): Fill of pit (12626). Only 3 diagnostic sherds, DMS-m and 2 base (1 is raised), 1 bowl.

Unit (13437): Fill of space between walls. Only 8 sherds and 1 is diagnostic. Mostly DMS.

Unit (13440): Only 1 sherd

Unit (13441): 11 sherds and mostly DMS and OP.

<b>AREA</b>	:	4040
<b>SPACE</b>	:	-
<b>BUILDING</b>	:	

Ware Code	Unit											
	12616	12620	12622	12634	12640	12647	12648	12653	12925	13437	13440	13441
CM-c							3			1	1	
CM-f							3					
CM-m							1					
CM-s							4					
DMS-c		2					5	2		1		
DMS-f							4	13				
DMS-m	1		1	2			6	12	3	5		5
DMS-sh			1		1	1	2			1		2
K								1				
OP					1		4	1				4
<b>Unit Total</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>15</b>	<b>63</b>	<b>59</b>	<b>6</b>	<b>16</b>	<b>2</b>	<b>22</b>
LATE	2	1	1		2	13		1				
<b>Burnished</b>	1	2	3	2	2	1	23	28	3	6	1	11
<b>Unburnished</b>							5	1		2		
<b>Slipped</b>							3					
<b>Mottled</b>												

Type Code	Unit				
	12622	12640	12648	12653	13437
H2			1		
H10		1			
BW3				1	
BW3b			1		
BW4			1		
BW5			1		
BW10			2		
B2				1	
B4a				1	
T2b					1
<b>Multiple Attributeds</b>					
H1+T2b	1				
BW10+B14			1		
BW3a+K9			1		
<b>Total</b>	<b>1</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>1</b>

Table 27: Sherds by units without space or building number.

## South Area

### 3 Buildings

B.53 (Spaces: 257, 272)

B.56 (Spaces: 121, 122)

B.65 (Spaces: 298, 299)

### 2 Spaces

261

123

## Building 53

### Space 257 (Table 28):

Unit (12538): Thin deposit within SW part of Space 257. There are 4 sherds, and all are DMS-sh1 (Dark Mineral-shell like burnished), and one of them is a holemouth jar rim, the possibility is they all belong to the same pot.

<b>AREA</b>	:	SOUTH
<b>SPACE</b>	:	257
<b>BUILDING</b>	:	53

Ware Code	Unit	
	12538	Space Total
DMS-sh1	4	4
<b>Unit total</b>	<b>4</b>	<b>4</b>
<b>Burnished</b>	4	
<b>Unburnished</b>		
<b>Slipped</b>		
<b>Mottled</b>		

Type Code	Unit
	12538
H2	1
<b>Unit Total</b>	<b>1</b>

Table 28: Sherds by Space 257.

### Space 272 (Table 29):

Unit (12541): Diffuse layer within Space 272. 13 of 47 sherds are diagnostic. Sandy ware, White ware and OP (orange paste) ware are having high proportions. But the dominant ware group is DMS-m. There is no jar but all of the diagnostic rims are bowls. 1 raised base and 1 straight lug can be mention within the group.



<b>AREA</b>	:	SOUTH
<b>SPACE</b>	:	272
<b>BUILDING</b>	:	53

Ware Code	Unit	
	12541	Space %
CM-c	1	%2.13
CM-f	1	%2.13
CM-s	1	%2.13
DMS-c	2	%4.26
DMS-f	2	%4.26
DMS-m	15	%31.91
DMS-sh	6	%12.77
K	5	%10.64
OP	6	%12.77
W-c	8	%17.02
<b>Unit Total</b>	<b>47</b>	
<b>Burnished</b>	36	
<b>Unburnished</b>	11	
<b>Slipped</b>	1	
<b>Mottled</b>		

Type Code	Unit	
	12541	Space %
BW1	2	%15.38
BW2a	1	%7.69
BW3	1	%7.69
BW10	1	%7.69
BW11	2	%15.38
B1a	2	%15.38
B3a	1	%7.69
B4a	1	%7.69
T2b	1	%7.69
<b>Multiple Attributeds</b>		
BW1+T1b	1	%7.69
<b>Unit Total</b>	<b>13</b>	

Table 29: Sherds by Space 272.

## Building 56

### Space 121 (Table 30):

Unit (12826): 'Clean' floor surface at north of Building 56. No pottery only one CM body sherd.

Unit (12831): Burnt ash deposit, prioritised because it seems to be deposited or represents an activity that happens prior to the construction of oven F.2076, hearth F.2075 and platforms F.2077 and F.2055. However the deposit is later than the construction of the bench and central east platform respectively F.2056 and F.2057. Basically the deposit is associated with a definite burning episode/s that occur in the primary construction phase of Building 56.

The sherds are not abraded very much, except one or two sherds. Generally all of them have sharp edges. The sizes of sherds are more or less the same, small and medium size but no large sherds. Some sherds have fitted into bigger pieces. Therefore, the sherds seem to be dumped in to this deposit in various times and haven't rolled around very much. The total number of the sherds are 46 and 6 of them are diagnostic. The most interesting result is the highest score of DMS-m / CM-s (the sherds that carries both ware groups' characteristics). This may be showing us a transitional stage (but it is early to say that) or they change characteristics because of the secondary burning. There are 4 rim sherds and 4 of them are hole mouth shaped large pots. 1 is straight-sided pot.

A number of sherds have been refitted and produced the profile of a pot. Some of the adjoining pieces contrast in colour because while the one was burnt, the other wasn't. This situation also proves that the pots were broken and the sherds were dispersed at the very beginning of this unit's life time.

Unit (12842): Plaster surface on platform F.2055. Only 2 sherds one belongs to an open bowl.

Unit (12847): Sandy mudbricks used in construction of oven walls and base of the bricks do not appear to be regular in size. Only 1 late sherd (probably carried by animals).

Unit (12860): Mud brick make up of platform F.2055. Only 1 white ware body sherd.

Unit (12872): Make up for platform F.2055 contains obsidian debitage cluster (12873) suggesting this make up was placed in several batches with activity happening while this was happening, although here it was all removed as one unit. There are 8 sherds but no diagnostic. DMS and CM is almost equal.

Unit (12882): Primary construction layer or ultimate roomfill over floor area of Building 56. 3 body sherds, OP is existing.

Unit (13318): Mortar in western wall of Building 56. There are 8 sherds and 2 of them are diagnostic. A high amount of pottery for a mortar. A variation in the ware groups, 1 bowl and 1 hole mouth rim sherds.

Unit (13352): Large room fill deposit could probably have been excavated as separate units, in that discrete dumps could be discerned within it. The amount of the pottery is the highest in this unit, because it is a large room fill. 15 sherds are diagnostic of the 95 fragments of pottery. The high proportion of DMS-sh can be indicative for the level of this building. As I believe this "shell like dark ware" group sherds are increasing at around level IV towards III.

<b>AREA</b>	: South
<b>SPACE</b>	: 121
<b>BUILDING</b>	: 56

Ware Code	Unit										Total	Space %
	12826	12831	12842	12847	12860	12872	12882	13318	13352			
CM-c						2		1			3	%1.82
CM-f						1			1		2	%1.21
CM-s	1							1	2		4	%2.42
CO-f									1		1	%0.61
DMO-c		1									1	%0.61
DMS-c		1						2	13		16	%9.70
DMS-f									3		3	%1.82
DMS-m		9				3		2	23		37	%22.42
DMS-sh			1			2	1		40		44	%26.67
OP		1					2	1	5		9	%5.45
OP-c									4		4	%2.42
W									2		2	%1.21
W-c								1			1	%0.61
W-f					1				1		2	%1.21
LATE				1							1	%0.61
DMS-m / CM-s		34	1								35	%21.21
<b>Total</b>	<b>1</b>	<b>46</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>8</b>	<b>95</b>	<b>165</b>		
<b>Burnished</b>	1	41	1			4	2	3	88			
<b>Unburnished</b>		4			1	4	1	5	7			
<b>Slipped</b>												
<b>Mottled</b>												
Type Code	Unit						Total	Space %				
	12831	12842	13318	13352								
H1	1		1	3		5	%20.83					
H2	1			2		3	%12.5					
H7				2		2	%8.33					
H10	1					1	%4.17					
BW1				1		1	%4.17					
BW2			1			1	%4.17					
BW3				1		1	%4.17					
BW3b				1		1	%4.17					
BW6				1		1	%4.17					
BW8				1		1	%4.17					
BW11				1		1	%4.17					
B9				1		1	%4.17					
D2				1		1	%4.17					
T2b	1					1	%4.17					
T3b	1					1	%4.17					
<b>Multiple Attributeds</b>												
H1+T2b	1					1	%4.17					
BW8/T3b		1				1	%4.17					
<b>Total</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>15</b>	<b>24</b>							

Table 30: Sherds by Space 121.

**Space 122 (Table 31):**

Unit (12829): Eroded plaster surface on NW platform in Building 56. Only 1 cream mineral ware, body sherd.

<b>AREA</b>	:	SOUTH
<b>SPACE</b>	:	122
<b>BUILDING</b>	:	56

Ware Code	Unit
	12829
CM-s	1
<b>Burnished</b>	
<b>Unburnished</b>	1
<b>Slipped</b>	
<b>Mottled</b>	

Table 31: Sherds by Space 122.

**Building 65**

**Space 298 (Table 32):**

Unit 13356: Room fill in space 298 of Building 65, which was a storage area with 4 bins in it. The total number of the sherds are 43 and 11 of them are diagnostic. The OP (Orange Paste) ware group is dominant, and followed by DMS-m in this unit.

Unit 13364: A kind of dumped material in the room fill of Space 298. In between the 8 sherds the dominancy belongs to the DMS-sh ware. The 2 rim sherds are the fragments of a closed bowl.

Unit (13367): Fill of pit with human remains. Only 1 body sherd existing.

<b>AREA</b>	:	SOUTH
<b>SPACE</b>	:	298
<b>BUILDING</b>	:	65

Ware Code	Unit				Space Total	Space %
	13356	13364	13367			
DMO-c1	1				1	%1.92
DMS-c1	3	3	1		7	%13.56
DMS-f1	5				5	%9.62
DMS-m1	10	1			11	%21.15
DMS-sh1	5	4			9	%17.31
OP-1	15				15	%28.85
OP-c1	3				3	%5.77
W-f1	1				1	%1.92
<b>Unit Total</b>	<b>43</b>	<b>8</b>	<b>1</b>		<b>52</b>	
<b>Burnished</b>	42	7	2			
<b>Unburnished</b>		1				
<b>Slipped</b>						
<b>Mottled</b>						

Type Code	Unit			
	13356	13364	Space Total	Space %
H2	4		4	%30.77
H12	1		1	%7.69
BW1	2		2	%15.38
BW10	1		1	%7.69
BW11		2	2	%15.38
B2	1		1	%7.69
B3a	1		1	%7.69
B12	1		1	%7.69
<b>Unit Total</b>	<b>11</b>	<b>2</b>	<b>13</b>	

Table 32: Sherds by Space 298.

**Space 299 (Table 33):**

Unit (13360): Room fill levelling within Space 299 of Building 65. There are 29 pottery sherds. DMS-sh is high in proportion but DMS-medium and fine groups are also high in proportion. There is 1 basket handle, and H7 (open-like) jars among the 6 diagnostic sherds.

<b>AREA</b>	:	SOUTH
<b>SPACE</b>	:	299
<b>BUILDING</b>	:	65

Ware Code	Unit	
	13360	Space %
CM-s1	1	%3.45
DMS-c1	3	%10.34
DMS-f1	4	%13.79
DMS-m1	7	%24.14
DMS-sh1	10	%34.48
K-1	1	%3.45
OP-1	3	%10.34
<b>Unit Total</b>	<b>29</b>	
<b>Burnished</b>	24	
<b>Unburnished</b>	5	
<b>Slipped</b>		
<b>Mottled</b>		

Type Code	Unit
	13360
H7	3
BW6	1
B12	1
T4	1
<b>Unit Total</b>	<b>6</b>

Table 33: Sherds by Space 299.

## Spaces Without a Building Number

### *Space 261 (Table 34):*

Unit (12511): Layer appears to be midden slump from the north on the northwest side. 6 of the 11 sherds are DMS-sh. H2 (Holemouth jar) is the only diagnostic rim sherd.

Unit (12526): Deposit/layer is a similar event to (12519). The series of lenses are however earlier but happens to be split by arbitrary layer (12524). 6 sherds all of them are DMS 2 of them DMS-sh.

Unit (12532): Layer consisted of burnt bricks and plaster. Possibly attributed to dumping of material from burnt demolished building. Only 2 sherds, 1 of them is late.

<b>AREA</b>	:	SOUTH
<b>SPACE</b>	:	261
<b>BUILDING</b>	:	

WARE CODE	Unit				
	12511	12526	12532	Space Total	Space %
DMS-c		1		1	%5.26
DMS-f		2		2	%10.52
DMS-m	4			4	%21.05
DMS-sh	6	2		8	%42.11
OP	1	1	1	3	%15.79
<b>Unit Total</b>	<b>11</b>	<b>6</b>	<b>1</b>	<b>18</b>	
LATE			1		%5.26
<b>Burnished</b>	12	6	1		
<b>Unburnished</b>					
<b>Slipped</b>					
<b>Mottled</b>					

Type Code	Unit
	12511
H2	1
<b>Total Unit</b>	<b>1</b>

Table 34: Sherds by Space 261.

### *Space 123 (Table 35):*

Unit (12801): Mortar within foundation wall of building that probably existed at the west. Only 3 sherds, not indicative.

Unit (13344): Room fill in Space 123 which is below a room floor. Only 4 sherds, 3 DMS, 1 OP. And has got 1 jar, 1 bowl rim fragment.

Unit (13345): The foundation wall in Space 123. Only 1 body sherd, DMS.

<b>AREA</b>	:	SOUTH
<b>SPACE</b>	:	123
<b>BUILDING</b>	:	

Ware Code	Unit				
	12801	13344	13345	Space Total	Space%
DMS-f		1		1	12.5%
DMS-m	2	2	1	5	62.5%
OP	1	1		2	25%
<b>Unit Total</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>8</b>	
<b>Burnished</b>	3	4	1		
<b>Unburnished</b>					
<b>Slipped</b>					
<b>Mottled</b>					

Type Code	Unit
	13344
H2	1
BW3	1
<b>Unit Total</b>	<b>2</b>

Table 35: Sherds by Space 123.

### IST Area

#### 3 Buildings

Building 63 (Spaces: 285, 284, 283)

Building 128 ( Spaces 294 ? )

Building 175 (Spaces 294 ? )

#### 6 Spaces without building number

Space: 297      Space: 296

Space: 139      Space: 253

Space: 295      Space: 301

#### 4 Units

(12448)          (13901)

(12460)          (13913)

### Building 63

#### Space 285 (Table 36):

Unit (12423): Burned fill. There are many roof material in the red brown and grey mix soil. The total number of the sherds are 22 and DMS, CM and OP percentages are close to each other. A slightly “S” profiled B19+BW13 diagnostic is not a common form.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	285
<b>BUILDING</b>	:	63

WARE CODE	Unit	
	12423	Space%
CM-c	1	%4.55
DMS-c	5	%22.73
DMS-m	8	%36.36
DMS-sh	4	%18.18
OP	4	%18.18
<b>Unit Total</b>	<b>22</b>	
<b>Burnished</b>	19	
<b>Unburnished</b>	3	
<b>Slipped</b>		
<b>Mottled</b>		

Type Code	Unit
	12423
<b>B12</b>	1
<b>Multiple Attributeds</b>	
<b>B19+BW13</b>	1
<b>Unit Total</b>	<b>2</b>

Table 36: Sherds by Space 285.

**Space 284 (Table 37):**

Unit (12426): Both burnt fills. Red - brown and grey separated two different unit. very little amount of pottery. No abrasion. Only three sherds. DMS and OP.

Unit (12438): This unit is upper part of the floor, which we found nearest area. There are many burnt mudbrick fragments. We also took some phytoliths sample in that area, where we found a kind of pouch (?) and within were some bones, stone pieces. The 10 sherds are a combination of DMS and CM. 1 jar rim fragment.



<b>AREA</b>	:	IST
<b>SPACE</b>	:	284
<b>BUILDING</b>	:	63

WARE CODE	Unit			
	12426	12438	Space Total	Space%
CM-c		1	1	%7.69
CM-f		1	1	%7.69
DMS-c	1	7	8	%61.54
DMS-f		1	1	%7.69
DMS-m	1		1	%7.69
OP	1		1	%7.69
<b>Unit Total</b>	<b>3</b>	<b>10</b>	<b>13</b>	
<b>Burnished</b>	3	9		
<b>Unburnished</b>		1		
<b>Slipped</b>				
<b>Mottled</b>				

Type Code	Unit
	12438
H1	1
<b>Unit Total</b>	<b>1</b>

Table 37: Sherds by Space 284.

**Space 283 (Table 38):**

Unit (12427): Close to bin (12417), (12427) yielded 6 sherds, 2 of them diagnostic. 5 DMS-m and 1 OP. Straight sided and closed bowl rims are the diagnostics.

Unit (12429): A fill. The area around the bins seems elevated from the floor, and we still could not find the connection of them with the floor. We have removed some large pieces of mudbrick to be able to see the floor (one is taken as a material sample) but yet not reached. It seems there is a relation with (11863) and (12429), a threshold which is between two spaces is heavily burnt, as well as the slope (12429). The DMS percentage is clearly decreased. OP is quite high.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	283
<b>BUILDING</b>	:	63

WARE CODE	Unit			
	12427	12429	Space Total	Space %
CM-f		1	1	5%
CM-s		1	1	5%
DMS-m	5	2	7	35%
K / CM-f		1	1	5%
OP	1	9	10	50%
<b>Unit Total</b>	<b>6</b>	<b>14</b>	<b>20</b>	
LATE	1			
<b>Burnished</b>	4	7		
<b>Unburnished</b>	2	7		
<b>Slipped</b>				
<b>Mottled</b>				

Type Code	Unit		
	12427	12429	Space Total
H1		1	1
BW3	1		1
BW11	1		1
T3b		1	1
<b>Unit Total</b>	<b>2</b>	<b>2</b>	<b>4</b>

Table 38: Sherds by Space 283.

### **Building 128 / 175**

#### **Space 294 (Table 39):**

Unit (12444): The fill of the pit contains ashes and extremely friable soil. The increase of the OP group is remarkable. DMS-c and DMS-sh are also compatible with this view. The 12 red slipped sherd is also indicative in this unit. A carinated bowl, an insized sherd, ring/raised bases, they are all needs to be evaluated in detail and with absolute dating.

Unit (12456): The unit seems to form the base of the upper midden layer ((12448) and (11874)). There are 125 sherds, which is quite a high proportion for pottery but also typical for a midden deposit. 27 of them are diagnostic. The interesting bit is the high percentage of DMS-sh, DMS-c and OP. Their combination and the level relation is still under research. There are 5 insized and 1 grooved decorated sherds. The D2a (is a version of a insized one) one also have basket handle. The other insized (D2) sherds are bowls. This unit has got quite a bit variation and coloured 4 slipped sherd.

Unit (12482): This unit is situated south of (12456). Its general aspect seems to indicate that its genesis was caused by the deposition of crashed mudbrick blocks. DMS-c group is high in proportion among 20 sherds. 4 of them diagnostic.

Unit (12487): This appears to be a wide shallow depression than a pit. The basal boundary seems to be gently sloping towards E but the unit is not entirely encompassed by the trench. The total number of the sherds are 112 and 27 of them are diagnostic. DMS-m and DMS-sh wares are close to each other in terms of the number. But OP is also a crowd ware group. 6 of them have red slipped surfaces. A knob with perforation is also a rare shape. Most of the types are closed jar forms.

Unit (12499): It seems to have formed from a building's crashed walls. Only 1 body sherd exists.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	294
<b>BUILDING</b>	:	175 (12456) 128 (12487)

Ware Code	Unit						Space Total	Space%
	12444	12456	12482	12487	12499			
CM-c		2				2	%0.71	
CM-f		3				3	%1.07	
CM-s			2			2	%0.71	
DMS-c	5	33	12	17		67	%23.93	
DMS-f		4		7		11	%3.93	
DMS-m		16	2	36	1	55	%19.64	
DMS-sh	1	40		26		67	%23.94	
K				1		1	%0.35	
OP	9	17	3	20		49	%17.51	
OP-c	6	8	1	5		20	%7.14	
W-c		2				2	%0.71	
W-f	1					1	%0.35	
<b>Unit Total</b>	<b>22</b>	<b>125</b>	<b>20</b>	<b>112</b>	<b>1</b>	<b>280</b>		
LATE				1				
<b>Burnished</b>	23	115	21	85	1			
<b>Unburnished</b>		8	1	4				
<b>Slipped</b>	12	4		6				
<b>Mottled</b>								

Type Code	Unit					
	12444	12456	12482	12487	Space Total	Space%
H1	1	1		5	7	%10.14
H2		4	1	3	8	%11.59
H6		1		1	2	%2.90
H7		3		1	4	%5.78
H10				3	3	%4.35
H12				1	1	%1.45
H13				1	1	%1.45
BW2c	1				1	%1.45
BW3a				1	1	%1.45
BW3b	2				2	%2.90
BW4		1			1	%1.45
BW8				1	1	%1.45

BW10b	1				1	%1.45
BW11	1	1		1	3	%4.35
B1a				1	1	%1.45
B2				1	1	%1.45
B2a		1			1	%1.45
B3a	1	1			2	%2.90
B4		1			1	%1.45
B4a		1			1	%1.45
B5		1			1	%1.45
B8			1	1	2	%2.90
B9		1			1	%1.45
B9a				1	1	%1.45
B11	1				1	%1.45
B12		1		2	3	%4.35
B13		2	1		3	%4.35
B14	1		1		2	%2.90
T1b				1	1	%1.45
T2b		1			1	%1.45
T3b				1	1	%1.45
<b>Multiple Attributeds</b>						
BW1+c1	1				1	%1.45
BW8+D2	1				1	%1.45
BW1+D2		1			1	%1.45
BW3+D2		2			2	%2.90
BW8+D2		1			1	%1.45
H2+T4+D2a		1			1	%1.45
H7+D7		1			1	%1.45
H1+K6				1	1	%1.45
<b>Unit Total</b>	<b>11</b>	<b>27</b>	<b>4</b>	<b>27</b>	<b>69</b>	

Table 39: Sherds by Space 294

### Spaces without a building number

#### Space 297 (Table 40):

Unit (12430): It is very mixed unit with burnt mudbrick blocks, ash, plaster and lime. The pottery ware group assemblage is also quite mixed. 29 sherds and 5 diagnostics.



Figure 142: Footed plate from (12451)

Unit (12451): South of these walls there is an ashy and mud bricky soil. We think that it is a fill of a room, so we gave it a new unit number. Again on the north of the area, in front of the wall we realised a burnt area that seems like a burnt floor.

Next to the east wall we found beige coloured broken pottery. It has a flat shape with either a handle or a foot (Fig. 142). The mentioned pot is a footed plate. We have only one foot but it had 3 in the past probably. This is quite a rare form and very high quality. There is 1 late and not a meaningful view on the groupings of the wares and types.

Unit (12458): A floor that was burnt several times and covered by mudbrick or clay each time. Only 1 body sherd.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	297
<b>BUILDING</b>	:	

Ware Code	Unit				
	12430	12451	12458	Space Total	SPACE %
CM-c	2			2	5.4%
CM-f		1		1	2.7%
DMS-c	2	1		3	8.1%
DMS-f					
DMS-m	11	4	1	16	43.2%
DMS-sh	2			2	5.4%
OP	6			6	16.2%
OP-c	2	1		3	8.1%
W-c	2			2	5.4%
W-f	1			1	2.7%
<b>Multiple Attributeds</b>					
CM-s / W-f		1		1	2.7%
<b>Unit Total</b>	<b>28</b>	<b>7</b>	<b>1</b>	<b>36</b>	
LATE	1	1			
<b>Burnished</b>	43	7	1		
<b>Unburnished</b>	4				
<b>Slipped</b>					
<b>Mottled</b>					

Type Code	Unit		
	12430	12451	Space Total
H1		1	1
H2		1	1
H61	1		1
H7	1		1
BW1	1		1
BW3a		1	1

BW8		1	1
B8	1	1	2
B9	1		1
<b>Multiple Attributeds</b>			
B10+P2a		1	1
<b>Unit Total</b>	<b>5</b>	<b>6</b>	<b>11</b>

Table 40: Sherds by Space 297.

**Space 139 (Table 41):**

Unit (12454): Midden fill, which is mixed yellow and brown, including mudbrick pieces and charcoal. There are 120 sherds and 31 of them are diagnostic. Generally gold coloured mica is seen as an inclusion, which comes from Karadağ mountain (?). Gold coloured mica is visible on all of the sherds. Especially on red slipped ones. The highest percentage belongs to DMS-sh and it is followed by DMS-c and DMS-m. OP and OP+CM numbers are also remarkable. Bowl forms are clearly increased in this unit.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	139
<b>BUILDING</b>	:	

Ware Code	Unit	
	12454	SPACE %
CM-f	1	1%
CM-s	1	1%
CM-s / OP	1	1%
DMO-c	1	1%
DMO-f	2	2%
DMS-c	25	21%
DMS-f	6	5%
DMS-m	21	18%
DMS-sh	31	26%
K	5	4%
OP / CM-f	1	1%
OP / CM-s	2	2%
OP-c	19	16%
OP-c / CM-s	1	1%
W-c	1	1%
W-c / CM-c	1	1%
W-f / CM-f	1	1%
<b>Unit Total</b>	<b>120</b>	
<b>Burnished</b>	106	
<b>Unburnished</b>	14	
<b>Slipped</b>	21	
<b>Mottled</b>		

Type Code	Unit	
	12454	% Space
H1	3	%9.68

H2	1	%3.23
BW1	3	%9.68
BW3	3	%9.68
BW3a	1	%3.23
BW4	1	%3.23
BW8	3	%9.68
BW8a	1	%3.23
BW11	1	%3.23
BW14	1	%3.23
B5	1	%3.23
B6	2	%6.45
B8	1	%3.23
B9	3	%9.68
B9a	1	%3.23
B13	2	%6.45
P3	1	%3.23
T3b	1	%3.23
<b>Multiple Attributeds</b>		
BW8/B3a	1	%3.23
<b>Unit Total</b>	<b>31</b>	

Table 41: Sherds by Space 139.

**Space 295 (Table 42):**

Unit (12465): Unit (12465) is the west side of a wall. High probability it is a room fill. The total number of the sherds are 38 and 8 of them are diagnostic. DMS-sh and DMS-c are the dominant ones. All the rims belong to large jars.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	295
<b>BUILDING</b>	:	

Ware Code	Unit	
	12465	SPACE %
CM-f	5	13.1%
DMS-c	11	28.9%
DMS-m	6	15.7%
DMS-sh	12	31.5%
OP	1	2.6%
OP-c	3	7.8%
<b>Unit Total</b>	<b>38</b>	
<b>Burnished</b>	38	
<b>Unburnished</b>		
<b>Slipped</b>		
<b>Mottled</b>		

Type Code	Unit
	12465
H1	1

H2	1
H12	1
B1a	1
B5	1
B8	1
B13	1
B20	1
<b>Unit Total</b>	<b>8</b>

Table 42: Sherds by Space 295.

**Space 296 (Table 43):**

Unit (12468): This unit is lower level of (12454). East side of the wall F.2301 after removing nearly 5 cm, we found some bones, a mace head, and a pottery fragment. We decided to give this area a new unit number (12481). The soil is same as above. 9 sherds from various ware groups and no diagnostic sherd.

Unit (12481): This area is same as above (12468). There are 11 sherds and 2 of them are diagnostic. This one is also has got “bits from everything” kind of ware groups. Nothing indicative.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	296
<b>BUILDING</b>	:	

Ware Code	Unit			
	12468	12481	Space total	Space %
CM-c	2		2	10%
DMS-c		6	6	30%
DMS-m	2	1	3	15%
DMS-sh	1	3	4	20%
K		1	1	5%
OP	3		3	15%
W-c	1		1	5%
<b>Unit Total</b>	<b>9</b>	<b>11</b>	<b>20</b>	
<b>Burnished</b>	5	10		
<b>Unburnished</b>	3	1		
<b>Slipped</b>	1	2		
<b>Mottled</b>				
Type Code	Unit			
	12481			
B1a	1			
<b>Multiple Attributeds</b>				
H7+T3b	1			
<b>Unit Total</b>	<b>2</b>			

Table 43: Sherds by Space 296.



**Space 253 (Table 44):**

Unit (12469): No description. see F.2300. Only 2 sherds, 1 is diagnostic.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	253
<b>BUILDING</b>	:	

Ware Code	Unit
	12469
DMS-m1	2
<b>Unit Total</b>	<b>2</b>
<b>Burnished</b>	2
<b>Unburnished</b>	
<b>Slipped</b>	
<b>Mottled</b>	

Type Code	Unit
	12469
H7	1
<b>Unit total</b>	<b>1</b>

Table 44: Sherds by Space 253.

**Space 301 (Table 45):**

Unit (13906): It might be a bin or workshop area within the room. There are burnt plasters, mud bricks, worked stones and some bones in it. Only 1 body sherd.

Unit (12485): This unit is lower level of (12484). A wall divides Space 295, so we called the north part (12485). This unit is rich in terms of pottery compared to the other in this space. The total number is 86 and 12 of them are diagnostic. The highest percentage belongs to DMS group. There are 6 slipped sherd. OP is another group of the ware group in this unit. There is 1 insized sherd, the jars and the bowls are equal in number.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	301
<b>BUILDING</b>	:	

Ware Code	Unit			
	13906	12485	Space Total	Space%
CM-f		2	2	2%
CM-s		1	1	1%
CO-f		1	1	1%
DMS-c		9	9	10%
DMS-f		14	14	17%
DMS-m	1	33	34	40%
DMS-sh		9	9	10%
OP		9	9	10%
OP-c		5	5	6%
W-c		3	3	3%

<b>Unit Total</b>	<b>1</b>	<b>86</b>	<b>87</b>	
<b>Burnished</b>	1	75		
<b>Unburnished</b>		5		
<b>Slipped</b>		6		
<b>Mottled</b>				

Type Code	Unit
	12485
H2	4
BW3	1
BW8	1
BW10	1
BW11	1
B3	1
T3b	2
<b>Multiple Attributeds</b>	
BW8+D2	2
<b>Unit Total</b>	<b>13</b>

Table 45: Sherds by Space 301.

**Units without a Space or a Building Number (Table 46):**

Unit (12448): This layer is the same as (11874). It has been identified as a separate unit because of its thickness. The total number is 95 and 26 of them are diagnostic. The 18 red slipped sherd's presence beside the dominance of DMS-sh and DMS-c and OP is indicative. There is 1 insized sherd. Bowl and jar numbers are almost equal.

Unit (12460): The fill which is with (12454) includes very big bones, seems like a midden. It's very loose, soft, ashy and smooth. 14 sherds and 7 of them are diagnostic, 1 slipped sherd.

Unit (13901): under the 'pavement' (12495) this soil appeared. It is different from upper level. It is mixed with kerpic blocks fragments, plaster, etc. But it is clear that the platform is finished here. It means that the platform was made over this layer. The total number is 15 and no meaningful concentration at ware groups and type groups.

Unit (13913): This unit is the soil around the feature which we call cache (F.1999). Only 4 body sherds.

<b>AREA</b>	:	IST
<b>SPACE</b>	:	
<b>BUILDING</b>	:	

Ware Code	Unit			
	12448	12460	13901	13913
CM-c	2	1	2	
CM-f	5	2		
CM-s	1		3	1
DMS-c	21			
DMS-f	2			

DMS-m	17	8	3	1
DMS-sh	18	2	1	
K	6	1		
OP	3		5	
OP-c	17		1	
W	1			
W-c				2
W-f	1			
<b>Unit Total</b>	<b>94</b>	<b>14</b>	<b>15</b>	<b>4</b>
CHALCO	1			
<b>Burnished</b>	87	12	15	
<b>Unburnished</b>	7	2		
<b>Slipped</b>	18	1		
<b>Mottled</b>				

Type Code	Unit		
	12448	12460	13901
H1	2	1	
H2	2	1	
H7	2		2
H10		1	1
BW1	2		1
BW3	2		
BW3a	1		
BW8		1	
BW10			1
BW11	1		
B1		1	
B3a	1	1	
B5	1		
B6	1		
B8	2		
B9	1		
B12			1
B13	2		
B14			1
D2	2		
D2a	1		
T2b		1	
T3b	2		
<b>Multiple Attributeds</b>			
B11+ D2	1		
<b>Unit Total</b>	<b>26</b>	<b>7</b>	<b>7</b>

Table 46: Sherd units without a Space or a Building Number

### Acknowledgements

I would like to thank to Duygu Tarkan and Hilal Gültekin for all their effort on site and in post excavation.

## **Figurine Report 2006 / Figürinler - Carolyn Nakamura (Columbia University) and Lynn Meskell (Stanford University)**

### **Abstract**

This season produced a very large number of figurines compared to previous years. Over 300 figurines were excavated this year, more than five times the number of figurines found in 2005. This trend, generally seen across all other data sets, was due to the fact that the excavations were largely digging in midden. Virtually all of the 2006 figurines came from midden contexts that date roughly to the same level. This season we also carried out some basic spatial and temporal analyses of the entire corpus across the site. We found that such studies will be severely limited by a number of factors, the most significant being the various excavation methods employed across the site over its history. Other types of analytical inquiries and activities concerning the figurines proved to be more productive. We made substantial progress in refining aspects of our recording methods and database structure, investigating aspects of figurine clay materials, and thinking through themes of disarticulated bodies, exaggerated forms and the circulation and installation of body parts (primarily heads) that also occur in other media such as wall art and plastered wall features.

### **Özet**

Bu sezon, önceki senelere oranla çok fazla sayıda (300 adet) figürin bulundu. Bu sayı 2005 yılında bulunan figürin sayısının beş katından daha fazladır. Bu duruma sebep olarak çöplük alanlarında yapılan kazılar gösterilebilir. 2006 sezonunda bulunan figürinlerin tamamı çöplüklerde bulunup, hemen hemen aynı tabakaya tarihlenmektedirler. Ayrıca bu sezon tüm alanı kapsayan, tarihleme ve alanlarla ilişkili basit bir analiz çalışması da yapılmıştır. Bu tip çalışmaların bir takım faktörler tarafından etkilendikleri çok açık görülmektedir. Bu faktörlerden en belirginini, kazılmaya başladığı günden bu yana tüm alanda uygulanan farklı tarzlardaki kazı metodlarıdır. Figürinlerle yakından ilişkili diğer analitik araştırma ve aktivitelerin daha üretken oldukları gözlemlenmiştir. Aynı zamanda bu sezon, kayıt sistemi ve veri tabanımız üzerinde önemli değişiklikler yaparken, figürin yapımında kullanılan kil malzemesi, eklemsiz vücutlarla ilgili temalar üzerindeki yorumlamalar ve duvar sanatında da görülen, abartılarak yapılmış vücut kısımlarının değişik alanlarda uygulanması (öncelikle baş betimlemeleri) konularında da araştırmalar yaptık.

### **Clay Technology**

This year we assembled all the 2006 season finds along with the remaining 2005 examples to assess the range of fabrics. With the assistance of Chris Doherty, a materials expert from Research Laboratory for Archaeology and the History of Art (RLAHA), Oxford University, we took initial steps in situating our fabrics within a tripartite scheme of the white marl, black back swamp and red alluvial materials found in the local region. The local clays appear to have a very fine texture so the coarseness of the clay fabrics we see is either due to the presence of inclusions or processing techniques. The natural clays range from very 'clean' (pure) to 'dirty' (containing various degrees of intrusions from the alluvial deposits such as sand, silt

and additional organic materials). Pure marl tends to be very white in colour with a powdery texture due to the high limestone (calcium carbonate) content. Marl with an increasingly higher clay content will become more dense, plastic and will tend towards more creamy and yellow hues. The black colour of the back swamp clay is due to high organic content and may also have some iron mineral content. And the alluvial clay appears red due to the high iron content. Siltier clays tend to be less plastic and fracture when bent, whereas those pieces with high pure fine clay content will provide the most workable and sturdy fabric. Pure fine clays tend to be extremely dense, with excellent plasticity that dry to a very hard exterior with minimal heat exposure (e.g., sun-drying). The black clay and red clay examples also tend to be much denser and heavier than the marl examples of comparable size. The black clays can also achieve a polished or burnished surface with little effort due to the organic components.

Our procedure then was first to designate groups on the basis of colour, an expedient or useful first step, albeit with the recognition that this is a rough first categorization given that many factors determine the colour such as fabric make-up and heat exposure. At the most general level our fabrics fall within two extremes: the white marl and the black back swamp. We then try to arrange examples within each group on the basis of colour gradation. In the first group we have cream, buff, light grey, yellow brown to pink brown. In the second group we have a range from grey to very dark grey: all examples are given Munsell designations.

At the next level we examined the fabric texture. Within fabric texture we have to determine whether the coarser material is due to the presence of inclusions or from particular modeling techniques. For instance the presence of sand, pebbles and silt which is a factor of the fabric itself can yield a jagged appearance at the points of fracture and give way to a rough, less plastic appearance overall. Alternatively, the 'coarseness' we observe in some figures that are often larger may be due to fabric processing techniques. For instance some examples appear to be self-tempered, that is the fabric consists of a single material but in different states of processing (e.g., the re-use of dried clay mixed with fresher clay). This technique can produce a fabric and coarse appearance overall as well (Chris Doherty pers. comm.).

We concluded that all of our figurine fabrics could be described as manufactured from fine, naturally clean clays. People seem to be choosing these specific clean clays that would be easily locatable within close proximity of the site. What is interesting is that the makers are choosing a high clay content fabric for the figurines since this fabric provided the best material for crafting the expedient, small, well-smoothed, sturdy figural pieces with minimal effort. Fabric with more inclusions or a higher sand content would have required more effort (working, modeling, smoothing and heating) to achieve a similar end product.

It is likely that we do not have figurines that have been subjected to high firing given the features observed to date. The vast majority are best described as baked, whether directly sun baked or in association with ovens and hearths within buildings. We tried an experiment with local mud around the dig house, formed into shapes and dried them in the sun. Colour is also effected by heat exposure and we will need to carry out a range of experiments on local clays at different firing temperatures to approximate the levels of heat or baking that is required to produce our specific range of colours.

Clays higher in organic content will tend to get lighter and those rich in iron will tend to bake redder.

To summarize, clay is selected for high clay content, since it is the most plastic and would not require much heat to achieve a hard state. These clays, by their nature, will be clean and inclusion free. Our current sample appears to consist of a range of black back swamp and marl fabrics in approximately a 3 to 2 ratio. Given that these fabrics are basically inclusion free, we will be modifying our fabric recording methods and thus the structure of the database. The fact that it is inclusion free means that much traditional analysis, typical with ceramic analysis, is not possible. Compared to other clay industries such as ceramics and building materials, figurine production required basically no preparation beyond selection and acquisition of a relatively small amount of material. Clay sources would have been close by and readily available and, therefore, might have been used over long periods. Just as the figurines are expediently manufactured, so too was the gathering of the source materials.

In future seasons we will continue this work on clay fabrics, particularly investigating the effect of different heating events and potential sources for the clays.

### **Clay Database**

During this season we continued our dialogue over the specifications for the shared clay database. These meetings have included Mia Ridge, Chris Doherty, Serena Love, Burçu Tung, Nurçan Yalman, and ourselves. The idea has been to develop a standardized list of shared recording fields. As outlined in our 2004 report, the clay materials database would ideally have addressed the similarities in materials and techniques across a host of different specializations from clay objects to building materials and ceramics. Over the past seasons we have come to appreciate the differences between clay groups, even though the base materials may superficially seem alike. Love's and Tung's ongoing respective work on architecture and building materials has shown us the variety of materials and constituents that are now represented in our own corpus. In conversations with Doherty it became clearer that the figurine corpus is a small subset of the other clay specializations yet is very different in a number of key ways that make comparison difficult and possibly unhelpful. For instance, analysis of ceramics and building materials often hinges on temper and inclusions — two major constituents lacking in the figurines generally. This season it has been very useful to define what are relevant areas of possible analysis for us specifically and what we can now largely discount.

**Common Fields:** The structure of the clay database begins with Object Type: Building Materials, Figurines, Clay Balls, Beads, Ceramics, and Shaped Objects, Scrap, and so on. The next level is Primary Material; although all of these object types are generally made from clay, classes such as beads and figurines are also made of other materials such as stone. We also changed the category of Material Quality to Manufacture since this term has less subjective and qualitative designation. Treatment and Elaboration is next, followed by Use Wear and Residue.

To accommodate our integration with the general Clay Database, we have changed some of the field names and values of the figurine database. Since the common link between building materials, figurines, clay balls, beads, pottery, and so on, is clay material, we developed a new set of terms to characterize the figurine clay fabrics.

Clay fabrics will be described at three levels: 1) clay matrix (marl/white), back swamp/black, alluvial/red, 2) inclusions (size, frequency and type), and 3) microtexture (density/compactness, plasticity, sheen, fracture pattern). Figurine fabrics primarily derive from white marls and black back swamp clays; very few examples are made from alluvial clay. Next season we hope to investigate the location and range of clay colours and perform experiments on the effect various heat exposures have on the colour of the clays. Since figurine fabrics are essentially free of inclusions and are not tempered, we will not record this level.

### **Issues of Terminology**

In the past three seasons we have sustained an ongoing dialogue concerning the language we employ to describe shaped clay pieces. We began with the idea of ‘shaped clay’ so that we would better be able to connect with specialists working on building materials, clay balls and ceramics. Over the past few seasons, however, it has become clearer that the figurine materials are sufficiently different in terms of treatment, processing, fabric and form to craft a more distinct and specific range of terminologies. This is being refined this season with the construction of the new database. Our main or first level is Object Category, which for us is Figurines. The next is Object Type that is divided into non-diagnostic or figural. The choice of the word ‘figural’ is key here.

Figural denotes a form of signification that relies on imagery and association rather than on rational or linguistic concepts. This may seem to be a more fitting definition than the more common term of ‘representation.’ The notion of representation entails a remove from the real, it depicts a likeness, rendition or perception rather than the immediacy of the object in question. It is not enough to say that these figurines are representations or visual proxies, they are things in themselves with their own spheres of interaction. By employing the notion of representation we infer that figurines stand in for something real and are a reflection of that reality, of someone or something. And yet these objects are not necessarily referents for something else tangible, but could be experienced as real and tangible things in themselves. They may not simply be emblematic or allegorical devices as the term figuration might imply. And while this is not tantamount to arguing for figurines as necessarily agentic beings, such possibilities should not to be dismissed from the outset through an elision of language.

In our current terminology the designation non-diagnostic refers to shaped clay that is suggestive of a figurine form. Usually these pieces are small and fragmentary and probably represent parts of horns, limbs or abbreviated examples. For those pieces we complete the object category, object type, form, type, manufacture, material, we take a weight, Munsell, a photograph and note any distinctive features like fingerprints.

The next level of the database is Object Form, which splits into anthropomorphic, zoomorphic, abbreviated, phallomorphic, hybrid, and indeterminate. In previous years, the abbreviated forms were seen as predominantly as anthropomorphic but given the forms that have appeared in this season we have modified the term. Several of the abbreviated objects could be zoomorphic in shape and so we now consider the category more broadly. The ‘abbreviated form’ now appears at this higher order level alongside the category ‘anthropomorphic’ etc. The remaining levels of the database remain unchanged and will not be discussed here.

This season we also did some data cleaning, going back through the past season's recorded finds, eliminating 'scrap' and we have moved 'mini clay balls' and 'geometric objects' to the shaped clay category which we will not be studying. We have refined the heavy residue collection process to streamline and divide materials so that we only receive figurine fragments rather than all clay materials retrieved. As stated in last year's report this will eliminate the inflation of figurine numbers.

### Preliminary Contextual Analyses

From the outset of our research, one of our larger goals has been to perform a site-wide analysis of the figurine assemblage through time and space. At the moment we are still constrained by the fact that the figurine materials have been the last to be integrated into the centralized database system. However, we attempted a rough count of Neolithic figurines numbers per building across the site. Based on this preliminary information, we have found that a number of different factors will make this kind of intra-site comparison exceedingly problematic. For instance, the number of different teams, areas and excavation methods (4040, South, TP, IST, BACH) not surprisingly produces sometimes vastly different archaeological 'records'. Where as the BACH team spent five seasons excavating a single house, other areas, excavate a few houses in one season. The TP area near the top of the East mound had to deal with a

<u>Building</u>	<u>Area</u>	<u>Level</u>	<u>Figurines</u>
1	North	VII-VI	8
5	North	VII-VIII	5
16	South	IX	6
17	South	IX	22
18	South	X	15
2	South	IX	30
21	South	VIII	1
22	South	IX	1
23	South	X	6
24	South	7	1
25	West	Chalco	6
3	Bach	VII_VI	151
4	South	VIII	4
49	4040	VII-VI	14
43	South	VIII	4
42	South	V-IV	7
44	South	IV	2
45	4040	V-IV	1
47	4040	IV-III	1
5	North	VII-VIII	13
53	South	VI	1
6	South	VIII	17
7	South	VIII	4
8	South	VII	6

*Table 47: Number of figurines per building*

significant amount of later intrusive features such as burials and rodent burrows. Such intrusive elements are issues across the site, but are particularly acute in the latest levels near the surface. In addition to the current core excavation team project, the site has supported a number of historically and regionally different excavation techniques and methodologies from Mellaart in the 1960's to the recent semi-autonomous Turkish, Polish, Greek, North American teams. And even within these diverse methods, the broadly adopted core protocol of "fast-tracking" some units will produce less of the smaller materials. Although some level of comparison between these different areas is possible, in many cases the factors mentioned above prohibit a meaningful comparative analysis at the spatial and temporal levels for materials such as figurines. It is possible that we might obtain more workable results from this kind of analysis if we to also take into account the volume of soil removed per building (Hodder, pers. comm.). While we will explore this avenue further in future seasons, the issues discussed above nevertheless must also be addressed.



### **Deposition Contexts**

As in previous seasons the 2006 figurines come from secondary contexts, mostly midden or fill. This year vast swathes of midden were dug in the 4040 and South areas. This confirmed a pattern that had emerged earlier: we find the various forms across the site but rarely from primary contexts. As stated above, we need to take into account the different excavation methods employed at various areas within the main project (4040 and South) as well as other teams (BACH, TP) and how these potentially skew the figurine data. TP has found very few examples, this season 3 examples in very disturbed contexts and in potentially 3 buildings. This might be significant given that this is within close proximity to where Mellaart excavated in the later levels and found the iconic seated, female figures that have become synonymous with the site. Alternatively, the BACH team turned up very different results; they found 175 figurines and figurine fragments in Building 3 over its years of excavation (Table 47).

### **Levels**

Previously, Naomi Hamilton has suggested a certain change in the figurine corpus through time (Hamilton 1996, Hamilton in press). Specifically, she argues that there is a shift in “gender ideology” around Level VI. She claims that male figures are present in the early levels (up to Level VI) but cease in later levels, during which time female figures become common. Most of Mellaart’s “mother goddess” figurines (23 total) come from Level II (16) and the rest from Levels III-V(VII). Of the 16 from Level II, half derive from a single context: Mellaart’s ‘Shrine A.1’. While the clustering of female figures in the late levels is certainly provocative, this occurrence as evidence alone for a shift in gender ideology is not compelling. Mary Voigt (2000) also arrives at a similar conclusion when examining the same data set.

However, when we consider the distribution patterns of the materials more closely these assertions are based on data that are rather problematic. Again, we find that the history of different excavation methods at Çatalhöyük needs to be taken into account when interpreting patterns in the data. For instance, 769 figurines have come from Levels XII to VI, and most of these were recovered by excavations under the current project. In contrast, until this year, 60 figurines have come from Levels VI/V to I, and almost all of these were recovered by Mellaart in the 1960’s. This pattern is in part due to differences in the finer grain excavation methods and goals of the current project and Mellaart’s more expedient methods. Consequently, the total number of figurines from the later levels is certainly underestimated. This assertion has been confirmed by brief investigations by the TEMPER project (Doughty 2003), that have turned up numerous animal, horn and abbreviated figures in Mellaart’s spoil heaps.

In the past, the current excavation teams have dug primarily in Levels VI-VII. This year it is thought that many of the teams (4040, South and IST) are now in Level IV-V. Only team TP is potentially in Level III abutting one of Mellaart’s old trenches; perhaps significantly, there are very few figurines found in this area. As excavations have turned up nearly 400 figurines this season, we are now approaching a more representative picture of the figurine corpus from these later levels. In our future work on the figurines, we plan to reconsider past interpretations of the corpus with this expanded data set.

### Disarticulated Bodies

This season we have uncovered a greater number of discrete heads and headless bodies made as ‘complete’ or intentionally separate pieces. Of four human heads found this year, three are broken at the neck but one (12988.H4), interestingly, has a deep wide depression on the underside of that looks as if made by the 5th phalange or pinky finger, which could have been fitted over the top of a stub of a like the one of 12394.H1. There is also a blank, possibly unfinished head with various shaped, tool marks and a dowel hole (13139.H1). There are also several detailed clay heads that have been broken from bodies, two of these are created in buff marls and closely resemble the worked stone examples we have uncovered in previous years (Fig. 43). They resemble SE European



*Figure 143: Example of elongated head 13142.X3 (4040)*

and Mediterranean stone figurines with their elongated heads and necks and minimal facial features made from buff coloured marble. The two examples we found this year are distinctive (13352.H1) parallels with previous well-published examples now in Ankara (79-452-69, 79-800-65, 7922-65) they’ve been interpreted as representing both males and females. There is also one clay example (79-803-65). They are from Levels VI, IV and II. In all these examples there is a focused attention on the hairstyle or head gear, prominent ears, and the nose is emphasized whereas the eyes and mouth are under-emphasized. Heads often tilt backwards as well and this can similarly be detected in some of the human figures in the wall paintings. There are details on the back of the neck that might indicate hair or skin. There is a band indicated high on the forehead at the front, which is then detailed into a ring with a hollowed center. This is a very typical head style that we have seen over and over again at the site and elsewhere.



*Figure 144: Headless body with dowel hole in the neck 13167.X10, 4040 Area*

Six ‘headless’ bodies have been found this season (12 total), five with a dowel hole in the neck (12420.H1, 13159.X7, 13140.H3, 13167.X10, 13129.X1, see Fig. 44), and one with a neck ‘stubb’ (12394.H1, see Fig. 45). This figure and especially 11874.X1 from 2005 from Neolithic levels at Çatalhöyük perhaps anticipates the later Chalcolithic ‘violin figures,’ typically carved from pale marble (Ankara 98-1-64, 19160, 13193) from Beycesultan and Canhasan.

Headless human figures, depicted in the Çatalhöyük wall paintings, have attracted much scholarly attention. One key example is the headless body shown in association with birds of prey interpreted as vultures. This led to the speculation that bodies were excarnated — fleshed bodies were plucked clean by vultures before final burial. It is a prime example of the pitfalls of reading directly off the images at Çatalhöyük as expressions of narrative events or happenings. It does indicate a concern with the fleshing of bodies at a conceptual level and their subsequent transformations. Whether it has didactic elements or story telling value, or presents a nightmarish vision, the fixation of headlessness remains central. We might suggest, however, that a headless state looms large in the imaginary and was emphasized in the mythic arena. Many cultures vividly portray deathly scenes involving what we would deem negative



Figure 145: Headless body with a neck 'stubb' 13167.X7, 4040 Area.

scenarios. Yet these histories and mythologies are part of a domesticated social reality, grappling with the vagaries of the past, the fear of the unknown and a control of the future in an existential sense. Our categorization of myth, may in fact be their conjuring of a felt history and the two genres may form a continuum rather than discrete knowledges in prehistoric times. Linearity, evidence and specificity have come to denote history for us, whereas we define mythology as the realm of folklore, tradition, and storytelling.

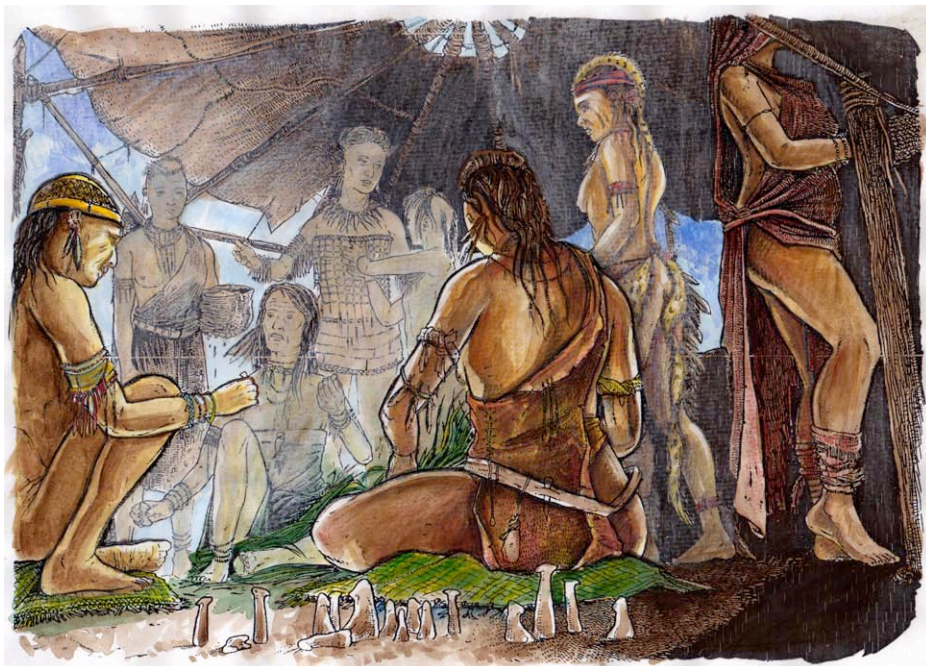


Figure 146: Reconstruction of 'storytelling'

What we might be seeing, however, is the process of articulation or disarticulation. The practice of removing and circulating heads is something we have witnessed across media from the wall paintings and burials to the figurines corpus. Interestingly this process largely refers to human examples. Heads of animals in the forms of skulls (bulls, vultures, goat, wild boar jaws) were attached to walls and embedded and ‘re-fleshed’ with wall plaster in houses and may be related to the practice, and there is one unclear example of a wall painting showing a headless animal in a hunting scene: so there may be some element of overlap. Returning to the plastered features in Çatalhöyük houses, what is notable is their very lack of movement or circulation. Rather, these examples are permanently fixed to walls, benches and pillars (buchrania) and parts of skulls (boar jaws) are embedded within plaster, within the lifecycle of the house. Our faunal experts (Russell pers. comm.) agree that there is a focus on animal heads rather than other parts within the most dramatic plastered features. Russell has noted instances of plastered skulls both with plastered horn cores (suggesting more decomposition) and non-plastered horn sheaths (less decomposition). These treatments might indicate different levels of enfleshment; the horn large sheaths will eventually deteriorate and it is possible that after this happened, people would then plaster and ‘rebuild’ the remaining horn core to achieve a similar effect. Scapulae are often found completely embedded within the base of house walls (present but rendered invisible), but are not generally set into dramatic installations like heads, and could reflect their use more as plastering implements. At various stages after the end of the house cycle, the impressive plastered elements of heads and horns are often removed and/or retrieved and potentially re-used in other structures. Their retrieval suggests their potent or salient status in many, but not all instances. We should remember too that plastered anthropomorphic features like the splayed figures also had their heads and hands or paws removed at closure (Mellaart’s Shrine VI, 23). Plastered animal heads and human plastered skulls may share this facility for monumental treatment, for retrieval, circulation and sharing, for memorialization through time and over generations. It is noteworthy that we have not yet found clear examples of separate animal heads and bodies with dowel holes and attachments in the same manner as anthropomorphic examples. This suggests that there is not a complete overlap in treatments or significances, but a subset of shared treatments and practices.

The head is a very obvious locus of identity, so the ability to remove and replace certain heads might allow for multiple identities and potential narrativization. The remaining bodies range from the very aged female bodies to more neutral in the majority of cases. We tend to find more bodies with dowel holes than heads made for attachment, which could suggest that the head is more determinative and the bodies are deemed more generic: though this may not imply a hierarchy. The pairing or duality of heads and bodies may suggest that the act of combining or manipulating is the significant aspect and that this ‘bringing together’ might refer to social factors such as different genders, identities, kin, groups, ritual groups or the like. Ethnographically several southern African groups use the discrete iconography of heads and bodies to denote the blending of male and female and kin lines at the point of marriage when a woman enters the household of her husband. Imagery on headrests, for example, plays on the notion that the locus of female identity rests within the body, whereas maleness is located within the head.

It is notable that it is very difficult to specifically identify the quadruped figurines (e.g. Fig. 147). Cattle are the most common/identifiable by the presence of curved horns (and ears). Boars are the second most identifiable quadruped shown with curved, ridged back, prominent tails and delineated snouts. Other varieties such as sheep/goats are present, but more difficult to identify. Overall most attention seems to be paid to horns and ears and snouts and tails to a lesser degree. A few examples depict manes and navels. The quadruped bodies appear to be more generic and there is no attempt to depict sex characteristics in the figurines as there is in the wall paintings.



*Figure 147: Example of a quadruped figurine 13115.X2, 4040 Area.*

Previously the project had been interested in interpreting figurine quadrupeds as specific animals; however, we are wary of assuming that these depictions were intended to portray naturalistic images of specific animal species. In contrast to the animals in wall art, which show details of sex, and characteristic markings and features that make them clearly identifiable as boars, deer, cattle, leopards, etc., the figurine varieties are much more impressionistic and denote the outline of things. It is possible that some of this difference arises from a various factors such as speed of manufacture and whether the images invite visual vs. tactile engagement. For instance, the comparatively un-detailed figurines were made quite rapidly and their three-dimensional form suggests that tactility and handling was more salient than their visual specificity. The opposite would be true for the wall paintings, which likely took more time to render. Also, the location, scale, two-dimensionality and detail of these images suggest that they were meant to viewed by more than one person. In conversation with John Swogger, these different media then seem to articulate a certain hierarchy of recognition but one that might seem somewhat counterintuitive. Usually one might expect a three-dimensional form to offer a more complete rendition by its very materiality. Rather our examples portray a type of snapshot, emphasizing a selective suite of features and are only readily apprehended by constantly handling and turning each piece, thus engaging both tactile and visual senses. For three-dimensional figurines, the basic horn and body silhouettes are sufficient to communicate a clear, if somewhat ambiguous animal form. There have been almost no attempts made to demarcate textures of hides, skins, hoofs, tails, and so on and yet we know they were aware of such differences, evidenced by one of the examples found by Mellaart that shows detailing of a quadruped's coat (Mellaart 1967: Fig 66): he believed this to be a boar with bristles. Whereas, the two-dimensional paintings rely on a more elaborate detailing of markings, sex and breed traits to communicate general animals from cattle and boars to more specific species such as vultures, leopards, vultures, and cranes that are absent among the figurines. This distinction may infer that the wall paintings collectively and figurines as a group engage people and things in different ways. This kind of recognition hierarchy also might suggest that the figurine process involves a more intimate relation with the maker in the sense that they may not have been meant to be viewed or handled by others or group of

people. Yet with the wall paintings, already positioned in more communal spaces, the visual cues must be legible by a wider array of participants. While wall paintings impose an experience of distance, the figurines invite a more visceral, intimate bodily connection.

We might be witnessing the personification or individualization of cattle. Cattle are given individual names in various cultures, are anthropomorphized in others – though these are often domesticated herds such as Nguni cattle. In other work, one of us has conducted interviews touching upon the significance of cattle in South Africa and several cattle burials now situated in Kruger National Park (Meskell 2006). Belonging to local communities such as the Mkhabela, these animals were seized and slaughtered by park authorities many decades ago the descendants continue to press for the proper memorialization of their herds. At Çatalhöyük the greatest parallels occur between humans and cattle in iconographic spheres, since they occupy the most attention, are both shaped, modeled, painted, in 2D and 3D media. On a more pragmatic level, one might also deduce that the vast majority of forms represented among the figurines pertain to meat producing animals: cattle, sheep/goat and boar. This fits well with the stab marks that we see, often in strategic points on the body that would kill or potentially immobilize the animal. If we were to think of another parallel, that of South African San rock art, we would see that the notions of social significance and meat provisioning are not necessarily mutually exclusive. San hunters killed and consumed the eland, for example, but simultaneously venerated them as sources of potency and as the creator's favoured animal (Blundell 2002, 2004). Such a tension was culturally reconciled in the southern African context. Ancient Egyptians also managed to venerate animal-inspired deities and consume their more mundane counterparts on a regular basis with little ideological conflict (Meskell and Joyce 2003). At Çatalhöyük we could be witnessing a different set of potentially reconciled tensions around the celebration of wild beasts and of the hunt as a particular event, recognition of (male) hunting prowess, memory and veneration, even possibly ancestral, gendered or individual associations with specific animals or species.

Narrativizing animals must have occupied a central role in the Çatalhöyük lifeworld, covering social, economic, ancestral, historical and spiritual aspects. If we think of the broader meaning of religion, it is constituted from people's attitudes, beliefs, and opinions concerning existence and nature. What we witness in the figurine corpus could certainly form part of that existential engagement, though may not represent 'organized religion' in a familiar sense.



Figure 148: Figurines from unit (12946), 4040 Area.

### Abbreviated Forms

This season we found an array of abbreviated forms comparable to those of previous seasons and some new variations on the type. We are now considering that some of these forms might also be of zoomorphic as well as the anthropomorphic examples (see Fig. 148). We have thus modified our recording system to allow for this variation. In the South Area this season we also uncovered a new extreme type of abbreviated form with a conical base, an elongated body and a folded top or head (12524.X5, 12524.X11). Oddly these examples resemble a 'golf tee' shape that we have only seen once before in the 2005 season. Some rather abbreviated types also depict protruding buttocks (5813.H1). What emerges, even in the abbreviated forms, is a trend toward exaggeration, usually the head or nose. As we discuss below, this desire for exaggeration or certain pronounced features is a repeated element throughout the figurine corpus. This returns us to our choice of the word figurinal and is propensity to describe forms of signification relying on imagery and association.

### Exaggerated Bodies and Body Parts

This year excavations have found several figurines of human bodies with exaggerated features, most commonly stomachs (often with breasts) and buttocks. Although the figures with both prominent breasts and stomachs are generally interpreted as pregnant females, these features often appear rather flattened, drooping and angular rather

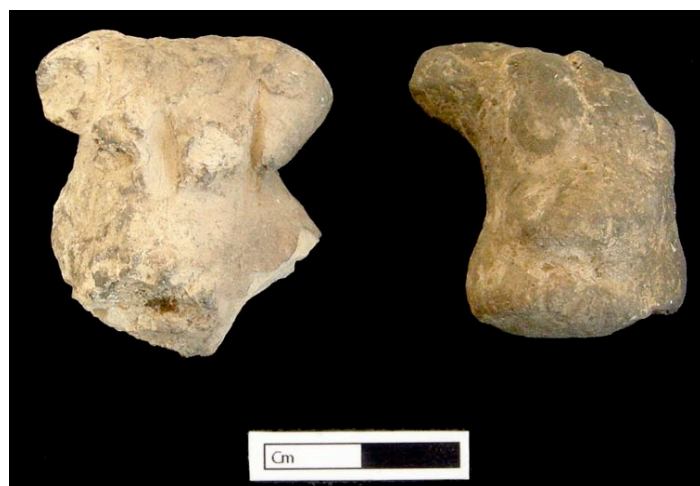


Figure 149: Examples of flattened, downward sloping stomachs and breasts which might represent aging bodies 13140.H3, 13140.X20, 4040 Area.

than robust and rounded in shape, as one might expect of a healthy pregnant female (Fig. 149). It is possibly that the more flattened, downward sloping stomachs and

breasts might rather represent aging bodies as Mary Voigt has argued for some depictions at Haçılar, (forthcoming). There is also an occasional emphasis on the navel among figures in the figurine corpus, more dramatically upon plastered splayed wall features and in the one example of the ‘bear’ stamp seal.

Thus the figurines of seated, weighty individuals are perhaps more reminiscent of geriatric, unsexed bodies rather than pregnant female bodies. Many of the examples we describe for this season emphasize the navel, are small and highly detailed for the size, some with remains of red or white paint on the surface, with of course significant variation. There are seated, squatted examples, with parallels to larger, well published pieces examples (Ankara 79-246-65, 79-247-65, 79-245-65, see Fig.150) and also to later examples from Hacilar that are progressively exaggerated (Ankara 116-1-67, and 19590). These have distended stomachs, coupled with geometric and angular bodily forms.

With the finds from this season we are discerning various iconographic schemes with body form. Males and females both have breasts, yet the typical means of sexual differentiation — the genital region — is not elaborated in almost every case. Not all of these features are represented in standardized ways. Across our entire database breasts range from flat and pendulous (79-798-65, 79-799-65), pendulous (13140.H1), small round (5112.X1) to large and exaggerated (12401.X7). We also have examples of paired flabby stomachs and flat, pendulous breasts (13103.X19, 13140.H3) or stomach, small round breasts and pronounced navel (13143.H10).



*Figure 150: Example of a seated, squatting figurine 13167.X10, 4040 Area.*

Often the breasts are not portrayed symmetrically. Many are suggestive of aging bodies rather than young and reproductive types, as indicated above. Oddly there is little attention to any shape that might suggest a young or adolescent body type, which would tend to be a focus in other cultural repertoires. We have only one example that (13129.X1), a somewhat more slender piece without a head, hands placed on a protruding stomach, with traces of red paint on the surface. Generally such human forms are not present in either the wall paintings or the plastered forms. The majority of the human images in wall paintings are, of course, male and the plastered anthropomorphic examples are androgynous and some of those may have been zoomorphic, as in the case of the ‘bear’.

Generally our figurine types are not found in the regular population. Nor does the mortuary data demonstrate evidence of obesity in either males or females. This is not an instance such as the Maltese case where the figurine forms matched the human populations in terms of obesity. These larger forms at Çatalhöyük, which we would assert are not rigidly gendered in every case (and thus not always female), were not drawn from daily life scenarios, as borne out in the wall paintings. Together they are extreme examples of the fleshing and re-fleshing of bodies and skulls that we witness across the site and most poignantly within burials. They are images of excess and exaggeration. The figured world at Çatalhöyük directs our attention to heads and



necks, stomachs and buttocks, with scant attention to arms, legs, feet, facial features. The torso is the main area of interest. Figures are naked for the most part, though there are a handful of dramatically costumed examples (79-162-65, 70-24965). This again is at variance with the wall paintings that show a predominance of male figures costumed in fabrics that mimic leopard skin, with tails or feathered attachments, sometimes with headgear. Given the leopard's solitary and cunning nature, it strikes us as an animal that the villager's may not have had regular access to. It should be remembered too that there are no leopard or feline skulls within the plastered forms as there are with other animals.

Bodily features that are exaggerated, and have become more obvious in this season's finds, are the stomach and buttocks (Fig. 151). We have found several examples with angular stomachs and angular buttocks from the 4040 midden area (13167.X7, 13140.H3, 11848.X1, 11324.X3, 5843.X2). Others simply focus on the angular buttocks (12502.H1, 11854.X2, 12394.H1, CHC570) or are simply abbreviated types with rounded platform base, emphasizing the buttocks (14120.X1). Many simply focus on the protruding stomach (12988.H15, 13103.X12) or the stomach with pronounced navel (13129.X1 possibly with very small breasts; and 12401.X7 with breasts). Other combinations include small round breasts and angular buttocks (13159.X7, Mellet.167.1) or flat squared



*Figure 151: Example of exaggerated stomach and buttocks 12502.H1, South Area.*

breasts and large angular buttocks (12102.X1). In prior seasons we have noted this attention to the buttocks, to their careful delineation or pronouncement, typically at the expense of other bodily characteristics (see especially 5446.X1, Mellet.167.1, 11848.X1, 11324.X3). There are of course many cultures, including contemporary ones like our own, that place enormous emphasis on the buttocks in social, sexual and visual terms.

An extension of this is large downward sloping stomachs, some of which have been described as composite figures. In Ankara Museum there is the limestone male riding leopard (ANK 79-167-65), the stone male mounted on bull (ANK 79-191-65); male on bull (ANK 79-457-65); marble seated male (ANK 79-801-65)—all show protrusions out from the waist with at least one possible animal heads. One of our figurines (13167.X7) may be part of that phenomenon, albeit crafted from clay.

In discussions with John Swogger, we have been considering the non-generative emphasis of the human figures across the site. As stated previously for other media, genitalia are not represented, but rather buttocks (Mellaart's example from E.VI.44), stomachs (with navel) and breasts, in different combinations: some depict one, two or all three features. Taken together this might indicate a non-sexualized treatment. The

divergent examples are those that are purely phallic that we have discussed in more detail in our 2004 and 2005 reports (Meskell and Nakamura 2005, Nakamura and Meskell 2004). These, however, are isolated phalluses of idiosyncratic type rather than whole bodies. For the most part this pattern also follows for the wall paintings (animals are shown with erections, but this may also be indicative the death state).

There is a seeming aversion to depicting children, adolescents, mothers with babies, or obviously pregnant females. Our material in toto thus suggests a severely curtailed presentation of the lifecycle. As in other cultures, some aspects of the cycle may invite prohibition since they represent dangerous or liminal life experiences.

If we turn to the wall paintings depicting human forms, there is less emphasis on exaggeration and more on a dynamic yet roughly natural rendition. One gendered example that diverges from the others is the exaggerated female from the lower edge of the famous Bull Painting from Mellaart's north wall shrine F.V.1. Apart from its downward sloping stomach, and heavy thighs this image has black detailing at the armpits and feet. This could be a depiction of an unclean or odorous bodily zone, although this is highly speculative. None of the male figures on the panel have similar treatment, which suggests a real gendered difference in several regards.

### **Ongoing work**

As with previous seasons, we continue our video work, our exploration of figurines as embedded within processes rather than as end products as themselves. We also continue working with the excavators, specialists and site illustrator to re-think the manufacture, circulation and uses of figurines at the site. We remain interested in investigating the notions of embedding, fleshing and re-fleshing of figurines, plastered features, and bodies of humans and animals. When the clay databases are integrated into the main site structure we hope to be able to continue our spatial analysis as well.

We continue to consider the extensive range of possibilities for figurines by their very materiality. These developments, we found, had resonance with the interests of the anthropologists who worked with us at the site this year. They too are concerned with what can figurines do as a result of their physical properties: they can be carried, hidden, and be proxies (see also Nakamura 2005). As material objects, particular for their size and form, they can be present in many ways, they can travel, and can be representative when actual persons are not present. Figurines can also be lost, accidentally or purposefully, as Webb Keane pointed out. Given their technological range everyone can make the clay pieces and possibly even stone examples. Their size suggests a form of mastery that we have explored elsewhere in previous years reports. We need to acknowledge the persistence of objects, and that their makers can take advantage of that property for new agendas and practices.

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### **Chipped Stone Report / İşlenmiş Taş - *Tristan Carter (1), Nurcan Kayacan (2), Marina Milić (3), Marcin Waş (4) & Chris Doherty (5)***

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#### **Introduction**

This report offers a preliminary assessment of the chipped stone recovered during the 2006 excavations, detailing the material from the 4040 and South Areas, the Team Poznan [TP] excavations, the Team Istanbul (IST) Area, together with a discussion on the finds from the renewed work on the West Mound and that by the Selçuk University Team. Once again it is important to appreciate that this work has been undertaken by a team comprised of four specialists, each of whom while employing the same recording system, has their own research interests and responsibilities during the season. Part of our work this year, above and beyond processing the mass of material that flows off the two mounds, is to devise both long and short-term research strategies, projects that will be undertaken by individuals and collaborating team members alike. These for example will include diachronic analyses of blade technologies, projectiles, raw material consumption (obsidian and 'flint'), harvesting technologies and in situ deposits / refitting inter alia. Some of these studies have already

commenced and will be touched upon briefly below, while others are major undertakings and will be developed over the long term.

### **Özet**

Bu rapor 2006 kazıları sırasında 4040, Güney Alanı, TP ve İST Alanı'nda bulunan işlenmiş taşların ilk inceleme sonuçlarını verirken, Batı Höyüğü ve Selçuk Ekipleri tarafından bulunan malzemeyle ilgili bulguları da içerir. İki ayrı höyükten gelen malzemenin kaydı ve incelenmesi dışında bu seneki çalışmamızın bir kısmı uzun ve kısa süreli araştırma stratejileri ile ayrı uzmanlar tarafından çalışılacak projeleri belirlemek ve benzer ekip üyelerini biraraya getirmekten oluşmuştur. Bu projeler keski teknolojilerinin diakronik analizi, projektıl uçlu keskiler, ham madde kullanımı (obsidyen ve çakmak taşı), hasat teknolojisi ve in situ birikintiler ile bu konulardaki araştırmaların diğer çalışmalarla bağdaştırılmasını içerir. Burada bahsedilen çalışmaların bazıları önceden başlatılmış olup, diğer büyük projeler uzun dönem içinde geliştirilecektir.

Planladığımız büyük projelerden biri, işlenmiş taşın obsidyen olmayan kısmını oluşturan 'çakmak taşı' üzerine karakterleme ve kaynak bulma çalışmalarını başlatmaktır.

One major new project, long overdue, is to start working on the characterisation and sourcing of the chipped stone's non-obsidian component, aka the 'flint'. Indeed, while the past few years has seen us produce a quantity of robust data concerning the origin of Çatalhöyük's obsidian, we have conversely produced next-to-nothing on the nature and source of our other siliceous resources. We are not alone here, with a major research bias in Anatolian / Near Eastern prehistory lithic analysis towards the obsidian characterisation, however it remains that it was time to tackle a major data set for which virtually nothing has been written about since Mellaart's claims that the Taurus Mountains and SE Turkey, specifically the Gaziantep region, were likely sources of the Çatalhöyük 'flint' (Mellaart 1963, 103, 1967, 213). The reason that we are now starting to work on this material is due to our good fortune of having the petrologist / archaeometrist Dr. Chris Doherty of the RLAHA (Oxford University) join the Çatalhöyük Research Project this year. It is intended that Chris will be working over the next couple of years with Marina Milić on our various flints, cherts, radiolarites, quartzites etc.; the project, its aims, scope and methods are detailed further below.

### ***The 4040 Area – Tristan Carter***

The 4040 Area produced a considerable amount of chipped stone this year due to the excavation of artefact-rich midden deposits in Spaces 279, 280 and 306. In contrast the assemblages associated with the buildings were – typically - relatively poor aside from room fill deposits and the single hoard of 2006 from Building 60.

### ***Building 49***

After a year's hiatus work continued on Building 49, excavations that produced only a limited amount of chipped stone, with many living surfaces and the interior features (such as basin fills). There were two post-retrieval pit fills, contexts that often produce items of interest; however in neither instance did there appear to be deliberate depositions of 'special' pieces of chipped stone. Deposit (13640) had produced a

burnt grinding stone at its base, while the fill contained a cattle horn core, horse skull and burnt cattle radius, yet the only obsidian recovered comprised a rejuvenation flake and a core fragment, artefacts that seem more likely to represent ‘background noise’ from the original (re-deposited fill). Similarly in (13664) (since perhaps re-interpreted as a tall bin) there were only five pieces of obsidian, two small exhausted blade-cores, a rejuvenation flake, a notched blade-like flake and a complete small bipolar blade (4,49cm long), none of which have the character one associates with intentional post-retrieval depositions.

The sole deposit of note from 2006 was (13600), a discrete obsidian cluster on the SW corner of platform F.656 within the floor of Space 100. The assemblage comprises 51 pieces (62.22g), with both Nenezi Dağ and East Göllü Dağ obsidians seemingly represented (mainly the latter it seems). The material is fresh and dominated by very fine flakes (including thinning flakes, plus a couple of blade-like flakes), plus chunks, some of which can be classified as pieces esquillées. The cluster appears to be the remains of a single knapping event; refitting studies in 2007 aims to ascertain the exact nature of production attested by this material. In the meantime it is important to appreciate the significance of what appears to be a case of in situ ‘household’ production.

### ***Building 51***

This small and short-lived structure is considered to represent the final phase of occupation within the Building 52 sequence, the building with bucrania, filled bins, antler-working materials and apparent evidence for ritual deposits – including the placement of projectiles in bins – before its alleged deliberate firing (see 2005 archive report). The structure produced precious little chipped stone, with only a few pieces of note. The room fill (10310) generated only 6 pieces from the fast track sample, a mix of part-cortical and non-cortical flakes, plus a biface preform (10310.A1), made on a wide blade (3.01cm), with invasive – but not covering – retouch on both faces; this is the sort of object that one often associates with hoard contexts. Parallels for these biconvex pieces are known from Levels IV and III in the 1960’s excavations (Bialor 1962, 86, fig. 6,20 and 95 fig. 9), i.e. later than the date provisionally accorded this structure. There was also the tip of a fine bifacially retouched projectile (10316.A1) made on a prismatic blade from another room fill deposit; such finds are not uncommon in such contexts.

### ***Building 58***

Another structure whose excavation continued in 2006, that as with Building 49 was not particularly productive in terms of chipped stone due to the fact that it was largely floor surfaces and interior features that were being investigated. Most of our material comes from fill deposits and exterior spaces. In most instances small fragmentary implements were recovered (unipolar prismatic blades), however there were possible hints of in-house knapping activities, with non-cortical flakes, the occasional exhausted core plus a thinning flake from a biface in deposit (13209) (a fill). The only context of note was the fill of a small pit (13237, dug into the northern part of the building’s floor) that contained 15 pieces of obsidian. The material was fresh, all appeared to be from East Göllü Dağ and seemingly deposited in a single event, comprising a mixture of non-cortical flakes, a blade and one possible much reduced projectile. This was the first such feature like this that we have come across, however another small sub-floor pit containing small quantities of obsidian was found in

Building 60 and the South Area's Building 57. At present these pits and their contents are distinguished from hoard material 'proper' due to their location and contents; whether this distinction will remain clear in the future is open to conjecture.

### ***Building 59***

The large building with wall-painting mainly excavated at the very end of the 2006 season has yet to have its chipped stone processed.

### ***Building 60***

Despite being heavily truncated, there were a number of informative contexts and assemblages from this structure. The first point to make concerns the various 'dirty' floors excavated in the southern part of the building produced very small quantities of chipped stone. In the case of (12969) (a series of nine surfaces), one fragmentary blade was hand-picked from the matrix, while heavy residue produced only 6, 11 and 2 pieces from the >1mm, >2mm and >4mm meshes respectively. Our interest in these figures relates to one of the issues raised in last year's Archive Report, namely whether or not (the residue of) obsidian working was to be associated with the 'dirty areas' of buildings in the upper levels at Çatalhöyük, as they had so consistently been in the Level VII-X structures of the South Area. By extent this is a question concerning the organization of production, following up Conolly's original thesis that in the 'second half' of the Neolithic occupation chipped stone production had become a more specialized and exclusive practice (Conolly 1999a). We return to this issue below.



*Figure 152: obsidian hoard (13111), Building 60 in situ & close-up of bifaces 13111.X3-X5*

Other assemblages of note include the two used center blades and a dull part-cortical flake from the fill of a small pit (12997), if only for providing another parallel to the obsidian from small pits in Buildings 57 (South Area) and 58 (4040). Finally, Building 60 produced the sole obsidian hoard from 2006, buried in a small pit (13109) below the entrance ladder scar in the SE corner of the main room (Space 278), just west of platform F.2212. The hoard consisted of five pieces of obsidian, two coming from the pit's upper fill (13111.X1-X2) and three at its base (13111.X3-X5 [Fig. 152]). The former consisted of a large 6.96cm long part-cortical flake (struck by direct percussion) apparently of Nenezi Dağ obsidian, with rudimentary retouch and heavy-duty use-wear on its distal end (13111.X1), plus a 5.46cm long projectile preform made on a single ridged blade with near covering bifacial retouch, possibly intended to be stemmed and seemingly made of East Göllü Dağ obsidian (13111.X2). The three basal finds were all complete biface preforms of Conolly Type 1 (Conolly 1999b, 39), with covering scalar retouch obscuring what were originally large blades, almost certainly of East Göllü Dağ obsidian, measuring 12.82cm (13111.X3),

10.98cm (13111.X4) and 9.72cm long (13111.X5). The only other find from the pit was a very distinctive small thinning flake made of the same obsidian as the preforms (13111.X6). The apparent mixture of raw materials is noteworthy.

One final assemblage of note, possibly related to the hoard material, is a cluster of 12 obsidian flakes recovered in “the northernmost brick of F.2369”, i.e. part of the nearby wall. The material was interpreted by the excavators as having been included within “one spot in single brick (not just mixed in with brick material) and therefore incorporated into building itself.” The material itself can mainly be classified as thinning flakes from modifying a biface, almost certainly of East Göllü Dağ obsidian.

### ***Building 64***

A newly excavated but heavily truncated structure, the archaeology of Building 64 included various fill contexts that by extent produced larger quantities of chipped stone than the aforementioned structures. These assemblages contained a range of debitage, including quantities of unipolar prismatic blades, exhausted blade cores, a core-tablet, non-cortical knapping debris, biface thinning flakes and reworked/reduced projectiles (plus an ‘edge blade’ from the margin of a point). One final piece of note is a scraper made on what appears to be a large rejuvenation flake from a blade core; the scale of the piece suggests that this does not derive from a local knapping technology but perhaps is a waste product of a specialist (quarry-based) workshop, quite possibly the bipolar blade manufacture of Nenezi Dağ. The circulation of such ‘waste material’ as blanks in their own right is something witnessed in the Aceramic Neolithic with the large scrapers on rejuvenation flakes (Carter, Conolly and Spasojević 2005, 223).

### ***Building 67***

An interesting structure in many respects, not least its architectural form and some of its finds (not least the ‘gaming set’), Building 67 produced a range of equally significant chipped stone artefacts. The first point to make is that the overall character of the assemblage is one related to the circulation and use of unipolar prismatic blades (i.e. has the character of the ‘later’ assemblages), with numerous examples of fragmentary, used and occasionally retouched center blades. These implements appear to have been made from both Nenezi Dağ and East Göllü Dağ obsidians, mainly by indirect percussion, with one fresh and complete example coming from an ashy backfill deposit measuring 7.49cm long (13405.A1 [also backed and notched]). There is also the occasional larger (wider/thicker) blade manufactured by direct percussion, again in ‘both’ raw materials. The ratio of the two obsidians in the Building 67 material seems to be slightly different to that from the large midden assemblages where Nenezi Dağ obsidians are dominant; here East Göllü Dağ obsidians seem far better represented though the ‘exact’ ratio between the two has yet to be estimated.

Alongside the broken blades, occasional exhausted core, core-tablets and other rejuvenation pieces, the 4040 Area room fills also tend to produce the occasional fragmentary modified pieces such as projectiles, perforators, scrapers inter alia, i.e. analogous to the character of some of the midden assemblages (albeit at a far lower density of finds). Building 67 was no exception, with 13429.X3 a retouched wide / thick brown ‘flint’ prismatic blade that had subsequently been ground on dorsal surface, perhaps to be used as a celt, a broken biface preform (13416.A1) plus the stem and two-thirds of the body of a fine bifacial point (13416.X6). There were however a series of other less fragmentary ‘special’ implements that have to be

considered as having been deliberately included within the building fill at the time of its abandonment. One is uneasy about considering these phenomena in such black and white terms where ‘broken: discard’ as ‘complete: ritual deposition’, as things were almost certainly more complex than that; indeed one can also note complete ‘special’ pieces in midden contexts (though this is to open up another can of worms [cf. Martin and Russell 2000]). It remains that there are certain ‘noteworthy’ implements occasionally being diverted into these building fills, whose forms, raw materials and life histories are deserving of careful dedicated study in the future. In Building 67 these include a near complete sickle blade of tan ‘flint’ measuring 9.3cm long (13416.X5), a complete biface made on a large blade measuring  $9.12 \times 3.21 \times 1.6$ cm (13416.X3) made seemingly on Nenezi Dağ obsidian with parallels from the 1960’s Levels II-IV (Bialor 1962), a large retouched orange-brown ‘flint’ prismatic blade (with luster from burning [13416.X4]) of distinctive form akin to the Level II chert ‘lanceheads’ (Bialor 1962, 97, fig. 10,8). There was also a complete stemmed point of 8.26cm long (13423.X1), with covering pressure-flaked bifacial retouch, whose best published parallels from the 1960’s excavations are from Levels III-IV (Bialor 1962, figs. 6,1-2, 7,1 & 3). The piece seems to be unused and the raw material appears to be Nenezi Dağ obsidian.

While the significance of these implements’ inclusion within these room fills is something that requires more consideration, there were a few perhaps clearer examples of intentional, ‘ritual’ depositions. One such example is the placement of a broken (and used) projectile tip into a small oval scoop/pit (13400.A1), while another is the inclusion of a near-complete and used center blade in a pit fill with sheep bones (13406.A1). By far the most significant of these examples, and undoubtedly the finest of our artefacts from the 2006 season, is a complete bullet-shaped core that had been placed on a surface between the west wall of Building 67 and the west wall of Building 58, prior to the space being infilled (13446.X1).

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The preparation of these nuclei - more so than their reduction - represent the work of extremely skilled knappers (cf. Crabtree 1968: 451; Pelegrin 1984, 1988), the original length of the very fine pressure-flaked blades being something in the region of 13-14cm long. Very few of these cores have ever been found at Çatalhöyük. Last year a slightly smaller example (10.49cm long) was recovered from the 4040 Area (Fig 155), albeit from a mixed Roman-Neolithic context (12357.X2 [see 2005 Archive Report), while the 1960's excavation found four complete bullet cores from a "cache" in Level



*Figure 153: (top) in situ bullet-shaped core found in the between wall gap of Building 67 and Building 58 (bottom) detail of 13446.X1*

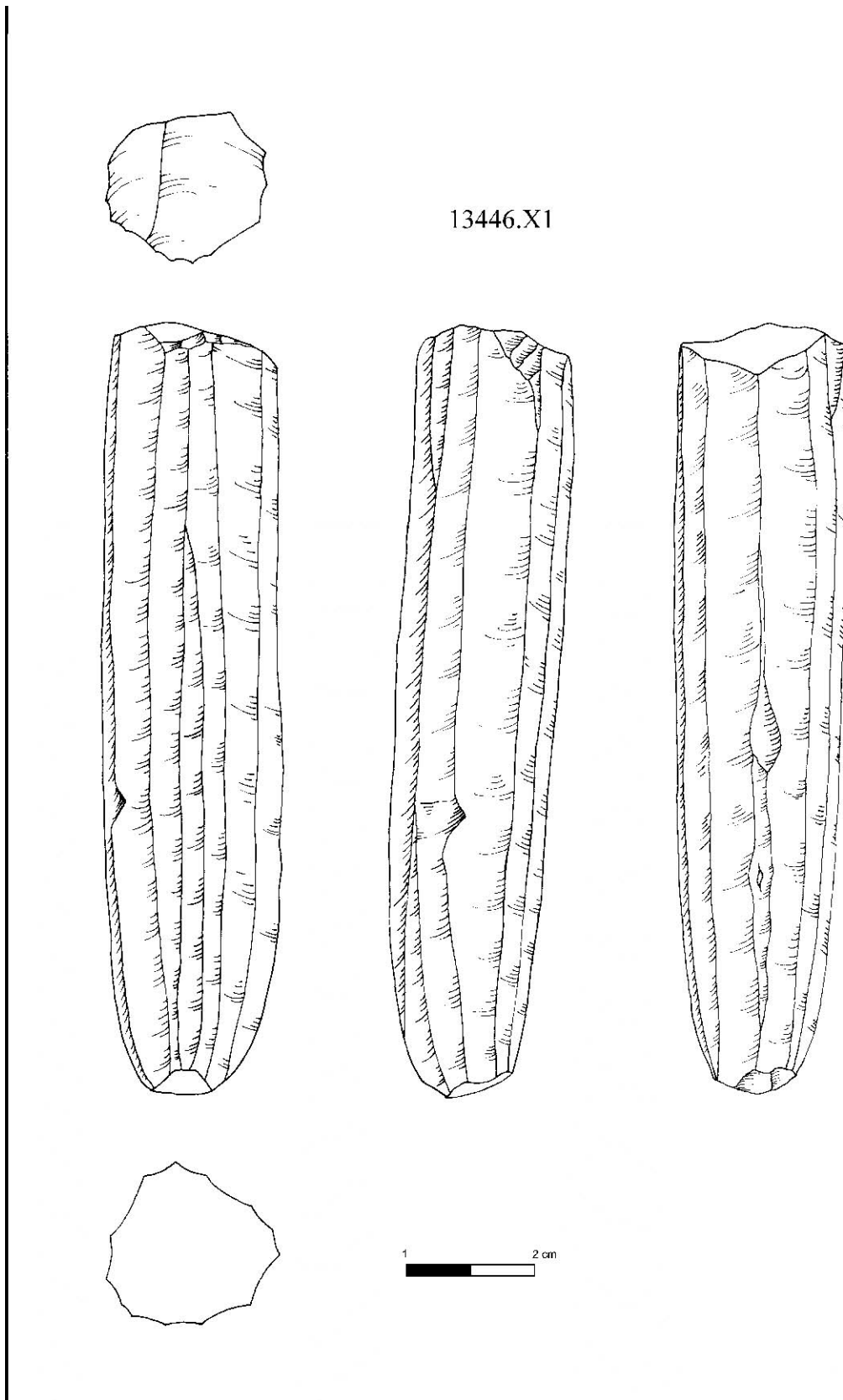


Figure 154: 13446.X1 measures 12.11 × 2.64 × 2.56cm, with 13 blade scars visible (mostly parallel sided, with no signs of hinging), having been worked around its entire circumference. The raw material is shiny black with occasional lighter streaks, we think that it might be from East Göllü Dağ (Kaletepe).

V's House 7, ranging between 10.7 and 12.2cm long (Bialor 1962, 74, 86, fig. 4,1-4). Given the rarity of these pieces it is perhaps no great surprise that their find-spots suggest their consumption in ritual activities, i.e. our between wall placement and the aforementioned cache. The associated fill (13446) also produced 24 pieces of obsidian, 11 of which appeared to be East Göllü Dağ obsidian, including six fragments of fine pressure-flaked blades (all medial), the rest being fine non-cortical flakes. Some of this material thus conceivably relates to the final exploitation of the core, whereby one has a hint of a series of events leading up to the nucleus' deposition, as opposed to simply the final event.



Figure 155: obsidian bullet-shaped pressure-flaked prismatic blade cores (lower) 13446.X1 and (top) 12357.X2.

### ***Spaces 279 and 280***

Space 279 comprised a swathe of artefact-rich midden deposits cut by a series of pits whose contents comprised of re-deposited midden material and / or various other fills. Those from nearby Space 280 were released by the removal of the large Byzantine structure that had cut into the western side of the 4040 Area. While the exact stratigraphic relationship between these two spaces has yet to be ascertained, it seems from the material (its forms and life histories) that they are not too far removed from time, if not in fact broadly contemporary. For all of these reasons it is decided to discuss the assemblages from these spaces together.

The midden deposits in Spaces 279 and 280 produced a not inconsiderable amount of chipped stone from the dry sieve sample (Tables 48 - 49). While these deposits display a slight variation in artefact density, they share many commonalities with regard to the nature, state and life history of their chipped stone assemblages. Firstly, these groups of material are dominated by obsidian, with (seemingly) Nenezi Dağ products invariably in the majority. Secondly, the individual artifacts are mainly broken and medium-fresh / fresh (with the occasional dull piece) and incorporate a wide range of blanks, with the exception of cortical debris which is relatively rare. Thirdly, these assemblages can be largely viewed as the products of a variety of blade technologies (Table 50), with the actual end-products often exceeding 50% of the entire assemblage. Fourthly, a large proportion of these blades display traces of use-wear, while many have also been retouched (Table 51).

Unit	Soil (L)	Obsidian	No. / L	Wgt. (g)	Wgt. / L (g)
12968 - midden	400	58	0.15	85.47	0.21
12970 - midden	200	10	0.05	36.46	0.18
12971 - midden	400	661	1.65	1006.7	2.52
12972 - pit fill	1900	522	0.27	1370.49	0.72
12980 - midden	1600	64	0.04	165.5	0.10
12988 - midden	3100	778	0.25	1298.77	0.42
13103 - midden	3625	847	0.23	1192.77	0.33
13127 - pit fill	2150	269	0.13	760.13	0.35
13129 - midden	1100	128	0.12	227.91	0.21
13140 - midden	2000	158	0.08	428.99	0.21

Table 48: Quantities of obsidian from Space 279 deposits.

Unit	Soil (L)	Obsidian	No. / L	Wgt. (g)	Wgt. / L (g)
12652 - midden	2500	244	0.10	497.58	0.20
12653 - midden	480	31	0.06	40.4	0.08
12654 - midden	780	94	0.12	240.73	0.31
13139 - midden	900	105	0.12	216.16	0.24
13142 - burnt layer	650	83	0.13	137.96	0.21
13151 - scorched layer	200	20	0.10	34.39	0.17
13159 - midden	1025	126	0.12	256.53	0.25
14100 - midden	350	30	0.09	55.41	0.16
14120 - midden	1500	200	0.13	327.09	0.22
14121 - midden	625	90	0.14	140.3	0.22
14126 - midden	450	76	0.17	115.72	0.26
14127 - 'lime layer'	450	26	0.06	46.89	0.10
14132 - burnt layer	1050	128	0.12	209.93	0.20
14136 - midden	700	139	0.20	251.61	0.36

Table 49: Quantities of obsidian from Space 280 deposits.

### Raw materials

At present all our conclusions are based on the visual inspection of the obsidians, drawing on the shared experience and knowledge of Carter, Kayacan and Milić, though a representative sample of the raw materials represented in the 4040 Area middens have been selected for trace elemental analysis later this year. The midden assemblages are extremely similar, in that they all appear to be dominated by the gray-green, matt black, striped and smoky obsidians that we have come to associate with the Nenezi Dağ source, usually c.95% of any group of material. The more translucent, purple-gray, blue-black, shiny obsidians that we have come to associate with the East Göllü Dağ source(s) represent most of the remaining materials in these assemblages. There is, however, another 'group' of material that may derive from yet another source; it is a matt gray-white with a relatively rough surface texture. We

have tentatively referred to this obsidian as coming from ‘Açigöl’, though we await the results of new characterization analyses before this can be confirmed. The 4040 Area middens have yet to produce any of the highly distinctive ‘oily’ green-black obsidians that we think are of East Anatolian origin, despite the fact that such material does seem to be appearing elsewhere on the site in the later levels in the South Area from Mellaart’s excavations (pers. obs.) and the IST Team excavation area (see Kayacan, this report).

Unit	Space	Obsidian	Blades	% of Total
12968 - midden	279	58	26	44.8
12971 - midden	279	661	357	54
12972 – pit fill	279	522	286	54.8
12988 - midden	279	778	448	57.6
13103 - midden	279	831	471	58.4
13129 - midden	279	127	54	42.5
13140 - midden	279	152	95	62.5
12652 - midden	280	244	126	51.6
12654 - midden	280	94	48	51.1
13142 – burnt layer	280	83	56	67.6
13143 - pit	280	75	48	64
13159 - midden	280	126	77	61.1
13167 - midden	280	102	72	70.6
13173 - midden	280	61	40	65.6
13174 - midden	280	111	74	66.7
14120 - midden	280	200	123	61.5
14136 - midden	280	139	64	46
13188 - midden	306	313	182	58.1
13199 - midden	306	263	146	55.5
14106 - midden	306	88	54	61.4
14122 - midden	306	149	98	65.8

*Table 50: Relative proportion of blades in Spaces 279, 280 and 306 obsidian assemblages*

### **Blade technologies**

The dominant blade technology represented in these Space 279 and 280 obsidian assemblages is that of indirect percussion from unipolar cores, the blades typically having a small platform, lip, the overhang removed by flaking, often an S-shaped longitudinal / proximal profile and the greatest width below the shoulder. Most of the blades from this technology could be categorized as end-products (center blades), with only the occasional lateral blade from the early stages of blade initiation / core reduction. In terms of their original size, (13129) produced a complete blade 5.53cm long, 13140 had a near complete piece of 5.69cm, while a distal section from (12652) was 7.01cm. This technology is represented amongst the obsidians recognized as coming from Nenezi Dağ, as well as those visually identified as coming from East

Göllü Dağ. The former raw material is also represented by numerous fragmentary and exhausted cores from this technology (including those that could be re-categorized as pieces esquillées), plus core tablets and other rejuvenation pieces (from the face of the core) indicating clearly that indirect percussion blades were being manufactured on-site at this time.

Unit	Space	Blades	Used		Retouched	
12968 - midden	279	26	23	88.5%	7	26.9%
12971 - midden	279	357	227	70.5%	98	30.1%
12972 – pit fill	279	286	205	71.7%	95	31.5%
12988 - midden	279	448	310	69.4%	207	46.3%
13103 - midden	279	471	315	64.8%	206	42.4%
12652 - midden	280	126	98	77.8%	31	24.6%
12654 - midden	280	48	25	52.1%	13	27.1%
13142 – burnt layer	280	56	31	55.4%	13	23.2%
13143 - pit	280	48	30	62.5%	10	20.8%
13159 - midden	280	77	45	58.4%	25	32.5%
13167 - midden	280	72	52	72.2%	33	45.8%
13173 - midden	280	40	30	75%	16	40%
13174 - midden	280	74	28	37.8%	16	21.6%
14120 - midden	280	123	62	50.4%	32	26%
14136 - midden	280	64	41	64.1%	25	39.1%
13188 - midden	306	182	108	59.3%	70	38.5%
13199 - midden	306	146	96	65.8%	63	43.2%
14106 - midden	306	54	36	66.7%	27	50%
14122 - midden	306	98	80	81.6%	52	53.1%

Table 51: Relative proportion of used and retouched blades in Spaces 279, 280 and 306 obsidian assemblages

Far rarer are blades assigned to a unipolar pressure-flaked technology (e.g. 12971.A9 & 12971.A10), with ‘both’ southern Cappadocian obsidians apparently represented amongst this material. Midden (14120) produced the sole complete example measuring 6.4cm long, made of a transparent obsidian that we associate with East Göllü Dağ. There is also an occasional fragmentary core of the regularity of form / blade-scars that one associates with a pressure-flaked technique, while (14120) produced a rejuvenation flake off the face of one such nucleus

In turn, a small proportion of the prismatic blades have the characteristics of being knapped by a soft-hammer direct percussion technique, with large plain platforms, less accentuated bulb, lip, overhang removal etc (e.g. 12971.A2 and possibly 12971.A13, 12971.A27, 12971.A28). This group of products is primarily, if not exclusively represented in obsidians considered to have come from Nenezi Dağ.

In turn, there is a small but significant quantity of large blades that appear to have been knapped by hard hammer direct percussion. These are mainly represented by the long and relatively thick bipolar products made of opaque matt-black obsidian that has previously been characterized as having come from Nenezi Dağ, as represented by the cache of naviform blades from Building 1 (Carter et al 2006, 905-906, Fig. 2, u-v). These regular blades were obviously the product of a highly skilled knapping technique. No complete pieces were recovered, though one distal section measured 7.23cm long (12968.A1); the longest complete example from the aforementioned Building 1 hoard was 11.51cm long. These blades were usually employed as the blanks upon which projectiles were fashioned and are represented almost exclusively in the form of single-ridged center blades, together with the occasional lateral blade with remnant cresting scars. A few complete/near complete examples of the distinctive lower ‘upsilon blades’ from this technology have come from Space 280 contexts, including 14103.A1, 12648.A1 (6.24cm) and 13164.A1 (6.33cm long [Fig. 156]). With no other associated manufacturing debris from this technology (with the exception of the rejuvenation flake-scrapers mentioned below), it is believed that these blades entered the site as specialist ready-made implements from a quarry-based workshop.



Finally, there is another small group of large direct percussion blades made from the aforementioned grayish obsidian with matt and slightly rough surface that we are tentatively calling ‘Açığöl’ obsidian.

### **Retouched material**

A significant proportion of the blades from these midden contexts were modified, up to 46% in some cases (Table 51). Most blades had received simple linear modification, while piercers/perforators, backed and notched pieces are also common; end-scrapers are rare, but not unknown. One of the more significant developments within this material is the recurrent appearance of denticulated blades with heavy use-wear (e.g. 12971.A4, 12971.A29), edge-damage that is concordant with them having been used as sickle elements. Flint blades with glossed edges are still occasionally recorded, but it would appear that an interesting shift has been made towards the use of obsidian blades in harvesting technologies. Also of note is a wide prismatic blade with clear traces of grinding on its left margin and a flat flake that has polish / grinding on two edges / faces from unit (13103); both pieces seem to be made of Nenezi Dağ obsidian. The lower pit fill (12972) also produced a so-called ‘carving tool’ on a blade.

A group of retouched pieces that has produced great interest for us this year are a small number of blades that have been narrowed (‘waisted’) below the proximal section through the use of major abrupt retouch. These are the first appearance at Çatalhöyük of what essentially appear to be local variants of the ‘Çayönü Tool’ (or

‘Çayönü backed blade’), a well-known retouched tool type from the eponymous Neolithic site of SE Anatolia (and sites of the region more generally), where it represents a distinctive and recurrent component of the community’s obsidian assemblage from the Aceramic Neolithic (Caneva et al 1994, 254-259, fig. 4, 12; Redman 1982, 42-44, figs. 2.14-2.15) to Pottery Neolithic (Özdoğan 1994, 271, fig. 2). I use the term ‘local’ because each example from the 4040 Area appears to be made on southern Cappadocian obsidians, i.e. this may be a local appropriation and performance of a once exotic tools type / craft activity (Fig.157). With regard to the issue of craft activity, it should further be noted that the Çatalhöyük examples – currently – seem to lack the use-wear that often accompanies these implements at Çayönü, namely the macroscopically visible striae on their ventral surface, a pattern of utilization that some have sought to associate with the cutting or grinding of soft stone (perhaps in the manufacture of bracelets, or stone beads [Redman 1982, 43-44]). That said, there is a very fine example of one of these ‘Çayönü Tools’ from Level VII of the Mellaart excavation that does have ground edges that likely came about through the implement’s use in working soft stone (M. Milić pers. comm. [Fig. 157, furthest left]).



Figure 157: waisted blades (? ‘Çayönü Tools’) from various areas (Mellaart 186.1 E7C; 12980.A1; 14132.A1; 14134.A1).

There are also numerous projectiles ((13103) produced at least 11), mainly fragmentary, implements that are invariably made on the longer/wider/thicker blades; it seems that the majority were made on the large bipolar blades (single ridged, or lateral) from the Nenezi Dağ workshop(s). The points themselves include both bifacial and unifacial retouched variants. The former include stemmed examples, such as Conolly’s Types 6 and 10, with one piece from (13177) being made on a single-ridged bipolar blade (Nenezi Dağ) with the bifacial modification restricted to the stem, with a similar example from (13142) (7.89cm) with very fine pressure-flaked retouch along margins and covering stem (with parallels from Mellaart’s Level VI [Bialor 1962, fig. 3,8-9]), plus 13173.X1 (7.12cm) and 13177.X1 (7.06cm), while (13103) produced a longer stemmed point (unifacial) which has a good Level VI parallel from the 1960’s excavations (Bialor 1962, fig. 3,10). There are also a few points without stems and fragments of wider / flatter bifaces, for which we also have thinning flakes from the middens. Overall, the many and varied points from these



midden deposits tend to have their best parallels from Mellaart's Levels IV-VI; on average they tend to measure between 5-7cm long. Full publication will accord these important implements greater detail and illustration.

It is important to note that we also have unfinished pieces, as for instance an example from (12971) made on a lateral (bipolar) blade measuring 8.6cm long, while from the end of these pieces' life histories we have a great many reduced points and their associated 'edge' and 'face' blades. This careful retrieval and ultimate re-use of these projectiles ('sucking the life out of them') is a practice that we witness throughout the Neolithic sequence at Catalhoyuk, indicating clearly the great symbolic importance accorded these implements (together with their ritual deposition in post-retrieval pits etc [see Archive Report 2004; Carter, Conolly and Spasojević 2005, 283]).

While a significant proportion of blades have been retouched, there are – proportionally - far fewer flakes with deliberate modification. The one interesting class of retouched flakes are a group of large scrapers that seem to be made on rejuvenation flakes related to the Nenezi Dağ bipolar blade technology, with one example from (12972) was a large part-cortical piece measuring 6.12 × 7.03cm, while another off the face of a blade core measured 5.01cm (proximal segment). These blanks / tools seem to have circulated in their own right, as opposed to representing evidence for the manufacture of these blades on-site at Çatalhöyük.

### ***Space 60***

Space 60 comprised a series of artefact-rich midden deposits, albeit strikingly different in form to those from Spaces 279 and 280 (see above). The obsidian from the two main units, (12946) and (12961), was dominated by knapping debris with very few end-products represented. For example, the former assemblage included only ten blades (one retouched into a piercer and one a wider bipolar modified piece) out of a total of 290 pieces of obsidian (3.4%), while the latter contained only three blades from an assemblage of 212 pieces (1.4%). The rest of the material was mainly in the form of non-cortical flakes, with a few other recognizable pieces including broken bifaces and thinning flakes related to biface manufacture, together with a few 'edge blades' from the margins of projectiles.

The distinction between these midden deposits and those from Spaces 279, 280 and 306 is striking and warrants further investigation, not least with regard to its relative chronology. At first sight one might be tempted to place this earlier in the Neolithic sequence, however it might instead represent an area of differential consumption / technical practices.

### ***Space 306***

Located to the south-western end of the 2006 excavation area and truncated by late burials, this space produced another swathe of midden contexts whose contents closely approximate those of Spaces 279 and 280 (Tables 3-4). Once again Nenezi Dağ obsidians appear to be dominant (estimated as approximately 95% of the assemblages), with unipolar prismatic blades knapped by indirect percussion the mainstay mode of consuming these raw materials. Similarly, most of the blades tended to show use-wear, while a significant proportion were retouched, with backed, notched, denticulated and pointed pieces all documented (plus other possible Çayönü Tools from (13188) and (13199)), as well as a number of projectiles that appear to

have been made on larger blades from a bipolar direct percussion technology (e.g. 13188.X1, near complete stemmed bifacial variant, 8.19cm long).

### **The West Mound Excavations – Tristan Carter**

The re-opening of the West Mound provides us with an exciting new opportunity to study and characterize the chipped stone technology of the Early Chalcolithic I-II periods and perhaps ultimately – at the base of the mound – to have a clearer idea as to the nature of the latest Neolithic / earliest Chalcolithic ‘transition’. Unfortunately this year produced no secure prehistoric contexts with which to begin tackling these issues. As such the following report provides a cautious overview of the material that was generated, given that it almost certainly has to come from disturbed Early Chalcolithic deposits, with an eye as to where this material may in due course take us. At a risk of repeating myself, none of the chipped stone recovered from Trenches 5 or 6 came from a closed prehistoric deposit, the material coming for the most part from topsoil and eroded / disturbed contexts, together with late burials and pit fills. The overall impression that one gets of the chipped stone from these contexts is as follows:

- a) The material is dominated by obsidian at much the same proportion (if not slightly higher) as witnessed on the East Mound (by number), with the 2006 season producing a total of 346 pieces of chipped stone, of which 335 were obsidian (96.8%) and 11 ‘flint’ (3.2%).
- b) Preliminary visual inspection of the obsidian suggests that – as on the East Mound - ‘two’ main raw materials are represented: East Göllü Dağ and Nenezi Dağ
- c) However, the visual inspection of the obsidians further suggests that these raw materials are represented in roughly the same proportions. This is in marked contrast to the impression we have from the later levels of the East Mound where it is quite apparent that Nenezi Dağ obsidian is by far the dominant raw material exploited (based on characterization analyses and visual inspection [Carter et al 2006]). That said, the TP assemblage is something of an unknown factor; it is of great importance to gain a clearer understanding of raw material consumption in these uppermost East Mound levels in 2007.
- d) Technologically the West Mound material is dominated by blade industries, i.e. in keeping (superficially) with what we see in the later levels on the East Mound.
- e) At a more detailed level, it would seem that indirect percussion unipolar blade techniques – using ‘both’ southern Cappadocian obsidians – are dominant; there is also a range of related knapping debris, exhausted cores and rejuvenation pieces from these technologies. The blades – as with their Neolithic counterparts from the East Mound – tend to have their overhangs removed by flaking and
- f) Rarer are unipolar pressure-flaked blades (‘both’ obsidians) and significantly larger unipolar direct percussion blades (‘both’ obsidians), the latter with large plain platforms and scrubbed overhangs.
- g) Fragments of pressure-flaked blade cores are occasionally attested, the larger blade-cores are not – but again we stress the preliminary nature of the study and the poor quality of the archaeological contexts.
- h) At present, bipolar blade technologies seem to be absent, i.e. by the Early Chalcolithic we may have lost the large specialist naviform blade workshop(s) of Nenezi Dağ, the products of which provided the blanks for large projectiles at Catalhoyuk (e.g. Building 1 hoard and numerous examples in the 4040 Area [Carter et al 2006]).

- i) Typologically / stylistically there are also preliminary differences that one can note between the West Mound material and that from the East Mound, most notably the very few projectiles. That said, very few points seem to have come from the upper levels exposed in the TP area (see 2005 Archive Report).
- j) In 2006 only two complete points were recovered, both stemmed, bifacially retouched and relatively small at 2.89cm (13703.X6) and 3.39cm long (13727.X1). These appear to be genuine Early Chalcolithic types, with other examples known from the previous excavation on the West Mound (Building 25) and the site of Tepecik-Çiftlik (E. Bıcağcı pers. comm.). Both seem to be made from Nenezi Dağ obsidian.
- k) There was also a bifacially retouched point that had had both an ‘edge blade’ and ‘face blade’ removed from it (13702.A1), plus a ‘face blade’ removed from a point (13734.A1) evidence that might hint at the continuity of special attitudes towards projectiles during the Early Chalcolithic.
- l) As with the 4040 Area material, many of the blades have been retouched, with denticulates, backed pieces, notched examples and those with simple linear modification.
- m) The non-obsidian component contains a range of end-products, as well as evidence for raw material suggesting that some of these products were made here, as for example with a cortical nodule of tabular gray / brown flint (8.91 × 8.11 × 4.94cm [13732.A1]). There was also a large complete core of tan flint (7.47 × 5.7cm), unipolar with a largely unprepared platform, worked around c.50% of its circumference in the manufacture of irregular blades / flakes - probably by direct percussion (13749.A1). These raw materials all quite familiar to us from the East Mound upper levels.
- n) Some of the ‘flint’ is worked into blades, with a few glossed pieces (sickles).

While this might seem like too much detail and effort for what is an entirely disturbed data set, it should be noted that an examination of good Early Chalcolithic I-II assemblages from Building 25 (and related) material from the previous West Mound excavations, gives one much the same impression as detailed above (thanks to C. Gibson and J. Last for access to this material).

The final piece worthy of note was a surface find (Et. 209), a huge conical unipolar blade core, weighing 710g and measures 13.49cm tall, 8.99 × 7.08cm wide (platform). It has a single plain platform (one flat flake removal) and is worked around its entire circumference, reduced by direct percussion with any platform overhang dealt with by flaking / abrasion (there is a line of abrasion all around platform). There are c.16 blade scars, though perhaps an eighth of core is reduced by less regular (preparatory scars), with one hinge fracture noted. The raw material is virtually impossible to ascertain due to its thickness but is possibly East Göllü Dağ (Kaletepe).

### **The Selçuk University Excavation**

While the Selçuk University team’s primary focus was to investigate archaeology of the historic period, excavations in the field due east of the East Mound perhaps invariably also generated quantities of prehistoric material. The one diagnostic piece from this small assemblage comprised a bifacially retouched (covering) projectile made on a blade (apparently Nenezi Dağ obsidian) that has parallels from Levels IV-VI (12708.A1).

## Final thoughts

Given that the above statements are all detailing work-in-progress it remains to offer a few ongoing thoughts and to note some of the continuing issues, as opposed to laying down hard and fast conclusions:

The chipped stone assemblages of the East Mound's upper levels are indeed dominated by unipolar prismatic blade industries as outlined a few years ago by Conolly (1999a). However, it remains uncertain as to whether we are dealing with a 'horizon' of change – the alleged shift in technical practice from Levels VIA to VIB – or something a lot more complex over the site, involving certain members (or quarters) of the site having initial preferential access to new/outside technologies.

· Moreover, it is quite apparent that this 'later domination of prismatic blades' is a quite complex situation. For instance, the Space 279 and 280 midden deposits contain good evidence for a number of distinct chaînes opératoires dedicated to the manufacture of blade products: unipolar indirect percussion, unipolar pressure-flaking, direct percussion (soft and hard hammer), bipolar direct percussion (hard hammer) and this is to ignore for the moment (until we have the archaeometric data in hand) the issue of raw material, with a number of these technologies appearing to be based on more than one raw material. In turn, these blade technologies may not have all been performed locally.

The above description of the 4040 Area midden material is far from new, this complex situation has been previously documented in the 2004 and 2005 Archive Reports in the South Area, the IST Area and the TP Area. To this we may soon be able to add the West Mound.

The issue then becomes one of mapping out these technologies through space and time, quantifying their relative proportions / significance, detailing how their products were consumed and generally attempting to move on from the simplistic model of 'early : flake industries / late : blade industries' that does such a disservice to the complexity of the Çatalhöyük material.

· Turning to another issue, we have clearer evidence this year for a tantalizing shift in harvesting technologies in the later levels, with a gradual fall off in the number of 'flint' pieces with glossed edges and the concurrent appearance of denticulated obsidian blades with heavy use-wear. This is a fascinating question hinting at base shifts in habituated practices, i.e. something as 'mundane' as how one harvests ones crops: how, when and why did this – apparent – shift take place?

· Some other trends worthy of note: firstly the large quantities of projectiles being recovered from the 4040 Area, South Area and IST Area (and conversely the far fewer from TP and West Mound), as well as the [re]appearance of large blade-core rejuvenation flake scrapers. It's like we're partying like it's the Aceramic Neolithic all over again... all very déjà vu / retro. Our team has to sit down and have some major conversations with the faunal, figurine and 'wall painting' people about all of this.

· A second point, is more of an impression, namely that some of the changes we witness between the early and late assemblages (with or without a black and white

‘horizon’) may have a great deal to do with Çatalhöyük re-engaging with a wider world and new people, involving communities in Cilicia, and southeast Anatolia, the northern Levant (Amuq). The evidence for this arguably includes the introduction of the various unipolar prismatic blade technologies (crafts that had long been performed in these regions [cf. Özdoğan 1994]), together with the appearance of the ‘Çayönü Tools’, the recovery of two polished blade tools, or ‘nails’ (Milić above, and 2004 Archive Report) and the appearance of small quantities of what seems to be pieces of Eastern Anatolian obsidian in the Istanbul Area (Kayacan above, and 2005 Archive Report).

With Milić and Doherty starting their new program of study on the chipped stone’s non-obsidian component, I have deliberately held back from spending too much time detailing the ‘flint’ recovered from this year. It can be noted that we seem to have greater evidence for the manufacture of ‘flint’ implements in the upper levels, with raw nodules, preformed cores and end-products, whereas in the Level VII – Level Pre XII sequence of the South Area these siliceous resources were mainly represented in the form of end-products and occasionally tiny flakes from retouching the imports into sickles, perforators etc. Conversely, and perhaps somewhat counter intuitively; we seem to be recovering very little ‘flint’ in the heavy residue sample.

Dating – this year has also seen us largely withdraw from making pronouncements concerning the date of archaeological contexts on the basis of the techno-typological characteristics of the associated chipped stone. There are a number of references to dating in the above text, but usually this is carefully prefaced with something along the lines of ‘Mellaart’s Level VI’, or ‘Level IV in the 1960’s excavation’. The reasons for our caution are a reflection of the fact that we are all working on different parts of the site that have yet to be linked stratigraphically. To continue working with the assumption that the techno-typological developments documented by Mellaart in his South Area sequence in the 1960’s holds true for all parts of the site is problematic, potentially denying intra-site distinctions in practice, hints of which we already have from the radiometric dating of the North Area sequence. Our reservations reflect those of many others in the team; it is hoped that this issue will be forefronted in next year’s on-site workshops and seminars in order to resolve these issues as soon as possible.

### **South Area – Marina Milić**

The study of the chipped stone included detailed analyses of the assemblages from Buildings 44, 56, 65, (ex-Summit) and Building 53, plus its associated midden deposit (Space 261).

#### ***Building 44***

Building 44 was excavated during 1996-1997, and 2003-2006 during which it produced 1206 pieces of chipped stone (Table 52). At the beginning of the 2006 excavation, four unfinished units from 2005 were completed ((11642), (11672), (11673), (11676)), units related to the west wall of the building (F.2053). In total 64 artefacts from these contexts were analyzed (some collected in 2005), of which 63 were made of obsidian and a single piece of a grey “flint”. The assemblages were quite typical with regard to the debitage classes represented (see reports 2004 & 2005). The 37 fragmentary unipolar prismatic blades represent the major category, while 17 pieces were described as non-cortical flakes, preparation and rejuvenation pieces. Two-thirds of the material shows traces of use and modification usually with

simple marginal and denticulated retouch. This season's single piece of 'flint' was in the form of a blade from the plein débitage with traces of sickle gloss (11672.A3), a relatively a rare tool type in these upper levels (though another one came from Building 53's Space 261: 12502.A80, see below).

<b>Raw Material</b>	<b>Total</b>	<b>% of Total</b>	<b>Fast Track</b>	<b>% of Fast Track</b>
Obsidian	1155	95.8	777	94.4
'Flint'	51	4.2	46	5.6
<b>Total</b>	<b>1206</b>	<b>100</b>	<b>823</b>	<b>100</b>

*Table 52: Total number of chipped stone artefacts from Building 44.*

### **Building 56**

Building 56 lies beneath Building 44; it produced a huge amount of artefacts, reflecting the fact that we appear to have evidence here of in situ knapping activities with all its associated manufacturing debris. Table 53 shows not only the much larger quantity of obsidian compared to Building 44, but also smaller relative proportion of the non-obsidian component. Visual characterisation of the obsidian raw materials appeared to confirm previous statements concerning the domination of Nenezi Dağ obsidians in the upper levels of the Neolithic sequence (cf. Carter et al 2006), with an estimated 7:1 ratio between Nenezi Dağ and East Göllü Dağ raw materials.

<b>Raw Material</b>	<b>Total</b>	<b>% of Total</b>	<b>Fast Track</b>	<b>% of Fast Track</b>
Obsidian	5002	99.7	702	98.5
'Flint'	16	0.3	11	1.5
<b>Total</b>	<b>5018</b>	<b>100</b>	<b>713</b>	<b>100</b>

*Table 53: Total number of chipped stone artefacts from Building 56.*

The techno-typological characteristics of the Building 56 chipped stone show very little difference from that associated with the structure above (Building 44). Almost half of the fast tracked assemblage is defined as blade material (n=343, 48.2%), of which 303 can be categorized as centre blades / plein débitage. More than two-thirds of these blades are represented by medial sections, whereby it has not always been easy to discern the technologies responsible for their production. It would appear, however, that pressure flaking and percussion techniques were employed in tandem. Characteristics common to both techniques are plain platforms, overhang removal and the fact that they were knapped from unipolar cores. Only four prismatic blades have bipolar scars, each of which appears to be made of Nenezi Dağ obsidian; they do not have any metrical differences to the unipolar prismatic blades.

The assemblage also produced seven obsidian cores, of which six were found in unit (11670) in 2005 (room fill). The cores were all related to blade production but recovered in an exhausted state; most seemed to be made of Nenezi Dağ obsidian. One interesting piece is a so-called projectile/core (3341.A3) with flakes removed

from both ventral and dorsal faces. This way of reducing finished objects, especially projectile points and sometimes even bigger prismatic blades is not uncommon in Çatalhöyük. In Building 44 two similar artifacts were recognized (2659.A1 and 11439.A1), with even greater numbers from the midden area, Space 261, east of Building 53 (see below). It is significant that projectile/core 3341.A3 is most possibly made of East Göllü Dağ obsidian (possibly Kaletepe). A dedicated analysis of all the projectiles' raw materials would be a most interesting project, one that we hope to undertake. There were also a number of the 'face blades' that had been knapped from the surfaces of these retouched pieces (such as projectiles), with two examples from Building 56 (13354.A4 and 11670.A180). The modified tool types from Building 56 are much the same as those from Building 44, a great number of which are made on blades (85% [Table 54]).

Backed	11	Perforators	5
Denticulated	8	Projectiles	11
Notched	16	<b>Pièces esquillées</b>	3
End-scrapers	5	Carving tools	1
Side-scrapers	4	Other retouched material	72

Table 54: Obsidian tool types from Building 56.

### **Space 121**

As mentioned above, Building 56 produced 5 times more obsidian artefacts than Building 44 (this number includes both fast track and heavy residue data). On the other hand, comparing the fast track data, half of the Building 56 material is represented by blades (48.2%) in contrast to the Building 44 assemblage where blades represented two-thirds of the assemblage (66%). The reason why there is such a difference between the two assemblages is due to the fact that Building 56's Space 121 produced a huge quantity of flake material (n=3348) from what appears to be an in situ knapping deposit. This material has served to deflate the relative proportion of the blade component.

The assemblage came from unit (12873) (an 'obsidian cluster') from within the make-up for the construction of platform F.2055. This concentration of obsidian comprises 2494 pieces, of which 128 were hand-picked, the rest coming from heavy residue (>1mm: 1093, >2mm: 939, >4mm: 334 pieces). The related unit (12872) (make-up for F.2055) produced a further 854 pieces, all from heavy residue (>1mm: 610, >2mm: 163, >4mm: 81 pieces). Most of the material from these two units can be classified as chips and fragments (Fig. 158); the average size of chips from the hand-picked ('dry sieve') sample is 0.5 × 0.4 × 0.07cm. The material is all quite fresh and seems to be the same raw material (probably Nenezi Dağ obsidian). The size and shape of the chips suggest that they relate to the manufacture of projectiles, or rather the final stage of their manufacture, i.e. this is a large assemblage of thinning flakes and other shaping pieces removed from the face of larger blanks. These may have been large blades (as suggested by the longitudinal curvature of the thinning flakes), but more study is required to confirm this. The bigger pieces (c. 1-1.5 cm) are curved in section



Figure 158: heavy residue obsidian chips and fragments from in situ knapping scatter (12873) in Building 56.

while smaller pieces are mainly flat. The most interesting piece from the >4mm sample (12873.A2) is the tip of a projectile made in the same raw material, further evidence – if needed – that this cluster of material relates to the manufacture of points. The point fragment was covered with invasive retouch on both sides whereby it is impossible to identify its original blank. Moreover, initial examination of the assemblage indicates the existence of conjoining material (M. Waş pers. comm.), further adding weight – along with the freshness and homogeneity of the pieces – that this is an in situ deposit, which in itself is an extremely rare occurrence at Çatalhöyük. Next year we hope to undertake a more detailed refitting study. With regard to the cluster's context, it seems that the bench to the north (F.2057) had been partially constructed affording a possible seat for the knapper (Fig. 159). This cluster appears to represent an episode of production activity that occurred during the construction of this building, as opposed to representing a long-term, repeated focus of activity during the structure's occupancy. This is not to necessarily view it as an ad hoc moment, but it is important to clarify the temporal position of this activity within the life of the house.

### ***Building 65***

Building 65 is situated underneath Building 56; it has yet to be fully excavated. Similarly, the detailed typological analysis of the chipped stone remains incomplete, thus only the hand picked / dry sieved material is discussed here, a total of 467 artefacts, 462 of obsidian, five of 'flint'. The dominant obsidian appears – once again - to be Nenezi Dağ. The richest deposit relates to the demolition / infill of the building (13352), comprising 221 piece of obsidian and two of 'flint'. Major debitage category are blades plein débitage, plus a great number of non-cortical flakes, while preparation and rejuvenation pieces are also represented. All the cores (three in unit



(13352), five in total) are small, exhausted nuclei of which one has crested scars and polished edges, perhaps from being reused as a carving tool (13352.A48).

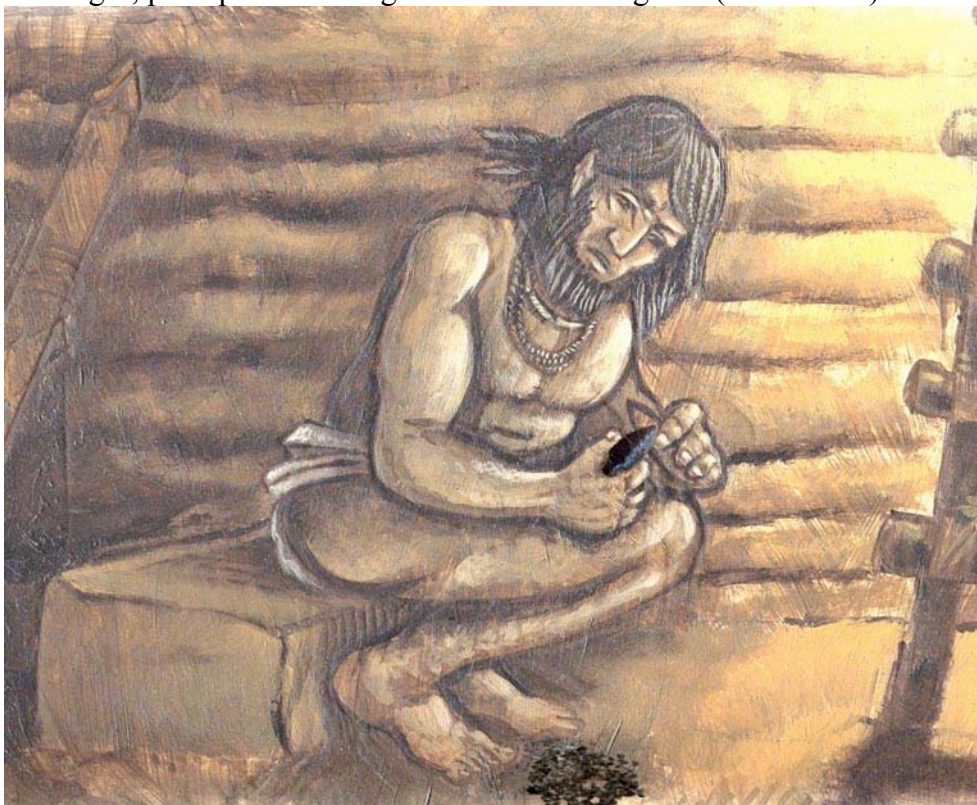


Figure 159: Reconstruction of projectile manufacture in Building 56, based on analysis of unit (12873) (J. Swogger with modifications by M. Milić)

As mentioned above, Nenezi Dağ obsidian is mainly used for making these artefacts, but it is interesting that all East Göllü Dağ pieces are very small blades, blade-like-flakes or flakes, i.e. no typologically distinctive object. One might wonder if some of this material is residual considering the nature of this deposit - infill. Comparing the tool types from this and the two structures above (Buildings 44 and 56) it is noticeable that the number of cutting tools is increasing (e.g. denticulated pieces, pieces esquillées and carving tools [Table 55]). Again, most of the tools are made on blades (74%).

#### *Interesting contextual data of Buildings 44, 56 and 65*

It is quite common at Çatalhöyük to find certain types of obsidian and flint implements deposited as part of a ritual surrounding the abandonment of a building, or to mark those interface phases of reconstruction and re-plastering [Carter, Conolly and Spasojević 2005, 282]. We have a number of such deposits from the past few years in this sequence of buildings:

- From Building 56 we have a large side-scaper (akin to quarries flakes) made of Nenezi Dağ obsidian from the infill of the grave under the N. platform, Space 121 (12871.X1). This is a rare piece in terms of size and form; large blanks are occasionally found in these buildings.
- There is another example in Building 56, with a very fine prismatic blade placed at the base of the infill on the floor next to the west wall – 13352.X11. This is also a very distinctive piece because of its size (broken but still 11.52cm long), and

the fact that this was a highly skilled product that quite possibly was also being made off-site at the quarries (it is also made from Nenezi Dağ obsidian).

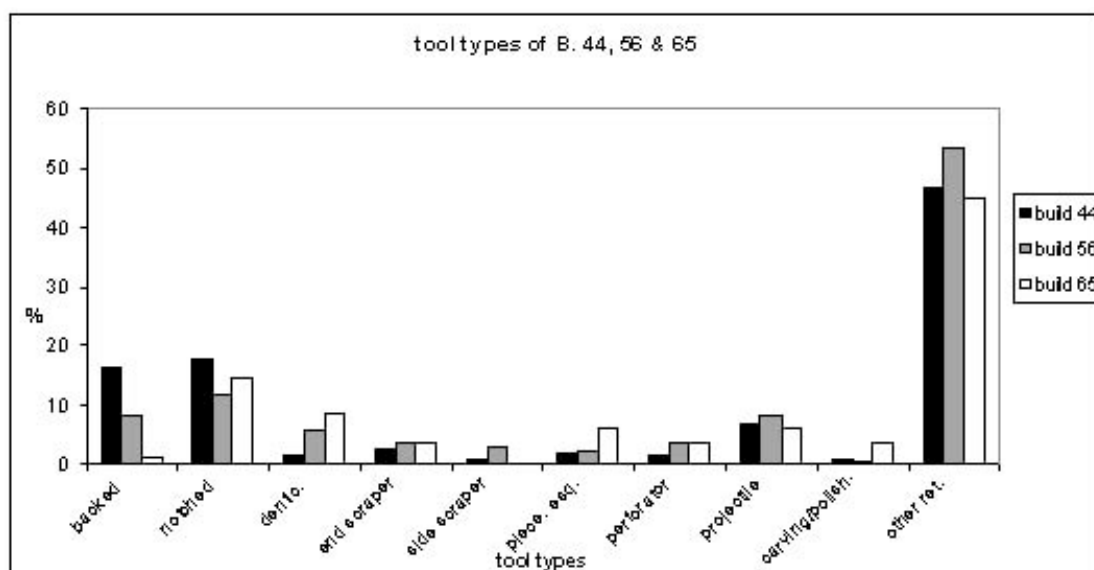


Table 55: Relative proportion of typologically distinctive tools in Buildings 44, 56 and 65.

- Unit (12807) (Building 56, Space 122) represents a cluster containing worked stones, worked bones and obsidian. The latter included a projectile perform (12807.X8) and a large retouched flake (12807.X9) both probably made of Nenezi Dağ obsidian.

- Significant too is a cluster of material behind the oven and in front of the south wall in the back room of Building 65, Space 299 (13370). Amongst this cluster was a large non-cortical elongated flake 13370.X3 that had been retouched into a side-scraper (8.37 × 3.94 × 1.56 cm). The piece also had use-wear on the opposite edge and had ultimately been used as a chisel-like tool (a piece esquillée). The scraper seems to be made from Nenezi Dag obsidian and was quite possibly made at the source. The piece is very similar to 12871.X1 (see above).

- From another similar (bones and stones) cluster from Building 65, outside the southern bin in Space 298, there was a side-scraper made on a relatively large blade of Nenezi Dağ obsidian (13365.X44). The blade came from a distinctive bipolar technology, something that does not seem to have been practiced here at Çatalhöyük, i.e. this is again likely to be a non-local product.

- In Building 44 we have a big end- / side-scraper 11617.X1 deliberately placed on a platform F.1321 and a thick side-scraper made on bipolar blade 11652.X2 from floor make-up (the same context as the bear-shaped stamp seal)

- There was also a distinct obsidian cluster (11452) from platform F.1320 placed around three of the platform's edges, up against the face between platform and the surrounding bench (to south), wall (to east) and higher platform (to north). The 29 pieces of obsidian comprised mainly blades (including a number of whole / near-whole pieces) and a projectile. Another complete blade (9,61cm long) from unit 11458.A1 might be related to this episode of deposition.

### **Building 53**

As described previously, Building 53 should belong to Level V or VI; excavation of this structure started in 2005 and continued in 2006. A total of 122 units have thus far been excavated in Building 53 (Spaces 257 & 272) of which 36 units produced obsidian and flint artefacts. Due to the truncated nature of the building, only a small quantity of chipped stone was uncovered (obsidian: 164, flint: 3, all fast track or dry sieve samples). These objects belong mainly to make up/packing deposits of floors or platforms, room fills and burial fills. Artefacts from these spaces are, on one hand, typical for this level i.e. mainly prismatic blades made of Nenezi Dağ obsidian, but on the other contain little in the way of diagnostic material.

### **Space 261**

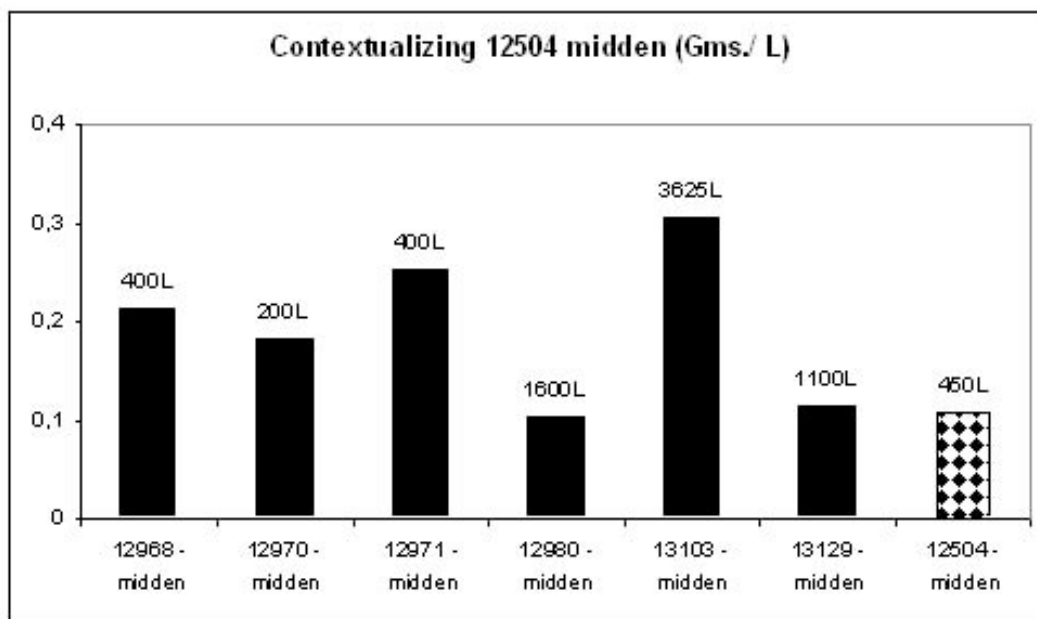
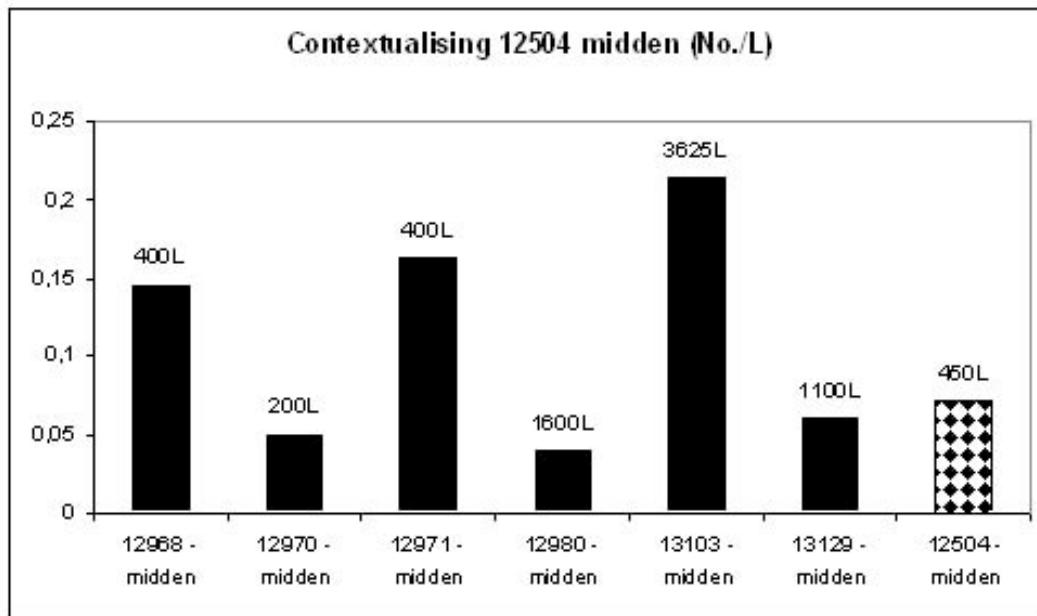


Table 56: Comparing richness of the (12504) midden (Space 261) with middens from Space 279 in the 4040 Area.

In contrast to the building material, Space 261 to the east of Building 53 produced a much bigger and variable assemblage, with material coming both from flotation and fast track sampling. In total 1235 pieces of obsidian and flint were generated this year; 959 pieces collected by fast track (936 obsidian, 23 flint) and 276 collected from flotation (all obsidian). Still, comparing to the other midden deposits this does not seem to be a very rich. This could be shown by comparing priority unit (12504) from Space 261 with other midden deposits from 4040 Area that should belong to roughly the same date/level (Table 56).

Only about 20% of the midden material could be categorized as end-products, i.e. prismatic blades, which is a slight increase of knapping debris compared to some of the 4040 Area middens (Fig. 161). Technologically prismatic blades, although majority has medial section preserved, are probably made by indirect or direct percussion, rarely by pressure-flaked technique. It is noticeable that these deposits contain large numbers of cores, projectiles used as cores and splintered pieces. All the cores are small and exhausted and mainly made of Nenezi Dağ obsidian. At this stage they are multi directional cores for flake or blade-like-flake production. In addition to this, a great number of cores were then transformed into tools type pièces esquillées, while the projectiles used as cores had flakes, or blades removed from one or both faces – akin to examples from other buildings in the South and 4040 Areas. But here in the middens of Space 261 these ‘cores’ as well as the ‘edge/face blades’ are quite numerous. About 13 projectile/cores and about 25 ‘face’ and ‘edge’ blades were found in the Space 261. Although most of the projectiles are characterized as co-called projectile/cores there are a few broken points that were not later reused. No complete points were found.

### **The IST AREA - Nurcan Kayacan (assisted by Nejla Kurt)**

A team led by Mihriban Özbaşaran from the Istanbul University has excavated in the IST Area as the second excavation season in 2006, in Çatalhöyük East. As with the chipped stone from 2005, the assemblages were comprised of obsidian and flint, of which the former was more intensively used. This obsidian appears to come from Göllü Dağ and Nenezi Dağ in southern Cappadocia, while a few pieces from Eastern Anatolia were also recognised this year (as they were in 2005). The preliminary results of the technological analyses show that unipolar knapping system dominated. Typological analyses recorded the presence of projectile points, carving tools, scrapers and retouched blades.

In 2006, work on the chipped stone was undertaken in two stages. The first involved recording the material in the new recording system, i.e. the new Access-based central database. Our more detailed Level 2 analyses were recorded in Excel, with the aim that this data will also be included in the centralised Access system over the winter.

This year’s study has shown that the chipped stone industry is homogeneous in character. However in detail, it shows that some repetitions and some differences do exist. This report will focus on the repetitions and the differences observed in the chipped stone industry of the IST Area.

## 2006 Study

The study of the chipped stone from the 2006 season involved 1509 pieces from 44 units, of which 873 came from fast track, 19 from dry sieving, and 617 from flotation / heavy residue (Table 57). The material from the IST Area came from Spaces 283, 284, 285, 289, 297, 294, 253, 296, 295, 301. From these Spaces 283, 284, 285, 289 constituted Building 63.

	Fast Track	Dry Sieving	Flotation	Total
Obsidian	860	19	617	<b>1496</b>
Flint	13	-	-	<b>13</b>
<b>Total</b>	<b>873</b>	<b>19</b>	<b>617</b>	<b>1509</b>

Table 57: Chipped stone from IST Area 2006 by raw material and recovery method.

## Raw Materials

Obsidian dominates the chipped stone industry from the IST Area (n=1496, 99.1%), while 'flint' represents only a minority (n=13, 0.9%). In 2005, a classificatory system of the obsidian based on visual macroscopic characteristics was established and added to the Çatalhöyük chipped stone recording system and employed to record the material from the IST Area. Sixteen different obsidians were categorised and a reference collection was created. This was used in again in 2006 season (Table 58) where it was also used to record the material from the South Area, with new samples added by Marina Milić, whereby we now have 20 different types. These different obsidian types will eventually be chemically analysed (see below).

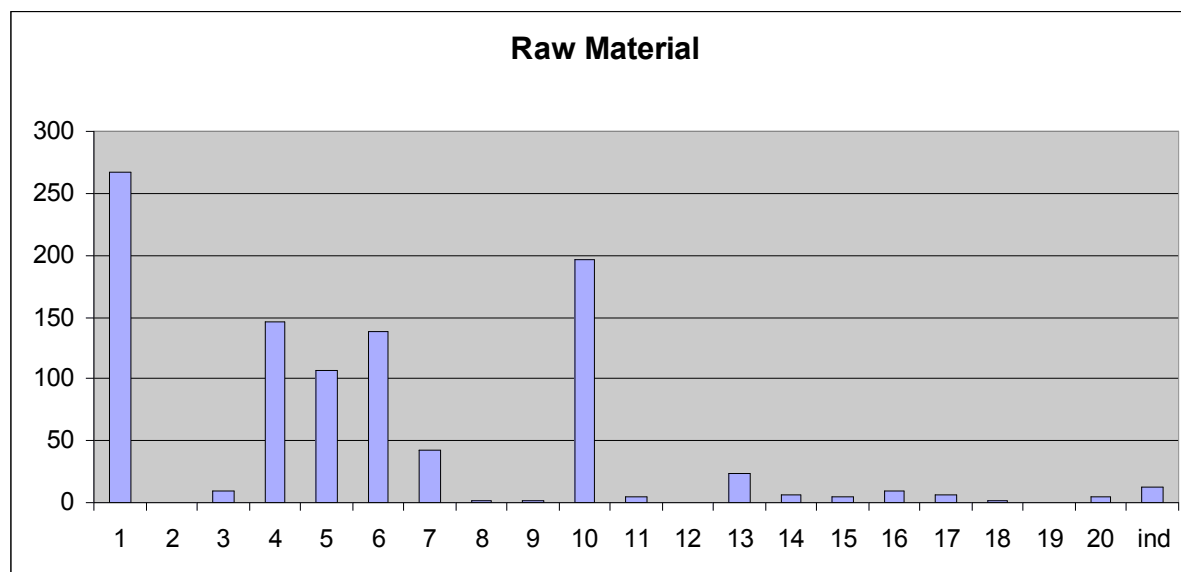


Table 58: Relative proportion of different obsidian types within the 2006 IST Area assemblage

These studies show that Types 1, 4, 5, 6, 7 and 10 are most abundant in IST Area. Chemical analyses from Musular and Çatalhöyük indicate that our Types 1 (transparent mixed with grey) and 6 (completely transparent) come from Göllü Dağ, whereas Types 4 (smoky greenish grey) and 5 (striped greenish grey) come from Nenezi Dağ. Type 7 (ashy, greenish grey) and 10 (ashy spot) are not yet related with any of these sources. Another important group is Type 15 (oily green), which is known to come from East Anatolia. In 2005 season only two pieces of this obsidian were found in Area IST, while further pieces were found amongst Mellaart's material.

This season we found four more pieces of this obsidian (Fig. 160, 1-4). Three of them come from Space 294 (units (12448), (12487)), one of them from space 283 (unit (12447)). All are finishing tools made on central blades. No knapping wastes and/or flakes were found made of this material. It implies that the knapping of this type of East Anatolian obsidian did not take place at Area IST or Çatalhöyük. Some of these blades were selected for chemical characterisation at Bordeaux (CNRS).

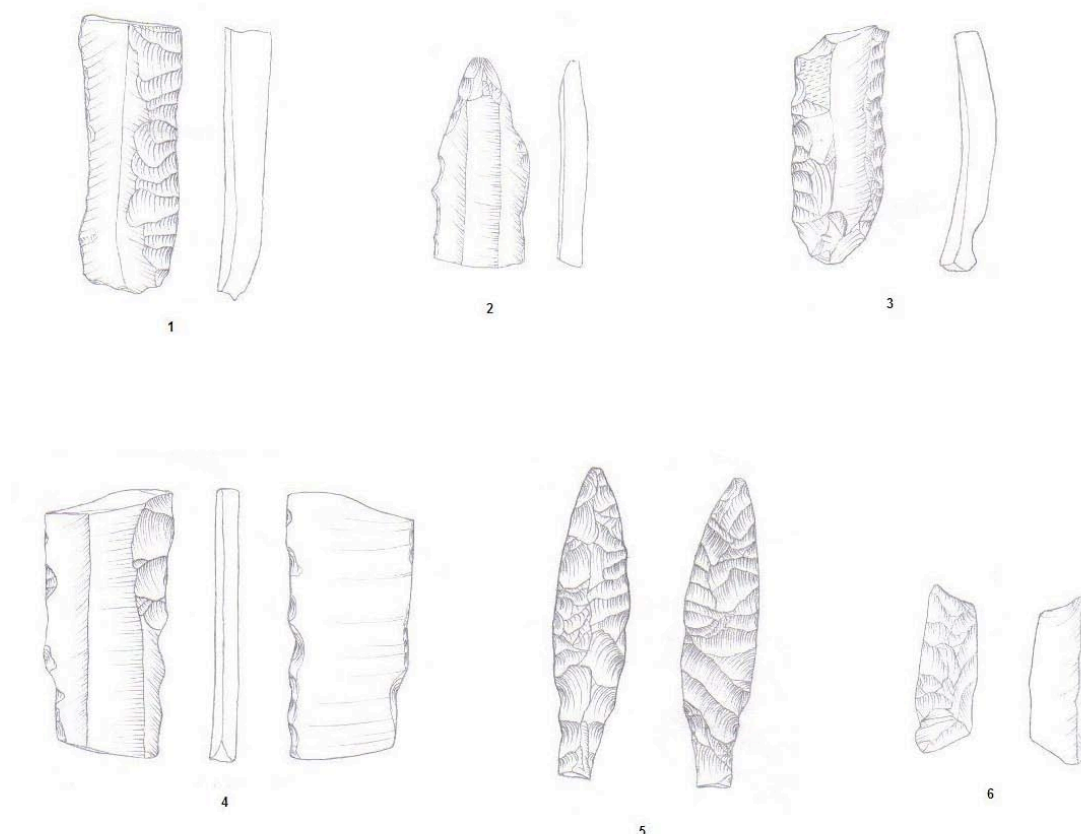


Figure 160: Selection of obsidian from 2006 IST Area.

Our aim in differentiating obsidians macroscopically is

- to understand the different sources
- to separate different blocks
- to understand whether different raw materials were in use in different chaînes opératoires

It is also hoped that next year we will be able to show which sources our Types relate, and furthermore to provide colour images of each Type (on-line).

### **Building 63 (Spaces 283, 284, 285, 289)**

The excavation of Building 63 commenced in 2005 (see Özbaşaran 2005 Archive Report). It has four different spaces:

#### ***Space 283***

Space 283 is comprised of units (12421), (12425), (12427), (12429) and (12447), which produced 43 pieces of obsidian from Fast Track, 8 from dry sieving and 31 from heavy residue. According to the results of the studies on the material of Fast

Track and dry sieve material, the main group is made of central blades (n=22), followed by flakes (n=12). There was also one core and one blade with natural surface. The material from heavy residue consists of fragments (n=26) and chips (n=20). The assemblage contained ten tools, seven being retouched blades, plus two splintered pieces (pieces esquillées) made on cores, together with a single scraper made on a flake.

#### ***Space 284***

Units (12426), (12438), (12488) and (12498) constitute Space 284, from which came 17 pieces of chipped stone from Fast Track, three from dry sieving and 8 from heavy residue. This material comprises flakes (n=12), central blades (n=9), chips (n=3) and fragments (n=12). Four tools were recorded, three of them are retouched blades and the fourth is an 'edge blade' struck from a projectile point.

#### ***Space 285***

Unit (12423) represents Space 285, producing 38 pieces of chipped stone from Fast Track, two from dry sieving and 32 from heavy residue. This material comprised central blades (n=19), flakes (n=4), a blade with natural surface (n=1), fragments (n=27) and chips (n=21). Six tools were registered, with three retouched blades, two 'edge blades' (one from the margin of a scraper and one from the edge of a projectile point), plus one polishing tool made on a central blade.

#### ***Space 289***

Space 289 is represented by units (12439) and (12453), contexts that produced 25 pieces from heavy residue and only one piece from Fast Track, with central blades (n=2), fragments (n=13) and chips (n=11). No tools were observed.

#### ***Space 294***

In 2005, this space was described as an open area, to which the following units were added in 2006: (12444), (12448), (12456), (12482), (12487), (12499) and (13907). This group was intended to be analysed as priority, but, since all of the material did not reach our lab (there are more samples waiting for heavy residue analyses) it would not be appropriate to make any interpretation about the space. This is the most intensive area with regard to the recovery of chipped stone, with 405 pieces from Fast Track and 225 from heavy residue. This assemblage included: central blades (n=140), flakes (n=87), blades like flake (n=4), blades with natural surface (n=5), blades with remnant cresting (n=1), core tablets (n=2), fragments (n=175) and chips (n=69). A total of 24 tools were recorded, with 11 retouched blades, five splintered pieces, three 'edge blades', two points, one scraper, one polishing and one carving tool.

#### ***Space 297***

Unit (12430), (12451) and (12458) constitute Space 297. This space was also very productive in terms of chipped stone, with 70 pieces from Fast Track, four from the dry sieve and 68 from heavy residue. This material comprised: central blades (n=48), flakes (n=15), core tablets (n=2), blades with natural surface (n=1), fragments (n=14), chips (n=7). These included five tools: a Conolly Type 8 point (Fig. 160, 5) two 'edge blades' (Fig. 160, 6) and two retouched blades.

Spaces 253, 296, 295, 301 did not produce enough material to make any interpretations. They will be studied in the coming seasons.

## **Conclusion**

Our aim in 2006 was to identify the characteristics of the chipped stone industry of Area IST and then ask questions of that material. In 2006 the material was analysed technologically, with single platform blade industries seen to dominate in the same way that they had in 2005. We think that the chronology of this technology will be comprehended by further studies, i.e. to map the duration of these traditions throughout the Neolithic sequence. When we look at the material from the typological point of view, we see that points, retouched blades, scrapers, splintered pieces, carving tools and polishing tools were found, as they were in 2005.

One of the important points noted relates to the use of different raw materials. It is understood that different raw materials were supplied from Nenezi and Göllü Dağ sources in Cappadocia. However Eastern Anatolian obsidian was also used in IST Area. It has yet to be seen in other current excavations material (although a very small amount has been noted in the 1960's South Area collections).

It is our desire to develop the preliminary results by asking the following questions:

- Is there a difference in chipped stone between the IST Area and the other excavation areas?
- Can we understand the chaînes opératoires of the blade production?
- The recovery of ready-made tools of East Anatolian obsidians – will we have associated production debris in the future?
- Was there a preference of the raw material, depending on the layers and technical differences?

In the following years the studies are planned to be executed in this direction.

## **The TP AREA - Marcin Waş**

### **Stratigraphic position of the lithic artifacts**

The chipped stone from the 2006 TP Area excavations derived from 66 units. Most of this season's material comes from deposits related to Building 61 and Building 62, together with midden-like layers both underneath and around these two structures. While Building 61 is dated to Level II according to the Mellaart relative chronology, the layers directly underneath should be linked with the mound occupation in Level III.

### **Materials**

The chipped stone assemblage from the 2006 excavations in the TP Area consists of 1377 artefacts. Out of this number, 1353 (98,3%) items are made of obsidian while remaining 56 pieces (1,7%) are manufactured of different types of flint. A general structure of the assemblage is presented in Table 5.



<b>Products</b>	<b>N</b>	<b>%</b>
Flakes	236	17,2
Blades	646	47,0
Chunks	39	2,8
Core tablets	1	0,1
Rejuvenation flakes	17	1,2
Crested blades	2	0,1
Chips	18	1,2
Splintered pieces	43	3,2
Splintered flakes	324	23,6
Tools	48	3,6
<b>Sum total</b>	<b>1377</b>	<b>100</b>

*Table 59: Frequency of chipped stone types from the TP area in 2006*

### **Technology**

The assemblage is composed of elements of three technologies implemented for blank production: (1) blade technology, (2) flake technology and (3) splintering.

1. Blade technology can be reconstructed mainly on the basis of the blade macro- and micro-morphological analyses. Blades in the studied assemblage are preserved fragmentarily. In particular, medial segments of the blanks dominate while completely preserved forms are absent. From the technological point of view, one can distinguish two groups of blades: (a) pressure blades and (b) percussion blades. This division is based upon morphological features of blades as well as the micro-morphology of their proximal parts. Prismatic blades with punctiform butts are classified as pressure-flaked (Fig. 161) the remaining blades with irregular edges, different thickness and curved profile belong to the percussion blade category. A large number of blades of the latter group have faceted butts.

Another group of products connected with blade technology comprises flakes from the core platform preparation, which have a form of core tablets and rejuvenation flakes. Their presence is indicative of the on-site reduction of blade cores. Unfortunately, core tablets and rejuvenation flakes discovered in the TP area belong to a number of different production sequences and cannot be correlated with manufacture of particular blades in the studied assemblage. Despite a lack of blade cores in the assemblage, these can be reconstructed based upon preserved fragments originating from their destruction by splintering. Furthermore, we have also found a few flakes originating from the preparation of blade core tips.

A composition of forms in the assemblage is indicative of a local blade production. A relationship between these two technical groups in terms of their technology and changes over time will be analyzed in the future.

2. Flake technology is represented by a highly differentiated group of products. In particular, these comprise blanks removed from indefinite types of cores in addition to flakes from the bifacial tools and projectiles re-sharpening. Some of the flakes are characterized by peculiar micro-morphological scars on their proximal part, which imply hard hammer percussion.

3. Splintering is the third technology identified in the assemblage. The origin of splintered pieces (*pièces esquillées*) remains largely unidentified. Most of them appear to be exhausted/broken versions of bigger forms such as tools (i.e. damaged projectiles), big blanks, or exhausted cores. Similar observations are made as regards a group of splintered flakes. We may be relatively confident that splintering comprises a supplementary way of a blank or tool (*pièce esquillée*) production.

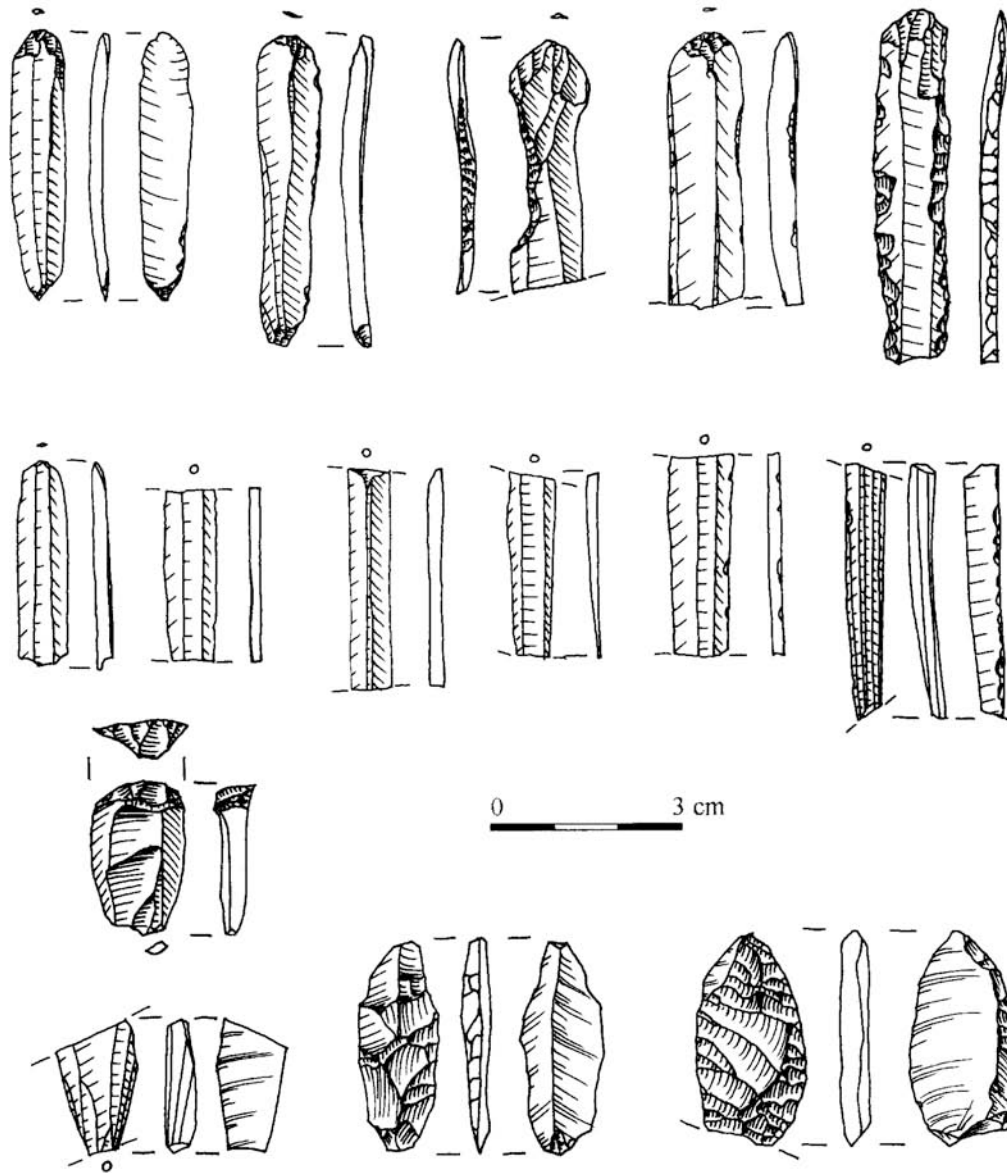


Figure 161: Selection of prismatic blades with punctiform butts classified as pressure-flaked from TP Area.

### Typology

In total, only 48 artefacts can be described as formal tool types (Table 60). All of them but one end-scraper are made of obsidian. Broken fragments of blades with different types of retouch dominate the blade tool category. Other types of tools such as end-scrapers, borers, notched tools and truncated blades are represented by only individual pieces. Interestingly, a group of projectiles of different types, mainly barbed and tanged objects, is relatively well represented (Fig. 162).

Tool type	N
Retouched blade	30
Retouched flake	4
End-scraper	1
Truncation	1
Borer	1
Notched	1
Atypical	1
Projectile	9
<b>Sum total</b>	<b>48</b>

Table 60: Frequency of the lithic tools from the TP area in 2006

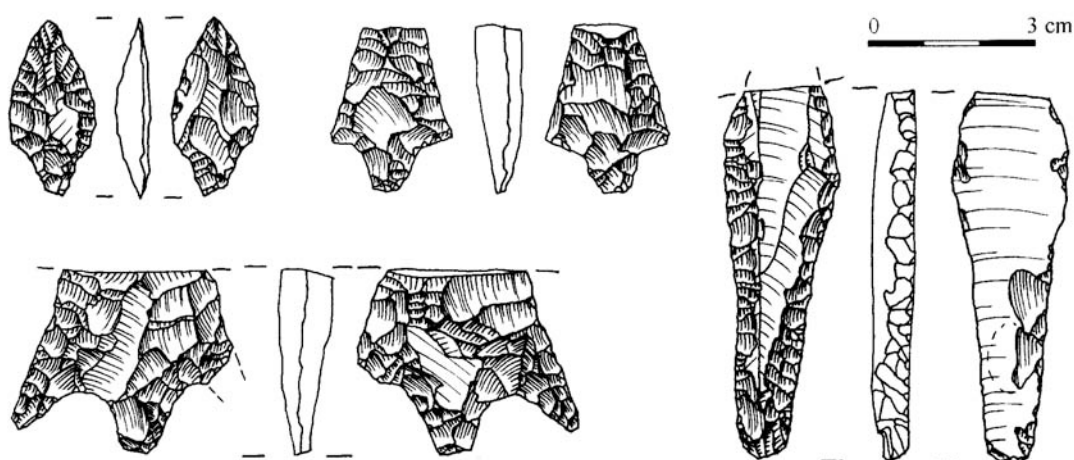


Figure 162: Selection of projectiles of different types, mainly barbed and tanged from TP Area

### Conclusions

This preliminary analysis of a lithic assemblage from the 2006 excavations in the TP Area represents an introduction to a broader and more detailed study to be completed later. This can only be achieved within a framework provided by a comprehensive chronological and functional analysis of all excavated contexts.

In general, the quality and structure of the lithic assemblage reflects its “stratigraphic position”, mainly in the form floors and related layers. Absence of typical midden layers in the excavated area is well corroborated by a very small number of tools.

### The Non-Obsidian Chipped Stone (NOCS) study – Chris Doherty and Marina Milić

It has long been on the team’s agenda to work on the description and sourcing of the varied raw materials that comprise the non-obsidian chipped stone [NOCS] component of the Çatalhöyük assemblage. Our knowledge of this material stands in stark contrast to the detailed characterization work undertaken on our obsidian (Carter et al 2006 inter alia), an imbalance that arguably reflects a larger Anatolian / Near Eastern research bias towards obsidian sourcing studies (though see Borrell Tena 2005). Throughout this and other reports we have often referred to this material generically as ‘flint’, a term we use as short-hand to refer to what appear to be a range

of distinct siliceous resources whose exact nature and origin were largely a mystery to us. In the late 1990s with the work of Ana Spasojević whose experience with Balkan – ‘flint’ dominated – chipped stone assemblages (including work in the renowned Budapest ‘lithoteca’ collection) led to the team offering a somewhat more detailed appraisal of the Çatalhöyük in the recent publication series, referring to various coloured limnic-quartzites, red and green radiolarites, plus small amounts of flint, chert, jasper and quartzite (Carter, Conolly and Spasojević 2005). It remained however that: a) these descriptions were based on visual inspection alone; b) none of the team had a formal petrographic background; c) we had no idea as to the geo-spatial significance of the subdivisions of our raw materials (e.g. ‘tan’ .v. ‘white planty’ limnic-quartzite; d) we still had no idea as to where any of the material came from.

In the original 1960’s excavation report the Taurus Mountains and SE Turkey, specifically the Gaziantep region, were highlighted as a likely source of the Çatalhöyük ‘flint’ (Mellaart 1963, 103, 1967, 213). Subsequently, other potential sources have been documented, including the Beyşehir region (Balkan-Atli 1994, 37; Conolly 1999a, 70), while regional surveys have accorded us more information on the tabular flint of SE Turkey in Gaziantep (Sakçagöz) and Kahramanmaraş (Garrard et al. 1996; Ibáñez et al. 2001). Further afield in the Levant we know of good flint sources in Syria and beyond (cf. Nishiaki 2000). In truth there are numerous ‘flint’ sources of varying quality throughout Anatolia, to the south in Cyprus and further east in the Levant. After a while it seemed to serve little purpose to continue listing all the various potential origins of the Çatalhöyük flint without taking having actually viewed any of the source material, or undertaken a proper petrographic analysis of our own artefacts. A few visiting scholars who have seen some of the 1990’s Çatalhöyük chipped stone have commented that some of our ‘limnic-quartzites’ appear similar to material from the Taurus Mountains, but this is an exceedingly large area and for us to invoke a ‘Taurus source’ is really quite meaningless.

This summer we were finally able to initiate a project to try and answer some of the questions outlined above, the result of the team being joined by Dr. Chris Doherty from the RLHA, Oxford University. We decided to start this important study by working on the ‘flint’ component of Çatalhöyük’s Aceramic Neolithic assemblages excavated in 1999, i.e. the material from Level Pre-XII and the Lower KOPAL deposits. Our reasons for starting with these assemblages are due to the fact that they: a) represented a manageable amount of data, b) because of the apparent variability of the raw materials represented; indeed these assemblages were claimed to be the richest and most diverse within the entire Neolithic sequence (Carter, Conolly and Spasojević 2005, 279).

As noted above, descriptive groups had been loosely established for broad types of non-obsidian raw materials (chert, flint, limnic-quartzite, radiolarite etc) but largely without sufficient detail for provenance determination. This situation is not surprising, being a direct reflection of the difficulties inherent in working with such fine-grained siliceous material. As with obsidian, this fine-grained nature means that there are very few textural features, which can be used to describe and compare NOCS. However, unlike obsidian, there is additionally only limited scope for discriminating different materials by chemical analysis. Here the limiting factors are:

- 1) the fine-grained but inhomogeneous texture

- 2) variations in chemical composition on a sub-centimeter scale (sometimes expressed as colour differences).
- 3) the dominance of a single chemical component ( $\text{SiO}_2 > 95\%$  by weight)
- 4) the fact that these are largely secondary in origin, having replaced or partly replaced pre-existing materials.
- 5) the well known variability of these rock types at outcrop.
- 6) the typically small-scale or discontinuous nature of the outcrops (often omitted from geological maps).
- 7) their relative geological and economic unimportance, compared to outcrops of igneous rocks (e.g. obsidian). The latter are more likely to have associated minerals of economic importance and therefore to have been studied in greater detail.

This study will first identify the physical and textural features of NOCS that can be systematically recorded to provide a visual working classification. Initial work in 2006 suggests the following attributes are likely to be the most useful: colour, colour uniformity, colour distribution and banding, lustre, reflectivity or polish, patination or primary surface alteration, internal features (brecciation, colour centres, manganese and other metal dendrites, ochre staining, microfossils, shrinkage fracturing, porosity, laminations etc), fracture quality and density.

The emerging groups (Figs. 163 - 164) will then be investigated compositionally, working within the acknowledged limitations for these silica-rich materials. Chemical analysis for major elements will be undertaken by electron microprobe, to minimize sample requirements, allow simultaneous imaging of microtextures and determine sample homogeneity. Once the latter has been determined, further sub-sampling can be targeted for trace element analysis by inductively coupled plasma mass spectroscopy (ICP-MS). The NOCS will also be investigated to determine the proportion of their constituent silica minerals and polymorphs (quartz, opal, moganite, etc). X-ray diffraction (XRD) and Fourier transform infrared spectroscopy (FTIR) will be the principle analytical techniques for this phase analysis.

Producing a usable classification for Çatalhöyük NOCS in this way will be relatively straightforward compared to second aim of this study, that of determining a possible provenance. This requires a comprehensive understanding of the nature and distribution of chert, flint, radiolarite, quartzite etc. across the region, detail which is only partially present in the geological maps and literature. The planned approach is to create a database of known occurrences and then extrapolate from this to predict further locations in which these siliceous raw materials are likely to be present. This modelled distribution of potential NOCS raw materials will be backed up by geological fieldwork to verify occurrence, collect reference material and assess outcrop variation.

### **Other projects, presentations and publications**

Alongside the on-site study of the chipped stone work continues on our obsidian characterization work in France (CNRS) and the US (UC Berkeley and Stanford), with the aim that Aberystwyth will be once again included in the near future. Work also continues apace at Oak Ridge on our obsidian hydration analyses, although our NSF application has to be re-submitted having come 4th last year (the top three being funded). In turn, a brief paper on the use of obsidian at Çatalhöyük was included in the wonderful book that accompanied the recent Istanbul exhibition on the site (Carter

2006), while a research paper investigating the level and nature of obsidian procurement by the community was published in the Journal of Field Archaeology (Cessford and Carter 2005).



*Figure 163: Non-obsidian chipped stone strewn in the form of preliminary raw material groups.*

### **Obsidian characterization studies**

Since last year a précis article detailing the results of the first 135 samples analyzed at CNRS (Grenoble) and Aberystwyth was published in the *Journal of Archaeological Science* (Carter et al 2006). This slightly updates the chapter in the recent Volume 5 (Carter et al 2005) in that it demonstrates that sample OB38 can now be associated with the Açıgöl West source in northern Cappadocia. In turn, Sarah Delerue gave a review paper of our work at the International Society of Archaeometry meeting in Québec earlier this year.

The second stage of analyses, involving 100 samples characterized using external beam PIXE and SEM-EDS at CNRS (Bordeaux) and 42 samples being sourced using EDXRF at UC Berkeley, are both now complete. The former data is being prepared for publication in *JAS*, while the latter – detailing material from the BACH excavation - has been accepted for publication in *Archaeometry* (Carter and Shackley in press). In turn, the data pertaining to the Aceramic Neolithic material from the CNRS analyses has been submitted as a paper to *Paléorient*.

The third stage of analyses is represented by 49 samples from the West Mound being analyzed using ICP-AES at Stanford University, work that has just been completed and is now being prepared for publication. The fourth stage was initiated this summer with further samples taken from Building 25 and related West Mound contexts for analysis at UC Berkeley (half the samples have already been run!), together with a series of pieces from 4040, South and IST Areas for sourcing at CNRS (Bordeaux).

This season Kayacan and Milić continued their work on creating a visual characterization type-list of the Çatalhöyük obsidian. Some 20 “different” types of raw material were discerned on the basis of colour, translucency, texture, banding etc. At the end of season and on a basis of these types a number of representative samples were selected from the 4040, South, IST and West Mound excavation areas for chemical analysis in CNRS (Bordeaux) and UC Berkeley. Prior to their analysis we assigned sources to the samples based on our working knowledge of the relationship between our raw material types and geological outcrops; preliminary results from the analysis of 24 samples from UC Berkeley has provided the team with a 95.8% success rate (23/24 correct). Thus we feel as a team that we are getting close to the point where we can discriminate visually between the various sources (for the most part Nenezi Dağ and East Göllü Dağ products), hence the tentative inclusion of statements about raw material proportions and technology in the above reports. Ultimately we wish to be able to characterize visually the majority of the obsidian we work with at Çatalhöyük. That said, it is worth noting that over the past three years, i.e. since we started working on the upper levels of the mound, a wider range of raw materials has begun to appear, ergo our Type Lists may in time develop, requiring further trace elemental analyses.

We also remain painfully aware of our sampling biases, with certain classes of artefact poorly, if at all, represented – such as ‘quarry flakes’, spearheads and other large pieces, whereby we are making attempts to bring to site non-destructive portable analytical techniques. This might – hopefully – be achieved though new collaborative work with archaeometrists at Selçuk University and/or the seasonal importation of instruments such as a portable EDXRF gun (cf. Morgenstein and Redmount 2005).

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**Bead Technology at Çatalhöyük / Boncuklar - Katherine I. (Karen) Wright  
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[http://www.catalhoyuk.com/archive\\_reports/2006/](http://www.catalhoyuk.com/archive_reports/2006/)

**Abstract**

In 2005, a new phase in the study of bead technology began at Çatalhöyük (see previous archive report for 2005). Despite research on the beads in previous years (Hamilton 2005; Jackson 2005), there was until 2006 no digital database of personal ornaments. With the help of a Society of Antiquaries Minor Research Grant (see Acknowledgements), the summer of 2006 was spent in creating a database of ornaments. All stone ornaments housed at Çatalhöyük, including those excavated in 2006, were recorded (some 4500 artefacts). Databases of the bone, clay, shell, glass and metal beads housed at Çatalhöyük were also begun, with many of these artefacts recorded; however, this will be completed in 2007. Considerable progress was made on the bone beads by Rebecca Daly (Stanford University). All clay, shell and bone beads from the BACH area were recorded, and many from other areas as well. As part of the recording, several hundred beads and related items were scanned at high resolutions so as to create a database of images.

**Özet**

2005 sezonunda, Çatalhöyük'deki boncuk teknolojisi üzerine yapılan çalışmayla ilgili yeni bir evre başladı (2005 Arşiv Raporu'na bakınız). Daha önceki yıllarda boncuklar üzerine yapılmış olan araştırmaya rağmen (Hamilton 2005, Jackson 2005), 2006 sezonuna kadar kişisel süslere ait bir veri tabanı yoktu. Antiquaries Topluluğu Küçük Araştırma Bursu sayesinde, 2006 sezonunda kişisel süsler için bir veri tabanı hazırlandı. Çatalhöyük'de bulunan ve 2006 malzemesinin de dahil olduğu tüm taş süslerin kaydı yapıldı (4500 buluntu). Ayrıca kemik, kil, kabuk, cam ve metal boncukların da veri tabanı çalışması başlatılarak, buluntuların çoğu kaydedildi (Bu çalışma 2007 sezonunda tamamlanacak). Kemik boncuklar üzerinde Stanford Üniversitesi'nden Rebecca Daly tarafından yürütülen çalışma hızlı bir şekilde devam etti. BACH ve diğer alanlarda bulunan kil, kabuk ve kemik boncukların tümü kaydedildi. Kayıt sistemine ek olarak bir fotoğraf veri tabanı oluşturmak için, yüzlerce boncuk ve ilişkili malzeme yüksek çözünürlükte scan edildi.

Remaining ornaments not housed at Çatalhöyük are in the Konya Museum and a study trip to Konya is planned in the coming year. It is expected that by the end of the 2007 season, we will have in hand a comprehensive database of all personal ornaments excavated at this site.

In addition to creating the basic database, a main goal of the summer was accurate identification of the range of materials used in beadmaking (see further discussion below). As part of the work, extensive discussions were held with geology and petrology specialists from Middle East Technical University (Asuman Turkmenoglu,

Vedat Toprak, Cemal Goncuoglu) and University of Oxford (Chris Doherty). This proved extremely fruitful and collaborative research is planned with all of these scholars.

Many investigations remain to be conducted, so at this stage it is only possible to make some very preliminary and quite general observations about a number of research themes which form the centre of the ornament studies (see below). Among these prerequisite investigations are (1) full study of relevant rock and mineral sources, both near Çatalhöyük (eg, river pebbles, limestone and travertine rocks from the local area) and at greater distances; (2) confirmation of the ranges of materials via more sensitive mineral-chemical testing techniques; (3) confirmation in particular of the turquoise identifications (eg, odontolite can resemble turquoise); (4) analysis of the heavy residues for evidence of beadmaking debitage; (5) analysis of artefacts used in manufacture of ornaments and other small stone items.

With these caveats firmly in mind, we can point to some interesting questions already raised by the analysis:

### **(1) Materials and Technology**

A key element of the research on stone ornaments is identification of materials used in making beads. About 20 different rock types appear to have been the focus of stone bead production at Çatalhöyük. Most are soft stones, such as marble and phyllite, schist, talcschist (steatite/soapstone), chlorite schist, and other materials. A collection of geological samples from the site and surrounding areas was also analyzed, for comparison to the materials found in the beads as part of a wider effort to identify local vs. imported ornament materials. Tests used in identifying materials included evaluations of structure, texture, colour, lustre, transparency, hardness, acid tests (HCl) and investigation of crystals visible at 10x.

Broadly, the results were comparable to those of Jackson (Jackson 2005), with a number of nuances and additional materials emerging from the analysis. About 60 fragments (of beads, pre-forms and debitage) were exported to the UK for mineral-chemical characterization studies (XRF, XRD, microprobe). About 45 geological samples from on or near the site were likewise exported (see Acknowledgements).

Analysis of the manufacturing technology of these various materials was begun by close study of the pre-forms (bead blanks, unfinished beads). All of these were pulled out for separate study as a means of beginning to identify chaînes opératoires. Some debitage was also studied but as other urgent tasks proved to be very large and time-consuming, much of this must wait to be done in 2007. Certainly, flakes, micro-flakes and other micro-artefacts from bead production are present (and in some places, abundant) at Çatalhöyük.

In contrast to other Neolithic beadmaking sites in the Near East, obsidian or flint micro-drills are extremely rare, seemingly not part of the Çatalhöyük chipped stone repertoire (Tristan Carter, personal communication). A key finding in 2006 was a partial solution of this question. Very small drills made of other materials were found and it is clear that these artefacts – which represent a previously undocumented form of lithic technology -- were involved in beadmaking. Details will be presented in a forthcoming publication. Investigations of ground stone artefacts that might have been

used in stone beadmaking are still in the exploratory stage, but such artefacts are known elsewhere (Wright and Garrard 2003; Wright 2005). It is likely that schists, pumice and very fine-grained sandstones played a role. Small abrasive artefacts of this kind are well documented at Çatalhöyük (Baysal and Wright 2005).

In all, though, the indications are that the beadmaking technologies at Çatalhöyük were very different from those seen in some other Neolithic sites of the same age (Wright and Garrard 2003).

## **(2) Local vs Imported Materials and Possible Trade Connections**

Some raw materials from which finished beads were made also occur in unmodified form in considerable amounts at Çatalhöyük (eg phyllite). However, a number of materials, well represented among finished beads, are not well represented in the geological samples (so far). These include pink marble and soapstone/steatite. Other materials – suspected of being imported from considerable distances – include turquoise (there is a large source in the Taurus, due south of Çatalhöyük), carnelian (source unknown) and possibly serpentinite (possibly from areas east of the Konya Plain). There is so far no evidence of raw unworked nodules of these materials in the geological samples. However, preforms testify to on-site manufacture of a wide range of rocks and minerals. Such preforms occur even in materials from which only a small percentage of beads were made, eg carnelian and turquoise amongst others. This suggests that importing of such materials would have been in the form of the raw material, which was then fashioned into beads on the site itself.

## **(3) Spatial (and Possibly Social) Variations**

Preliminary observations suggest that beadmaking and bead uses vary widely across the site and from house to house. This is not only a consequence of the two different eras in which Çatalhöyük was occupied (there are, of course, large differences between the Neolithic and Roman/Byzantine ornaments). Even within a single Neolithic house, there are striking variations in the ways beads were used.

Generally, the site as a whole has (so far) produced far fewer examples of preforms than of finished beads. That is, we have less evidence for stone bead production than we have of stone bead use. However, there are clear indications that some areas have more production evidence than others. Excavation in the 4040 Area in 2006 revealed a midden containing a great multitude of unfinished beads in many materials, suggesting the cleanup and dumping of a bead-making area that had been located somewhere nearby. Likewise, heavy residues hint at possible specialization in beadmaking by some households as opposed to others. Full analysis of the heavy residues (to begin in 2007) will be required before this question can be addressed.

Intriguing patterns appear to be emerging in terms of variations in access to different raw materials used for personal ornaments. There are definite differences within the Neolithic, from household to household, in ranges of materials used. Unusual materials that appear to be exotics acquired from greater distances appear to be more characteristic of some areas than others. As research on this issue is still at an early stage, it seems wise to refrain from discussing these patterns in greater depth. It is sufficient to say that, at least so far, the data suggest considerable diversity in the ways in which beads were used to highlight the social identities of individuals. The data may not lend themselves to simple interpretations about status, the body as an

instrument of social controls, or social rituals generally. In short, the ornament data are very complex and likely will admit of few easy answers.

#### **(4) Personal Ornaments and the Body**

In the course of the bead analysis, very fruitful discussions were held between the members of the Human Remains Team (Başak Boz, Lori Hager) and Team Beads. In particular, these discussions highlighted the incontrovertible fact that any analysis of personal ornamentation based on beads in burials is likely to be an extremely complex task – requiring the direct participation of the osteologists -- because of the taphonomy of burials at Çatalhöyük. That is, associations of ornaments with particular parts of a skeleton have to be scrutinized carefully by the osteologists themselves, because treatment of the dead at Çatalhöyük involved extreme manipulations of the bodies, as well as disturbances from successive or multiple burials. For example, in some cases, what might be simplistically interpreted as a ‘necklace’ may well be a head-dress. In other cases, it is not clear whether some ornaments were associated with the neck area or a leg (some burials are tightly flexed). Furthermore, it appears that some ornaments may have been part of burial ritual but not placed next to the skeleton. Consequently, we are in discussions about joint research on burial practices, which may yield some cautionary tales about grave good analysis. Already there are some unexpected elements of the occurrences of ornaments in graves, which will be discussed in forthcoming writings.

#### **Conclusion**

Analysis of stone bead technology will be integrated with studies on other ornaments and other stone technologies at Çatalhöyük (Baysal and Wright 2005; Wright and Baysal 2007, in preparation; Wright 2007, in preparation). Meanwhile, analysis of bead technology is now underway.

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**Micromorphology and microanalysis of architectural surface materials and residues: investigation of source materials and the life-cycle of buildings / Mikromorfoloji - Wendy Matthews (1), Joanne Wiles (2), & Matthew Almond (3)**

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**Summary**

The overall aim in this micro-analytical research is to compare the life-cycle and -history of individual buildings across the settlement in order to develop a more dynamic understanding of Neolithic household social, cultural and ecological practices and relationships. Microscopic analysis of finely-stratified sequences of architectural surfaces and residues is enabling investigation of traces of activities within individual households at the multiple timescales of c. everyday-life, seasonal to annual cycles, the life-course and longer term histories.

In the field season of 2006, recurring differences in the type, thickness and frequency of architectural surfaces on walls and floors in different rooms and areas within many buildings across the settlement and through time, suggest shared settlement-wide spatial and socio-cultural and political practices and conventions. One recurrent boundary, even in the extensive buildings excavated in the 4040 area, is between orange-brown plastered food-preparation and cooking-areas and raised whitened platforms for sitting/sleeping and burial.

The geometric wall paintings excavated in Building 49, like those in Building 1, were created early in the life-history of the building, and were rare, transient events, in contrast to the multiple layers of white silty clay plaster and white-wash on walls in the main room, and on plastered sculptures elsewhere, and which were much longer-lived features.

Microanalysis by Joanne Wiles is contributing to identification of the source materials and properties of architectural materials and includes SRS XRD, SEM EDX and IR microscopy.

There is evidence of increasing experimentation with architectural materials in the later levels.

**Özet**

Çatalhöyük’de yapılan mikro-analitik araştırmanın genel amacı, Neolitik ev halkının sosyal, kültürel ve ekolojik adet ve ilişkilerini daha dinamik bir şekilde anlamak için, yerleşim boyunca bulunan farklı binaların yaşam süreci ve zamanlarının karşılaştırılmasıdır. Mimari yüzey ve kalıntıların detaylı bir biçimde ortaya çıkartılan katman sıralamaları, günlük hayat, mevsimlik ve yıllık değişimler, hayat akışı ve uzunca yaşanmış dönemler gibi farklı evlerde birden

fazla zaman süreci içinde yapılan aktivite kalıntılarının araştırılmasına yardım eder.

2006 sezonunda, yerleşim ve zaman boyunca görülen birçok binanın farklı alan ve odalarında bulunan taban ve duvarları üzerindeki mimari yüzeylerin tipoloji, kalınlık ve sıklıklarında tekrar tekrar görülen farklılıklar, yerleşmenin geniş bir alanda paylaşım üzerine kurulduğunu ve sosyo-kültürel adetler yanında politik uygulamaları da olduğunu göstermektedir. 4040 alanında kazılan binalarda da görülen ve sıkça tekrarlanan bir başka sınırlama, portakal rengi-kahverengi arası bir renkte olan alçı ile sıvanmış yemek hazırlama ve pişirme alanları ile gömme, oturma ve uyuma için kullanılan yükseltilmiş, beyazımsı platformlar arasındadır.

Bina 1’de bulunmuş olan duvar resimlerine benzer olarak, Bina 49’da bulunan geometrik duvar resmi binanın erken dönemlerinde yapılmış olup, daha uzun bir yaşam sürecine ait olan ana odadaki kireçle yıkanmış duvarlar, birden fazla tabaka halinde uygulanmış olan beyaz alüvyonlu kil alçı ve başka yerlerdeki alçıdan yapılmış kabartmalardan farklı olarak kısa yaşanmış bir sürece aittir.

### **Issues and aims**

Giddens, following Heidegger, suggests that all forms of social action involve at least three intersecting ‘planes of temporality’: the rhythms of daily routine, the biography or lifecycle of the individual, and the inheritance or long *durée* of social institutions, which are constantly in tension (Giddens 1979, 198; Lane 1994, 198).

The aim in this line of enquiry is to investigate whether study of architectural surfaces and activity residues can provide new insight into the maze of spatial and temporal conventions identified in anthropological studies of households (Carsten and Hugh-Jones 1995), but which to date are often less tangible in archaeological studies of architectural space and fixtures and fittings (Bowser and Patton 2004). The aim is also to study biological and micro-residues within buildings in order to study continuity and change in Neolithic food, fuel and specialist activities and ecology and the temporal cycles and relationships associated with these.

The first objective is to study the origin and properties of surface materials and their role in defining and embodying specific settings, places, boundaries and events. The second is to analyse the nature and deposition of activity residues on these surfaces to investigate traces of activities during c. annual and longer term cycles and periods.

### **Methodology**

Microstratigraphic and micromorphological analyses in the field and in large resin-impregnated thin-sections enable examination of four independent lines of inquiry in the study of the life-history of buildings:

- the origin, manufacture and properties/affordances of building materials and surfaces on floors, platforms, and walls and comparison with samples of potential source materials
- the impact of activities and natural agencies on these surfaces, including impressions of mats and floor coverings



- the multiple biographies of the mineral, biological and artefactual micro-residues on surfaces through in-situ micro-contextual study of traces of the pre-depositional and depositional histories of each component, including: source material, abrasion, fragmentation and burning
- and on-going post-depositional histories (Matthews 2005a and b).

### **Field analysis and sampling**

The microstratigraphic field sections analysed and sampled in 2006 were selected from:

- major field-sections at the edge of the excavation areas
- temporary section profiles in plinths left during excavation for sampling
- microstratigraphic sequences exposed at the edge of Neolithic graves, post-retrieval pits, and other features or truncations that had been cut during the dismantling or closure of buildings at the end of their life-cycle, as well as animal burrows, particularly in buildings close to the surface.

Together, these provide a remarkable number of these ‘windows’ into almost all buildings at Çatalhöyük, often at less than 1-2 metre intervals across the floors, within the major spatial areas and topographic boundaries in buildings. Microstratigraphic sequences were cleaned with a sharp artist’s triangular palette-knife and digitally photographed.

### **Micromorphology**

27 small blocks of sediment from building floors and walls were cut from the section-profiles, for resin-impregnation and preparation of large-format thin-sections, in the Soil Micromorphology Laboratory, School of Human and Environmental Sciences, The University of Reading, 14 x 6.7 cm, 25-30 microns thick, in addition to the midden samples collected by Lisa-Marie Shillito.

These thin-sections will be analysed using a range of light and analytical microscopy techniques including optical polarising light microscopy, infra-red microscopy, SEM EDX and Image Analysis, by a team which includes Matthew Almond (Chemistry), Wendy Matthews (Archaeology), Lisa-Marie Shillito and Joanne Wiles (joint PhD Research Students in Chemistry and Archaeology). Integrated micromorphological, chemical and phytolith analysis of midden and coprolite samples are discussed in a separate Archive Report by Lisa-Marie Shillito on this web-site. Results from organic residue analyses of plasters, coprolites and midden samples in July and September 2006, in collaboration with Prof Richard Evershed, Dr Ian Bull and the NERC Life Sciences Organic Mass Spectrometry Facility, University of Bristol, are currently being analysed. Results from SRS XRD analyses of plasters and phytoliths at the CCLRC SRS facility at Daresbury are also currently being analysed.

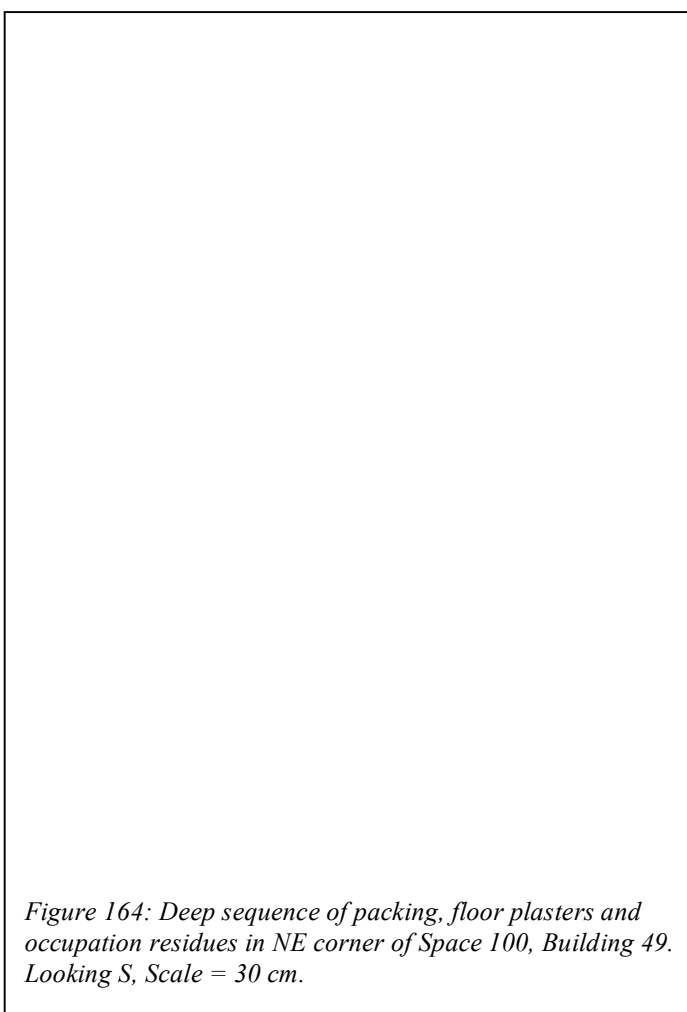
### **4040 Area**

#### ***Building 49***

The major focus of micromorphological field analysis and sampling in 2006 was on Building 49, in order to study the life-history and multiple-temporality of activities within this comparatively small, but elaborate building with burials, wall paintings and cattle horn-cores, for comparison to samples from larger adjacent buildings.

The extant sequence of floors suggest that Building 45 was a comparatively long-lived building, with more than c. 30cm of packing and floors in the NE corner of the building (Fig. 164).

Although the main internal room, Space 100, was comparatively small, 4.1 x 3.3m, boundaries were maintained by differences in the nature and topography of architectural surfaces, between food preparation and cooking areas in the south of this room and sitting/sleeping and burial platforms in the north. The floors around the ovens/hearths were rendered with orange-brown sandy loam plasters, and frequently coated in thin-lenses of oven rake-out (Fig. 165). By contrast, the raised NW platform was rendered with multiple applications of white silty clay plaster, which were kept remarkably free from accumulated residues, probably covered in mats or animal skins (Fig. 166). More variable floor



*Figure 164: Deep sequence of packing, floor plasters and occupation residues in NE corner of Space 100, Building 49. Looking S, Scale = 30 cm.*

sequences, in the NE corner (Fig.164) and centre of this room were sampled to investigate short and longer term variation in activities and boundaries. The partially excavated floors in the eastern room/area were plastered much less frequently than the main room, and with irregular thick layers of greyish-brown plasters and packing.

The floor surfaces in different rooms and areas of Building 49 reproduce very different temporalities. Artefacts, plant remains, bone and residues on the floors in the eastern room/area potentially represent a much wider and longer range of time-periods than those on the more frequently plastered platforms or walls. The periodicity of these surfaces and residues is being examined through statistical analysis of their type, thickness and frequency in micromorphological thin-sections, as some lenses are less than 0.1-5mm thick.



*Figure 165. Recurring sequence of orange-brown floor plasters and lenses of fuel rake-out, next to the oven in the SE of Space 100, Building 49, Area 4040. Prior to sampling 14003.01, looking E, scale = 30cm.*



*Figure 166. Recurring sequence of white plaster renders on sitting/sleeping/burial platform in NW of Space 100, Building 40, Area 4040. Looking N. Scale = 50cm.*

### **Wall plasters**

Differences and boundaries between the larger main room of Space 100, and eastern room/area, probably used for storage, were also reproduced in the materiality of wall plasters. All wall surfaces were sampled for microscopic analysis of the type, thickness and frequency of surface renders and residues, including pigments and soot, to study variation in the nature and intensity of indoor activities, at c. annual and intra-annual timescales (Matthews 2005a and b; forthcoming). Few or no plasters were applied to the walls of the eastern room/area. By contrast, hundreds of layers of white plasters, white-washes and soot were uncovered on the western wall of the main area. Microstratigraphic analysis of a section through these, exposed in an animal burrow, established that the c. three geometric wall-paintings uncovered on this wall (Eddisford this report), were applied very early in the life-history of the building (Fig. 167). This sequence of paintings was sealed by an extra thick layer of thick whitish silty clay, c. 3-5 mm thick, before white-washing and plastering was resumed (Fig. 167), suggesting, physical and perhaps symbolic concealing and separation of these paintings from more routine rendering of this room and platform area.

Following the Templeton seminars at Çatalhöyük, it could speculatively be proposed that the wall-paintings were part of a rare, comparatively short-lived episode of high-intensity imagistic practices early in the life-history of Building 49, whilst the hundreds of white-washes on the walls and bucrania elsewhere, and occasional traces on horn cores (7940), were part of more routine c. annual and intra-annual cycles of maintenance and renewal, on the basis of the marked differences in frequency, colour and elaboration (Whitehouse 2004; Mithen 2004). In Building 5, the walls were plastered in the order of annually, and white-washed c.3-9 times intra-annually, in the order of monthly to seasonally (Matthews 2005a). As in other buildings, the microstratigraphy of plasters highlights the transience and short-lived nature of wall-paintings in contrast to the repeatedly plastered sculptures (Matthews 2005b; Mellaart 1967).

The hundreds of layers of plaster on the southern wall of a burnt building in the west of 4040 Area were sampled (14174) in order to provide insight into the life-history and longevity of this building, in comparison to wall plasters of another burnt building in the South Area (Sample 14501), prior to excavation, and to develop methodologies for studying the periodicity of architectural rendering using image analysis and statistics, pioneered in a pilot study with Professor Margaret Oliver, Dr Sam Baxter, Dr Kevin White and Debbie Putt, Departments of Soil Science and Geography, The University of Reading.

Increasing experimentation with architectural materials in the later levels is suggested by development, for example, of a composite floor material of whitish silt loam and dark-grey gravel, in Space 292, Building 67 (Sample 13425.s3).



*Figure 167: Multiple layers of white plaster, white-wash and sequence of red ochre paintings early in the life history of Building 49, Space 100, W wall, Area 4040. Scale in cm and mm.*

### **South Area**

The exteriors of buildings were plastered much less frequently, highlighting the intensity of focus on the renewal and maintenance of building interiors over periods of c. 50-120 years. The exterior northern wall of Building 53, does not appear to have been plastered (Fig. 168), in contrast to the multiple layers of white plaster on the interior walls and surfaces of the E platform (Fig. 169), and thicker orange and brown plasters in the W. These sequences were sampled for microscopic analysis of differences in micro-environment, materials and traces of activities inside and outside buildings.

The sequence of wall plasters above the NW platform of Building 65 were sampled in order to examine the comparative sparsity of plasters in this apparently short-lived building, constructed partly on midden. This building had been prone to dramatic and repeated subsidence, despite shoring and rebuilding of walls and levelling of floors.

A very unusual sequence of deep organic and phytolith rich occupation deposits was sampled as (14501) to investigate the nature of activities in this building, and to establish whether they may differ from those that were more frequently encountered within buildings at Çatalhöyük (Fig. 170).



*Figure 168: Non-plastered exterior wall face and surfaces of Building 53, South Area. Looking S, scale = 30 cm. Sample 11379.04.*



*Figure 169: White-plastered interior wall face and platform surfaces in SE of Building 53, South Area. Looking S, scale = 30cm. Sample 12551.04.*



*Figure 170: Organic lenses in South Area. Looking E, scale = 20cm. Prior to sampling 14501.01-02.*

### **West Mound**

The floors and room fill of a Chalcolithic building on the West Mound were sampled in order to characterise architectural materials, traces of activities and the end-life of the building (Fig. 171), and to compare these to the nature and history of Neolithic buildings on the East Mound.

### **Conclusions**

Repeated patterns of internal differentiation and variation in the materiality of architectural surface renders and residues in many of the excavated buildings at Çatalhöyük is remarkable, and suggests settlement-wide spatial and temporal conventions and practices.



*Figure 171: Floor and wall plasters and room-fill in building, West Mound, Trench 6. Sample 13896.sl.*

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**Micromorphology, microanalysis and organic residues of middens / Mikromorfoloji, Mikroanaliz ve Çöplüklerden Elde Edilen Organik Kalıntılar - Lisa-Marie Shillito (The University of Reading.)**

**Abstract**

This work is being carried out as part of PhD research at the University of Reading that links in with larger projects which aim to investigate the seasonal, annual and longer-term cycles and changes at Çatalhöyük, through the analysis of finely stratified sequences and micro-artefactual remains within buildings and middens.

This research employs both chemical analysis, increasingly a major focus of archaeological investigation, and microanalytical techniques, to study a range of midden deposits at Çatalhöyük. Vibrational microspectroscopy and residue analysis are two areas of analytical chemistry, which can be used to answer archaeological questions, and which will be used here as complementary techniques to micromorphology. Results obtained from these combined analyses will be applied to archaeological questions including midden formation processes, seasonality of activities and resource use at Çatalhöyük.

**Özet**

Reading Üniversitesi'nde yapılan doktora araştırmasının bir parçası olan bu çalışma, diğer projelerle birleşerek çöplük ve binalar içinde bulunan mikro-buluntusal kalıntıları ve detaylı biçimdeki katman sıralamalarını analize ederek Çatalhöyük'de görülen mevsimlik, yıllık ve uzun süreli dönem ve değişikliklerin araştırılmasını amaçlamaktadır. Bu araştırma, arkeolojik incelemelerin en önemli metodlarından biri olan kimyasal analiz ve Çatalhöyük'deki bir sıra

çöplük birikintisini anlamaya yardım eden mikro-analitik tekniklerinden oluşur. Bu çalışma sırasında, analitik kimyanın iki önemli alanı olan vibrasyonel mikrospektroskopi ve kalıntı analizi mikromorfolojiye ek olarak kullanılacaktır. Birleşmiş olan bu analizlerden elde edilecek sonuçlar, Çatalhöyük’de kaynak kullanımı, mevsimlik aktiviteler ve çöplük oluşum yöntemleri gibi arkeolojik sorulara uygulanacaktır.

### **Aims**

Previous micromorphological studies at Çatalhöyük have revealed a complex sequence of activities within households, in particular the frequency of floor and wall plastering has allowed the study of continuity and changes of activities on a variety of timescales (Matthews 1998, 2006) The present study has expanded this work to study another of the finely stratified deposits at the site – that of the middens. Whereas the households at Çatalhöyük have been shown to be remarkably “clean”, the middens contain deposits that can tell us much about the daily activities of the inhabitants, including such deposits as hearth rake out and cooking waste. These midden deposits are again very finely stratified, with the possibility of recognising individual depositional events that produced each layer, and thus being able to identify sequences of activity. This gives us the opportunity to study cycles of discard and disposal, and patterns of cyclicity and seasonality in resource use and diet.

This work also continues the programme of microanalytical research in collaboration with the School of Chemistry at Reading that began in 2004. Analytical chemistry is a tool that is proven to be invaluable in providing extra detail and depth to the information that can be seen in thin section. Fourier Transform Infra Red (FT-IR) is being used on sub samples from micromorphology blocks to provide information of the major mineralogical components of each deposit, which in turn allows samples to be targeted for organic residue analysis. As well as the typical orangey colour that reveals the presence of coprolitic material, FT-IR, a relatively cheap and quick technique, can be used to show the presence of inorganic compounds that are associated with coprolite, such as phosphate minerals.

### **2006 season**

The main objective of the sampling this season was to analyse sequences of midden deposition in newly uncovered middens in the South and 4040 Areas in particular those which showed a distinct sequence of activities. Previous samples in this study have included earlier middens in the South Area as well as samples from the very latest levels in the TP Area, which in the long term of this project will allow comparisons to be made between different areas and levels.

A notable sequence that can be seen in the field is that of dark burnt material covered in a thick layer of ash containing orangey ?plaster with mineralised plant fragments. This has provided a unique opportunity to study what appears to be a repeated sequence of activities in different areas of the site, using a combination of highly effective techniques.

A second aim was to collect a larger range of samples for targeted residue analysis. Whilst collecting samples for micromorphological analysis, larger sub samples were taken from corresponding layers adjacent to the block samples of suspected coprolitic

material that will be analysed for coprostanol and other faecal biomarkers. Around 10 thin section samples and 25 bulk samples for residue analysis were collected. Further sub sampling of the blocks will be done in the lab in Reading for phytolith and FT-IR analysis which can be directly related to information that can be seen in thin section

## **Methods**

### **Micromorphology**

Many of the layers of deposits in the middens are incredibly fine, and impossible to distinguish in the field. The detailed sequence can however be seen clearly in thin section, as well as the precise depositional context of microartefacts. The technique of micromorphology is well established in soil science, and has been used successfully at Çatalhöyük. This year around 10 thin section samples were taken from 2 large middens. These will be prepared using standard techniques using the new Brot fixed-diamond oil-cooled grinder-polisher.

### **Organic residue analysis**

Sub samples for organic residue analysis will be analysed using facilities at Reading and the Organic Geochemistry Unit at Bristol. The project has been awarded a NERC OMLSF Award to carry out analysis on samples from the 2004 season at the LSMF centre in Bristol, and facilities are currently being set up at Reading to allow further samples to be analysed here. Samples, which contain residues, can be located in thin section using the detailed field notes and photographs. This is a unique opportunity to see how coprolitic material from different species appears in thin section. Though modern reference slides are available for different species, this method will allow us to see if degradation over time has any effect on the appearance of coprolitic material in thin section, for example the appearance of spherulites.

### **Phytoliths and mineralogy**

Sampling for phytoliths and mineralogy will be carried out in the lab in Reading. This sampling occurs before resin impregnation of the blocks. As with samples from the 2004 season, a high resolution photograph will be taken, and the exact location of sub samples will be marked, to allow a comparison between the thin section and the sub sample analyses. Samples are prepared for phytolith analysis using standard methods (Rosen 2006). Samples will also be prepared from coprolitic material. This continues an aim from the 2004 report – by combining phytolith and organic residue analysis, it may be possible to obtain a broad dietary spectrum for identified species, showing both the meat and plant aspects of the diet. Work on the 2004 samples has shown phytoliths can be successfully extracted from coprolitic material, though the concentration of the phytoliths has been too low for any inferences to be made about diet. For this reason much larger sub samples were collected this season.

Sub samples will also be analysed using FT-IR, which will reveal the major mineral components, for example whether the matrix material is calcite or quartz based, and if there are any phosphate minerals present.

A grant has been obtained to carry out detailed infra red work at the CCLRC Daresbury Laboratory. This facility uses a Synchrotron Radiation Source with an infra red microscope, which will allow analysis of incredibly small deposits and

components in situ, as opposed to the FT-IR at Reading, which is restricted to bulk samples.

### **Integrating techniques**

Integrating these techniques is proving highly successful. Targeting for phytoliths will allow the identification of components, which are often unclear in thin section either due to burning or obscuring by other components, and targeting for residue and mineralogical analyses will allow exact identification of deposits within thin sections. In addition the precise depositional context of these components can be seen, something which is missed when using these techniques by themselves.

Integrating these techniques will allow characterisation of the midden deposits to a very high degree, and thus add an extra dimension to identifying activities and resource use, and how these may change spatially and temporally.

### **Acknowledgements**

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## **The use of clay at Çatalhöyük - Chris Doherty (RLAHA, Oxford University)**

### **1. Introduction**

Catalhoyuk is well known for its abundance of clay-based materials, the reliance on clay being partly a consequence of the immediate scarcity of sizable stone at the site. Clay was extensively used for architectural elements (mudbricks, mouldings, daub, mortar and plaster), and in smaller volumes for a diverse array of artefacts including pottery, clay balls and geometric objects, figurines, and stamp seals.

This year saw the start of a new program of research at Catalhoyuk, looking at the use of clay across these artefact divisions. This aims to add to the current research by taking a geomaterials viewpoint. Instead of focusing on what the artefacts are made from, we first define the range of clay raw materials, which were available and then, ask how, when and why these were used.

The low topography of the Konya plain around Çatalhöyük contains a spectrum of clay-rich sediments. Although subtle, these clay variants do have a surface expression via their direct influence on drainage and the type of vegetation (or crops) they can support. Through agricultural and other activities, the early occupants of Çatalhöyük would have been made gradually aware of the availability and distribution of these different clays, and would have been able to successfully prospect the landscape for the types of clay needed for specific purposes.

This is not to say that suitability of the various clay deposits would have been fully understood from the outset. There are certain major transitions in the type of clay used within several of the artefact groups, and it is interesting to ask why these changes occur. Are these readjustments to the use of a functionally better clay? or do these transitions reflect changes in the availability of the raw materials?

## **2. Proposed work**

This year's visit provided both an introduction to the site and an opportunity to meet and discuss with many of the clay artefact specialists. From these discussions, and from general observations of the geology and topography of the site and its hinterland, an integrative study of use of clay resources at Çatalhöyük is proposed. Using two core themes, this study will examine the range of clays used, the reasons why specific clays may have been selected for certain applications, how and why this use distribution varies and what the consequences of these raw material changes may have been.

This research will develop of a comprehensive understanding of the clay-rich sediments available to the occupants of Çatalhöyük. In addition, the setting up of protocols for identifying and describing clay fabrics, and for recognising the extent to which the raw materials have been transformed, will help standardise the recording of common aspects of the various clay artefacts. The fine-grained nature of clays presents many difficulties for fabric description and interpretation. Standardisation facilitates comparisons across artefact groups (and with reference samples and experimentally produced fabrics). This also increases the opportunity for database analysis, such as identifying the larger scale patterns of clay use for the site as a whole.

The two proposed clay themes are 1) Transitions in mudbrick and plaster, and 2) The clay ball – cooking ware transition. These are outlined below.

## **3. Transitions in mudbrick and plaster use at Catalhoyuk**

### ***3.1 The question***

Changes in the style, composition and architecture of mudbrick at Çatalhöyük are seen to be mirrored by changes in the associated use of plaster (Fig. 172). An as yet unanswered question is why these changes took place? Was this simply a result of the exhaustion of mudbrick materials forcing changes in mudbrick composition which then necessitated a corresponding change in plaster use. Or was the choice of how to use mudbrick and plaster not primarily dependent on changing raw material availability? Current work on the organisation of mudbrick construction at Çatalhöyük should provide sufficient detail to address these points but leaves the larger question of what were the consequences of these changes in building raw materials, and how did they impact on broader activities at the site?

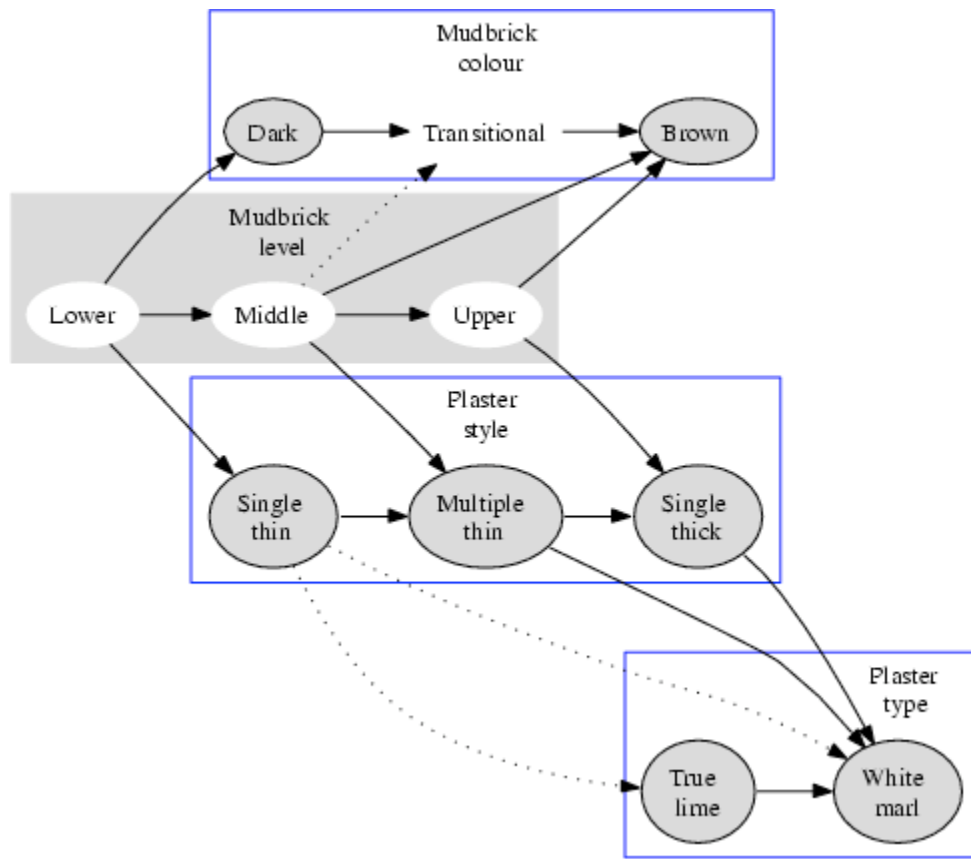


Figure 172: Observed changes in mudbrick composition (colour), plaster style and plaster materials at Çatalhöyük

To approach this, we need to develop a full understanding of mudbrick and plaster inter-relationships. This requires a comprehensive breakdown of what would have been involved at all of the stages of preparing for a new plastered building, acquiring and processing the mudbrick and plaster raw materials, brick-making, building, plaster application, and painting, as well as building maintenance. What would have been required for the successful construction of a house, both in terms of materials and people involved?

The first requirement is a basic model of how the various components and stages of construction of a Çatalhöyük house interact. With this in place we can then start to investigate the consequences of the changing use of mudbrick and plaster.

To begin with, let us consider the mudbrick construction and plaster separately.

### 3.2 Mudbricks

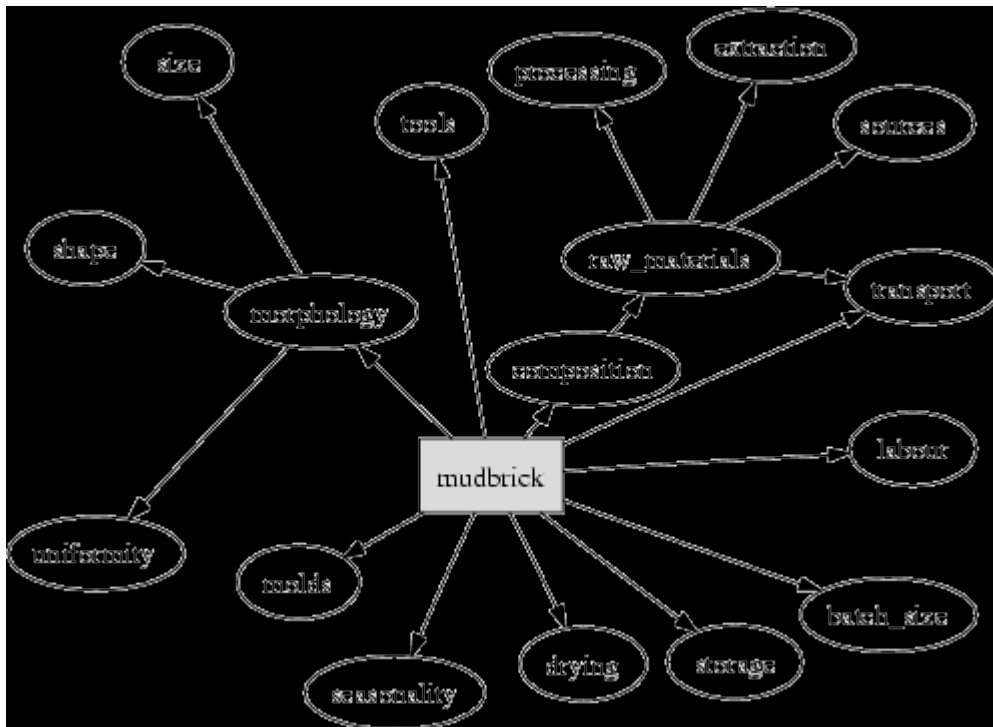


Figure 173: An outline of the main aspects of mudbrick construction.

On inspection, the making of a relatively simple mudbrick is seen not as a discrete activity, but one which involves a network of decisions and dependencies. The primary aim of this research is to identify the nature of this network in order to investigate the wider consequences of the observed transitions in mudbrick (and plaster).

#### 3.2.1 Mudbrick construction - some initial considerations

##### 1) How many bricks are required?

The size of the planned construction determines how many bricks will be needed and this will be the main scalar for all subsequent operations. As house sizes are relatively consistent, the main variation here is whether single or multiple houses are being built in the same phase, or whether construction is limited to smaller elements such as new or repaired walls.

##### 2) Where to dig?

The location of the brickearth pits influences the amount of labour needed to transport either the raw materials or finished bricks back to site, and will determine any storage requirements. The season over which material can be extracted may need to be limited if pits are in areas which flood. Equally, the transition from dark bricks (from low-lying alluvial areas) to "mineral-tempered" brown bricks (from better drained locations) would have expanded the season over the raw materials could be extracted.

##### 3) How many places to dig?

Are mudbrick raw materials taken from a single source or are mixed sources used? For example, are middens also being dug to temper the brickearth?

*4) Is a temporary camp needed?*

Are any of the mudbrick pits sufficiently remote to warrant the setting up of a temporary camp? If so what would be the material and labour requirements. This is probably less a requirement for digging, but more so for brick forming, drying and storing when these activities are taking place at the brickearth pits

*5) What to dig with?*

Digging tools would be required to break up and scoop out the brickearth. These would need to be made, borrowed or obtained. Wood or bone would have sufficient hardness and durability.

*6) Who to dig?*

Would specialist labour or attendees would be required? Here there are potential availability/seasonality conflicts with other (e.g. agricultural) activities.

*7) How many to dig?*

It is necessary to calculate the labour costs of winning sufficient clay to produce the average number of mudbricks for a Çatalhöyük house (for the different levels). Useful guides here include the data from the first experimental house report, and from regional ethnographic sources.

*8) Removal of spoil*

If old pits were being revisited these would probably require cleaning out before use. Where new pits were being dug the overburden (soil) would need digging out.

*9) Storage of spoil*

If overburden is not used for mudbrick making - is it used for anything else (e.g. backfill, or bunding for agricultural drainage/water-control) ? If so this would need transporting or storing.

*10) Where to store brickearth/clay*

Unless mudbricks are made immediately, the raw materials would need to be stored. It seems likely that some stockpiling would take place, especially for larger phases of construction, in which case there would be issues of where to store and whether or not cover would be needed. Storage is probably not a problem unless this material was being transported to the mound for brick-making, in which case there may have been competition with other activities (e.g. animal penning, crop processing etc.). Additionally, excess material could be stored from one season to another.

*11) How to store - e.g. covered/uncovered*

If storage is required is it necessary to cover? - this need only be a layer of overburden.

*12) Any cleaning up of raw materials after storage*

If stored, it might be necessary to clean up the dug clay before use, for example to remove any indurated material which might not be readily plasticised.

*13) Any clay mixing (dry)*



Is there any evidence of mixing of clays as dry ingredients? The obvious case here is where material left over from previous brick-making is added to a new batch.

*14) How long are bricks made before use?*

Because of their need to be dried, mudbricks have to be made some time in advance of construction. There are implications here for seasonality, i.e. the timing of mudbrick manufacture and construction with other activities. Also, what would be the storage requirements?

*15) Where to make bricks?*

Given the weight issue, it would be expected that brick-making took place as close as possible to the extraction site of the raw materials. The transition from the use of chaff-tempered alluvium to sandier material may have involved a significant change in the distance over which materials had to be transported. This needs to be better understood.

*16) Preparation of mixing floor*

The brick-making surface may need preparing. This might be simply to remove excess vegetation (especially if bricks are being made off-mound).

*17) Addition of temper*

Chaff temper is clearly added to the early dark-coloured bricks, but what evidence is there that the later sandier bricks are tempered and not simply natural sediments? It is critical that we have a full understanding of the patterns of temper use in Catalhoyuk mudbricks (and in all clay artefacts).

*18) Availability of temper*

Is there a seasonality issue with the availability of temper? Where plant material is used, is this agricultural waste (chaff)? and if so what seasonal ties are there ?

*19) Source of temper*

See 17 and 18) - we need this information to explore seasonality and labour requirements, especially the availability of agricultural waste for temper. What distances are involved? The main question here is whether crops are threshed in the field or at the mounds? And what is the current thinking about the distance to the fields? Are the people who using chaff temper also active in transporting this material to the brick-making site, or does chaff have to be procured by exchange?

*20) Preparation of temper*

Does temper require any processing before addition to the brick earth? This could include further pounding (chaff) or sieving (midden material), and would require both tools and labour. So again we need to know precisely the extent to which mudbricks are being tempered and how this changes from early to late levels.

*21) Storage of temper*

If temper requires storage (e.g. agricultural by-products) what are the requirements?

*22) Use of moulds*

Are moulds used in brick-making at Çatalhöyük? Is this known? If yes then we might expect some degree of repeated brick size across related courses. What about external

mould marks and internal foliations etc. Does the use of mould assist/speed up construction. What are the changes across the levels?

*23) Material for moulds*

If used, what are they made of and are these kept between seasons or made anew? This has implications for the overall tool budget and the labour invested in their making and maintenance.

*24) Water source*

A significant amount of water is required to make bricks. The source of water and its relationship to the mudbrick-making site has a major impact on labour requirements.

*25) Transport of water*

What is used to transport water? Presumably hides at first then pottery later?

*26) Water storage at the brick-making site*

Would there need to have been temporary storage of water at site - e.g. to store excess water when brick-making takes place over several days.

*27) Adding water*

How was water added? Were measures required (e.g. hides or pottery)?

*28) Treading*

Labour would be required to tread in temper. Note that the switch to non-tempered bricks (if some later bricks are shown to be non-tempered) would have removed this step.

*29) Adding temper*

How was temper added? Was a measure used?

*30) Filling moulds*

Labour would be required to fill and tread moulds and then to lift them. What limits the largest mould size? Is this the ability to carry the finished brick (labour limit) or the mechanical strength of the brick (material limit)?

*31) Drying*

Mudbricks would need to be dried for x days. This would tie up space for this duration. Labour requirements would involve periodic turning of the bricks to ensure even drying. Ethnographic and modern adobe sources are needed to suggest a value for x, and this will be tested when building the new experimental houses.

*32) Dressing*

Slight dressing of the bricks might be required, to present cleaner faces for tying in and for mortar adhesion.

*33) Stacking*

This depends on the organisation of construction, i.e. whether mudbricks are made in batches and stored until needed, or whether construction proceeds as batches of mudbrick are made and immediately brought to site when dry.

#### *34) Covering*

Stored mudbricks might need covering, especially if there is any carry-over between seasons.

#### *34) Container/basket for carrying*

Some kind of container or hod would be required here. Materials would be needed for new tools unless these are general purpose items brought into service, or borrowed.

#### *35) Transport to site*

How are these bricks brought to site - singly or in batches. A major consideration here is the size of the brick. This changes considerably and includes some very large forms.

### **3.3 Plaster**

Figure 174 outlines the main requirements for producing a suitable plaster at Çatalhöyük. Again, for clarity, only the main relationships are shown. Note that this summary diagram is more complex than the corresponding one for mudbricks (Fig.173) as plaster is used in a wider variety of ways.

As plaster is more complicated than mudbrick it is useful here to define this material and its use at Çatalhöyük.

#### **3.3.1 What is plaster?**

Plaster is a fine-textured mouldable material used mainly to form final layers on walls and floors, and is also for sculptured elements. There are three plaster types based on the raw materials used. Lime plaster has an active cementing agent derived from burnt (calcined) limestone and is hard setting. Gypsum plaster (Plaster of Paris) sets to a weaker product as the burnt gypsum takes up water during setting. Earthen plaster is simply based on dried mud and lacks any true cement component.

#### **3.3.2 What types of plaster are in use at Çatalhöyük?**

Çatalhöyük has two plaster types in use. True lime plaster is only present in the very early layers, and the bulk of the material from then on earthen plaster. However, the latter is an unusual variant, being based on a very pure white calcareous mud (marl). This is subsequently known as marl plaster. The nature and period of the transition from lime to marl plaster still needs better definition. As yet there is no evidence for gypsum plaster although small caches of gypsum crystals are found.

#### **3.3.3 What are the differences between lime and marl-based plaster production?**

The big difference here is that lime plaster requires a considerable amount of fuel for its production, whereas marl plaster is simply involves mixing marl (clay) with water immediately prior to use. The high temperature and long firing time required for lime burning may have resulted in the scorching and the formation of small amounts of slag or clinker. If found, this would represent primary evidence for lime-burning at the site.

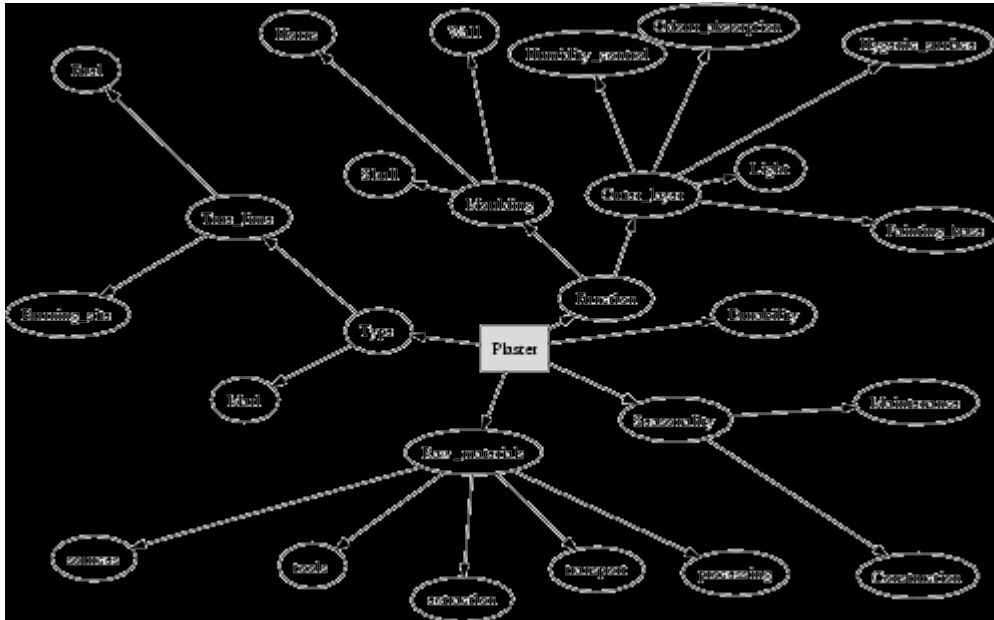


Figure 174: The main requirements for producing a suitable plaster at Çatalhöyük

### 3.3.4 What are the different properties afforded by these two plaster types?

Lime plaster sets to give a hard and waterproof surface, which is durable. By contrast, marl plastered surfaces are soft and easily weakened by contact with water. Both plaster types have mild antiseptic properties due to the alkaline nature of their surfaces. Marl plasters should have some capacity to absorb (and so neutralise) odours etc.

### 3.3.5 What makes a plaster white?

The white colour afforded by lime and pure marl plasters is obviously a desirable characteristic, providing an ideal background for painting, as well as optimising the relatively low light levels inside the Çatalhöyük houses. Noticeable differences in whiteness are observed in the marl plasters, with the suggestion that better quality plasters are used for certain areas. What we need to ask understand here is just what makes a plaster white? How are these different quality plasters produced?

The main factors are:

- 1) The purity of the marl
- 2) The use of additives
- 3) The thickness of the applied layer (or distance to a darker substrate)
- 4) The method of application (rubbing/ burnishing)
- 5) The degree and rate of discolouration once applied

## 3.4 Stages in the production of plaster

Because lime plaster and marl plaster differ significantly in their production, it is useful to describe these separately.

### 3.4.1 Lime Plaster

The key stages of production are itemised as follows:

- 1) Obtaining hard limestone
- 2) Or obtaining shell - an alternative source of high purity calcium carbonate.
- 3) Selecting and preparing a site for lime-burning

- 4) Pit/trough construction
- 5) Other construction - maybe a simple stone cover
- 6) Crushing/breaking limestone (tools required)
- 7) Obtaining and preparing sufficient fuel for a lengthy lime burn (greater than 5 hours)
- 8) Burning the lime.
- 9) Dismantling the firing structure when cool.
- 10) Separating usable lime from ash, unburnt limestone and burnt sediment-clinker aggregates.
- 11) Removing waste to midden or dump.
- 12) Make or obtain container for lime storage.
- 13) Make or obtain container for slaking lime.
- 14) Obtain, prepare and store filler for lime plaster if needed.
- 15) Obtain, prepare and store organic additive for lime plaster if needed.
- 16) Make or obtain container for mixing lime plaster.
- 17) Repeat as curing time of plaster limits maximum workable batch size.

#### **3.4.2 Marl Plaster**

Marl plaster is a simpler material than lime plaster as it does not require any firing. The key stages in acquisition and processing are:

- 1) Locating suitable raw materials.
- 2) Tools for extracting the marl.
- 3) Obtaining/making container for collecting and transporting marl.
- 4) Cleaning out old marl pit before new extraction.
- 5) Cleaning materials (e.g. reed brush).
- 6) Extracting the raw material.
- 7) Transporting marl back to site.
- 8) Storing marl - need for container, pit or cover.
- 9) Processing the marl - tools for crushing, reed sieve etc.
- 10) Procurement and processing of any inorganic additives required - addition of crushed limestone/lime/gypsum whitener.
- 11) Procurement and processing of any organic additives - e.g. oil, fat, plant extract, plant material etc. for use as a stabiliser (e.g. for basal/foundation layer).
- 12) Obtain, crush and add old plaster stripped from previous walls etc.
- 13) Make or obtain container for mixing marl plaster.
- 14) Repeat as curing time of plaster limits maximum workable batch size.

#### **3.5 Investigating mudbrick and plaster transitions**

With reference to this outline of mudbrick and plaster-making at Çatalhöyük, we can now start to ask what are the likely consequences of these observed transitions?

A useful approach is to compile total budgets representing the sum of all of the identified dependencies for each of points on the mudbrick and plaster networks. Comparing budgets before and after any of the key transitions allows the wider implications of these changes to be evaluated.

However, first we need to check that the necessary data is at hand. As this theme is being developed from a geomaterials viewpoint there are likely to be several new unknowns. To find out what we still need to know, it is first necessary to:

- 1) Formulate a series of questions (below) which address key aspects of the mudbrick and plaster transitions.
- 2) Determine to what extent these can currently be answered.
- 3) Use 1) and 2) to design a program of site recording and experimental and analytical testwork to provide the information which is still outstanding.

The following are some of the main questions that will be addressed.

### ***3.5.1. What is the nature of the mudbrick transition ?***

The general pattern is known (Fig. 172) but more detail is needed. It has to be possible to state i) when transitions occurred, ii) whether these were gradual or sharp, and iii) what the exact changes in materials were.

The information needed to address these questions is two-part:

- 1) The distribution of the different mudbricks across the levels.
- 2) The exact compositions of the different mudbrick types.

Compiling this information will involve additional site recording, a study of archive photography, and petrographic analysis. The basic aim is to provide a map of the different mudbrick types (i.e. as either chaff-tempered or sandy etc, but not at the detail of specific fabrics).

### ***3.5.2 How and when is temper used in Çatalhöyük mudbricks?***

The lower dark brown bricks are known to be chaff tempered, but there may also be some natural plant material present. Are any of the later bricks tempered? What about the use of midden material? If the sandy bricks are definitely shown to be untempered then a shift to these would have reduced the labour involved in mud-brick making, and would have freed this activity from the availability of agricultural waste/chaff.

Serena Love (this report) has started to cover much of this in her petrographic work on key mudbrick fabrics, so only limited further site observation will be needed. Some further petrography will be necessary in order to link trends in mudbrick temper with those recorded for pottery and clay balls. The main input here will be quantitative experimental work. We need to determine how much temper was used and how much effort must be expended on this stage of production for the different mudbrick types.

### ***3.5.3. What evidence is there for the use of moulds for mudbricks?***

Further observations are required on the uniformity of bricks within courses, and the presence of external mould marks and internal textures which are indicative of mould use. Experimental work is planned to test the relative efficiency of hand vs mold-made mudbricks, and to identify any diagnostic textures, which will allow these production methods to be identified in situ.

#### ***3.5.4 What and where are the mudbrick raw materials?***

It has to be possible to state this exactly as currently there is too much uncertainty. We have to know this for the construction of the new experimental houses. What needs to be determined here is the complete range of materials in use and their distribution on the ground. This will involve a program of site inspection, fieldwalking/geological survey, map/literature studies an examination of both previous core material and new sediment cores from around the site.

#### ***3.5.4 When was true lime plaster used and what was the nature of the transition to marl plaster?***

Micromorphology has unequivocally demonstrated the presence of true lime plaster in the lower levels, but the extent of it's use is not known. Some early plasters were recorded during excavation as being "very hard" and are taken to be lime plaster but, this interpretation is not secure (groundwater carbonation of marl plaster would also give a hard substrate, and the required groundwater condition might have originally persisted at these lower levels). Where possible site inspection and petrographic analysis will be undertaken to map out the true lime/marl plaster boundary. Understanding this transition from the use of true lime to marl plaster is absolutely critical. For example, is it valid to suggest that a prime reason for site selection was the availability of marl plaster if this was not the type of plaster actually used in the early phase?

#### ***3.5.5 What is the range of marl plasters in terms of their "quality" (whiteness, fineness of texture etc)?***

One of the most conspicuous characteristics of the marl plaster is the range of quality, which is typically a combination of whiteness and fineness of texture. What we need to know is what constitutes the full range of marl plasters, and what is the basis behind these different expressions of quality.

For this we need to develop and trial a list of criteria by which "quality" can be systematically recorded. This will include:

- 1) Detailed site inspection and analysis to quantify "whiteness"(e.g. by non-destructive colourimetry or reflectometry using a hand-held scanner in situ).
- 2) Measurement of hardness, scratch-resistance (durability), water absorption, chemical analysis, micromorphology and qualitative mineralogy.
- 3) Replication work within the experimental houses – quantifying the effectiveness of different formulations and application methods.

#### ***3.5.6 What and where are the marl plaster raw materials?***

The marl plasters are derived from the abundant marl beds of the Konya basin, which extend under the site. These deposits show considerable variation and would give rise to plasters of subtly different appearance and properties. In trying to follow changes in plaster use and what this might have entailed, it is essential that we fully understand the available range of marl plasters and their distribution. For example, are there small localized deposits of ultra-pure marl which would give the best quality plasters? Or can such high quality/whiteness plasters only be achieved by processing?

Identifying the complete range of materials and their distribution on the ground will involve:

- 1) Extrapolation from geological and soil maps and reports.
- 2) Site inspection, fieldwalking/geological survey, examination of previous core material and new coring.
- 3) Ethnographic input.

***3.5.7 Are there any advantages or disadvantages of switching from chaff-tempered dark mudbricks to sandy brown ones in terms of how the bricks perform?***

The change from early chaff-tempered dark mudbricks to sandy untempered ones may well have changed certain aspects of the buildings performance. Most obvious here are aspects of thermal insulation/conductivity and humidity control. As well as having a direct influence on the buildings internal climate, such changes (if of sufficient magnitude) may have impacted on the durability of the plastered walls. For example, the plaster in current the experimental house exhibits areas of polygonal fracture indicating repeated swelling and shrinkage as a response to humidity and temperature fluctuations. Test work is required here to determine the thermal conductivities and moisture vapor absorption characteristic of the two main mudbrick formulations. This needs to be tested in situ within the experimental houses, and it is therefore essential that we get the mudbrick formulations correct. Towards this, lab tests can be made to determine these properties on scaled-down samples. The key measurements here would be density, thermal conductivity and permeability/porosity.

***3.5.8 Does the change in mudbrick composition actually demand a corresponding change in the plaster or the method of it's application?***

Differences in thermal expansion or porosity of the two basic types of mudbrick may influence the quality of the brick-plaster bond and may require different marl plaster formulations. Note that thermal expansion is likely to be greater on exterior/non-party walls, and it may be that different plaster formulations were actually required for different walls within the same building. One consideration here is the role of the foundation layer observed beneath the multi-layer plasters. Is this simply to provide a flat/smooth surface or does this (also) function to isolate thermal expansion of the brick from the plaster layer (to increase the survival of plaster/painting)?

Replication work is planned using different plasters and mudbricks to determine optimum combinations for appearance and durability, and to assess whether plaster adhesion is sensitive to mudbrick composition (and or shape).

***3.5.9 Are different marl plasters better suited to different areas of the house/different uses?***

This is partly addressed in the question of plaster quality and whiteness. Are walls intended for painting plastered with a formulation, which optimises paint adhesion? Do heavy-use areas utilise more durable plasters (maybe less white due to mixing with mud to increase flexibility?). An area of particular interest here is that around the immediate vicinity of hearth and ovens, as these are high stress areas exposed to repeated cycles of hot and cold, wet and dry. Is there any evidence for the use of special formulations here, e.g. maybe involving the addition of organic binders to



improve waterproofing? For platforms with burials, plaster quality is often seen to very high. Is this just for visual effect or does this plaster type have better (odour) adsorption or antiseptic characteristics.

For test work this basically boils down to: to what degree can the marl raw materials at Çatalhöyük be sourced and formulated to produce plasters with these desirable properties? This will be addressed by replication, using the second experimental house for in situ longer term/durability tests.

#### **4) The clay ball – cooking ware transition at Catalhoyuk**

##### ***4.1. The question***

At the early levels, clay balls, rather than pottery, were used for cooking. Ethnographic observations show that cooking with heated stone is quite efficient and can raise the temperature relatively quickly.

One possible limitation of this method is that cooking requires constant attention; it being necessary to rotate a progression of heated stones (or clay balls) through the cooking area. As each stone equilibrates it becomes thermally passive but adds to the total mass needed to be heated by the next stone. Because of the need to continuously replace and reheat the stones (or clay balls), it has been suggested that cooking in this way maybe better suited as a group rather than an individual task.

At these early levels pottery is present but is only used for storage. This typically has a rough chaff-tempered fabric which is wholly unsuited for cooking. At some point mineral “tempered” wares are introduced which are more durable. The arrival of these new fabrics is marked by a rapid decline in the use of clay balls.

One question which has been posed is: does social pressure, such as the demand to leave cooking unattended and to cook on an individual household basis, drive this change from clay balls to pottery? To phrase this in terms of materials we could ask: does the desire to cook with pottery initiate the improvement of pottery, leading to the use of mineral-tempered fabrics, which are suitable for cooking? Or is the switch from chaff-tempered to "mineral-tempered" clays in mudbrick construction responsible for the adoption of mineral-tempered pottery (which is then found to be suitable for cooking allowing clay balls to be abandoned)?

It's a chicken-and-egg thing. Which comes first, the intention to start cooking with pottery (leading to the adoption of more suitable fabrics) or the sudden availability of mineral-tempered clays? The latter would be the result of changes in mudbrick raw materials (Fig. 175), which trickles down to produce changes pottery, with desirable but maybe unintended improvements in pottery performance (e.g. suitability for cooking).

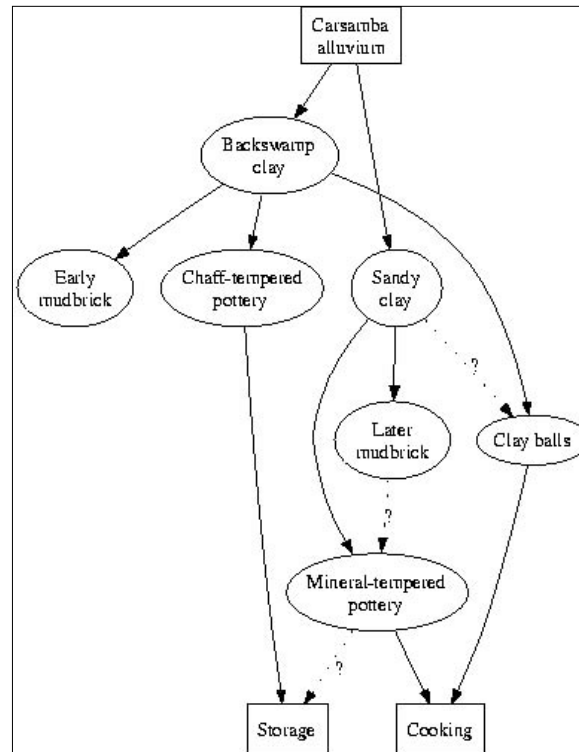


Figure 175: Changes in mudbrick raw materials

## 4.2 Investigating the material evidence behind the clay ball - cooking ware transition

The transition from clay balls to pottery may have been initiated by a desire to change the social costs of cooking, or may have been led by changes in the available raw materials (or elements of both). How can we begin to investigate the main agency behind this transition? What are we looking for?

Let us consider to two possibilities.

### 4.2.1. The need for cooking to become an individual rather than group activity

Questions that can be asked here include:

- a) Does this occur independently of changes in mudbrick composition? The modification of existing pottery raw materials, to produce a ware, which is suitable for cooking, need not follow any changes in mudbrick manufacture. It would be useful to check the relative timings of the changes in mudbricks against those for pottery (and, interestingly, there is a potential a link here between the two proposed themes; i.e. between changes in mudbrick/plaster use and the clay ball/cooking ware transition).
- b) What is the pattern of fabric variation in early cooking ware? A greater degree of variation in pottery fabrics may logically be expected if existing pottery technology is being modified for use as cooking ware. An initial period of experimentation would allow the combination of different clays and tempers to be tested until a suitable mix was arrived at. After this initial transition period, cooking ware fabrics may standardise. This should be looked for.

#### ***4.2.2. The clay ball-pottery transition is a consequence of changes in mudbrick raw materials***

There are two useful considerations:

- a) Timings are very important here as things need to take place in the correct order. How does the change in mudbrick fit in with the change from chaff-tempered (storage) to mineral-tempered pottery.
- b) Arguably there need not be any great experimentation with different clays and temper combinations if sandy alluvium, now available via mudbrick-making, is simply used as-is.

Again what is the degree of fabric variability present in early cooking ware?

#### ***4.3 Implications of this transition***

Regardless of the driving force behind the transition from clay balls to pottery, the people and material requirements for cooking would have changed significantly. How can we quantify these changes?

Essentially this involves experimental work to reproduce the various clay ball and pottery fabrics from suitable raw materials located around Çatalhöyük. Following successful replication, cooking trials need to be undertaken (preferably in the ovens/hearths of the experimental houses). This will enable budgets of material, fuel, labour, time etc. to be drawn up for both of these cooking methods. Inspection of the resulting datasets can then start to inform on the social implications of this change in cooking style.

It is not necessary, at this stage, to itemise all the various steps involved in cooking using these two methods, and much of this has already been covered by Sonya Atalay's thesis and the ethnographic work (this report). Instead, it is more useful here to outline some of the more general questions, which will need to be addressed early on.

#### ***4.4 Details - what do we need to know?***

- a) When does this transition from clay balls to cooking ware occur?
- b) What is the nature of this transition? (e.g. is it gradual or sharp?)
- c) How are fabrics distributed across the storage pottery/cooking pottery transition?
- d) Is there any evidence of early experimentation with pottery fabrics to develop usable cooking ware (e.g. expressed as early fabric variation, which later becomes more standardised?)
- e) Is there any corresponding patterns of variation in cooking ware forms?

- f) Is there any connection with the shift from the use of chaff-tempered backswamp clay (lower alluvium) to the sandy upper alluvium in mudbrick construction?
- g) To what degree are the same tempers used in clay balls and cooking wares? - does cooking ware inherit a knowledge of the use of heat-suitable tempers from clay balls?
- h) How happy are we that tempers are actually being used for either clay balls or pottery - as opposed to naturally sandy clays? This is very important, as differences in fabrics can be interpreted as, i) different household production (if we assign temper), or ii) opportunistic use of a variable clay (if the sand component is identified as a natural part of the clay).
- i) What are the progressive changes in pottery fabrics? - do these record a shift from storage to specific cooking pots?
- j) With the establishment of mineral "tempered" cooking pots - is there a corresponding decline in the use of chaff-tempered for storage/non-cooking wares? Or do two traditions co-exist? and if so, for how long?
- k) Is the sequence of material use outlined in figure 175 correct? Can we annotate these stages by level?
- l) Is pottery used as a container when cooking with clay balls (any residue analysis)? - if so, is this always the chaff-tempered type which is unsuitable for direct heating?
- m) Experimental work. We need to make a comparison of the effectiveness of stone and different clay ball fabrics used for cooking. These will be evaluated in terms of, time taken to transfer a fixed amount of heat, durability (the number of times clay ball or stone can be used), overall time taken for cooking, number of times clay balls need to be exchanged/reheated etc.
- n) Literature survey. What are the stated fabrics and form requirements for cooking vs storage pottery (see also ethnographic and contemporary pottery). To what extent do we see these followed in the Çatalhöyük early pottery - i.e. is there any progression towards a functionally ideal fabric? (back up with experimental work here).
- o) Fieldwork. What are the clay sources for both clay balls and pottery. What does this mean in terms of procurement etc.

## **SUPPORT TEAM REPORTS**

### **Conservation Report / Konservasyon - Duygu Camurcuoglu Cleere, Margrethe Felter**

Team: Liz Pye (\*IoA), Duygu Camurcuoglu Cleere (ex- IoA), Mags Felter (ex- IoA), Dominica D'arcangelo, Christie Pohl, Sarah Morton, Nancy Shippen (IoA)

\*Institute of Archaeology, University College London

#### **Abstract**

Site and artefacts conservation was successfully carried out during the 2006 excavation season in collaboration with conservation students from the Institute of Archaeology-University College London and excavation and laboratory teams. The main activities of the season were the excavation, lifting and treatment of a large number of faunal and human bones as well as the uncovering, lifting and the conservation of painted wall plasters. In addition to this, some architectural features and plastered walls were conserved as needed.

Research into particular on site conservation problems were also carried out in order to find the most suitable solutions. Another important achievement in the 2006 season was the construction of a chemical fume cupboard for the conservation laboratory. The availability of a fume cupboard on site also helped other teams who use chemicals for their analytical work. We were able build an uncomplicated and inexpensive structure using locally available materials locally.

#### **Özet**

2006 sezonunda Çatalhöyük' deki bina ve eser konservasyonu, İngiliz Arkeoloji Enstitüsü öğrencileri, uzmanlar ve arkeologların katkısıyla başarılı bir şekilde sürdürüldü. Bu sezonun ana aktiviteleri, çok sayıda hayvan ve insan kemiğinin yanısıra, duvar resimlerinin de kaldırma ve konservasyon işlemlerini kapsadı. Bu çalışmalara ek olarak, bazı arkeolojik öğeler ve sıvalı duvarların da konservasyonu yapıldı.

Alan konservasyonu ile ilgili problemlere uygun ve pratik çözümler bulmak için yapılan araştırmalar 2006 sezonunda da devam etti. Bu sezonun önemli başarılarından biri, konservasyon laboratuvarı için inşa edilen bir hava çekme dolabı idi. Alanda böyle bir ekipmanın bulunması sadece konservatörler için değil, analiz çalışmaları dolayısıyla devamlı olarak zararlı kimyasallar kullanan diğer uzmanlar için de sağlıklı bir çalışma ortamı yaratacaktır. Hava çekme dolabı sadece yerel malzemeler kullanılarak, ucuz ve basit bir şekilde inşa edilmiştir.

#### **Excavation and treatment of fragile and complex materials**

In the 2005 season, the conservation team was asked to look at the different strategies for revealing paint in excavated plaster walls. After undertaking some experimental work in the 4040 Area and the Building 17 (South Area), a methodological approach

was developed for the investigation of the paint layers on the plastered walls (See the Archive report 2005/Conservation, Wall plasters and pigments).



*Figure 176: Local team revealing the geometric painting on the N wall of Building 49.*

Following this methodology, in the 2006 season the paint layers on the selected walls of the 4040 Area were exposed by the local workers (Fig.176). As a result of the successful work achieved, a painted design containing geometrical shapes was revealed, mainly on the north wall of the Building 49. The west wall of the same building also contained some paint, but the condition of the wall and the painted layers was comparatively better on the north wall. Moreover, the documentation undertaken during the whole process indicated that the design on the north wall actually followed a pattern. After discussion the decision was therefore taken to lift a part of the wall where the design was the most visible, for further investigation and cleaning in the laboratory.

Prior to the lifting process, the part of the north wall with the geometrical shapes was faced up by applying 1.5 % Klucel G (Hydroxypropylcellulose) in distilled water with four layers of Japanese tissue (two finest and two medium thickness), two layers of open weave gauze and two layers of cotton scrim in order to protect the painted surface. After the each application, the individual layers were left to dry for 24 hrs (Fig.177).



*Figure 177: Facing the painting in preparation for lifting*

When the facing was completely dry, part of the wall was marked out as a square block around 7cm in thickness for cutting. In order to achieve this, firstly a square shaped wooden board was placed onto the surface of the wall and propped with a sand filled bucket as well as with sand bags to create a support before the back of the wall was started to be exposed (Fig.178). Since the mudbrick wall was very friable and ready to collapse, it was



*Figure 178: Support against the faced wall painting prior to cutting.*

decided to be consolidated as it was excavated. Using 50% Primal AC-33 (acrylic dispersion) in distilled water made the wall strong enough to withstand the lifting process. Following its back, the sides of the wall were excavated to create a square block (Fig.179). When the excavation was almost complete, the bucket and the sand bags were removed from the surface of the wall block and the square board was attached onto it by taping the edges of the facing around the block.



*Figure 179: The sides of the wall were excavated to create a square block*

Finally the base of the block was undercut and it was placed onto a large, padded wooden board to carry it to the conservation lab (Fig.180). Further conservation work on the wall painting will be undertaken in the 2007 season. We will also investigated the numerous layers of paint in sequence as it is difficult to achieve this work without taking any sample blocks through the wall when the painting is in situ. However, this problem will be discussed further in the 2007 season.



*Figure 180: the cut block was manoeuvred onto a padded wooden board to carry it to the conservation lab*

Another painted wall was found during the excavation of Building 59, 4040 Area (Fig.181). The bottom half of the eastern wall had a bright red painted line, which continued along the length of the wall. The red paint was in good condition and consisted of more layers behind. Since the building was exposed at the end of the

excavation season, the paint layer was consolidated and left in situ until the 2007 season.



*Figure 181: Consolidation of the red panel on the East wall of Building 59.*

As previous seasons, conservation work continued on architectural features as well as plastered walls. As buildings were exposed, the most vulnerable features such as walls, platforms, bins, ovens etc. were consolidated. Past treatments across the site were also assessed and renewed if necessary. One of the examples of this kind was the plaster basin in the northwest corner of the Building 17 (South Area). It was conserved in the 2004 season due to breakage occurring on the front part of the basin. Another part of the basin became detached during the 2006 season. A stronger join was necessary than could be achieved by adhesive and mortaring alone. For this reason, two holes (approx. 2cm in diameter) were drilled on the joining side of each fragment. Two fibreglass rods (approx. 6cm in length) were cut and adhered inside the holes by using a quick setting Epoxy resin. Once the rods were secured, the detached fragment was joined to the rest of the basin. Any gaps were filled with mortar and toned down with acrylic paints and soil.

### **Conservation of small finds**

Work on the variety of small finds discovered in the field (horn cores and other animal bones, human bones, ceramics, clay, metals, wall painting) was undertaken on the site throughout the 2006 season. Two important objects of the season, a ceramic vessel (possibly a basket) representing a modelled face impression and a small, complete ceramic vessel was conserved in order to reveal as much of the original shape as possible. A number of metal artefacts from Sille excavations were also conserved for the Konya Archaeological Museum.

An important achievement in the 2006 season was the construction of a chemical fume cupboard for the conservation lab. The wooden fume cupboard was designed by



the conservation team and made by a local carpenter. It was fitted with a large work surface (local marble), additional storage space for chemicals, and a \*simple kitchen hood (chrome) with lights. All materials used (particularly the chrome fume hood) were previously assessed in terms of their long term durability against the harsh chemicals. It was known that the Xylene (dimethyl benzene) would be the most harmful chemical, which would be used in the fume cupboard as well as occasional use of various acids. However the use of these chemicals is very limited. Therefore it was decided that the materials for the fume cupboard would be suitable for the type of work undertaken in the conservation lab.

\*We used Xylene, which has a very distinctive and harmful smell, to test the efficiency of the simple kitchen hood. The result was very successful.

The availability of an on site fume cupboard also helped the other teams who often need to use chemicals for their analytical work and it proved that it is possible to build complicated and expensive structures by using the basic materials that can be found locally.

### **Conservation issues**

During the season, we collaborated with the Human Remains team to determine the best way to lift and preserve friable human bones. Future advantages and disadvantages of bone consolidation were discussed. It was agreed that every burial may present different conditions and the necessary consolidation treatment would be undertaken depending on the discussion between the conservators and the human remains specialists. During the experimental work undertaken, it was observed that the facing of complete bones when they are stacked, was not the most successful lifting method. Therefore, after discussing the various options with the human remains team, it was decided that consolidation and facing would be trialled in sections on a relatively complete bone. Even though this involves the bone being lifted out in different pieces, it may be able to be reconstructed more soundly back in the lab. In some cases, consolidation may be the only conservation method employed. After receiving feedback from the human remains team on the state of partially consolidated bone once back in the lab, it was agreed that the rest of the bone should also be consolidated. This is an additional attempt to preserve the bone as much as possible.

### **Conservation Research Projects**

#### **Re-assessment of the condition of Building 5 (Nancy Shippen)**

A decision was made to continue monitoring and the evaluation of Building 5, on public display since 1999, that began in 2004 and 2005. Conditions were recorded and compared to the 2004 and 2005 reports and photographs. The objectives for a Building 5 assessment in 2006 were:

- Compare the condition to 2005 and 2004 conditions and record the changes
- Re-evaluate previous suggestions for maintenance, cleaning and access
- Assess areas of recent damage and investigate possible cause and prevention

- Have new photographs taken of the building, especially of walls where no photographs are found or new damage has occurred

There was obvious damage since 2005, near the ladder area of wall F.224, where a section of the wall had collapsed, which was subsequently repaired by Duygu Cleere. A preliminary examination of the building showed a worsening of delamination of the plaster on wall F.224, an increase of crumbling on the edges of the bins in Space 157, and widening of cracks that were repaired in previous years. Also, although the building had been cleaned at the end of the previous season and the beginning of this season, the area quickly filled with dirt and debris from visitors.

***Previous assessment categories established in the 2004 evaluation are:***

- Collapse – falling/breaking down of an area
- Undercutting – erosion visible at the base
- Crack – partial breakage
- Delamination – loss of cohesion between plaster layers
- Water damage – gullies or channels from water
- Runnels – marks left by water infiltration
- Animal activity/burrowing – digging of holes by a variety of small animals resulting in the removal of soil and undermining of walls
- Other animal activity – dead animals in pits or corners

Evidence of these categories of deterioration is marked on photographs taken in 2004 with additions made in the 2005 assessment. Also in 2005, a chart was compiled comparing the 2004 and the 2005 conditions (Table 61). The chart shows the addition of 2006 conditions:

In addition to the cleaning of the interior of Building 5, the drains around the tent, particularly under the grates at the doors, were cleaned, but should be cleared each year. It is important to ensure that the vents of the tent are opened at the beginning of the season to dry out the building. This year, once the vents were opened, and the building was allowed to dry out, it was noticeably less damp in both smell and touch.

The walls as well as the architectural features in Building 5 should be assessed every year and the conservation should take place if necessary. In the 2006 season, the delaminating plaster on the wall F.228 (Space 154) and the crumbling areas on the bins (Space 157) was consolidated by using 50% Primal AC-33 (acrylic dispersion) in distilled water.

Wall leaning measurements were taken and the walls do not appear to have shifted. However, comparing the measurements of walls F.229, F.230, and F.231 with the measurements taken in 2001, 2004 and 2005, previous measurements are unclear, and there is a need for a better system. An additional problem is that there are two missing targets on wall F.230.

New photos were taken of Building 5, especially of walls previously not taken, as well as areas of further damage and deterioration. Additionally, photos were taken of each assessment category to ensure greater clarity of the possible problems and their assessment from year to year.

Further suggestions include examining the sandbags to evaluate if they need to be replaced, as well as possible damage to the tent textile under the exterior sandbags. As recommended in 2005, monitoring of relative humidity and temperature would give a greater understanding of the conditions of Building 5 and its conservation.

**CONDITION ASSESSMENT OF CATALHOYUK BUILDING 5: 2004, 2005, 2006**

	<b><u>2004 Issues:</u></b>	<b><u>2005 Issues (in addition to those in 2004):</u></b>	<b><u>2006 Issues (in addition to those in 2004-5):</u></b>
<b>Wall 224_Space 154_South:</b>	Plaster Delamination Crumbling Areas/Selected Cracks	Above the number 8 in Building 5, some soil has eroded away and remnants of this are visible on the floor. This will be a new category on the condition survey key and will be represented by black. Animal Activity Multiple Cracks Area Salt Efflorescence	Collapse of ladder area (below and right of the number 8), repaired, reattached with mortar and HMG cellulose nitrate Accumulation of crumbled material at the base Additional Crumbling Areas Animal Activity Multiple Cracks Area Plaster Delamination is worse than in previous years, pieces of plaster flaking onto the floor, color change (either blackened charcoal layer or result of possible water damage) Are the sandbags, although supporting the wall, diverting water onto the wall causing damage?
<b>Wall 224_Space 157_South:</b>	Plaster Delamination Multiple Cracks Area Crumbling Areas/Selected Cracks	Crumbling Areas/Selected Cracks Animal Activity Salt Efflorescence	Additional Animal Activity Additional Crumbling Areas Additional Salt Efflorescence Plaster Delamination
<b>Wall 224_Space 155_South:</b>	Crumbling Areas/Selected Cracks Salt Efflorescence Animal Activity Loss of Base Material	Additional Animal Activity Other Damage/Source Unknown (Wall has eroded away here more so than the rest of the wall)	Additional Salt Efflorescence Additional Loss of Base Material Plaster Delamination (old plaster layer)

*Table 61: Condition chart of Building 5 by year*

## **Preventing the rapid drying of the human remains (Dominica D'arcangelo, Christie Pohl)**

Another major challenge with the on-site excavation and lifting of human remains is the fact that the bones dry out very quickly once exposed. This means that when bones are left over night and on the weekly day off, there is a prolonged period during which moisture is rapidly lost and the condition of the bone deteriorates extremely quickly. Currently, unfinished burials and burial pits are covered with woven plastic sand bags, but these are not slowing down the drying process since they allow for significant air flow underneath. In order to slow the drying process of both the bones and the surrounding soil matrix, there has been some discussion regarding a more effective method of covering bones when they have to be left for a period during excavation. One method that conservators would like to experiment with and the required materials are described below:

Gortex- This material is typically used for reshaping archaeological leather and textile objects and can keep the environment around a covered object humidified. With the exposed human remains on site, one idea would be to cover the area with a layer of Gortex (smooth side facing the bones). A damp piece of blotting paper would be placed on top of the Gortex (not in direct contact with the bones). It serves as a source of moisture. The Gortex and blotting paper layers should then be covered with a sheet of polythene that could be weighted down with sand bags or “sand sausages.” This method should successfully create a humidified microclimate or tent that protects the bones during the off-period while slowing down the drying out process (Fig. 182).



*Figure 182: A method employed to prevent rapid hydration of human remains in the field*

Once these materials are collected, an on-site covering kit will be created for the human remains team to use on the site. This will allow them to use this method when they are finished working for the day or over the day off. The conservation team is currently investigating the following materials in Turkey.

- Polythene sheeting
- Gortex
- Blotting paper
- Metal sheets in different sizes for lifting
- Building Sand

Until a supply of Gortex and blotting paper is obtained, polythene bags can be weighted down with several sand bags. In this case, the area around the bones may be sprayed with a fine mist of water before being covered.

***Condition Assessment of the Human Remains (Dominica D'arcangelo, Christie Pohl)***

As it was discussed during the 2005 season, there is a concern within the human remains team at Çatalhöyük that the collection of approximately 300 skeletons and skeleton fragments is at risk due to poor storage conditions. The current situation was discussed with the human remains team and was agreed that a condition assessment of the human remains stored on site should be completed to help determine their current condition and packaging needs.

There are several unknowns that make the recommendations for future action difficult. For example, there is a possibility that grant money will be obtained in the future to address the storage issues. This would provide a budget for the development of a bespoke storage solution. It is also possible that there will not be money available in the near future for a significant revamp of the storage conditions. In this case, a low budget, straightforward solution would be the best option for the team. The results of this condition assessment will also serve as a benchmark and reference for assessing the condition of the sampled skeletons in the future.

**Methodology**

In order to make the most efficient use of time in assessing the immediate storage and packaging needs of the human remains collection, conservators decided to randomly sample a selection of the collection. The boxes within each randomly selected crate contained either bones from one skeleton or in some cases several skeletons. These were evaluated and the following information captured for each:

- Excavation year
- Crate #
- Box #
- Burial Feature #
- Skeleton #
- Description of type of bones
- Condition Rating
- Whether consolidation is possible and/or recommended
- Whether re-packaging is necessary
- Additional comments on the condition and/or packaging issues

### Random sample

The random sample contained the following numbers of boxes examined from each year:

Year	Sample total
1996/1997	3
1996	5
1997	12
1998	5
1999	7
2000	7
2001	7
2002	8
2003	16
2004	10
2005	12
<b>Total</b>	<b>92</b>

Table 62: Random sample of storage boxes examined

### Condition rating

In order to set up a framework for recording condition information, the human remains team were asked to provide examples of bones which they considered to be in excellent, moderate and poor condition. After examining these bones in detail, four different categories of condition were established. The categories range from A to D, with A representing bones in very good condition and D representing bones in quite poor condition. Due to the fact that we were looking at several different bones and sometimes skeletons per box, it was difficult at times to give one letter rating for all of the bones. In these instances, we gave a double letter rating (e.g. A-B, B-C) to the box to represent the mixed condition of the bones.

### Results of Condition Survey

The following section details the results of the condition assessment. It draws conclusions regarding the following aspects of the collection:

- Current condition of the collection
- Remedial consolidation needs
- Bone reconstruction
- Packaging human remains inside boxes

### Current condition of collection

The table below (Table 63) outlines the results of the condition survey based on a random sample of 92 skeletons within the collection. Just under 40% of the collection falls within the 'C' category. Only 6% of the sample was categorised as being in 'C-D' or 'D' condition. As may be expected a very small percentage, 3% were in the best, or 'A' condition. The 'B' and 'B-C' condition categories both had 20% of the sample. In conclusion, the collection was thought to be in an overall stable condition. The collection does not appear to be rapidly deteriorating although there are some bones, which are in poor condition.

Year/	Condition	A	B	B-C	C	C-D	D	Total
1998	A	A-B	B	B-C	C	C-D	D	5
1999/		1	2	1	2	1		7

2000		1	1	3	2			<b>7</b>
2001		1	2	1	3			<b>7</b>
2002		1		2	5			<b>8</b>
2003		2		9	4		1	<b>16</b>
2004		1	2	1	6			<b>10</b>
2005	3				8	1		<b>12</b>
<b>Total</b>	<b>3</b>	<b>11</b>	<b>18</b>	<b>18</b>	<b>36</b>	<b>4</b>	<b>2</b>	<b>92</b>
<b>%</b>	<b>3%</b>	<b>12%</b>	<b>20%</b>	<b>20%</b>	<b>39%</b>	<b>4%</b>	<b>2%</b>	<b>100%</b>

Table 63: results of the condition survey based on a random sample of 92 skeletons

### Remedial conservation needs

Skeletons which are in good condition and looked as though long bones or diagnostic features of bones may benefit from consolidation were noted during the survey. Consolidation may actually help to preserve some of the bones, particularly ones that are frequently handled, from accelerated deterioration. Bones that are severely deteriorated were not thought to be good candidates for consolidation.

It should be noted that consolidation should not occur without careful consideration of the future use of the bone and its immediate needs. Consolidation is irreversible and will interfere with certain types of analytical testing (such as isotope analysis). Consolidation should not be undertaken without a detailed conversation between a conservator and a human remains specialist to consider the implications of this remedial treatment.

The following table 64 shows what proportion of the sample was shown to possibly benefit from remedial conservation through consolidation.

Year	Consolidation	
	No	Yes
1996/ 1997	3	
1996	2	3
1997	10	2
1998	4	1
1999	7	
2000	2	5
2001	4	3
2002	5	3
2003	9	7
2004	6	4
2005	10	2
<b>Total</b>	<b>62</b>	<b>30</b>
<b>%</b>	<b>67%</b>	<b>33%</b>

Table 64: Proportion of remedial conservation through consolidation.

### Partial Reconstruction

There were some cases where bones could potentially be reconstructed. This was usually the case with bones that were in good – fair condition (e.g. long bones) and the possibility of reconstruction was noted in the comments section of the assessment spreadsheet. Out of the 92 skeletons that were assessed, at least 7 have the potential for partial reconstruction; however, this should also be discussed and evaluated with one of the osteologists before any treatment commences. If any other remedial issues are noticed as the team studies the collection, this can be identified and discussed with a conservator.

### Packaging human remains inside boxes

The current packaging system for the human remains was evaluated on the basis of how the bones are bagged and how well they are padded. For example, the questions asked regarding the bagging include:

- Are the bones sealed in modern zip-sealing polythene bags?
- Are the bags labelled?
- Are they in appropriately sized bags?

It was found that some of the bags were old, discoloured and dirty. In some cases the bags were not the sort that seal at one end. This kind of bag may be dangerous to the bones if the bags are accidentally handled in a way to cause the bones to slip out. Some of the bags did not seem standardised and may not actually be made out of recommended conservation grade materials (e.g. polythene). There has not been a consistent approach to perforation of the bags.

Another facet of assessing the current packaging involved evaluating how much padding is present in the boxes and if this can be improved upon:

- Are the bones rubbing against each other?
- Is there tissue wrapped around the bones?
- Is there other padding between the bones?

It was found that in many cases the objects were well bagged, but not very well padded. Every box was found to require additional or a different sort of padding. Several boxes contained adequate bags and where there is only a need for padding, the survey says that the box does NOT require repackaging (Table 65).

Year	Repackaging required	
	No	Yes
1996/ 1997		3
1996	1	4
1997		12
1998		5
1999	4	3
2000	2	5
2001	1	6
2002	1	7
2003	10	6
2004		7
2005	6	6
<b>Total</b>	<b>25</b>	<b>67</b>
<b>%</b>	<b>27%</b>	<b>73%</b>

Table 65: Table summarising the number of boxes that require and do not require repackaging:



*Short-term recommendations for improving the packaging:*

After analysing the results from the condition assessment, several general observations and short-term recommendations for improving the packaging were devised. The following section explains some of the key points.

- Bones should be as visible as possible inside of the polythene bags into which they are placed.

This allows users to readily see the condition of the bone and decide if they actually need to remove it. It is not recommended to obscure a bone or a cluster of bones inside a sheet of tissue paper which is then inserted into a bag. This increases the risk of mechanical damage to bones since users need to unwrap the bones to examine them. Handlers will not always know what to expect when they unwrap the tissue and the bone will not necessarily be appropriately supported during this process.

- Bones should not be overcrowded in the boxes.

The current packaging and boxing system does not provide enough space for the bones as well as padding that they require. It was found that once a series of bones were removed from the box, it was very difficult to replace them back in the same position. The overcrowding situation is not helping the long-term protection of the human remains collection.

- There should be a standardised order to the packaging system.

At the moment, bones are randomly placed in the boxes, sometimes with the more delicate and significant bones (e.g. pelvis and skull) lying underneath several other bags. Standardizing the packing through an organized layering system will provide users with a guide for finding the bones that they would like to examine and study. A layering system would also provide a guide for repacking the bones within the boxes.

- Complete or mostly complete bones should be padded on one side within the bags:

These should be placed inside of an appropriately sized polythene bag with holes poked in them and a piece of jiffy foam (a fine polythene foamed sheet) behind the bone to give it support. Holes can be made with a standard hole punch. There should be at least four holes in the bag to help to eliminate the probability of condensation since the bones will each contain some moisture. Small fragments may also be stored like this, but these may not always require jiffy foam support. Also, extremely small fragments may not be able to be stored in a perforated bag.

***Ideas for a long-term storage solution***

Discussions about a shelving or cabinet for storing the human remains collection are on-going, but several suggestions can be made for creating a suitable system. The repackaged collection will expand and will eventually require more space. In addition, a storage space will have room for additional skeletons that are excavated and studied during future seasons. The ideal storage framework involves:

- Adjustable and enclosed metal shelving, allowing for several layers of boxes. Ideally, this would accommodate different sized boxes and maximize the storage space in the lab. Metal construction is preferred over wood, as there is the possibility of the wood cabinet or shelving off-gassing organic acids. This is not good for the long-term preservation of the bones. To reduce the levels of dust, a closed shelving

system is the best option. In addition a yearly maintenance programme should be established to control the level of dust within the storage area. Cost is a significant consideration with the shelving system and the strength and suitability of the wall in the human remains lab also needs to be evaluated.

Based on aspects of a storage regime developed and used at York Archaeological Trust in the UK, the following storage solutions are suggested:

- Each skeleton should be contained in its own individual, labelled archival quality box.

These should allow for each box to be pulled out by the handles and contain a lid. It should be clearly labelled on the outward facing surface so that researchers are fully aware of what it contains. The current boxes used for storage are not ideal due to the fact that they are constructed from plywood and these involve the same problem of off-gassing organic acids. Even disarticulated or truncated skeletons should be packed in their own box to facilitate any future handling or study. The crates that are currently being used to hold and stack the boxes are not ideal in terms of their shape and size and they do not have lids. Also, for more complete and larger skeletons, the length of these crates is too short. The longest femur length the box should accommodate is 50cm. Although the current crates are 49cm long, they have curved corners, so any tray inserted into the crates will necessarily be about 3-4cm shorter. It should be noted that the stacking arrangement is risky, especially where there are over 4 crates stacked on top of one another. Ideally, there should be various sized storage boxes.

- A larger version for the more complete Byzantine human remains. A request has been made to York Archaeological Trust to get their large box dimensions.
- A smaller version for the less complete and more fragmentary skeletons.  
L= 50 cm, W= 34.5 cm, H= 28 cm
- Skull boxes which can fit inside of the larger skeleton box are also recommended, L= 23 cm, W= 20 cm, 20 cm

One of the keys to the new and improved packaging system is to accommodate a variety of different sized bags containing fragments and to make these clear and easy to access.

To facilitate a standardized layering system, trays can be created to rest within the boxes that contain handles on the inside for lifting them in and out. 4 stilts in an array of sizes can be secured to the corners of the trays; this will allow for the trays to rest at different heights. Certain layers can also be divided into sections to keep long bones separate and in place.

This tray system is also flexible and can be adjusted and modified depending on the different spatial requirements of individual skeletons in the collection. An additional objective of this new packaging is to separate bones from the left and right side of the body, if possible, and label these clearly.

A trial of the proposed packaging regime was tested using readily available materials in the on site conservation lab. This mock-up included three trays that fit into the current crates and a skull box. Each tray was equipped with handles on the inside and one layer was fitted with corner stilts and a divider down the centre of the tray. The photographs below show the prototype trays (Fig.183 a,b,c). Even though the measurements of these crates are not ideal, they can house trays made out of conservation grade materials and this would be an improvement on the current packaging situation. It should be noted that the crates are made from an unknown plastic. If these become a long term storage material, further research should be done in regards to how they will degrade over time.



(a) Bottom tray layer



(b) Second tray layer



(c) Top tray layer with skull box

*Figure 183: Prototype storage boxes for human remains*

There is also a possibility of acquiring polythene boxes (Stewart boxes) for storing infant and/or juvenile skeletons. These could either be packed several to a crate or stored and stacked separately.

### **Recommendations for packing and future planning**

The availability and cost of a variety of packing materials are currently being researched. Some of these may be available locally and others may need to be ordered and sent from abroad. Funding for these materials will also need to be acquired for the suggested long-term storage solutions.

The following is a list of the materials that are being investigated in terms of availability and cost. They are all conservation grade materials which are used and readily available in the United Kingdom:

- Correx (possibly for creating trays inside of the boxes)
- Jiffy foam (fine polythene foamed sheet)
- Cardboard boxes (low-acid, archival quality) with lids and handles or cut-outs  
Approx. 50 cm x 35 x 30 for incomplete/fragmentary skeletons; pending feedback from YAT regarding dimensions of their larger sized boxes; 20cm x 20cm x 23cm for skulls
- Polythene bags in a variety of sizes
- Plastazote and acid-free tissue in bulk
- Cake-sized Stewart boxes for packing infant skeletons
- Cotton tape or a nylon tie material for making handles for the trays (if made at the site and not commercially). Cotton tape may present an issue with pests, so this should be considered.

### **Conclusions**

In conclusion, the first condition assessment of the bones stored in the human remains lab at Çatalhöyük has provided a benchmark for future monitoring. It has also provided enough information for conservators to draw some conclusions about the current storage conditions of the bones and make informed recommendations for future storage planning.

This condition assessment and report provide an early step in future planning for the storage of human remains. More detailed work regarding the construction of the shelving units, storage boxes and tray inserts will need to occur prior to finalising any system.

This report has highlighted some potential remedial conservation needs for the collection. It has been recommended that any interventive treatments are carried out in collaboration with the human remains specialists. A possible project may be to carry out some of the treatments that have been suggested. This could occur during the end of the 2006 season and could certainly be planned for 2007.

### **Investigation on the Mortars and Grouts used on the site (Sarah Morton)**

The initial aim of the project was to investigate the different recipes for mortars and grouts that have been used on the site since 1993 and the materials suitable for the consolidation of cracks in the walls of Building 5. However as the information was gathered, it became clear that the role of grouts and mortars became confusing in recent years and that no guidelines existed to regulate use on site. The other issue was the lack of documentation of work, which made it difficult to assess the longer-term properties of the materials applied. Below are the results of the experimental work undertaken on the variety of mortar and grout mixtures based on the previously used materials.

- Grouts and mortars are used on site for the repair and consolidation of earthen architecture and features. All the materials used are lime based mortars with fillers, however when for grouting they are referred to as grouts.

- Grouts are used to fill voids and re-establish continuity, the role of the mortar is to fill cracks and bond together the components of the wall at the surface.
- The hardness of the grout or mortar required will depend on the situation it is used in. The sand to filler/lime ratio can be increased to produce a harder material and decreased to make a softer one.
- Mixtures can be made up and stored dry but should not be wetted till required, constant re-wetting can affect the properties on drying. If a mixture in use becomes too dry more of the acrylic dispersion should be added, water should be avoided as it causes the material to become more friable
- Any work carried out on site should be documented in the conservation database and with photographs. The grout or mortar mixture used and the application method should be noted and, if possible, the result of the treatment once dry. This type of documentation can be used to assess how different materials respond in different situations and add to our understanding of the process.

### **GROUTS**

- Grouts should be made to a liquid consistency (like thick cream) and injected into cracks and gaps, cotton wool, or similar, can be used to dam cracks and prevent grout from running out once injected. If required a slightly stiffer grout can be prepared for application by hand.
- It is suggested three grout mixes are made up dry, any sand should be used but sieving through 0.5mm sieve will produce a smoother material that is easier to inject.

#### ***GROUT 1***

Breaks cleanly and does not crumble between fingers, suitable for use with large cracks

- 4 parts hydraulic lime
- 1 part glass microballoons
- 4 parts sand

#### ***GROUT 2***

Can be crumbled between fingers, suitable for use with smaller cracks and plaster detachment, if a very soft grout is required sand microballoon ratio can be altered to 1:4

- 3 parts hydraulic lime
- 2.5 parts sand
- 2.5 parts glass microballoons

#### ***GROUT 3***

Can be crumbled between fingers, suitable for use with smaller cracks, useful if access to glass microballoons is limited. Increasing sand ratio will make it suitable for use with larger cracks

- 2 parts hydraulic lime
- 3 parts soil from flotation tank
- 3 parts brown sand

- Prior to use, the amount of grout required should be made up with Primal AC-33 (acrylic dispersion) 10% v/v in distilled water. If making a large amount an electric mixture can be used, if a small amount is required hand whisking is recommended.

### **MORTARS**

- Mortars should be made to a fairly stiff consistency that can be applied to a crack using a small spatula.

- The colour of the sand added will effect the colour of the dried mortar, a lighter colour makes any colourwashing required easier. The sand should also produce a suitable smooth surface and be able to pass through a 1mm sieve. Currently the only suitable sand on site is a dark brown, if possible a suitable lighter sand should be sourced.
- White acrylic paint, up to 10% the amount of the lime, can be added to the wet mortar mix to create a lighter material once dry.
- It is suggested that two mortar mixes are made up dry

***MORTAR 1***

Breaks cleanly, suitable for use for grouted cracks and at risk areas

- 1 part hydraulic lime
- 3 parts brown sand

***MORTAR 2***

Breaks easily, suitable for small cracks and softer earthen features, recommended for use in place of lime/glass microballoon mix due to lack of availability of microballoons on site

- 1 part hydraulic lime
- 1 parts brown sand
- 1 part fine residue from the flotation tanks (1mm sieve)

- Prior to use, the amount of mortar required should be made up Primal AC-33 (acrylic dispersion) 10% v/v in distilled water. The mixture should be whisked or mixed with a spoon. At the right consistency the mortar should be easily formed into a ball. If mortar becomes too dry during use, more Primal should be added and thoroughly mixed in taking care to break up lumps.

- After the mortar is dry, it can be toned into the surrounding material using colourwashes of mud and water or acrylic pigments.

**Recommendations**

The testing of the mortars and grouts found that all the recipes were easier to prepare from dry pre mixed ingredients than to re-wet using either water or an acrylic dispersion. None of the materials tested were as difficult to use as the re-wetted mortar used on site or as friable when dry, therefore constant re-wetting should be avoided. The best results were gained with the brown sand (sieved 0.5mm). Ideally paler sand with similar properties would be used as this would be easier to colourwash; attempts to find a more suitable sand available locally should be made.

It was also found that the sand ratio of the mixes had an effect on the hardness of the dried mortar; the higher the ratio of sand the harder the mortar. If mortar and grout mixes are stored as dry mixes the ratio of sand to the other components can still be altered prior to wetting the mixture. This gives the scope for the mortar to be better matched to the material to which it is applied. However to be able to assess the performance and properties of grouts and mortars, better documentation and monitoring of work is required. Therefore, a method to document this type of treatment was developed. A set of images for the walls in Building 5 already existed for the condition survey. These were used as the base images which to add layers of information on in an Adobe Photoshop file. Each crack identified as causing concern in the 2006 survey, was marked on the image and given an individual number. A layer

of information documented any work carried out and the materials used, was then added giving a detailed record for each individual crack.

### **Other conservation projects - Duygu Camurcuoglu Cleere**

#### **Environmental Assessment of the Finds lab and the Experimental House**

We collected dataloggers, which had been placed in and outside the finds laboratory, as well as in the Experimental House in the 2005 season, in order to monitor the RH and the temperature levels for a year. We downloaded them and are currently assessing the results to evaluate the environmental conditions in those areas. In the mean time, new dataloggers were placed around the site, two in Building 5 and one in the South Shelter, in order to monitor the RH and the temperature levels in these areas for a year.

#### **Documentation of conservation**

The development of the conservation database has continued throughout the season as we collaborated with the Database team and achieved very efficient results. All artefacts were photographed before, during, after treatment and registered to the new image catalogue in order to be linked into the recently developed Çatalhöyük Conservation database.

#### **Reflexive Conservation**

We continued training the local women in the painstakingly slow and careful job of revealing paint layers on selected plastered walls in the 4040 Area. With experience and familiarity that the local team gained last year, they were able to work independently and seek for supervision when necessary.

As a part of the collaboration between the Çatalhöyük Research Project and Selcuk University, a series of specialist lectures were given to the Selcuk University students and the team leaders. The conservation team also took part in this project and gave a general introduction to Archaeological Conservation.

#### **Sourcing Conservation Materials**

At the beginning of the season, we undertook a complete inventory of all items in the lab. This will enable us to compile a list of most used items and to highlight materials which need to be ordered for the 2007 season. We have been acquiring a number of conservation materials locally and from Istanbul which proves to be more efficient both in terms of resources and transportation. Currently, we are investigating the availability of the conservation materials in Turkey, as a part of the human remains projects.

#### **Acknowledgements**

A big thank you to all team members who made 2006 a very successful season.

## **Finds System 2006 / Buluntular – Julie Cassidy**

### **Introduction**

The primary responsibility of the Finds Officer at Çatalhöyük is to supervise the daily processing of artefacts coming from site, and to control the dispersal of those finds to the relevant specialist for analysis, as well as to supervise the storage of the finds in a way which makes them accessible and stable for future study.

The excavation of a site is a destructive process, whereby the material and features are systematically removed from their context and replaced with written, drawn and photographic records. If the context of the artefact is lost, then its use as a tool to understand the site is also lost.

The main purpose of the post-excavation system is to preserve the material culture from the site in such a way that preserves its identity, condition and context in order that it can be studied and used to aid the interpretation of a site for many years to come. This requires the organised and accurate recording of all necessary artefact data, i.e., unit number, artefact material and description, area and year of excavation, onto a multifaceted and centralised database. This ensures that the location of each find can be easily accessed.

The usefulness of an artefact as an interpretive tool is also dependent on storage conditions. All artefacts on site are stored according to good museum standards as accepted in the UK. Continual condition assessment of all artefacts on a regular basis, and close co-operation with the conservation team on site, also ensure the continued stabilisation of artefacts throughout the life period of the project. It should be remembered at all times that, as Çatalhöyük is a renowned and internationally important site, the material being studied this year is likely to be required for study 100 years into the future by many different specialists. Our recording and storage methods should reflect this.

### **Özet**

Çatalhöyük’de buluntulardan sorumlu kişinin en baştaki görevi, alandan gelen malzemeyi günlük işlemlerden geçirmek, gerekli analiz için ilgili uzmanlara ulaştırmak ve malzemenin kolay bir şekilde ulaşılabildiği, çalışılması için buluntu deposunu organize etmektir.

Arkeolojik kazı, malzeme ve öğelerin sistematik bir şekilde orjinal kontektlerinden kaldırılıp, çizim, fotoğraf ve yazılı biçimde kayıt edildikleri yıkıcı bir işlemdir. Eğer bir buluntunun konteksti kaydedilmeden yok edilirse, arkeolojik açıdan verdiği bilgi de yok edilmiş olur.

Kazı sonrasında uygulanan sistematik kayıt ve depolama işleminin ana amacı, alandan gelen malzemenin niteliğini, fiziksel bütünlüğünü ve geldiği konteksti, uzmanlar ve öğrenciler tarafından çalışılabilmesi ve



daha uzun yıllar alanın yorumlanmasına yardım edebilmesi için korumaktır. Bu çalışma, tüm buluntu verilerinin organize edilmesini ve doğru bir biçimde kaydedilmesini gerektirir. Örneğin ünite numarası, malzeme tanımlaması, alan ve kazının yapıldığı yıl gibi bilgilerin merkezi bir veri tabanına girilmesi gibi. Bu tarz bir veri tabanı her buluntuya kolay bir şekilde ulaşılmasını sağlar.

Bir buluntunun arkeolojik yorumlamaya yardım edebilmesi için depolama koşullarının da uygun olması gerekir. Alandaki tüm buluntular, İngiltere müzelerinde onaylanmış standartlara göre depolanmaktadır. Buluntular üzerinde düzenli olarak yapılan durum değerlendirmeleri ve alandaki konservasyon ekibinin katkıları sayesinde buluntuların sağlam bir şekilde korunmaları sağlanmaktadır. Şunu hatırlamak gerekir ki, uluslararası bir üne sahip olan Çatalhöyük’de bulunan buluntular daha uzun yıllar bir çok farklı uzman tarafından çalışılacaktır. Bundan dolayı, kullandığımız kayıt ve depolama sistemi bu amaca hizmet etmelidir.

### **The 2006 season**

The 2006 season produced over 1200 ‘x’-finds (more commonly known as ‘small’ finds or ‘special’ finds), all of which get recorded individually, separate from the bulk items. The excavation of three large middens on site added to the usual large amount of bulk finds get washed and processed on a weekly basis with the help of women from nearby Kucukkoy village and students. This material is washed and bagged and distributed to the relevant specialist on site. Included in the large amount of finds recovered this year were; over 250 figurines, over 350 beads of various materials, over 126 bags of clay balls and over 25 crates of pottery.

All these need to be input into the database in order that specialists and researchers can easily find their required material.

In addition to this, the inception of the new integrated database (see IT Team, this report), meant that one of the major goals of the extended 2006 season was the data-cleaning process within the Access database, with the expectation that the finds database will eventually be accessible for people to research on the website.

During the present excavations, now in their 12th year, the finds system has seen a long list of finds officers, each with different specialisms and levels of experience. In turn, each has introduced slightly different recording systems and terminologies. This has resulted in a variation in the quality of artefact recording which makes a simple search for finds, both physically and on the database, more difficult than it should be. Therefore, the development of set artefact terminologies was foremost in the data cleaning strategy.

### **Database**

#### ***There are two main sections of the Finds database:***

The Finds Register records the location of all finds, whether that is a crate name and number, Konya Museum, or the shelves in the finds lab. In total, there are currently 1270 crates or locations. Each of these has a page on the database that lists the contents of that crate or location (Fig. 184).

The Finds Sheet records the x-finds as they come into the finds lab each day. This requires the input of three identifying categories.

Unit	Lett. & #	Sample# Flot#	Material	Description	Year	Area	Studied	Notes
2910			Faunal	identified		west	studied	
2911			Faunal	identified		west	studied	
2923			Faunal	identified		west	studied	
2932			Faunal	identified		west	studied	
2937			Faunal	identified		west	studied	
2938			Faunal	identified		west	studied	
2939			Faunal	identified		west	studied	4 bags
2943			Faunal	identified		west	studied	
2944			Faunal	identified		west	studied	
2950			Faunal	identified		west	studied	
2951			Faunal	identified		west	studied	
2952			Faunal	identified		west	studied	

Figure 184: Log of faunal material in crate FB130

## Finds Register

Before the further development of the Finds Register, there was just one free-text entry line for the description of the artefact. This made searching for an artefact type, (i.e., bead, figurine, nail) difficult, but also made it far too easy for spelling mistakes and free comments to be entered without question. For example, "potstand" was frequently entered as "potterystand" or "potterystant". Words and phrases were often shortened to make for speedy data entry, i.e., obsidian became "obs.", pottery became "pot", or was simply not entered at all in some crates list, thus making searching for specific artefact types impossible. Free comments such as "weird insecty thing" and "clay blob" were also fairly common, and again made investigation of the finds impossible. (It should be made clear that such entries are often made in ignorance of the necessity of formalising terms for an integrated database that is available and understandable to everyone and anyone, and their highlight here is in no way a reflection on the standards or professionalism of those who entered them).

In order to clean this data, it was decided that two terminology lists be drawn up: a material field and a description field. These are to be introduced as drop-down lists. In this way, the reader can get a clear and quick impression of artefacts in a certain crate or location, and problem of spelling mistakes is also removed (Fig. 185). Search buttons were also added so that the researcher may search for a specific artefact type or material type, depending on his or her speciality, i.e., "Figurine" or "Stone".

**CATALHÖYÜK**  
**Finds Register**

Find Crate: [ ] Current Crate: FG4

Crate: FG4 Year: 2006 Contents: Figurines Old Crate Num: FG4 Main Material: Clay

Unit	Lett. & #	Sample# Flot#	Material	Description	Year	Area	Notes
▶ 11397	H 1		Clay	Figurine	2006	South	
12420	H 1		Clay	Figurine	2006	IST	Headless humanoid
12454	H 1		Clay	Figurine	2006	IST	
12482	H 1		Clay	Figurine	2006	IST	
12485	X 4		Clay	Figurine	2006	IST	
12500	H 1		Clay	Figurine	2006	4040	
12500	H 2		Clay	Figurine	2006	4040	
12500	H 3		Clay	Figurine	2006	4040	
12502	H 3		Clay	Figurine	2006	South	
12502	H 2		Clay	Figurine	2006	South	
12502	H 4		Clay	Figurine	2006	South	
12508	H 1		Clay	Figurine	2006	South	

Location: Finds Room

Notes:

Date Changed: 10/09/2006 21:22:22

Record: 571

Figure 185: Example of agreed terminology for specific types of artefacts

### Finds Sheet

Each day, all x-finds from site are input into the Finds Sheet. This sheet requires the input of up to three pre-determined material and description categories in the form of drop-down lists, and also a free text description field. These fields allow a much more descriptive and accurate identification of the artefact. In cases where the exact nature of the artefact cannot be assigned, there are "Other" and "Object" fields for most material types. It is for these cases that the free text description field is most useful.

However, due to the variation in standards of descriptions and identifications in previous years, it was decided that the notes field would not be available on the website. Instead, a link to the specialist's identification data would be added.

This link to the specialists field, along with a link to the excavation data, allows the researcher to follow the artefact through all stages of its study, from the ground to the specialists more in-depth study (Fig. 186). For example, the excavator may believe an artefact to be bone. Once it is in the finds lab, it may be identified as a clay object. However, once in the hand of the specialist, it may be identified as a clay figurine. In this way, the Finds Sheet gives us a valuable insight into the excavation process and data collection.

It should be noted that, although the changes to the finds database this season have been extensive, they are far from final. Many other, albeit minor changes, need to be made to the database next season to increase the effectiveness and efficiency of the system.

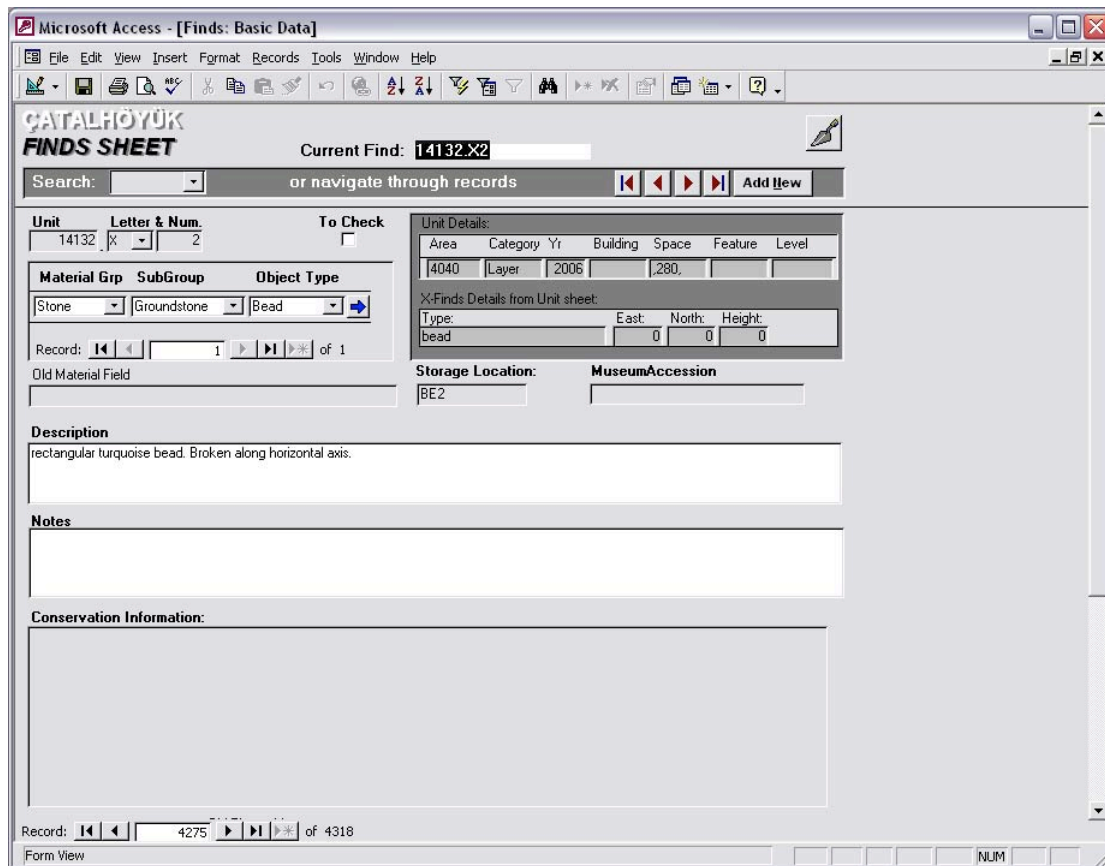


Figure 186: Finds sheet for 14132.X2

## Crates

The storage methods at Çatalhöyük have also changed from those used in previous years. For example, in 1997, all material from the South Summit excavations was crated up together, regardless of material type. To make the materials readily available to specialists, these artefacts should be separated into the relevant and materially specific crates. Likewise, certain samples were crated up together rather than being assigned to their specific crates, i.e, archive samples, residue samples, phosphate samples and phytolith samples should all be crated up separately to enable easy access. This is potentially a huge job to be tackled in future seasons.

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## Archaeological Illustration / İllüstrasyon – John G.H. Swogger

### Summary:

This season saw the usual mixture of finds drawings, building reconstructions, on-site drawing and other projects. Work continued on a complete catalogue of figurine illustrations, as well as representative illustrations of various ground stone types. Reconstructions were produced of Building 63 in the IST Area, Buildings 56 and 65 in the South Area, and Building 44 in the 4040 Area. In addition, previous illustrations of the Chalcolithic buildings on the West Mound were reviewed and new ones produced in preparation for a display in the Konya Museum. On-site discussions produced reconstruction vignettes of the midden pits and possible gaming/divination activities in the 4040 Area, and unusual oily deposits on features in Building 56 and a bound burial in the South Area. On site, illustrations were done of the wallpaintings revealed in Building 44 and Building 69. Among the other illustration projects this season, were the production of maps for Sadrettin's forthcoming book (see Publications), plans for new reconstruction houses and a comic newsletter for children from Küçükköy. All these projects were documented in two blogs, one on an illustration mini-website on the Çatalhöyük server, and the second at [www.catalhoyuk.com](http://www.catalhoyuk.com).

### Özet

Bu sezon yapılan illüstrasyon çalışmaları, buluntu çizimleri, bina rekonstrüksiyonları, alan çizimleri ve diğer projelerden oluştu. Figürin illüstrasyonları üzerine hazırladığımız katalogla ilgili çalışma devam ederken, öğütme taşı tipolojilerinin de çizimleri yapıldı. 4040 alanındaki Bina 44, Güney Alanı'ndaki Bina 56 ve 65 ve İstanbul alanındaki Bina 63'ün rekonstrüksiyonları yapıldı. Bu çalışmalara ek olarak, Batı Höyük'ünde daha önce bulunan Kalkolitik binaların illüstrasyonları yeniden gözden geçirilerek, Konya Müzesi'nde sergilenmeleri için yeniden çizildi. Alanda yapılan yorumlamalar sonucunda, 4040 alanındaki çöp çukurları ve dinsel aktiviteler ile Güney Alanı'nda bulunan bağlanmış iskelet ve Bina 56'daki öğeler üzerinde görülen yağlı birikintilerin rekonstrüksiyonu yapıldı. Ayrıca, Bina 44 ve Bina 69'da bulunan duvar resimlerinin de illüstrasyonları hazırlandı. Bu sezon yapılan diğer illüstrasyon projeleri arasında, Sadrettin'in yakında çıkacak olan ilk kitabı (ayrıntılı bilgi için Yayınlar kısmına bakınız) için hazırlanan haritalar, yeni yapılacak olan rekonstrüksiyon evlerin planları ve Küçükköy'deki çocuklara yönelik olan bir çocuk dergisi de vardı. Burada bahsedilen tüm projeler, biri Çatalhöyük bilgisayar sistemi içindeki mini websitesi, diğeri ise [www.catalhoyuk.com](http://www.catalhoyuk.com) olmak üzere iki blogda sunulmuştur.

### Finds Illustrations

Each season, all Envanter (seasonal finds that are selected by the Government Representative to be included in the Konya Museum collections), material is illustrated. In addition, objects from the general collection of material from previous seasons excavation are also being illustrated. It is hoped to eventually build up a representative corpus of illustrations of all material and artefact types from the site.

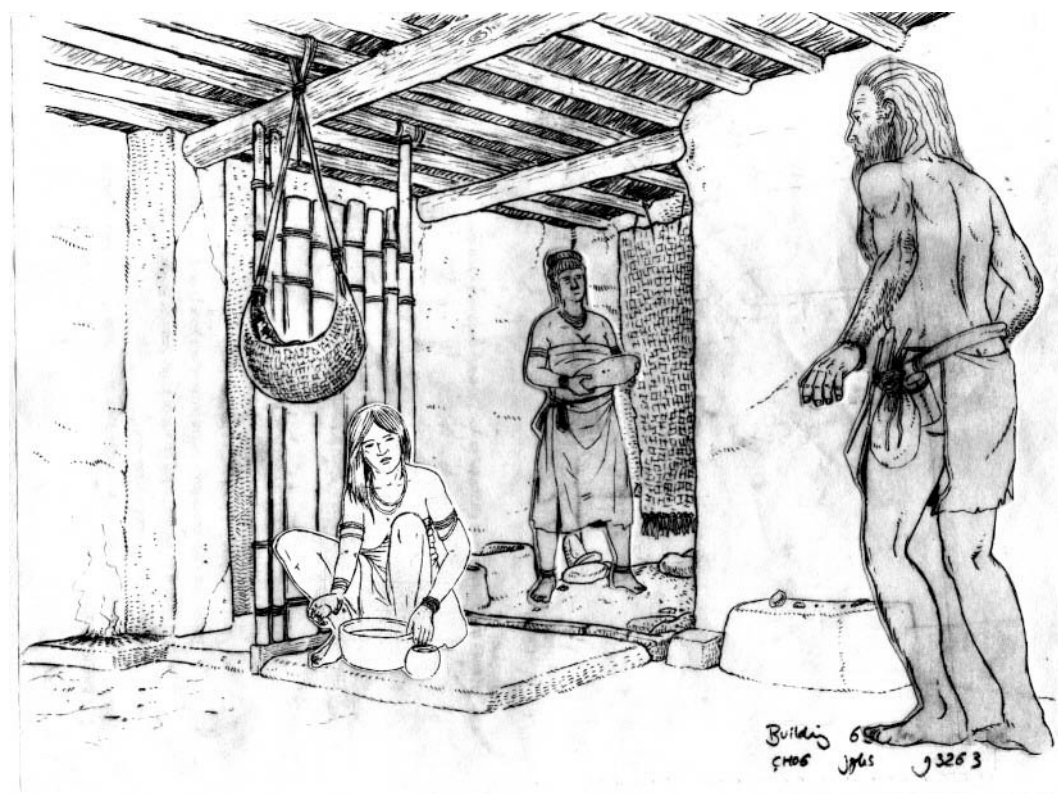
This will provide the Project with a database of images for publication and database reference. The current focus for this project are the figurines and the ground stones. Current timetabling of illustration work requires that these illustrations be produced during the field season, but this may need to be reviewed based on the priority attached to other illustration projects. It is planned that in 2007 and 2008, a majority of these illustrations will be added to the Project's existing image (photography) database.

### **Building Reconstructions**

Excavations in the IST, South and 4040 Areas continued to reveal interesting buildings with unusual internal features and histories. Initial reconstructions of these buildings were produced from plans and sections, with, as usual, a great deal of input from the excavators themselves. While these initial reconstructions should be considered primarily as rough drafts, their value lies in their function as foci for discussion. Shifting interpretations will, as ever, alter these reconstructions. Completion of the excavators' archive reports for 2006 will, however, enable me to move forward with some of these illustrations.

### **Building 63**

Two reconstructions were produced of Building 63. The first (g.3262) is an axonometric reconstruction based on the plan of the latest identified phase of the building. The second (g.3263 –Fig. 187) is a perspective view of the building based on a model of the space generated from the plan and g.3262.



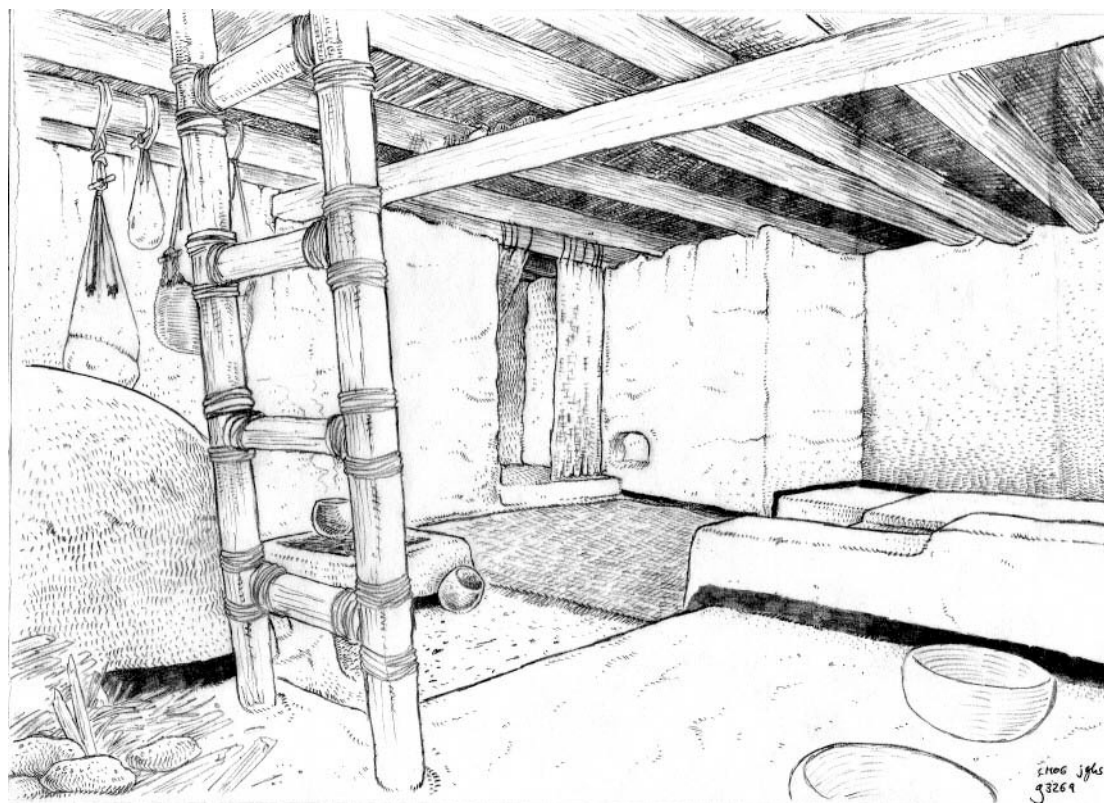
*Figure 187: g.3263 is a perspective view of the Building 63 based on a model of the space generated from the plan.*

This later phase includes a set of bins (F.1967) in the south-east corner of Space 283 and small shelf-like projection on the western wall of the space. A wooden threshold

(12442) divides it from Space 284. In Space 284 there are two platforms (F.1993 and F.1994) in the south-west corner of the space, sitting up against a low wall (F.1989) divided by a distinct groove which may have been the emplacement for a wooden structure of some kind. A mudbrick pilaster and a fire installation are located against the southern wall of the excavated space. Against the western wall is set a small pedestal (F.1991) and a plaster-covered mudbrick feature (F.1980) which in an earlier phase seems to have been a cattle-skull installation.

### **Building 56, Building 65**

Axonometric and perspective reconstructions of Building 56 were produced. The axonometric reconstruction (g.3270) was produced from the excavation plan, and looks incomplete because the eastern wall was not fully exposed. The perspective reconstruction (g.3269- Fig. 188) was based on a model generated from the excavation plan. An axonometric reconstruction of the later phase of Building 65 was begun, but left unfinished at the end of the season.



*Figure 188: A perspective reconstruction based on a model generated from the excavation plan of Building 56 looking NW from the SE corner.*

All these reconstructions are still in their rough draft state, and will remain so until the complete analysis of the buildings is submitted, after which phasing and construction details of the buildings can be illustrated in more detail. These interpretations will then be worked into an ink and/or colour draft of these illustrations.

### **Building 51/52**

The identification and excavation of Building 51 within Building 52 provided the opportunity for some initial reconstruction sketches showing some of the possible phases of use of those two buildings (g.3248). However the building is still under

excavation and therefore drawing reconstructions of the various phases of both buildings' use and construction will have to wait.

### **Building 41**

The late building in the 4040 was completely excavated in order to release the Neolithic archaeology in the trench. It was revealed to be a large structure with deep foundation trenches with evidence for timber revetting during construction. The rectangular structure had internal divisions, a southern extension and an as-yet unexcavated wing to the west. The prevailing interpretation on-site was that this was a late Byzantine structure, possibly agricultural in character and linked to farming activities and settlements on the Konya Plain during the period. A perspective reconstruction (g.3279) of the structure partially under construction was drawn based on a model generated from the excavation plan. It was an interesting exercise to work on a non-Neolithic building for a change, and it served as a useful reminder that Catalhöyük is actually a multi-period site.



*Figure 189: g.3279, reconstruction of the 'Byzantine' Building 41 in the 4040 Area.*

### **The West Mound**

As this season saw the arrival of a new team of excavators to the Chalcolithic West Mound, it was felt by the previous West Mound team that now was an appropriate time to install a display in Konya Museum covering their pre-2006 phase of excavations. Jonathan Last, Catriona Gibson, Sheelagh Frame and myself reviewed the reconstructions of Building 25 produced to date, and talked through the production of two new images to accompany the forthcoming exhibition display. The first was a cutaway reconstruction of the building, showing the internal structure of the rooms and the structure's putative second storey (g.3284). The second was a vignette depicting the exterior appearance of the site and demonstrating the contact that the Chalcolithic inhabitants of the West Mound settlement enjoyed with other, neighbouring sites (g.3286). Installation of the display has been tentatively scheduled



for 2007, and final versions of the illustrations will be mounted in Konya Museum then.

### **Other Buildings**

Although other buildings were excavated this season, it was not feasible to produce reconstructions of those still under excavation, such as Building 44, Building 69, Building 70 and the spaces to the south of Building 63 in the ISTI Area. It was also frustratingly not feasible to produce reconstructions of the very fragmentary remains of buildings and spaces in the TP trench. It is very much hoped that in TP in particular, now that most of the intrusive late features have been excavated, some more complete buildings will be revealed in future seasons.

A large reconstruction showing activities on the roofs of the Neolithic buildings at Çatalhöyük was also produced. This is intended to be the first of three linked illustrations showing a full range of constructional and roof-based activities. Serena Love and Burcu Tunc contributed valuable suggestions based on their research on architecture and related subjects. Work will continue on these illustrations next season.

### **Vignettes**

The process of excavation at Çatalhöyük inevitably lends itself to the construction of narratives outlining sequences of events revealed through that excavation. These narratives are not easy to depict in a single building reconstruction or finds illustration. Instead, they are better illustrated through the use of vignettes, often combining aspects of finds illustration and building reconstruction. Close communication with the excavators and lab teams working on the material in question is essential in order to best capture their interpretations. Several such vignettes were produced this season. Working with Lisa Yeomans and Richard Turnbull, a vignette was produced showing pits (1327), (1328), (1329), etc. being dug into the middens in the 4040 Area (g.3273). Two different images of the sheep knucklebones being deposited in Space 292 were also drawn (g.3264 and g.3274) reflecting two differing interpretations as to the nature of the deposit offered by Mike House. From the south area came a vignette of an unusual linear deposit around the edges of features in Building 56. Discussions with Roddy Regan suggested various interpretations, including the possibility of the deposit resulting from certain types of cleaning activities, or even being the remains of anti-vermin or aromatic preparations (g.3223). Sketches also captured more fleeting interpretations, such as the suggestions of garden or latrine areas and lime-burning in the 4040 Area, the sequence of fire-events in Building 63, the problem of water management on the site, the disarticulated canine burials in Building 47, the sequence of events involved in the construction of a niche in Building 51, activities surrounding the Byzantine infant burial F.1476 and the knapping event that made up debitage cluster (12873) during the construction phase of Building 56.

Creating these reconstruction vignettes is always not only an excellent opportunity to engage with both excavators and lab teams, but also a useful way of bringing interpretations from diverse disciplines together – an increasingly important exercise as the site and the Project continue to grow.

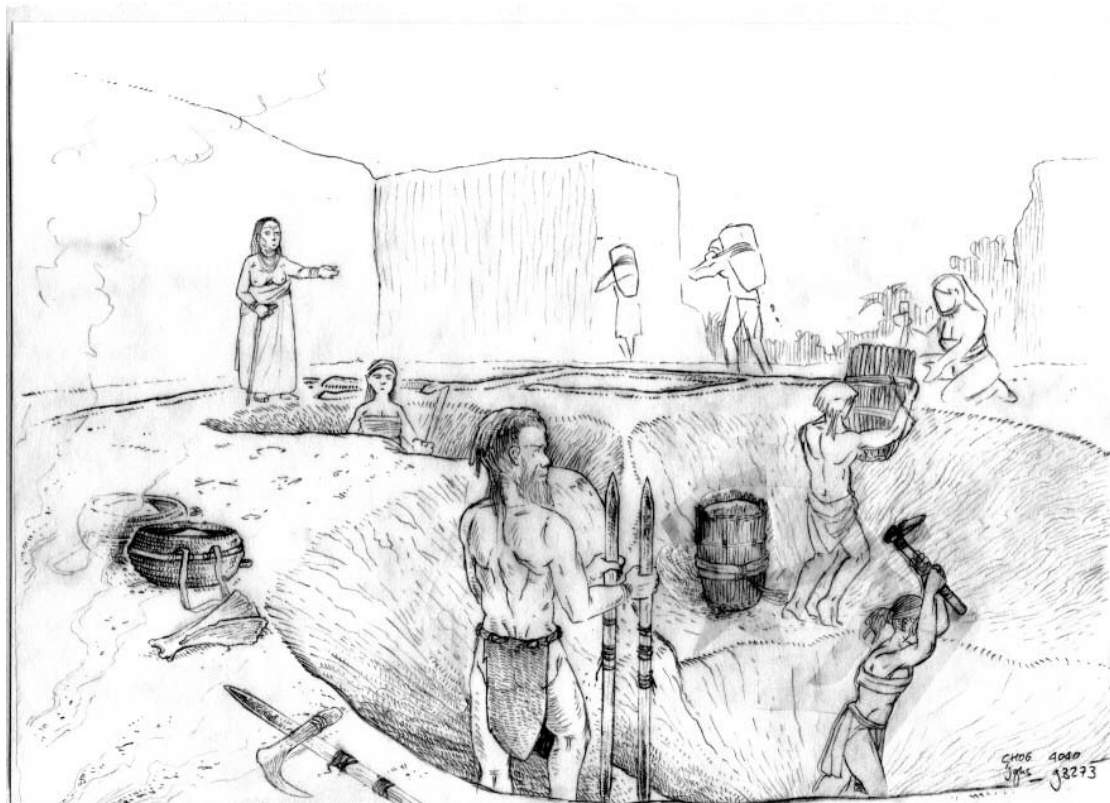


Figure 190: g.3273, vignette of pit digging in the 4040 Area.

### Wall paintings

The wall paintings revealed in Buildings 49 proved a good opportunity to test out field techniques for recording significant areas of multiple layers of painted plaster in conjunction with Jason Quinlan (Photography) and Duygu Cleere (Conservation). Although no formal protocol was established as a result, I certainly thought that all parties were now much more aware of the needs and priorities of the others.

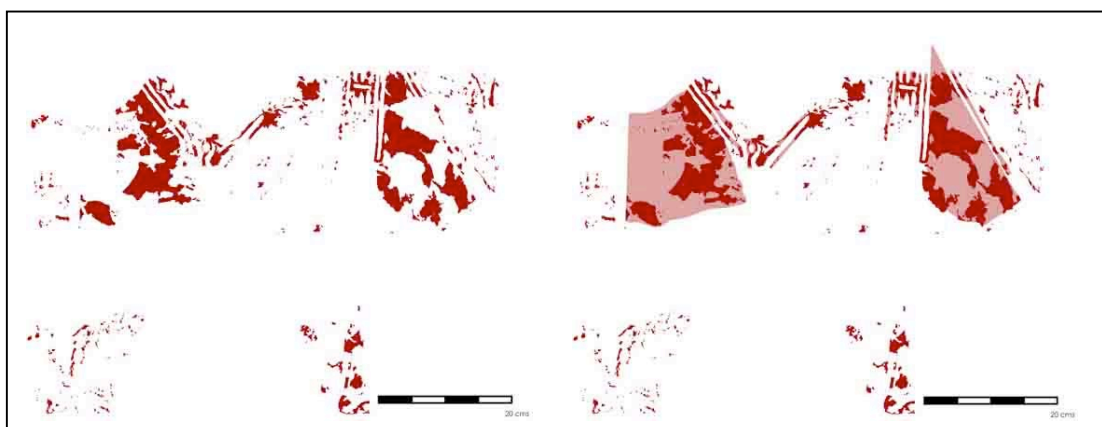
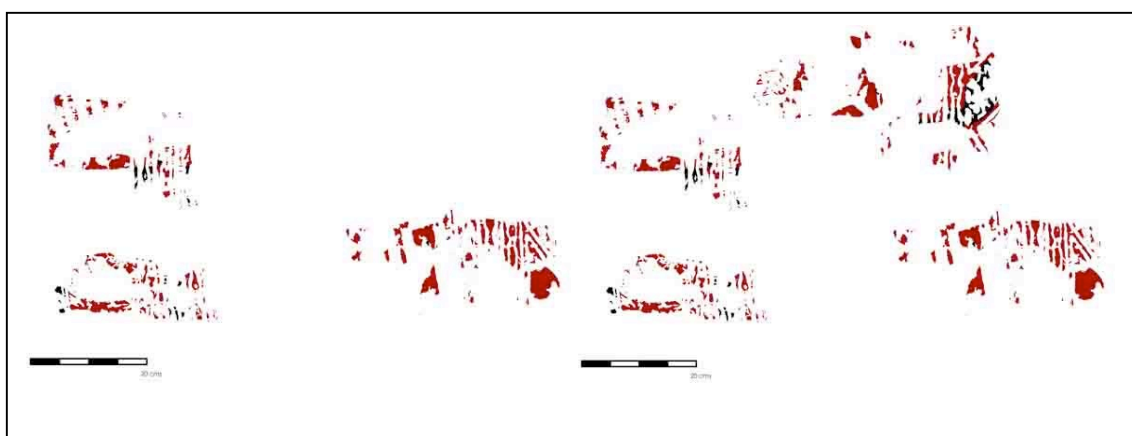


Figure 191: Building 49 painting on north wall (left) tracing (right) reconstructed

### Technique

Once revealed, the painted plaster was traced onto sheets of mylar pinned to the walls. Using dissection pins greatly reduced disturbance to the plaster, which often does not survive well. Section strings were put up to create baselines that were then used to tie the mylar tracings together. All relevant points were given 3D co-ordinates and,

where possible, correlated to existing wall elevations. Tracing the paint was then done with drafting pens directly onto the mylar sheeting. Using a .35 drafting pen enabled a much more precise tracing than the use of even ultra-fine permanent markers. The resulting ink drawing, while still prone to later damage from scraping, survives better than a marker drawings, which has a tendency to smudge. The cramped conditions make manoeuvring around the painted area difficult. While not wishing to sound facetious, it might make sense in future to have this tracing done by smaller people; I am 6' tall and found working in the corner of Building 49 difficult.



*Figure 192: Building 49 second layer painting on north wall (left) tracing (right) reconstructed*

The paintings were photographed both before and after this tracing, and photographs were taken during the drawing to record the process. In the case of Building 49, conservation both preceded and followed the tracing. The stabilised painting was no more difficult to trace than the un-stabilised feature; in some cases the process was made easier.

The mylar tracing was then traced in pencil on sheets of regular field permatrace. The mylar original was given a graphics number rolled, labelled and stored in the illustration archive. The pencil tracings were accompanied by a plan showing how the various pencil drawings fitted together. Inked copies of these pencil drawings were then made. These were scanned, coloured and separated out into layers to produce final images of the different phases of painting.

### **Issues**

By and large, the process of recording went extremely smoothly. The only minor problem that arose was that it was occasionally difficult – if not impossible – to accurately determine which layer of paint one was looking at. Where motifs and designs were clearly visible, and the separation between them obvious, there was no problem in differentiating between layers. But where this was not the case (particularly where one large area of red paint overlay another, similar wash), the tracing became, in some cases, a composite image of many layers of painted plaster. It also became evident that even colour adjusted high-resolution photographs would not help completely. While this problem did not appear to affect the recording of the wallpaintings revealed this season, it may become an issue in future seasons if highly complex paintings where the question of what paint is lying on what layer becomes more significant. This issue needs to be addressed by everyone concerned with the excavating, recording and conservation/presentation of wallpaintings.

A separate issue, which also needs to be addressed, is the question of how much a painting should or should not be “reconstructed” when being presented in publication. This thorny question holds special relevance for this site, and needs to be approached with a full understanding of the history of such reconstructing and its repercussions for the Project and its stakeholders. In creating versions of the wallpainting drawings from this season for publication and presentation, I have adhered to the following guidelines:

1. In tracing painted plaster, all separate fragments of paint are drawn separately, save where such fragments are c. 3mm in diameter and sit on the plaster less than 3mm away from another fragment of paint, and where such fragments do not contain an original edge.
2. In tracing painted plaster, all original edges to brush strokes are clearly recorded with continuation lines and notations if required.
3. In any version of a wallpainting tracing produced for publication or presentation, where it is desirable to reconstruct a motif or design in order to make the drawing more easily understandable, no such reconstruction should cover an area greater than c. 5cm.
4. Any reconstructed portions of a wallpainting tracing should be clearly indicated as such – I have chosen to overlay reconstructions in a paler version of the original colour.

### **Other Projects**

Every season at Çatalhöyük generates illustration projects particular to that season: life-size cut-outs of Auroch, library signs or wedding glasses. These projects serve to highlight the occasionally idiosyncratic nature of the Çatalhöyük Research Project. This year illustration work which falls into this “other projects” category includes: maps for Sedrettin’s forthcoming book, plans and models for two new reconstruction houses and a comic newsletter for children from Küçükköy.

### Sedrettin's Maps

At Ian's request, I produced several maps for Sedrettin's forthcoming book. The one that is worthy of note here is the plan of the mound (g.3221 – Fig. 193) since it is an unusual image of the site. It shows the mound and the various locations on it – the 4040 shelter, the South Shelter, the Dig House, the Guards' House, etc., etc – but from Sedrettin's own particular point of view. It isn't orientated with north to the top, but with Sedrettin's café of which he is so proud, firmly in the foreground. The rest of the site spreads out behind it, a literal backdrop to the setting. First in line after the café is the Guards' House – but here labelled "My House", as for Sedrettin it was and still is. After that, the excavation areas are indicated as points of call on his tour route, and the Dig House – the focus for much of our life at the site – sitting not at the summit of the map (as it is in all of our north-orientated images), but on the sidelines.

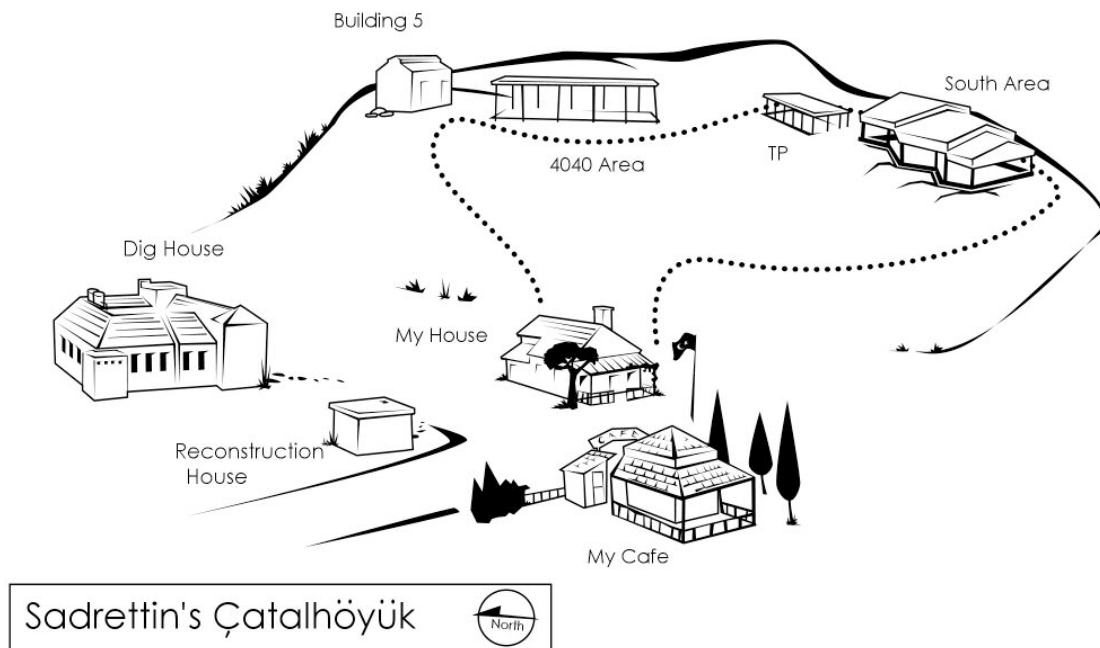


Figure 193: Map of the site according to Sedrettin

## New Reconstruction Houses

In order to expand the reconstructed portion of our site visitor facilities, Ian has suggested that we start construction of two new structures next to the existing reconstruction house. He asked if I would produce plans and visualisations of them to show to sponsors. Rather than simply produce houses of a “standard” Çatalhöyük plan, it was suggested that we model the reconstructions on real buildings. I selected a number of houses from both our and Mellaart’s excavations which I thought might be suitable. From these, Ian selected two: The “Leopard Shrine” (Mellaart’s Structure 44) and the “Red Shrine” (Mellaart’s Structure 12). Both of these offered opportunities to reproduce interesting room layouts as well as interesting interior features such as wallpaintings, reliefs, wooden screens, etc. The plan I drew up called for the buildings to be constructed on their original alignment, but next to each other on slightly different levels, so that visitors could have the experience of moving from one house roof to another. In between the existing house and the two new ones would be a small area that could serve as an example of a midden and animal penning area.

## Çatalhöyük:

Two Proposed New Experimental/Reconstruction Houses

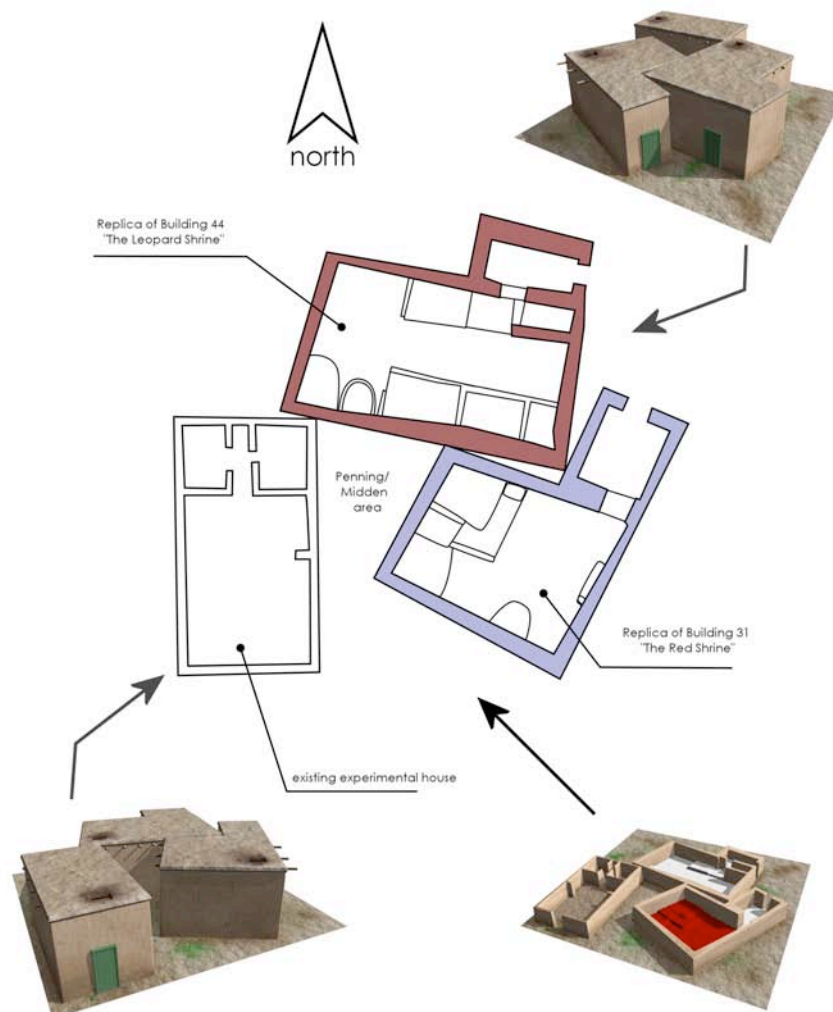


Figure 194: Plans for the new reconstruction houses

### **Comic Newsletter**

As part of a community outreach, Sonya Atalay (see Research Projects), was putting together ideas for creating new levels of community-site contact between Çatalhöyük and Küçükköy. One such idea called for a means of communicating archaeological information to local children in an easily accessible format: a storybook or something similar. In discussions between Sonya, Burcu Tung and myself, this idea gradually evolved into a comic-strip newsletter filled with information about the site, the Project and the archaeologists who work on it (Fig. 195).

. The ultimate aim of the outreach project would be to produce these newsletters at regular intervals throughout an excavation season and distribute them to children through local schools. The idea would be to generate not only interest in the site but an awareness of some of the issues surrounding archaeology in Turkey. Sonya and Burcu conducted a number of interviews with local villagers with the idea of establishing what they already knew about the site and what they would like to know. From these interviews the three of us came up with a list of topics that could become subjects for these newsletters, topics as diverse as: Was excavating skeletons an acceptable way to treat the dead at Çatalhöyük? What was the position of local Imam's on this matter? What was the best way to deter looters and treasure hunters? How similar were the Neolithic inhabitants to the people of today? Did they really worship a Mother Goddess? And, almost inevitably: Can I get a job at Çatalhöyük? These questions will form the basis for future newsletters. The idea for this season was to produce one newsletter and distribute it at a community Open Day hosted by the Project. The day would involve tours of the site, discussions with Ian and other project members, demonstrations of various archaeological activities, and a meal.

Burcu and Sonya suggested names for the central characters and approved my draft script of this initial newsletter. I drew the panels individually and laid them out in Microsoft Word which made entering Burcu's Turkish text an easy and uncomplicated task. The two pages were then quickly printed out in Konya. The look of the drawings was kept simple but with a reasonably high level of detail. I wanted the children who read it to be able to easily recognise places, people and artefacts from the site in the strip. In this way I hope that they will be able to make the connection between the information they are getting in the comic strip and the mound on the other side of Küçükköy. This first newsletter served to introduce the Project and the archaeology to the two central characters – a boy called Burak and his sister Bilge. They have an Aunt and Uncle who work at the site and who have told them a few things about it: the mound is the remains of an ancient village; the people who lived there used stone tools and lived in mudbrick houses; they raised sheep and goats; scientists from Turkey and around the world come there every year to dig up the remains of the village and learn about the people of the past. The strip ends with Bilge and Burak asking if the reader would like to learn more about Çatalhöyük themselves, and if so, then to come and visit the site. Sonya was very keen in our discussions about this initial script to take a step back from the usual didactic tone taken in such publications and instead adopt a slightly more sophisticated approach. The aim should be to make the newsletter as interactive as possible. The children should be invited to use the information in the newsletters to generate their own interpretations about Neolithic ways of living at Çatalhöyük. They can then compare their ideas against our own.

It is hoped that next season, funding will be available to produce a regular, bi-weekly series of newsletters. Even if this funding is not forthcoming, it was suggested by Can Candan that a national Turkish newspaper might like to publish weekly instalments of such a strip. Certainly the newsletter produced this season was well received by the children at the Open Day. The concept was also well received by the members of the Project this season, and generated a great deal of feedback and interest.

Only time will tell what eventually becomes of this idea, but I would be very interested in pursuing it as actively as possible. I think it opens up great possibilities for presenting the site and its archaeology to a new audience, and has the potential to make a lasting connection between the Çatalhöyük Research Project and its immediate neighbours on the Konya Plain.







Figure 195: Childrens comic newsletter

### Blogs

Once again, this season, I kept track of my activities and various illustration projects through a website hosted on the Çatalhöyük network server. As this server was not connected to the web, this site was not available online until after the end of the field season, when I posted it on my own website. The network site contained a blog, which I updated several times daily. The blog serves the same purpose as the excavation diaries, but because it is simple html allows me to include images of current work, sketches, etc. I found it so useful last season in keeping people up-to-date with what I was up to that I did it again this season. I also contributed entries to the blog on the catalhoyuk.com site. Together the blogs contain a useful archive of the process and practice of archaeological illustration during the 2006 season.

## **IT Team / Veri Tabanı Ekibi - Mia Ridge & Sarah Jones**

Team: Mia Ridge (Museum of London Systems Team), Richard May (Museum of London Systems Team), Sarah Jones.

### **Abstract**

The work of centralising the Çatalhöyük datasets into one integrated database continued over the winter months and throughout the 2006 season. The work comprised of gathering datasets, cleaning up data problems with the help of team members and creating interfaces or improving existing ones to work with the centralised database. We used the project forum to call for feedback on team databases, and discuss any issues with downloading and using the forms.

The advantages of the integrated system have been highlighted by our ability to begin work on formalising terminologies to enable better cross team communication and searching, sharing data between previously separate applications and the development of a web search facility available to the public.

### **Özet**

Çatalhöyük veri takımlarını tek bir veri tabanı altında toplamak için yaptığımız çalışmalar kış ve kazı sezonu boyunca devam etti. Çalışmalar veri takımlarını biraraya getirmek, ekip üyelerinin verilerle ilgili problemlerini çözmek ve verileri birbirine bağlayarak ya da daha önceden bağlanmış verileri geliştirerek merkezi veri tabanı içinde çalışmalarını sağlamak gibi işlemlerden oluşmaktadır. Ekibin veri tabanları hakkında fikir edinmesi için projenin tartışma forumunu kullanarak, formların indirilip kullanılabilmesiyle ilgili problemleri tartıştık.

Biraraya getirilmiş sistemin avantajları imkanlarımız doğrultusunda ön plana çıkarılmaya çalışılarak, ekipler arasında daha iyi bir iletişim ve araştırma sağlamak için terminolojilerin belirlenmesi, önceden ayrılmış olan uygulamalar arasındaki veri paylaşımının oluşturulması ve halka açık olan bir internet sitesinin geliştirilmesi için çalışmalara başlamak gerekmektedir.

### **Team news**

This year we are pleased to welcome Sarah Jones to the team.

With the generous sponsorship from Lynn Meskell, Columbia University, the project was able to advertise for a full-time 'Access Application Developer'. The focus of this role was to complete the basic development and integration of the Çatalhöyük Research Project's main database under the guidance of the MoLAS IT team. Sarah was the successful applicant and started in November. Her initial contract was for six months but she was also able to go out on site to provide database support this year and continues to work with the project on a freelance basis.

### **IT Infrastructure**

The project invested in some new equipment at Çatalhöyük this year to improve the IT infrastructure. A number of new laptop computers were purchased and made available to team members to use to enter their data into the centralised database.

A number of improvements were also made to the network by purchasing new switches that increase network speed plus extra hubs to allow more users to connect to the network at once.

The number of power failures began to prove a problem for those users connecting to the network via the wireless routers so three UPS's (Uninterruptible Power Supplies) were bought to provide about 10 minutes extra power, enough time for the users to save their data and log off the network.

The project also purchased a new external hard drive to store the large image catalogue as well as to provide an additional back up facility. This drive is portable so can be carried between the UK and site.

### **Public Database Access Online**

One of the greatest advantages of the centralisation of the Çatalhöyük datasets was reflected in our ability to create a web interface with on-line search facilities in a relatively short amount of time.

The web interface allows cross platform accessibility to the data, both to browse and to search. A first generation system has been designed which allows basic browsing to complex searching of the entire excavation and diary databases.

Work on the public database web access followed discussions held on site in the 2005 season. It was agreed that core data up to the present date would be published from all lab teams. The project fully appreciates the sensitivity of research data and we are working closely with each team to ensure only permissible data is released, therefore work is on going. Each team is able to state the extent to which their data can be published by defining what is 'core' and what is 'specialist' for their data, as well as any restrictions by content area (to the table and field level) or by date. Core data is defined as un-interpreted, inventory level, excavation and field data.

The lab team data is being released in staggered tranches depending on each teams needs for research and publication. For example, some teams may be happy to publish all their core data, but wish to reserve specialist data until formal publication (for example, publish specialist data except for the last three years). The general aim is to publish specialist data sets on the public website around the time the same data is published in the volumes.

The current on-line facility includes some trial hotspot plans and photos (e.g. Building 48 and Space 229) to more easily tally data with physical location, plus links to the image catalogue held in Portfolio.

The development process for the website involved techniques such as devising wireframes (plans of web pages and the flow of control between them) based on our experience with similar projects, these were sent to the project team for comment on how they think Çatalhöyük data can be usefully and engagingly presented. The feedback received from the team on the way the data is accessible has been invaluable and this process is on going.

## **Databases**

### ***General***

We surveyed team members about the software they would be able to use on- and off-site. The interfaces to the Çatalhöyük site databases are written in Microsoft Access version 2000, which is available as part of Office 2000 Professional. It is necessary that we continue to develop the systems in this version as some users still only have this, and the site computers run it. The site databases will run in later versions of Access but we have not fully tested them.

### ***Archaeobots***

With Amy Bogaard's help we have gathered pre-2003 data from the varied files maintained by the previous team and added these to the data already centralised. We also worked on importing the data from the years 2003 – 2005 into the new structure created last season and developed a new data entry interface with exporting and reporting capabilities. This work continued on site where the new system was used for the first time and where the flotation log was directly available to other teams in their systems.

### ***Beads and material artefacts***

This database is an exciting development as it draws data from different materials-based databases, into an interface that links their formal characteristics and adds layers of artefact-based recording.

It will record stone, clay and bones beads initially. The interface will draw data from the Faunal and Excavation databases, as well as the new Clay and upcoming Architectural databases, and future Glass and Shell databases. It will also allow specialists to record attributes specific to beads and related artefacts. The recording structure will include material and material sub-type; object class, object type and object sub-type. The certainty of material sub-type identification can be recorded, as well as the method of analysis that led to the identification. Like the Clay database, this includes visual methods and sampling/analysis.

### ***Charcoal Analysis***

The latest dataset is now stored by the project and will be centralised in the future.

### ***Chipped Stone***

The pre-1999 dataset was centralised in 2005. The chipped stone team since 1999 have worked on devising a new recording system to suit their work and the material now appearing on site. This data structure, held in Excel, was translated into a database structure, which highlighted areas where the data needed to be cleaned. A new data entry interface was created which was used on site this season. The chipped stone team were able to take full advantage of the new integrated database by drawing data directly from the excavation database and flotation log.

### ***Clay objects***

Specialisms covered by this database include stamp seals, figurines, clay balls, ceramics, other shaped objects and building materials.

The available datasets were centralised in their existing structures over the winter. The clay objects specialists have been involved in on-going discussions with Mia about a shared recording model.

Overall, the goals of this project are to:

- implement shared value lists and recording codes
- implement the core/specialist data model developed in previous years
- enable comparison of artefacts across specialisms
- create an extensible system that allows for new ways of understanding clay objects at Çatalhöyük.

Supporting tables will be created for previous data sets of bulk data so that a unified view of all clay objects from the site can be created regardless of when and how it was originally recorded.

Where recording structures have changed significantly and previous data can't be mapped to a similar level of specificity, original fabric descriptors (colour, etc) will be kept and can be displayed on specialist forms so that information can be re-created from fabric types and descriptions. Munsell colours can be mapped to field samples so that previous data can be integrated into the updated structure.

Issues to be resolved included the primary keys to be used to link tables across shared recording structures and into specialist recording, the structure of the basic Clay Unit Description table, the basic artefact Finds data, as well as sample and bulk recording and agreement on basic Materials, Material sub-types, Artefact types and artefact sub-types. Understanding the data structures required is not just a technical process and investigation included an analysis of the semantic meaning embedded in existing recording structures.

A model of recording was emerging where divisions fall naturally between fabric (the original matrix, before human modification but including things like naturally occurring inclusions), manufacturing (including surface treatments), and post-manufacturing (for example, use and environmental wear and post-depositional events). However, the model needs more consideration to ensure of the reliability of observations and with regard to practicalities such as the amount of time spent recording each artefact.

This season we were lucky enough to work with Chris Doherty, a geoarchaeologist from the Research Laboratory for Archaeology and the History of Art, Oxford. He was heavily involved in discussions about the best way to record the technical characteristics of clay artefact. Working with Chris has been an important factor in our attempt to move from descriptive to diagnostic recording.

Structurally, characteristics that occur across the lifetime of an artefact such as variations in colour and exposure to heat/fire have been grouped between original fabric, manufacturing and post-manufacturing but they can be gathered together on the one form or interface for ease of recording if required by specialists. The structure also allows the probability to be recorded to allow for the uncertainties inherent in the material.

Material aspects include fabric and inclusions, including original matrix and tempering. Manufacture elements include qualitative characteristics, surface treatment, and fire exposure. Use and post-depositional changes include use and environmental wear, condition, fragmentation, and possible intentional damage.

The structure also includes artefact-specific tables to allow specialists to record data to their exact requirements. Representational object recording can also be used to link clay objects from across the site like figurines and stamp seals with other artefacts such as wall paintings through characteristics such as pose and representational form.

This season we spent a lot of time on changes requested to the Ceramics database during the season as the recording moved from recording individual sherds to recording finds grouped by ware with a Çatalhöyük-specific typology developed by the Ceramics team. We also participated in discussions about the integration of previous West Mound pottery data with existing databases.

### ***Conservation***

The conservation dataset was centralised in 2005 and its existing interface linked to the integrated database. On site this season a major re-design was undertaken of the underlying data structure to facilitate its ability to link to other databases, primarily the excavation and finds data. The interface was adapted to reflect these changes and a number of new features, including reports, were introduced. The conservation database was also used as the example to show how photographs can be directly linked into a lab system.

### ***Diary***

This dataset was centralised in previous years. On-site this season the existing interface required some minor fixes.

### ***Excavation***

The excavation data was centralised in previous years and its existing interface linked to the integrated database. Off-site work focused on highlighting areas of data cleaning and improving the data entry interface to ensure the integrity of the data was maintained in future.

In addition to this a number of data structure alterations were undertaken to take advantage of the relational power of SQL Server.

Further cleaning is required to resolve discrepancies such as sample types. This may also require the introduction of sample sub-types or materials.

### ***Faunal***

Mia worked with Louise Martin and Lisa Yeomans in London to centralise faunal data and test the centralised interfaces, continuing the work of the past seasons on data integrity and forms. The implementation of relational integrity highlighted data cleaning issues and a report was sent to Louise and Nerissa Russell outlining the rows that needed review.

Data cleaning and centralisation continued on site this season. The existing interface was adapted to ensure data integrity was maintained in future by placing greater

control on movement between screens. As the Artefacts interface was used intensively for the first time some issues were discovered and resolved on site.

Some modifications will be required to support the display of object locations from the Finds database.

### ***Finds***

Work began on re-designing the Finds recording system in 2005, the existing data having already been centralised previously. Over the winter the data and structure was analysed and the gathering of requirements for improving the system undertaken. This process continued on site with Julie Cassidy's valuable input on how best to formalise terminologies of material and object types to enable accurate searching of the data and to allow easier linking with other datasets.

A major re-design of the data structure that records finds at the point they are brought into the finds room was undertaken (previously known as the x-finds sheet) and this change required a lot of data cleaning to formalise terminologies. Work on improving the crates register was also begun and this work is on going.

### ***Groundstone***

Karen Wright had worked hard during the year to devise a data structure in Excel and this was translated into a database structure so the existing data could be imported into the centralised system. A new interface was devised and work is on going to improve this.

### ***Heavy Residue***

The heavy residue dataset was centralised in 2005 and on site this season a few minor interface changes were implemented and areas for data cleaning identified. This system has benefited from the centralisation with its ability to now link directly to the flotation log and excavation database.

We also undertook some cleaning during the season and added functionality for conditional data entry, such as making fields available as appropriate for a given material.

### ***Human Remains***

Requirements analysis began in previous seasons. Mia sent over data structures that would form the basis of the application. The team then created an interface to allow them to start recording their data. This fantastic work highlighted how it is within each teams capability to create working systems within a very short space of time using Microsoft Access as a development tool.

### ***Images***

We have worked closely with Jason Quinlan to implement processes to make metadata about images that are catalogued in the image management application Portfolio available via the centralised database. This idea was prototyped in the excavation and conservation databases where functionality was added so images are directly linked and viewable from their related records. A mechanism for exchanging metadata between Portfolio and SQL Server has been set up to keep both systems up to date with changes in each system.

### ***Microfauna***

The available microfauna data was centralised over the winter and the existing interface improved and new interface requirements implemented. The centralised system was used for the first time this season. There is on-going work on centralising the Bach microfauna data to complete the existing dataset.

### ***Micromorphology***

An assessment was made of the work to be carried out on the existing database and this is on going.

### ***Phytoliths***

After an assessment of the existing recording structures in Excel and current requirements, a database structure was designed and the data centralised. A new interface was developed and this work continued on site.

## **Other Database Work**

### ***Security***

A full security model for the centralised database was planned and implemented over the winter. The permissions model allowed each team to enter and modify their own data, and read but not modify data from other teams. This ensured that the entire team could benefit from the data centralisation while guaranteeing the integrity of their data.

### ***Analysis support***

In season 2005 the AllTables concept was developed to allow team members and researchers access to all permissible data (read-only) by providing them with a file where they could store their own queries, forms and reports. This idea was developed further over the winter to ensure any database changes were automatically reflected in the AllTables file. This new version was used on site this season by a number of researchers.

### ***Documentation***

Training materials and documentation written in season 2005 were extended in response to questions raised by the team. General IT documentation for on-site team members was updated. Documentation work is ongoing as new databases are developed, functionality is added to existing databases and the training needs of the team become apparent.

The lack of documentation for functionality of existing databases had hindered our ability to develop cross-platform solutions and to move validation and integrity to the back-end, hopefully we will be able to build a body of documentation for previously existing applications that will enable these modifications in future.

## **Conclusion**

All the work done on the data centralisation would not have been possible without the fantastic co-operation of all the teams and we are exceptionally grateful for their time, patience and expertise.



The advantages of the centralisation process have again been highlighted this season by the ability for different teams to share data, for example excavation data and the flotation log, which has reduced data duplication and related errors.

The benefits of a relational database became apparent during the process of cleaning data previously held in non-relational applications. Duplication, invalid codes and data integrity problems that were previously undetected were discovered and resolved.

There is still much work to do. Some datasets have yet to be integrated and the new interfaces which are in their infancy can be further developed in the future and evolve as recording needs change. The data published on the public website can also be extended to make more of the centralised data available and discussions are on going with the lab teams to release permissible records. This season has seen the benefit of the previous years work in the way data is stored and used across teams.

## OUTREACH PROJECTS

### Childrens' Archaeological Summer School - *Gülay Sert (Coordinator)*

Çatalhöyük Childrens' Archaeological Summer School was carried out between 06.06.2006 - 06.07.2006 for four weeks. Besides the co-ordinator, two members led the children: Heval Bozbay and Nuray Kaygaz.

As part of the Çatalhöyük Research Project we were on site for 26 days during which time a total of 608 people participated of whom 528 were students and 80 were teachers.

The program included:

- power point presentation of Çatalhöyük to a group of 20 students in the museum (Fig. 196)
- visit to the experimental house, then the field to see the archaeologists working
- excavation in the area allocated for the children



*Figure 196: Power point presentation to the children taking part in the summer school.*

At the end of our project the finds found during the excavation were catalogued and housed with the project finds under the supervision of our Government representative, Yaşar Yılmaz.

The above activities lasted until noon. After lunch, provided by the Summer School, we grouped the children by age and interest and the different groups made clay figurines or house models or wall paintings and relief's and printed carved wooden blocks on cloth.



Figure 197: Children's activities include wall painting and relief art.

Two students from each group wrote letters from present day to the past and from past to the present.

Most of the items made by the students were given to them as souvenir, but some were kept for an exhibition that was planned for the autumn in the İstanbul Deneme Bilim Merkezi (Centre for Experimental Sciences/Istanbul).

At the end of the workshop, we presented each child a certificate of “Guardian of the Cultural Heritage”, and refreshments and ice cream kindly provided by Eti, Coca Cola and Memo Companies.

Çatalhöyük Childrens' Archaeological Summer School was very popular in the local and national media. News published in papers and other media, phone calls and e-mail messages from all over Turkey has encouraged us to think about setting up a summer school or camp - instead of a workshop. This will take some planning yet for both logistical considerations and sponsorship.

A book has been published with the generous sponsorship of Shell. This colourful and lively book collates photographs, drawings and stories written by the children who have taken part in the workshop over the years. The stories are the children's impressions of living at Neolithic Çatalhöyük through diary entries written as a Neolithic child.

I would like to thank to Yaşar Yılmaz, the representative from the Ministry of Culture, to Ian Hodder and Shahina Farid and also to all the members of the excavation team for their interest and support in our project.

**Çatalhöyük Çocuk Yaz Arkeoloji Atölyesi 06.06.2006-06.07.2006 tarihleri arasında gerçekleştirildi.**

Çatalhöyük Araştırma Projesi'ne bağlı olarak atölyede 26 işgünü çalışıldı. 528 öğrenci, 80 öğretmen olmak üzere toplam 608 kişi çalışmalara katıldı.

Proje kapsamında yaklaşık 20 kişilik gruplara Çatalhöyük müzesinde, barkovizyon eşliğinde Çatalhöyük tanıtıldı. Deneysel Arkeoloji Evi ve kazı çalışması yapılan alanlar gezdirilerek bilgi verildi. Çocuklar için hazırlanan alanda kazı çalışması yaptırıldı. Çıkarılan buluntular bakanlık temsilcisi Yaşar Yılmaz'a teslim edildi. Atölye tarafından karşılanan öğle yemeğinden sonra öğrenciler yaş ve beceri

düzeylerine göre gruplara ayrıldı. Gruplara kil figürin, çatalhöyük ev modeli, duvar kabartma ve resimleri, kumaş üzerine baskı çalışmaları yaptırıldı. Her gruptan iki öğrenciye geçmişten günümüze ve günümüzden geçmişe mektup yazdırıldı.

Çocukların yaptığı ürünlerin çoğu, anı olarak kendilerine verildi. Bazıları İstanbul'da Deneme Bilim Merkezi'nde ekim ayında açılacak sergi için alındı.

Çalışmanın bitiminde öğrencilere "Kültürel Emanetlerin Koruyucusu Belgesi" verildi. Çocuklar Eti, Coca-Cola İçecek AŞ ve Memo Dondurmaları'nın ikramları sunularak uğurlandı.

Çatalhöyük Çocuk Yaz Arkeoloji Atölyesi yerel ve ulusal basından yoğun ilgi gördü. Basında çıkan haberlerin ardından Türkiye'nin her yerinden gelen telefon ve e-mail mesajları projenin devam etmesi, ayrıca bir günlük çalışmanın ötesine geçilerek kampa dönüştürülmesi gerekliliğini gösterdi.

Başta Yaşar Yılmaz, Ian Hodder ve Shahina Farid olmak üzere, tüm kazı ekibine yardım ve ilgileri için teşekkür ederim. Saygılarımla,



Figure 198: Other examples of children's activities included printing carved wooden blocks on cloth and drawing Çatalhöyük motifs.

## **Community Archaeology at Çatalhöyük 2006 / Toplum Arkeolojisi - Sonya Atalay, Stanford University**

### **Introduction**

The community archaeology research carried out this summer at Çatalhöyük aimed to examine the potential of collaborative Indigenous archaeology methodologies outside of a non-Native landbase. In previous research I explored the potential of an Indigenous archaeology approach outside of North America. Such research was an important aspect of my dissertation, which was based on analysis of over 6,000 clay balls and objects from Çatalhöyük. First, some background on Indigenous archaeology: I define Indigenous archaeology as archaeological practice that foregrounds knowledge and experiences of Indigenous people to inform and influence Western archaeologies as part of the decolonization of the discipline. This

approach is not marginal in its applicability, but rather has implications for archaeology globally, as its concern for a socially responsible practice in relation to Indigenous People is extended and applied worldwide to descendent and local communities and other stakeholders and publics (see Hodder's reflexive approach for examples of the applicability in other non-Native American contexts 2002, 1999, 1999, and Bartu 1999, 2000, and 2006 for specific relevance at Çatalhöyük). To be most effective, Indigenous archaeology must now address a number of challenges, primarily the development of specific methodological approaches that are supported rigorously with field data to demonstrate their effectiveness and significance within and outside an Indigenous land-base (Atalay 2004, 2003a, 2003b; Nicholas 2003, 1997).

### Özet

Bu yaz Çatalhöyük'de toplum arkeolojisi üzerine yapılan çalışma, işbirliği içinde yapılan yerli arkeolojisi yöntemlerinin anayurt dışındaki potansiyelini araştırmayı amaçladı. Daha önceki çalışmamda, yerli arkeolojisinin sunduğu bir takım yaklaşımları Kuzey Amerika dışındaki alanda incelemiştım. Çatalhöyük'de bulunan 6000'i aşkın kil top ve diğer malzemenin analizi üzerine yapılan bu çalışma, tezimin önemli bir parçasını oluşturmuştur. Öncelikle yerli arkeolojisi üzerine biraz bilgi vermek istiyorum: Yerli arkeolojisi, batı arkeolojilerini etkilemek ve bilgilendirmek için yerli insanların deneyim ve bilgilerini yansıtan, arkeoloji disiplininin sömürsüz kısmını oluşturur. Bu yaklaşım pratikte marjinal olmasa da, yerli insanlara duyulan sosyal sorumlulukla bağlantılı olarak yerli arkeolojisine verilen önemin artması ve bu yaklaşımın dünya çapındaki yerli topluluklara ve diğer ilgili halk ve kişilere uygulanması dolayısıyla global bağlamda arkeoloji bilimine uygulanabilir (Yerli olmayan Amerikan toplumlarında görülen uygulamalar için Hodder'ın refleksif yaklaşımına bakınız. 2002, 1999, 1999, ve Bartu 1999, 2000, ve 2006, Çatalhöyük'e ilişkin örnekler.)

Daha etkili olmak için çalışan yerli arkeolojisi, bir takım sorulara çözüm bulmak için öncelikle alanda bulunan verilerle güçlü bir şekilde desteklenen belirgin metodsak yaklaşımların anayurtun içinde ve dışında gelişimi üzerinde çalışmalıdır (Atalay 2004, 2003a, 2003b; Nicholas 2003, 1997).

### **Indigenous Archaeology's Collaborative Methodology**

One primary long-term goal of the community archaeology research at Çatalhöyük has been to examine one of the principal aspects of Indigenous archaeology: its collaborative methodology. There are numerous collaborative methods, but for Indigenous archaeology I (Atalay 2003, 2004, 2005, 2006a, 2006b) advocate the use of a Freirian model (see the following for discussion of this methodology, particularly in education research Freire 1970, 1998; Shor 1987; Steiner 2000); a method practiced in medical research (e.g. Matsunaga et al 1996; Smith et al 1993) and the social sciences (LeCompte 1999; Nyden et al 1997). In brief, Freire's model involves collaboration with community members to: 1) define a research issue; 2) develop research strategies; 3) design research instruments; and 4) collect and interpret data.

This method also involves feedback between researchers and community collaborators to evaluate the project's effectiveness from multiple perspectives.

During the 2006 field season I attempted to put theoretical models of participatory research and collaboration into practice, and to measure their effectiveness in producing knowledge useful to both stakeholders (local) and the archaeological community around Çatalhöyük. To gain an accurate understanding of the issues, challenges, and process of participatory methods in a community archaeology project I carried out the community archaeology research simultaneously while continuing my long-standing research on clay materials, cooking and foodways.

Building on the earlier work carried out by Dr. Ayfer Bartu Candan with the local communities around Çatalhöyük, I originally aimed to put together a collaborative team with local community members, and develop a series of regular community meetings that would create a two-way sharing of information about the research at Çatalhöyük by involving the local community in designing some of the research questions to be investigated by archaeologists on the Çatalhöyük excavation project. The aim (as called for by Bartu 2000, 2006) was to expand the concept of 'the site' and further include local communities in the Çatalhöyük research by working with local people to develop research questions that meet community needs.

### **Community Archaeology Fieldwork 2006**

Over a four-week period during the 2006 field season I worked with Burcu Tung, a doctoral candidate at UC Berkeley, to carry out the initial stages of the community archaeology research. Tung and myself conducted a series of interviews with people in local communities around the Çatalhöyük site. These interviews were meant to inform us on the level of interest that community members have in archaeology and the role that they might like to play in archaeological research at the site.

Utilizing long-established contacts from previous ethno-archaeology work in the region; I started the 2006 field season by attempting to establish a collaborative community team composed of local residents and educators. I had hoped to begin this research by translating into Turkish educational materials that were created in previous research (Atalay 2003) in order to further develop these materials for use in local schools and at Çatalhöyük's on-site museum. I had also aimed to gain feedback (assessment and evaluation) of these materials through interviews and visitor surveys. However in early meetings with community members who live in local villages in the region I felt that such a plan was not the prudent way to begin, as it would be ineffective.

Through listening to local people in several initial interviews conducted by myself and Burcu Tung in Kücükköy (the nearest village to the site of Çatalhöyük) I found that community members felt they knew far too little to contribute to a community collaboration as the one I initially had in mind. I determined that what was needed was to conduct further community interviews in order to determine the level of interest people had in the research at Çatalhöyük and archaeology in general, and what they felt were the appropriate next-steps for working together with archaeologists to develop a collaborative, community-centered archaeology research project.

In ethnographic research from 1997-2000 with the local community in this region, Dr. Ayfer Bartu Candan called for an expansion of the concept of ‘the archaeological site’ to further include local communities in the Çatalhöyük research by working with local people to develop research questions that meet community needs. While I agreed with Bartu, I was unclear how to do this after hearing the results of the initial interviews Tung and I had conducted. I had not intended the collaboration to be dependent on outside researchers, but rather had aimed for it to be driven by the needs and commitment of Turkish community members. I decided that in order to develop a collaborative project that was truly community driven I would need to have a deeper understanding of what the community felt with regard to archaeology, the site of Çatalhöyük, and working in possible collaboration with archaeologists. The most effective way to do this was clearly through further and more detailed community interviews and surveys.

Together Tung and I devoted the remaining 3 weeks of my time on site to conducting community interviews with residents of 4 nearby villages and towns (Küçükköy, Abditolu, Çumra, and Dedemoğlu. We worked with local leadership (muhtars from each village or town) to carry out interviews with a wide variety of community members. In total, we conducted 25 interviews in local villages around the site. These interviews were conducted in Turkish, with Burcu Tung (a Native Turkish speaker) taking the lead in asking the interview questions as I recorded the responses and other notes and observations. The process of developing an interview methodology started with my writing interview questions, after which Tung and I would discuss these questions in detail and decide on any changes that needed to be made prior to conducting interviews. We continually followed this process to update the interview questions; deleting those that did not work well, replacing them with more specific or well-suited questions. On numerous occasions I discussed both the research questions and the aims of this community archaeology project with Turkish archaeologists working at Çatalhöyük in order to learn from their cultural expertise and experiences. Dr. Nurcan Yalman, who has conducted extensive ethnoarchaeology research in the region, provided particularly helpful comments related to the state of knowledge of local residents related to archaeology. Yalman insisted that local people did not have enough background archaeological knowledge to participate in a collaboration with archaeologists to develop research questions. Interviews proved Yalman’s observations to be correct. And as a result of this new information, the remainder of my fieldwork in 2006 consisted of me developing my own knowledge base about the level of archaeological knowledge and interest held by the local residents. This was done through extensive interviews with local residents.

A typical interview prompt form is shown below. As is obvious from the questions, these interviews were meant to provide information on the level of interest that community members have in archaeology and the role they might like to play in archaeological research and heritage management related to the site of Çatalhöyük.

Community Archaeology Survey and Interview Questions  
Visit #1

Sonya Atalay and Burcu Tung -- June 12, 2006

Location: \_\_\_\_\_

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Occupation: \_\_\_\_\_

Socio-economic: \_\_\_\_\_

Ethnic  
group: \_\_\_\_\_

#### Research at Çatalhöyük

- Have you visited Çatalhöyük? Have you seen the visitors' center there?
- Do you know what's at Çatalhöyük?
- Do you know what the foreigners are doing at Çatalhöyük?
- Why do you think archaeologists want to come to work at Çatalhöyük?

(Spoken text – this was not read, but summarized verbally): Çatalhöyük is a very old town that is 9,000 years old. People lived there for over 1,000 years and rebuilt their houses over and over again – because of the constant rebuilding..that is how the höyük was formed. When we excavate we find the old houses of the people – they lived in the stone age. They had hearths and ovens inside the house and they buried their dead below the floors of the houses. They hunted wild animals to eat and gathered wild plants but were farmers too.

There are wall paintings and very interesting art that is unique found in the houses and because of these very interesting finds Çatalhöyük is world famous. Tourists want to come from all over the world to see it. You probably see them coming through the village in buses to visit the site. We see the tourists when we are excavating. They come to look at the world famous houses, wall paintings and other things.

But we believe this is your site just as much as the foreigners who work and visit here and we want to be sure that you have more information about Çatalhöyük - the things we find there and the research being done there.

I know there isn't really much about archaeology taught in the schools here, but we recognize that you have a lot of specialized knowledge about village life and living in mudbrick houses etc. It's not exactly the same as the way people lived at Çatalhöyük but there is a lot we can learn from you. And we have learned a lot from excavating at Çatalhöyük that you might be interested in. We are hoping to find ways to share our knowledge with each other – learn from each other. Perhaps there are things you want to know about Çatalhöyük or you want to be more involved in preserving and taking care of the site etc. We want to find ways to include you more in the archaeology process at Çatalhöyük. So we wanted to ask you some questions to try to understand how we can best learn from each other and work together to learn about and manage



this really unique and important place. Your answers are confidential – we are just taking notes but not writing your name etc.

- How does the work at Çatalhöyük affect your life? The life of your children? People in this village?

#### *Community Archaeology*

(Spoken text): As archaeologists we are interested in learning about the way people lived in the past. Many people around the world are curious about this and we try to learn as much as we can to share with people by excavating using scientific methods. Of course when we excavate we destroy parts of a site forever so it is important to use proper techniques to gain as much information as possible to share with people who are curious. We really want people to understand that the knowledge we find isn't just for us – it is for everyone.

- Do you find this interesting?
- Do you think you can benefit from this?
- Would you advise your children to study archaeology? Why?

#### Visiting Çatalhöyük and museums

- Have you gone to any museums in Konya?
- If the museum about Çatalhöyük is built here would you go?
- Do you think your friends and/or family would go?

#### *Community Center*

(Spoken text:) There are plans for a Çatalhöyük Museum to be built here in Küçükköy. The Museum would also have a Halk ...Merkezi like the one in Çumra and also a hotel with enough rooms to accommodate one busload of tourists. We are trying to learn how people in your village feel about the museum, hotel and community center – particularly what you would like to have in the community center and how you would use it. We are trying to make sure you are included in the planning so we have a few questions about that.

Some of the things they have at the Çumra Halk Merkezi are classes for adults to learn traditional pottery making, weaving, and other cultural items.

- Would you or anyone in your family be interested in those activities if they were held nearby at this museum?
- Where would be a good place to build the museum center?
- Are there other activities or things you would like to have in the community center?
- Would you like to have computers and internet in the center?

· Do you think you will use the community center? For meetings or other events?

· If the museum center is built between Kücükköy and Çatalhöyük then tourists will stay at the hotel there and may come to the village. How will you feel about that? For example if they are wearing shorts and aren't wearing head scarfs etc.

· What if there was a place to sell handcrafts - would you be interested in making/selling anything?

· What if there were living exhibits – like cooking and weaving, for example – would you be interested in doing that? Do you think that would be a good thing to have?

#### *Community meetings*

(Spoken text:)Several years ago Ayfer Bartu Candan came here to give slide shows about the work at Çatalhöyük.

· Did you go to those meetings?

· What did/didn't you like about them?

(Spoken text:)We are thinking about organizing regular meetings like that so that we can share with you what we are doing and finding at Çatalhöyük and we could learn from you more about your way of life and your thoughts about archaeology and the excavation at Çatalhöyük. It would be an exchange of the things we each know.

· Are you interested in having more meetings like that? Would you come?

(In later visits we can ask specifics about: If we needed help organizing the meetings would you be able to help us? And when the best days and times would be?)

#### *Community Education*

(Spoken text:)We would like to share more of what is happening at Çatalhöyük with your village.

· Are you interested in that? How could we do that?

· Do you think other people would be interested?

· What do you find the most interesting thing about Çatalhöyük?

· Is there anything you are curious about Çatalhöyük and would like to know?

Interviews: 25 people

Male: 12 Female: 13

Cumra: 6 Kücükköy: 10 Other villages: 9

Age: 15 are early-mid 30's, 10 are 40+

### **Interview Findings**

Everyone interviewed had been to the site of Çatalhöyük before – either as a worker, visitor, or tourist. They had all seen the on-site Visitors' Center. It was clear from the interviews that people are curious about the research at Çatalhöyük, yet they don't feel they know enough about it, and many clearly wanted to learn more.

Repeatedly those who work on site told us that people in the villages and towns nearby ask them about the excavations taking place at Çatalhöyük (what is found, how people lived, etc.) and they felt they don't know enough to answer questions effectively. They reported that they don't know about or see the finds, although they can tell that archaeologists are excited about something on certain days yet have no idea why or what has been found and why it is important.

We found that children in the village are particularly interested in Çatalhöyük and the archaeology taking place there. Several times we were told that a regular weekly or bi-weekly visit to the site for children would be very useful so that they can have regular updates of what is found. (I think this is particularly necessary to instill the idea that archaeology is a process that is ongoing and that interpretations change over time as more information is uncovered. If this could be planned on a large-scale for previous years it would create a very well educated generation of local people.)

### **Initial Actions as a Result of the Interviews**

As with all aspects of this community archaeology project, there are both short and longer-term changes that can be made to improve the involvement of the local community with archaeologists, and to increase the level of interaction between these two communities (archaeological and local residents). I felt that before any true participatory community research can take place, a learning process has to occur on both sides. This research clearly indicates to me that we, as archaeologists, need to better understand the current level of knowledge and interest in archaeology and the local perceptions about the past and issues of heritage "ownership" and management. And locals need a better understanding of the current state of research at the site, as well as some of the processes archaeologists use to create archaeological arguments and knowledge. This will only happen through regular meetings and interactions that will build a common foundation from which to move forward.

Working toward building this common foundation involves several short-term actions that were undertaken during the 2006 field season, and others that will begin in my next field season (pending funding) in the summer of 2007. During the 2006 field season, Tung and myself worked together to plan a community night dinner, in which residents from Kücükköy were invited to visit the site and share a feast with the archaeologists working on-site. My time on site was over before this community night took place, however Tung worked diligently and continued to organize the event.

### **Community Night**

In early August a successful community night was held. Both Turkish and non-Turkish archaeologists participated in the event. The Muhtar (elected village leader) of Kücükköy was informed about the event and was asked to invite all village residents. The invitation was announced to local residents by the Imam (religious leader) during the Friday prayer service. Because the community night took place during harvest season, many people were not able to attend the early aspect of the

event, which started at 4:30. Approximately 40-50 people arrived at 4:30 for the initial site tour and presentations. After arriving, the Kücükköy guests were taken on a site tour around 5pm. The tour started with the entire group touring the West Mound; after which the group self-separated into women and men, and the men were given a tour of the East Mound. Afterwards, the women toured the East Mound – Burcu Tung reported that the women particularly enjoyed one of the buildings because it had a whole oven uncovered. Tung also reported that visitors were able to see the differences in house sizes, and were interested in one particularly large building from the 4040 Area. Burcu Tung gave the tour to ladies, while Burcin Erdoğan gave tour to men. Following the site tour, Dr. Başak Boz gave a talk about human remains and Dr. Ian Hodder gave a talk about future plans for the site.

Boz' talk on human remains was particularly important since this topic was one of repeated interest to local residents – one that repeatedly arose in the interviews Tung and I conducted this season. Interviewees were curious about what happened to the human remains once they were excavated. One asked where the mass grave was that held the remains, assuming that archaeologists excavated the remains and then reburied them in a mass grave. Others voiced their concern for the spirits of the dead – we recorded several stories of people saying they felt they could get sick from working with or uncovering the remains, and others saying they felt the bones of the dead were aching because of being disturbed. One interviewee reported having gone to the imam to see if his work at Çatalhöyük was a sin. He noted that the imam said it was not a sin because the people buried at Çatalhöyük were not Muslim. The importance of talking about the human remains with the local residents was made clear through these interviews.

By the time the site tour and presentations were complete, 70-80 men were present and ~60-80 women. 200 visitors in total – nearly the entire village of Kücükköy was present. In addition to the presentations, John Swogger, the site illustrator, spoke to visitors about the cartoon he'd created about the site (see Swogger, this report). In response to interviews during the earlier part of the field season, Tung and I worked with Swogger to develop the first of I hope to be a regular cartoon series. The cartoon is meant to help provide educational material to both children in the local villages and their parents. Dr. Nurcan Yalman hosted a pottery workshop in which local children were able to try their hand at producing pottery and figurines.



*Figure 199: Workshop in which local children were able to try their hand at producing pottery and figurines*

These activities were followed by a feast, which was enjoyed by both local residents and archaeologists. As I stated earlier, I was not present for the community night, but by all accounts it was a success. If my community archaeology proposal to the NSF is funded, I plan to organize similar community nights every year, both in the beginning of the summer to kick off the field season and at the end of the project each summer to share the results of what was discovered with the community. The aim is currently to hold one community night on-site and the other in one of the local villages. The point with that is to encourage sharing of cultures and to provide an opportunity for local residents to feel at home without having to always visit the site to interact with archaeologists. This may also help the archaeologists to learn further about the local community and the issues that are important for local residents.

Another goal for improving the community night in future years is to find a way to involve more non-Turkish archaeologists in the activities and presentations. In the community night this year the majority of the interaction of local residents was with Turkish archaeologists – Tung reported that the Sulcuk University students were particularly involved this year with talking with the local residents who visited the site during the community night. Of course language is the primary barrier – the interest of archaeologists in participating in this event is clear, so the issue is to find a way to effectively bridge the language barrier so that non-Turkish archaeologists can interact to a greater extent with locals.

The local site custodians (Mustafa Tokyağsun, Hasan Tokyağsun, Ibrahim Eken) who guard and protect the site were also very involved in the community night event, as was the Turkish government representative, Yasar Yilmaz, and the local kitchen staff (Ismail Salmancı, Rūkiye Salmancı, and Mavili Gemiz) who worked incredibly hard to prepare the dig house, and the meal of pilaf and lamb for the feast.

### **Other Actions**

In response to the information and suggestions shared with us by local community members in the interviews, Tung and I also worked together to 1) repair of the audio tour program developed several years ago that was no longer in use because of problems visitors had in working the recorder; 2) ensure that the DVD in the on-site museum was working properly (on several occasions we found it was not turned on while visitors were touring the local museum); and 3) organize the development of a two page cartoon depicting life at Çatalhöyük (the first has already been completed and distributed to Kücökköy residents).

Informed by the suggestions and information provided in the surveys, I am currently writing an National Science Foundation grant to conduct similar community archaeology work in future field seasons. Future plans include: 1) holding weekly community meetings/slide shows about current findings on site in local villages with collaborative presentations by Kücökköy residents who work on site together with archaeologists; 2) conducting a weekly tour for those from local communities who work at the Çatalhöyük excavation to view finds and get an update on progress; 3) providing funding to Gulay Sert.(see above), who has developed and carried out extensive children's programs at Çatalhöyük, to provide regular bi-weekly educational programming and on-site visits for children in local villages; 4) developing and producing a regular year-round cartoon series about the research, findings, and process of archaeology at Çatalhöyük; and 5) integrating community

members into priority tours throughout the field season to create what I think of as an ethnoarchaeology at the trowels edge. As with all aspects of this community project, these activities will be adjusted as needed to meet the needs and desires of the local residents. I plan to continue conducting interviews and surveys in the coming field seasons to continue gathering data on the community needs related to archaeology research at Çatalhöyük. It is hoped that interviews and community meetings that are planned for future field seasons will also help to determine the effectiveness of the projects being carried out.

### **Museum -- Community Center -- Hotel**

In interviews Tung and I not only questioned people about archaeology and their interest in research at Çatalhöyük, but we also spoke quite extensively with those interviewed about a proposed museum/community center/hotel planned (with funds from the European Union and UNESCO) for construction in one of the local villages. There were some clear trends in what we found from questions related to this proposed project. There is clearly a divide between people over where the museum should be. Those from the village of Çumra felt the museum should be there, and those from Kücükköy felt it should be in their village. As expected, the motivations for this are nearly 100% economic although there was some consideration for how to get more tourists to visit the site. In terms of what sort of hotel would be best, the consensus was a clear preference for mudbrick buildings like those found at Çatalhöyük although there was some discussion about having a modern hotel and mudbrick houses together so that people have a choice.

Quite a bit of our attention in the interviews on this topic were focused on the effects the museum, hotel, and community center might have – such as a greater influx of foreigners intruding on their private lives and the different ways of dressing and acting that tourists would bring. In every case we was told, in one form or another, that people would not care because they understand that they are tourists and have a different religion and a different way of life. When asked how they would feel if their children started dressing and acting like the tourists, the reactions were mixed. Several people told us that would not happen – they said they already see those things on television. Others said they wouldn't mind if things changed, yet others (but clearly a minority) wanted the change. We were told once that Turkey was going to be part of the EU and thus needed to make these changes.

In terms of what the museum should include, the reactions were fairly consistent. The most desired things include classes in the winter that would teach local women from surrounding villages to make kilims, pottery, and other handicrafts that they can sell. The internet was an absolute necessity according to everyone we talked with. This seemed particularly important for those with children who wanted them to learn about computers. The emphasis on the need to have classes that are available in the winter was crucial because people are so busy in the summer. They not only voiced a desire for classes to learn to make handicrafts, but also for a place to sell what they make to tourists. One person also noted that a picnic area with trees would be useful so that locals could make ongoing use of the outside space and younger kids would have a place to meet and congregate.

All those we talked with voiced interest in having further conversations with us and were interested, to varying degrees, in working together to develop collaborative

programs. I take this as a positive sign for further development of collaborative research.

### **Summary of Findings thus Far**

A critical aspect to my findings in this community archaeology project include the realization of how truly important it is to have a research plan that is fluid and flexible, changing as the local situation dictates. This can be quite challenging for archaeologists who are accustomed to following a pre-designed strategy and proscribed methodology. But such a research strategy is an integral part of the participatory methodology and it is precisely this aspect of the work that is most necessary to test and further develop for archaeological practice. The 2006 field season would not have been the success that it was without a very fluid research design that was adaptable to what local people needed and wanted. This could not have been foreseen prior to fieldwork.

Although the methodology of this project has been inherently fluid and will continue to develop through a collaborative process in the field, I feel it is critical to point out some of my initial expectations on what may happen at this juncture in order to be reflexive about the role I play in this process. I have found that continued reflexivity is critical so that I am continually cognizant of the effect I have on the direction of this collaboration, even while I have the express intention of not forcing the direction. Based on the interviews I conducted in the 2006 field season, I envision: 1) organizing regular meetings in a number of local villages, 2) developing a regular community newsletter with information about the site finds and research that will be posted in those villages, and 3) facilitating discussions between archaeologists working on site and local community people. In each of these activities all efforts will be made to create a two-way dynamic learning experience in which archaeologists and local people are sharing knowledge with each other about their views and perceptions of history and the past, and the ways of collaboratively creating further knowledge about the past.

I cannot predict at this point what the outcome or specific direction of the collaborative work will be as the nature of participatory research is to fundamentally redirect the power dynamic in relationships between local communities and archaeologists in order to de-center the archaeologist, in some aspects of the research process, to make room for multiple views in research questions and results. What I can say about the community archaeology project at this point is that all efforts will be made to create an open and respectful environment in which knowledge is shared in a two-way process of education and collaboration between local people and archaeologists. The form that takes and the specific process will follow organically with the local community taking the lead.

My findings thus far have pointed to the ways in which collaboration can be successfully carried out in very different settings. I have found that while there are certain similarities in collaborating with a local non-descendent community and an indigenous community, there are also major differences that must be considered if a collaboration is to be successful. One of the most notable differences is that the local community I have been working with in Turkey did not feel they knew enough about archaeology to contribute to a research design. As a result, the pace and strategy of collaboration has been quite different in Turkey than in working with tribal

communities in Michigan. While the work in Michigan has focused on repatriation research involving several sites and the community feels they have a critical voice that must be heard, many residents of the villages surrounding the proposed world heritage site of Çatalhöyük, Turkey feels they have little to offer in the interpretation of the site.

However in both cases it is overwhelmingly clear that each community cares deeply, although it is expressed in very different ways, about their history and heritage. In Michigan this involves regaining access to and care of human remains and sacred sites, while in Turkey community members continually voiced their interest in learning more about the early history of the region. The concern and interest of people in the Turkish community came as a surprise both to myself and others since repeatedly publications related to the villagers of that region (and rural Turkey in general) report that local people are only concerned with an Islamic past and nothing prior to that. The interviews with local residents around Çatalhöyük this summer, this proved not to be the case at all. Interest in the very early prehistory and the archaeology of the nearby site of Çatalhöyük was clearly present in all the villages where we conducted interviews. Certainly the interest tends to focus on economic concerns related to the site – such as tourism, museum funding, and a community center that may be developed in the nearby village of Kücükköy -- but the concern for and interest in the site is unmistakable. At this point it may be that much of the interest in the community night and about the site in general is more of a social interest in the activities and practices of the foreigners who work there, but at least this is a start. Beyond the curiosity, there also appears to be a sincere interest in what is being found and what it can tell us about the people who lived there.

These findings offer critical insights for those who wish to conduct future archaeological projects involving local communities because they provide examples of the types of research and heritage planning that a non-descendent community might be interested in participating with. These findings also point to the need for archaeologists to collaborate closely with a community from the start of a research project in order to determine a research project that has relevance for that particular community. My results clearly demonstrate that it cannot be assumed how a community feels about its history, heritage and cultural resources. They must be asked, and the answers to such collaborative efforts will result in better research designs that have meaning and relevance within the community. This has a great deal of implications for the funding of collaborative projects and the timelines and pace at which such research can be expected to be carried out. There are also important implications about the role of community members as project participants/collaborators; and the human subjects protocols that are involved in these.

Indigenous people have for several decades critiqued the ways that research and what has been termed by Native activists as the “scientific imperative” has impacted them and their communities negatively. They have called for greater involvement in the decision-making processes – and in the case of archaeology, for greater control over their own heritage resources. These critiques hold implications for all research practices, not only those conducted with Indigenous communities, as they offer an outline of concerns that may be addressed in formulating research that will be more inclusive of the general public that funds such research and of the local communities within which our research is conducted.



The community archaeology project at Catalhöyük addresses such issues of greater community scientific literacy and further democratization of research through its examination of participatory research methods that involve local people in the research process. Rather than attempting to share only the results of the research with “the” community (whomever that might be) I have worked to test collaborative methods that involve non-scientists in the research process from the beginning – including the design of a research project and sharing the educational results. The methods that prove most effective from this work with local residents in Turkey hold significance for further developing research practices that are understood by and involve more diverse communities.

## RESEARCH PROJECTS

### **Building Neolithic Communities Through Mud Brick Architecture: A preliminary report of brick and mortar compositions at Çatalhöyük - Serena Love (Dept. of Cultural and Social Anthropology, Stanford University)**

#### **Abstract**

The composition of building materials is examined to determine if any use patterns exist. Preliminary results show a temporal discontinuity in raw materials but materials can be grouped spatially. These results hint at the possibility of a brick typology. Pragmatically, the temporal discontinuity in materials may be explained by the dynamic nature of an alluvial environment. The spatial similarities in the composition of building materials might reflect social groupings, collective land ownership, shared notions of resource use and a changing scale of house production.

#### **Özet**

Kullanım örneklerinin var olup olmadığını belirlemek için, bina malzemelerinin kompozisyonları araştırıldı. İlk alınan sonuçlar ham malzemelerde zamana ait bir devamsızlık olduğunu gösterirken, malzemeler alanlara göre gruplanabilmektedirler. Bu sonuçlar, bir tuğla tipolojisinin olabileceğine dair fikir vermektedir. Pragmatik olarak, malzemelerde görülen zamana ait devamsızlık alüvyal bir ortamın dinamik doğasıyla açıklanabilir. Bina malzemelerindeki alansal benzerlikler, sosyal gruplaşmalar, müşterek arazi mülkiyeti, kaynak kullanımında paylaşım ve ev üretimindeki değişken boyutlar hakkında önemli bilgiler yansıtabilir.

#### **Research Objectives**

This research is motivated by questions of how house construction contributes to the formation of social identities, community and a social life. Adequate attention has been given to how the Çatalhöyük houses were built so my aim is to invert the question and ask how the houses built people. Multiple lines of evidence have shown that Çatalhöyük was not well suited for agricultural purposes (Hodder, 2006a, b). This has led Hodder to consider that the site location was selected for the availability of clay resources. This idea places a great value, and perhaps social significance, on clay as a raw material. There are multiple examples throughout various artefact classes, where different clays are deliberately used for different purposes. One aspect of my research is to isolate clay in building materials and document the various uses through time and space.

I am mainly interested in how the building of houses contributed to the formation of identity and reinforce (or segregate) group membership. Additionally, I focus on the labour efforts, the scale of production and the material entanglement required for building houses, and how these aspects relate to the larger issue of Neolithic social organization. The emphasis is to understand the social process of construction, where the practice and performance of repeated house construction becomes the social foundation for building communities. I am working with the premise that social

groups will identify or distinguish themselves through different “qualities” of building materials. This principle is based on multiple ethnographic examples (e.g. Blier 1987; Dietler and Herbich 1998; Kamp 1993, 2000; Rappoport 1969, 1982) and I wanted to see if a similar trend was happening at Çatalhöyük. My analysis aims to compare every house, from every level, from every area, against each other to determine any patterns in the use of building materials. Preliminary results from this season strongly suggest spatial patterning alluding to collective land ownership and communal efforts. The final phase of this research is to integrate the building materials within its larger archaeological context to establish how the composition of the building materials correlates with the artifact assemblages found within individual houses. Combining these two aspects will allow access to the social implications of life at Çatalhöyük.

### Sample Collection 2006

In total, 312 brick and mortar samples were collected this season. 50 samples were collected from TP, 12 from ist Area, 56 from the 4040 and 194 from South area. 98 sub-samples were collected from the unsorted Heavy Residue fractions stored in the archive. I also wet sieved 123 samples from all areas from materials collected in 2005.

In the South Area, I identified 12 wall features visible in the large north-south section that bisects the South Area (henceforth known as South Section). This section was what remains of J. Mellaart’s excavation, following his final season in 1964. This large section was fully drawn by W. Matthews (Matthews and Farid 1996: 281, Fig. 14.6). For future reference, I annotated this drawing with feature numbers where I collected brick and mortar samples (Fig. 200). Two of these walls were removed in the excavation of Building 65 (F.2505, F.2515).

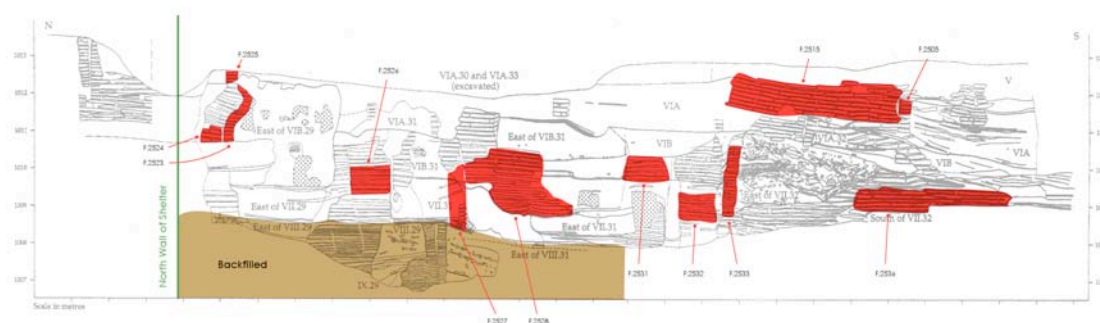


Figure 200: Annotated section drawing (Matthews and Farid 1996: 281, Fig. 14.6).

### Particle Size Analysis: Preliminary Results

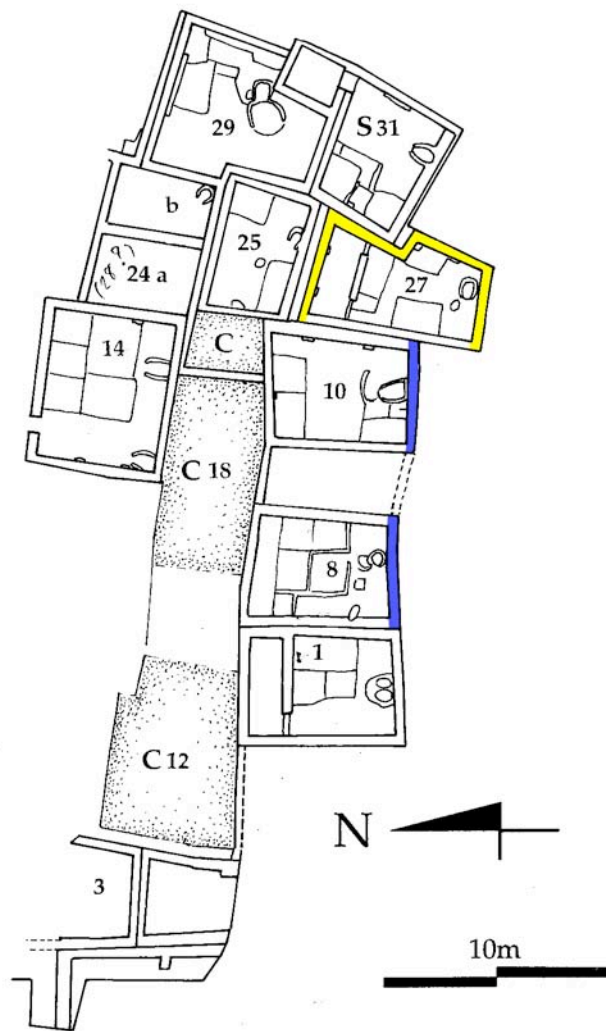
Particle size analysis was conducted as the primary technique this season in an attempt to identify and quantify the composition of building materials. Roughly 20g of each sample was wet sieved through a standard set of nested sieves. The silt/clay fraction (< 63 µm) was collected in buckets, water decanted, sun dried and weighed. Each of the four sand fractions were weighed and bagged separately. As a blind test, I processed two samples from the same bag and had identical results, confirming the effectiveness of the method. Similarly, I processed two samples from the same wall feature, also with identical results.

In working with Chris Doherty, I was able to begin compiling a list of all natural and cultural inclusions present in the sand fractions, based on observations made with the naked eye. The sands can be initially distinguished based on the quantity of mica, which indicates two distinct depositional environments. Sand with a higher quantity

of mica is likely to have been from an alluvial source, in contrast with low density mica sands, probably from the banks of a Pleistocene lake. Shells were found in the sand fractions and shell type will further indicate the source of material. Grain shape was not a useful distinguishing trait, as all building materials have been transported by alluvial systems.

On the basis of the macro identifications of sand fractions, I was able to group the building materials into distinctive “types”. Types were identified mainly on the colour and composition of the sand fractions and the colour of the silt/clay fraction. These colours indicate both the origin of the material and its mineral composition. It appears that a typology of building materials is possible, based on these initial results.

### Preliminary results from the South Area



**Figure 1.16.** Redrawn plan of Mellaart's level VIII.

I sieved 54 samples from 22 walls, representing 15 spaces and 3 occupational horizons (Mellaart's Levels VII-IX) in the South Area, from samples collected in 2005. I tested for the consistency of materials within a single building and found all three walls of Building 22 (F.497, F.506, F.522) had identical brick compositions. This was also true for all three walls of Building 43 (F.1854, F.1855, F.1856). These results confirm the assumption of an internal consistency within a single building. All four walls were most likely to have been constructed at the same time, using the same 'batch' of materials. However, differences begin to emerge when the composition of neighbouring houses were compared. For example, the Level VIII Building 43 has no compositional match with any of its neighbours (Fig. 201) but Level XI Buildings 22, 16, and 17 are all a match (Fig. 202).

*Figure 201: Level VIII brick types. Note how the three walls of Building 43 (labelled as 27 in this Mellaart plan) are the same but are dissimilar from the adjacent two buildings (Shrine 10 and 8 in this plan).*

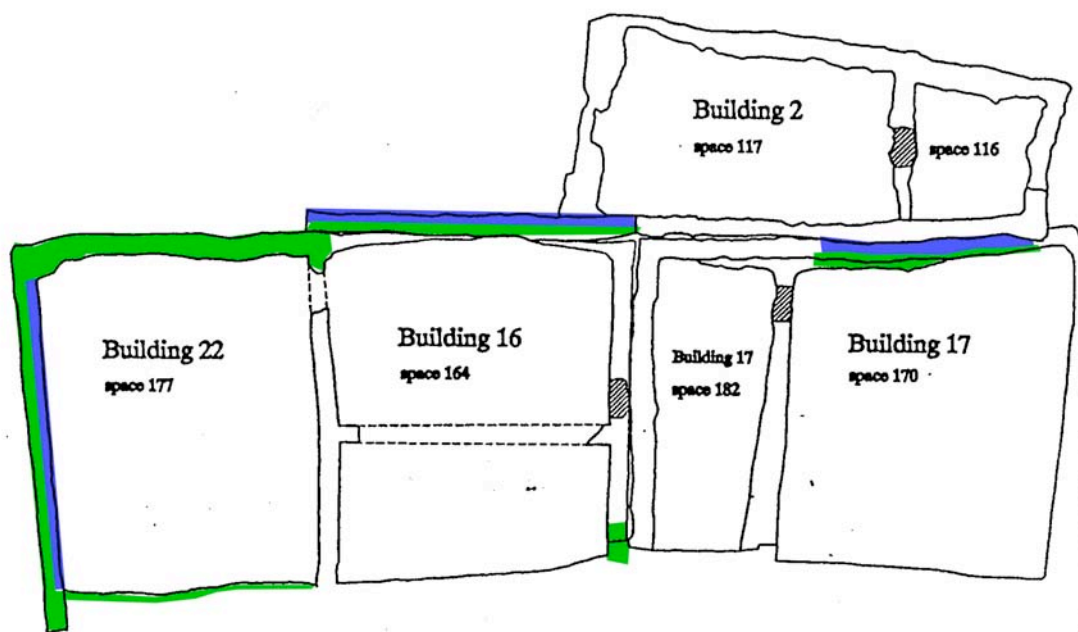


Figure 202: Level IX brick (green) and mortar (blue) types. The building materials from the other Level IX have yet to be processed.

Many truncated walls are exposed in sections where it is the only visible wall of an unexcavated building. By comparing the particle size results of ‘unknown’ buildings with others from known contexts, I was able to contextualizing an ‘unknown’ building within the sequence. For example, bricks and mortar of a buried and unexcavated building are visible in profile above the south wall (F.1856) of Building 43. The brick sample unit (12065) is a compositional match with bricks from three other Level VII walls (F.413, F.425, F.453) (Fig. 203). I was also able to situate samples from unknown wall features (F.2515, F.2533), collected from the South Section, as a compositional match five other Level VII walls. Similarly, the north and east walls of Mellaart’s Level VII House 24b units ((12080) and (12082)) are a compositional match with the east wall of Space 169 (F.430) and the east and south walls of Mellaart’s antechamber to Shrine 8. None of these buildings have been excavated by the current team yet the results from the particle size test and macro identifications were successful in comparing and situating these buildings. These results suggest two possibilities. First is that building materials are chronologically sensitive and secondly that houses might be datable according to brick and mortar composition.

In the area near the Deep Sounding, there is evidence of three houses built atop each other. I compared each of these walls to determine if there is a vertical continuity in building materials. The brown bricks of Level VII south wall of Building 8 (F.526) are composed of a different fabric than the Level VIII wall immediately underneath it (Building 21, F.505). Both of these bricks differ again from the underlying Level IX wall of Building 22 (F.522). However, the Level VII bricks are an exact match with an adjoining house to the west (Space 168, F.425) and the east (Building 20), the Level VIII bricks of Building 7 match the bricks of its eastern neighbour (Building 6, F. 485), and the Level IX bricks of Building 22 (F.497, F.506, F.522) match those

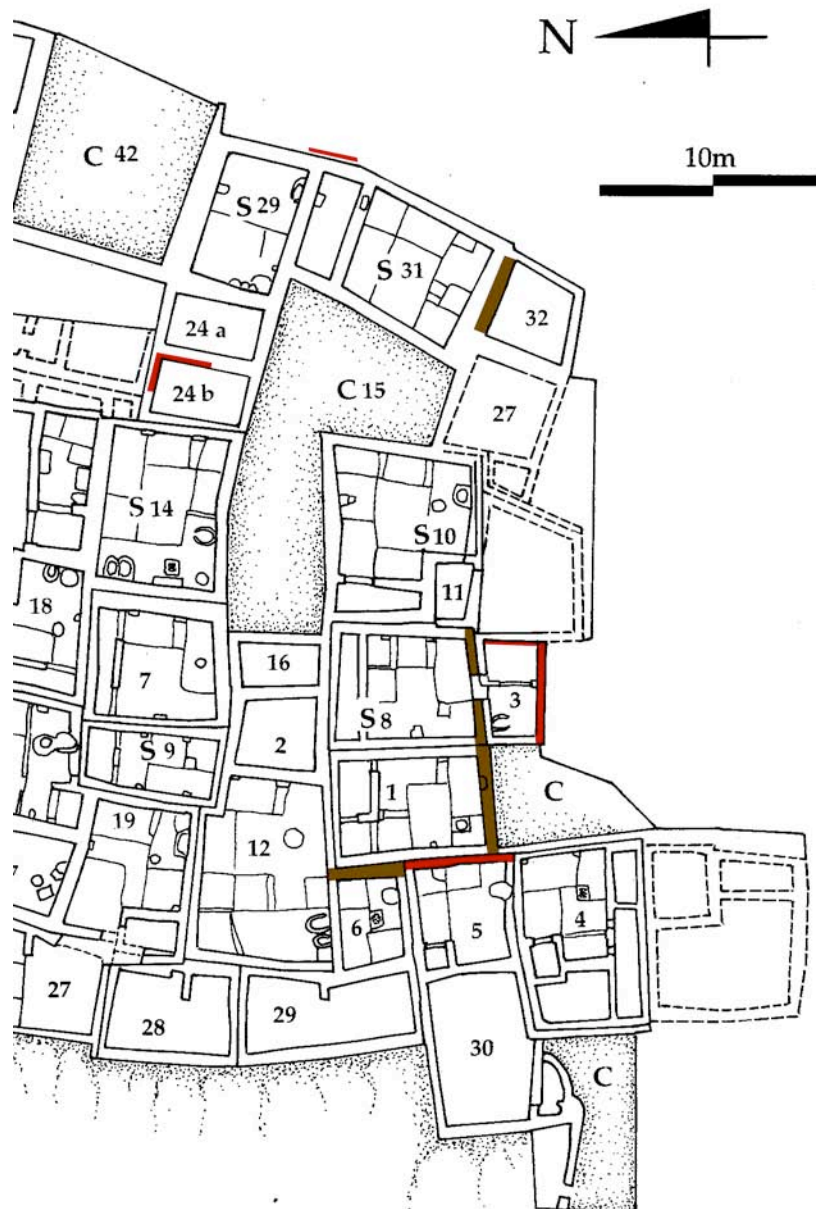


Figure 203: Mellaart's Level VII plan showing the two different brick types. The north wall of Mellaart's house 32 is only visible in profile but has similar composition with four other walls. Similarly, a west wall visible in the South Section (east of Mellaart's S.29 and S.31) is also a match with five other walls from the same Level.

of contemporary Buildings 16 (F.448) and Building 17 (F.565). The only vertical consistency found was with the mortars between Levels VIII and IX. The mortar from three walls from Level IX (F.448, F.506, F.565) match the mortar from two walls in Level VIII (F.445, F.485). The bricks from these two levels are completely different, with the dark "backswamp" clay bricks of Level IX and the iron-rich orange brick of Level VIII, yet both have the same white marl mortar.

This combined evidence suggests that there is a horizontal continuity in the use of building materials, rather than a vertical continuity. It would appear that there is a dramatic shift in resource exploitation level by level but groups of contemporary houses used similar materials. These results also suggest that not all houses within a

single occupational horizon were using the same sources for building materials. Does this indicate that different houses were built at the same time using different sources? Do dissimilar materials indicate differential access to raw materials or simply that one source “dried up” and new raw materials were needed? These questions remain the subject of further study.

#### **Preliminary results from the 4040 Area**

I sieved 32 samples from 16 walls, representing 7 spaces in the 4040 Area, from samples collected in 2005. Brick composition can be categorized into three distinct “types” and, similarly, the mortar had three distinct “types”. In some instances, two walls of a single space/building had similar compositions but this was not always the case (Fig. 204). What I have yet to determine is if unmatched walls were, in fact, later additions or in some way not contemporary with each other. Thus far, I can conclude that the bricks of one building match the other walls in the same building. However, the mortar does not fit this pattern. For example in Building 54, the west wall mortar (F.2163, unit (12378)) does not match the mortar in the south wall (F.2166, unit (12376)), even though the bricks of this building are the same (see Fig. 2004).

These preliminary results suggest an inconsistency in mortar usage, in contrast to a relatively consistent use of brick materials. It is possible that smaller “batches” of mortar were made, in contrast to larger-scale brick production, where mortar was communally shared. If smaller “batches” of mortars were being made, and several different structures all had the same mortar, then perhaps mortar can be used to indicate contemporary construction. This also raises questions of when houses were being built and the relationships between buildings. My interpretations are exclusively based on the composition of bricks and mortar and, at this stage, are not integrated with the greater archaeological interpretations. My research plan in 2007 is to correlate the results from particle size analysis with previous Archive Reports to determine the phasing of 4040 Area buildings and internal relationships between walls.

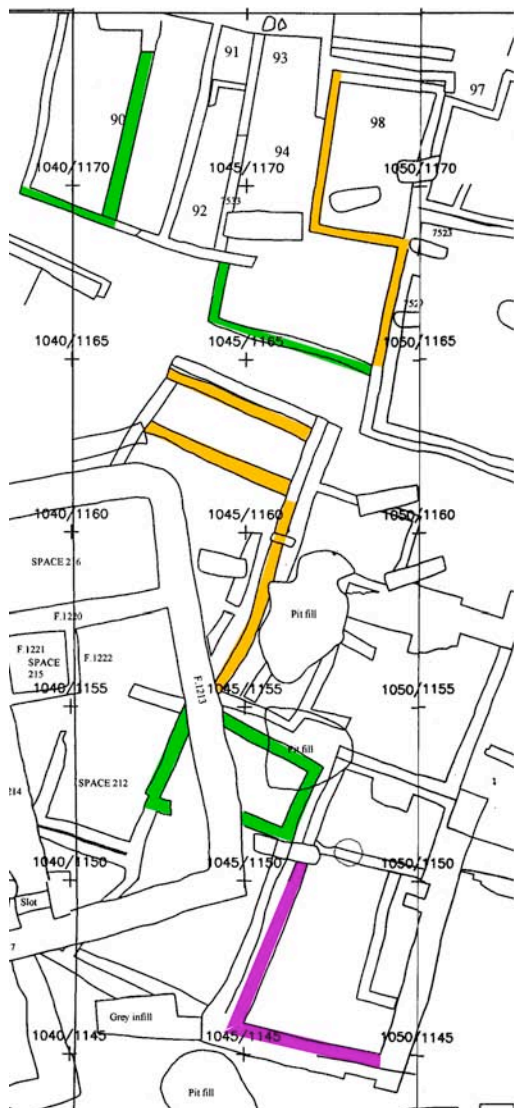
#### **Preliminary results from TP Area**

I sieved 26 samples from 13 walls, representing Levels I - III, from samples collected in 2005 and 2006. The bricks and mortar fell into two primary ‘types’, with the majority of samples belonging to a single type. Only one mortar sample (10982) and two brick samples ((10985) and (11715)) were different enough to create a second type.

Superficially, it may appear that either all these houses were built from the same material and/or they were constructed at the same time. These results might shed some doubt on the assignment of different Levels to the wall features. The walls may in fact be contemporary or the stratigraphy is more complex than it initially seems. Another possible interpretation is that Mellaart’s “Levels” are different phases of the same occupational horizon and these “Levels” need to be re-evaluated for this area.

If my observations from the South Area are correct, then I could expect a Level I wall to be composed of a different material than a Level II wall and likewise for Level III. However, since this is not the case in the TP Area, it leads me to consider that these walls are in fact contemporary, or that these walls display a vertical continuity that is not present elsewhere on the mound. A vertical continuity would imply that a single

## 4040 Brick Types



## 4040 Mortar Types

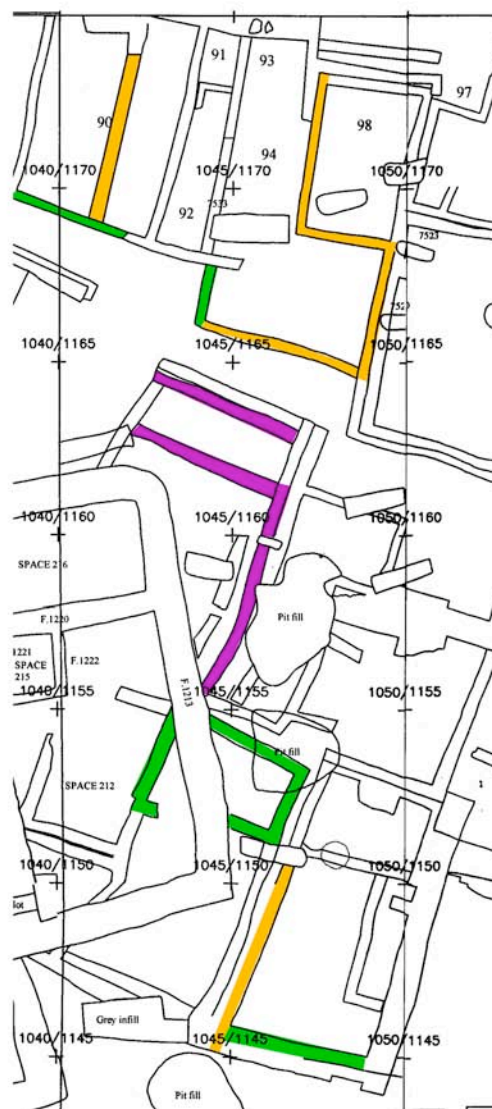


Figure 204: Brick and mortar types in the 4040 Area.

source was being exploited through multiple occupational phases. However, the results from elsewhere on the mound suggests it is unlikely for a single source to have been exploited for more than one occupational phase.

It is possible to consider that a house was built at one single interval, most likely during the summer months (Fairbairn et al. 2006, Fig. 7.1; see also Clark 2003 for Near Eastern examples). The life-cycle of the house has been established to range between 60 and 100 years (Cessford 2001; Matthews 2006), with the occupancy of a single building decreasing through time. What is unknown is how long a house was



left abandoned before the walls were demolished and a new building was constructed. I speculate that the abandonment phase could be as little as a few months up to several years. Thus, the time gap between the construction of one house and the house immediately above it could be well over 100 years. During this temporal gap between consecutive houses, the dynamic nature of an alluvial environment must be considered. All the seasonal floods and addition of new materials must be factored into how the landscape changed during the period in which one house was occupied and the next one was built. Additionally, the volume of materials required to construct a single house needs to be considered when evaluating changes in source materials. W. Matthews (2006) estimates c. 50 m<sup>3</sup> of raw materials was needed to construct a single house, given 14-21 brick courses per structure (c. 500-750 mud bricks). The pragmatic answer to why there is a horizontal, not a vertical, continuity of building materials might simply be the availability of resources and the changes within a dynamic floodplain environment.

Alternatively, Hodder (pers. com.) suspects that the temporal changes in resources and the spatial patterns might indicate collective land ownership rather than household-specific land holdings. There may have been shared notions of resource use, as materials were collected when and as needed. This could explain the drastic compositional differences in source materials through time. The possibility of a brick typology remains but it appears to be area specific. The similarities in brick types can also suggest communal group efforts and collective notions of land or resource use, where no single source was owned, controlled or in any way had restricted access. None of the bricks from each of the four different excavation areas, 4040, South, TP, IST. (samples from the North have yet to be processed), appear to match each other, yet each area has a consistent use of one or two sources of raw materials. Clusters of houses using the same materials suggest a communal group effort in the practice and performance of house building. Yet the scale of this activity changes and appears to decrease through time. In the lower levels, there is a greater and consistent use of the brick materials in the South Area, meaning that many houses were built using identical materials. The “classic” Level IX brick is the “backswamp” grey clay and the white marl mortar. This is true for most, if not all, Level IX buildings. In the 4040 Area, within a tight cluster of multiple buildings, three different brick types were found. I interpret this as suggesting that constructing a house in the earlier levels involved a wider, large-scale community effort and this group effort fractionates through time and house construction becomes a smaller-scale activity.

### **Microartifacts**

In addition to the mineral inclusions, I wanted to know the variability and distribution of cultural inclusions. I targeted the material processed in the heavy residue database to understand the cultural aspect of building through the microartefacts (for methodology, see Cessford and Mitrović 2005). I looked at artefact classes for all three size fractions (>4mm, >2mm, >1mm) for three interpretative categories of units: bricks, mortar and wall (a combination of bricks and mortar). I found a total of 627 brick/mortar/wall units had been processed through flotation, artefacts sorted and weighed. These units relate to 220 wall features in 35 buildings, plus an additional 138 walls in spaces, representing Levels VI-X.

The preliminary results of the microartifact study are shown in Figures 205, 206 and 207. The dominant microartefact categories in the 4mm and 2mm size fractions are

animal bone, shell (mollusc and eggshell) and stone (which includes flint, obsidian, worked stone and "stone"). Other materials with a less than 1% presence included fish scales, beads, "clay objects", building material, pottery, and plant remains.

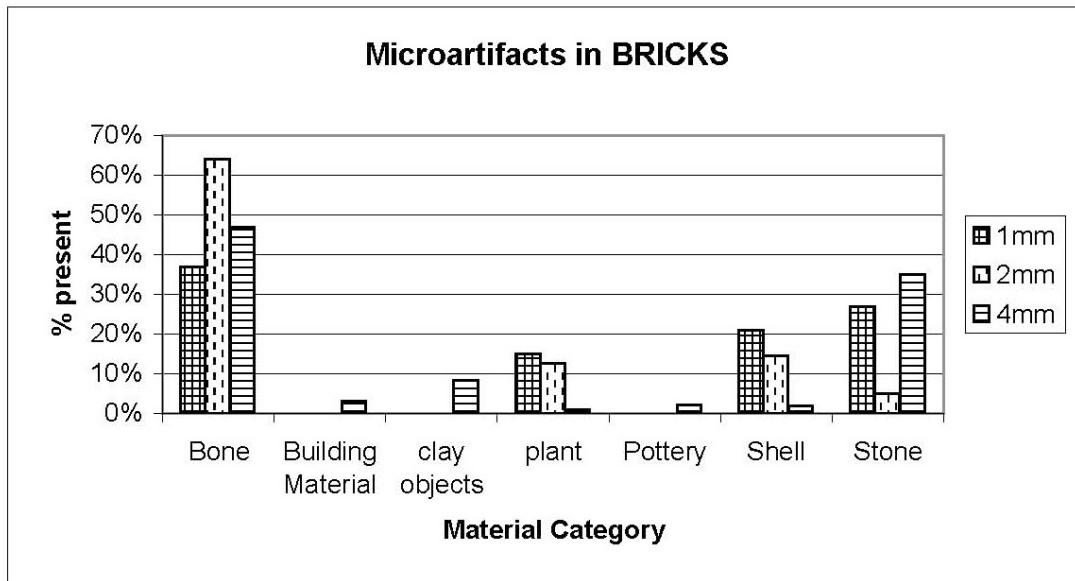


Figure 205: Distribution of microartefacts in "bricks"

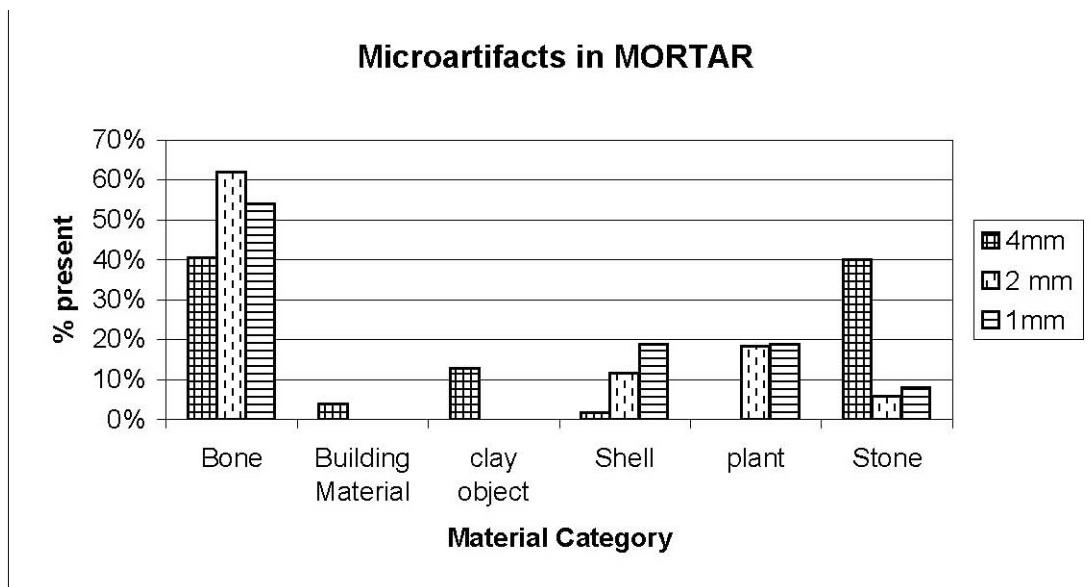


Figure 206: Distribution of microartefacts in "mortar"

Categories of "mudbrick", "brick", "building material" and "burnt brick" are included in the materials list, however, none of these materials are present (in greater than 1%) in the brick/mortar/wall units. The absence of this material could suggest that bricks were not being re-used as temper for the construction of a new building. We do know that whole bricks were being re-used, in the construction of wall foundation, platforms, benches, etc., as evident in Building 44 (F.2053). An alternative interpretation is that if building materials were being recycled, the material was likely to have been processed, i.e. crushed and sieved. The idea about processing recycled bricks was discussed during the excavation of Building 60 in the 4040 Area. The room-fill (13115), same as (13498) was identical (to the naked eye) in texture and composition to the bricks in the east wall (F.215, (13471)). Samples of both were collected to further investigate this suspicion.

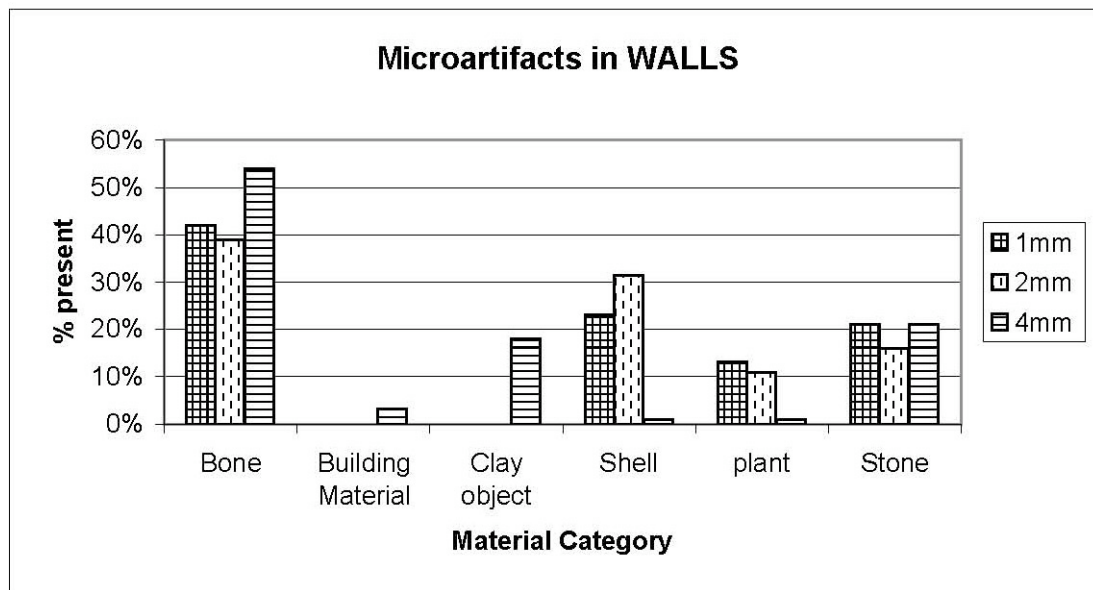


Figure 207: Distribution of microartifacts in "walls"

Mortars are more likely to contain chipped stone than bricks, beads and clay objects but less likely to contain pottery (Cessford and Mitrović 2005: 50). Mortars from the lower levels of the mound do not appear to have the additional cultural material. This trend changes by Level VIII and is most evident in Building 43, where both the brick and mortar were "junky", meaning there was a higher proportion of bone, charcoal, obsidian and other materials appearing to have originated in a midden context. On the whole, bricks seem to have considerably less cultural material than mortars. I found this to be true in all areas except TP Area, where the bricks were the only occurrence where I have seen a greater number of ceramics. The presence of ceramics in Level I-III bricks does not seem unlikely, given it is the last occupational sequence on the mound. Evidence for the use of midden material was confirmed by the discovery of a "midden quarry pit" (Space 279; (12980), (13103)) found in the 4040 Area. "The pitting activity seems to be related to the extraction of building material from building demolition and also from walls since we are starting to see that the cuts truncate walls lower down the sequence." (Diary entry by Lisa Yeomans, July 8, 2006). This large extraction pit is what would be expected to provide enough tempering material to support the construction of multiple houses.

Microartifacts present in building materials are also relevant to what is absent, such as quartz, plaster, dung, etc. Most significantly, the three dominant microartefacts classes are to the exclusion of ceramics and plant remains. Of all the interpretive categories processed through flotation, bricks and mortar have been found to have the lowest total density of botanical remains (Fairbairn et al. 2006: 150, Fig. 8.5 and 8.7). There are plant impressions in bricks but the uncharred nature of the plant temper prohibits preservation. The question is if this is a deliberate exclusion or arbitrary.

Hodder (2006a) has mentioned the deliberate separation of plants and animals (wild/domestic), where baskets were only used to contain cereals and pots were used for animal fats. There are many other examples where inside/outside, on-mound/off-mound activities seem bound by a set of rules or symbolic code. I am looking at microartefacts to determine if these intentional combinations and avoidance patterns extend to building materials. Initially, it would appear not to be true with the mortars

but there might be a pattern in the bricks. The preliminary work on microartefacts looked at all areas, houses and spaces combined. Once this information is disentangled, I will be able to determine the existence of any true patterns.

The tempering of building materials became a point of discussion this year, in relation to potential adhesives. Karen Hardy's work on starch prompted me to consider the types of plant remains added to bricks as an adhesive. Cross-cultural comparisons show that tannins, proteins, sugars and even blood were known to act as stabilizers in bricks (Torraca et al. 1972: 263). Phytolith results showed the presence of sedge stems (Cyperaceae) in brick samples (pers. com. Arlene Rosen). These sedges have edible tubers, which could act as a potential source of starch. Brick thin sections, as analyzed by Burcu Tung (2005), display some evidence of dung temper. Faunal analysis of the microartefact animal bones shows that the bones were digested (pers. com. Nerissa Russell), the most likely source of which was dogs. It may be likely that canine coprolites were being added to building materials as an adhesive. The other possibility is that midden material was used as a temper and coprolites were present in the middens. However, this possibility seems less likely because if unprocessed midden material was being utilized, then I would expect to find other items which are absent, such as ceramic and clay ball fragments and charred botanical remains.

The sand – clay ratio of the Çatalhöyük bricks is 60% - 40%, which is within the normal range when compared to research of American adobe structures. Originally, I had thought that a sandy material was deliberately added as a temper to counteract the clay-rich source. However, this does not seem to be the case, as the sand – clay ratios in the bricks are the same as in natural, off-site deposits. In a blind test, I collected and sieved three off-site samples from two Selcuk trenches (units (12708), (12713), (12715)) and found a similar sand - clay ratio as the on-site bricks. These samples were taken from modern contexts, less than 1.5 m from the surface. Unit (12713) was identified as a soil horizon and unit (12715) as a clay horizon, both with different characteristics in profile (pers. com. Chris Doherty).

These results suggest that the structural integrity was not compromised with the exclusion of a tempering agent, such as a starch, although plant impressions and voids are visible within bricks. Additionally, these findings suggest that a good clay source was not as critical as it may have been for other clay objects. It would appear that any local mud source would have sufficed for house construction, as it may not have been as intentional as previously assumed. The microartefacts found in bricks, such as the categories of “shell” and “stone”, could have originated from natural sources and may not represent cultural involvement. The mortars, on the other hand, have a great deal of intentional cultural material and research will continue in this direction.

### **Re-Assembling the Social**

556 samples were exported to Stanford University for further analysis. I am employing a variety of techniques to identify fine levels of compositional variations in building materials. Clay minerals are being identified through X-Ray diffraction. Thin sections are being made from >250 µm sand fraction to microscopically identify mineral and cultural inclusions. Infrared spectrometry is also being employed to determine the range of minerals. Differences and patterns are expected from these tests and this multivariate approach will comprehensively identify the signatures of the Çatalhöyük house construction.

I will return to Çatalhöyük in the summer 2007 to resume this research and re-assemble the social by taking all levels of compositional analyses and combining it with the artefactual data. The eventual aim of this project is to situate the composition of the houses back in with the archaeology. The final phase of my research is to correlate the archaeology with the building materials. Rare finds, like obsidian caches, multiple burials (or head-less burials), wall paintings, “feasting deposits”, elaborate figures, etc. might have been owned by people in compositionally distinct buildings. Could one material be more prized over the other? What are the temporal and spatial relationships of these structures to each other? The other aspect is to determine the composition of Mellaart’s “shrines” and compare these structures with neighbouring houses to decide if there is a distinction between them in terms of the building materials.

### **Acknowledgements**

This study is part of my PhD research, conducted under the supervision of Ian Hodder and Lynn Meskell, at the Department of Cultural and Social Anthropology at Stanford University. This study is financially sponsored by a generous fellowship from the American Research Institute in Turkey and the Wenner-Gren Foundation for Anthropological Research. Thanks are owed to Marina Lizarralde for her help with the tedious heavy residue sub-sampling. This project has tremendously benefited from the assistance of Chris Doherty for his invaluable insights into sediments, geological processes and his endless amounts of patience. Chris has a gift of saying the obvious without making me feel like an idiot. I am also grateful for the continued support from Arlene Rosen for her helpful comments and advice concerning this project.

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### **Building materials and the making of tradition: reporting on architectural analyses - *Burcu Tung (U.C Berkeley)***

#### **Abstract**

This is a summary of the research I have been conducting at Çatalhöyük since 2004, for my PhD research at the University of California under the supervision of Prof Ruth Tringham. Here, I introduce my research, which hypothesizes that the settlers of Çatalhöyük shared resources when it came to the construction of their houses and that this shared knowledge of building was crucial in maintaining the continuity of the settlement. I discuss the importance of geoarchaeology in my methodology, and report on the work I have conducted between 2004 and 2006.

## **Özet**

Bu rapor, University of California, Berkeley’de doktora arařtırmam kapsamında, atalhöyük’te 2004’ten beri sürdürdüğüm çalışmaların bir özetidir. Ana hipotezim, atalhöyük sakinlerinin ev yapımında ortak kaynakardan yararlandıkları, ve bu bilgi paylaşımının yerleşimin devamlılığını sürdüren önemli bir etken olduğudur. Kullandığım metodolojide jeoarkeolojinin önemini açıkladıktan sonra 2004 ve 2006 yılları arasında gerçekleřtirdiğim çalışmaları özetliyorum.

## **Creating Tradition Through Building**

I first became interested in working with the building materials as a masters student in Cambridge, where I attained an MPhil in Archaeological Science in August 2001. There, I had the opportunity to conduct geoarchaeological analyses on 11 mud brick and 7 natural sediment samples in an aim to gain insight both on the production techniques and the provenience of the mud bricks. As any preliminary research, the results (see Tung 2005) opened more questions toward the study of mud brick, mortar and building materials, where current work is now being undertaken by Serena Love (Love 2006), (2006) and myself. When I began my doctorate in the University of California, Berkeley in 2002, my interest expanded on the architecture as a whole and all the different building materials used in the construction and maintenance of the houses.

My dissertation research focuses on the architecture and building materials of atalhöyük. I take a geoarchaeological perspective in the analysis of the various building materials. In my dissertation, I hypothesize that the settlers of atalhöyük used shared resources and shared knowledge in the construction of the their houses, which was integral in maintaining the continuity of the site. I see the formation of the archaeological record through series of contradictive processes that reflect the fluidity and entanglements of social organization. The methodology I seek to develop translates the sedimentation of the archaeological record as social practices both formed and transformed not only by the materialities of the immediate built environment, but also the surrounding landscape. Here, in the basis of the formation and gradual transformation of tradition, the concepts of place and place-making are central in mediating my interpretations of continuity, tradition and experience.

## **The Importance of Building Materials**

The mound itself, just like most mounds in Western Asia, has been largely built through the agglomeration of abandoned buildings. These buildings, or more elaborately put, households, are thought to have been lived by kin based groups (see Hodder and Cessford 2004). My research aims to uncover the ways in which the construction and maintenance of houses mediated the transmission of tradition at the site. I am especially keen to understand whether it is possible to discern different traditions belonging to different ‘lineages’ or kin groups based on both the spatial arrangement of the house and the features that lay within it, and the different construction materials used.

In my research, to understand the social implications of house construction and maintenance, I study not only the architectural layout of the settlement, but the formation and transformation of architectural features that are within the houses. Further, I seek to differentiate different components of features and the different

materials used in their making. The identification of these different building materials will uncover the different natural sources used and the extent of the modification of the raw materials. Such information is important to understand whether there are cultural patternings tied to 'lineages'. Also, through this information one can have a better understanding of the practices taking place outside the household in the process of making a built environment.

### **Methodology**

I aim to uncover the variety of resources used in building materials throughout the settlement, synchronically and diachronically. My hypothesis is that the settlers at Çatalhöyük shared resources for building their houses. This implies that the building materials we see across the site may show variety across levels, although the materials may change in between the different levels. However, and there are many complications that come across, due to the nature of the natural resources used. The building materials that are uncovered by the archaeologists are mostly clay and marl based, mixed with organic additives. Within any given time, more than one clay and/or marl resource may have been used. Building materials may have also been produced by the mixing of more than one specific marl and/or clay resource. Therefore, I expect, even within one level, to come across many different signatures within the building materials I analyze.

For this research, I have used and will be using a multitude of different geoarchaeological techniques in the identification and differentiation of the building materials. These techniques include macro descriptions and laboratory analyses that include x-ray fluorescence, x-ray diffraction, particle size analysis, and thin section analyses of the sand fraction of the samples. Such techniques reveal the mineral, clay composition, as well as the geo-chemical signatures of the building materials. The analysis of the data using multivariate statistics will allow me to make groupings of the different materials. This data will be compared with samples collected from natural sediments that are used as building materials by the local population surrounding the site today.

During the 2004, 2005 and 2006 field seasons I collected an estimate of 400 building material samples from units that have been excavated by through the current excavations, from 1997 onwards. These samples include those sub-sampled from the archive samples collection, and also those collected from the field. For their analyses, I shipped all samples to the Soils Lab in the Archaeological Research Facility at the University of California, Berkeley.

### **Preliminary Work between 2004 and 2006**

During the 2004-2005 academic year, I conducted a preliminary investigation on mud bricks and mortars to reveal different compositions through elemental analysis, using a portable XRF. The samples analyzed for this pilot study, were collected by myself during the 2004 field season, from three sections in the South Area (Fig. 208 and Fig. 209). The aim of sampling these sections was to achieve a representation of the different mud bricks and mortars used at the site, from Mellaart's Level X through VIA.



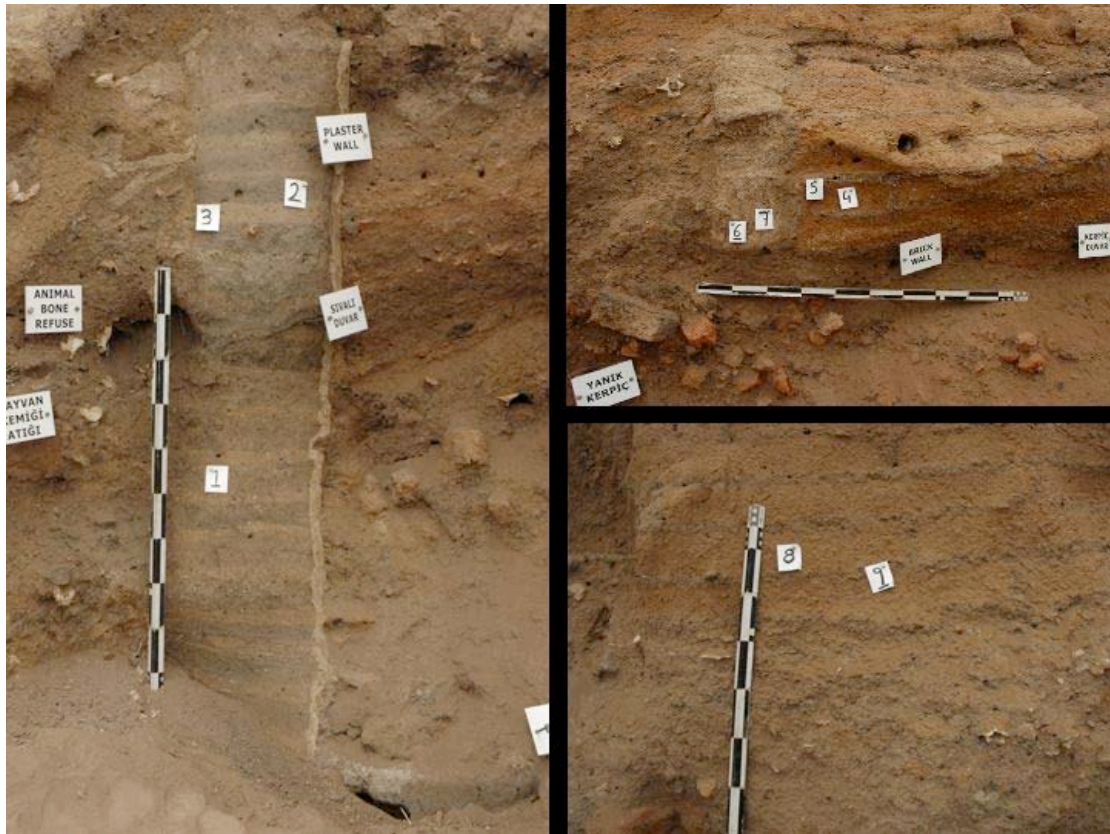


Figure 208: South Section facing north.

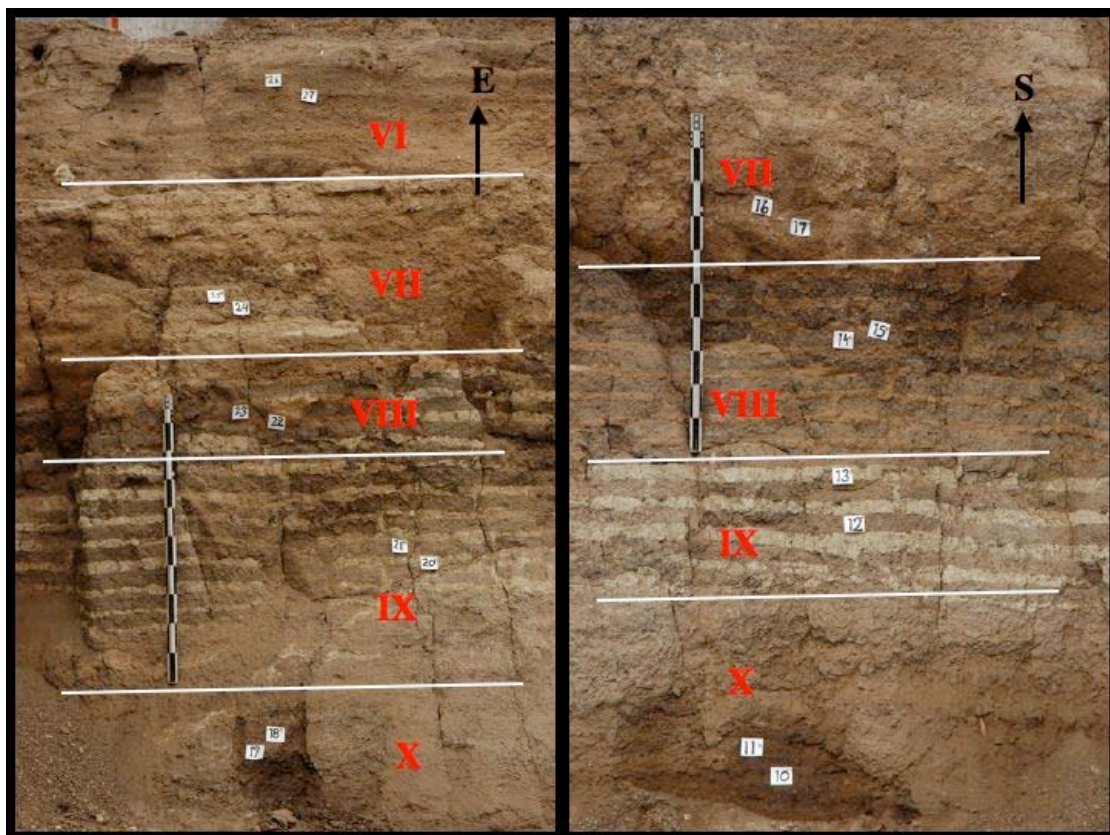


Figure 209: South Section, facing South and East.

Each sample was ‘zapped’ for four minutes using a portable NITON XLt-793W ED-XRF. The elements measured in parts per million (ppm) can be seen in Table 66 for each sample. These elements were chosen as the machine was programmed for their recognition. As a pilot study, Maury Morgenstein and I, examined whether it would be possible to discern different groups by looking at three elements: rubidium (Rb), strontium (Sr) and Iron (Fe). Dr Morgenstein, working in Egypt, had observed that these the differential amounts of these three elements signaled different environments to sufficiently understand different groupings (see Morgenstein and Redmount 2005). When the samples were plotted with a triangular scattergram using DeltaGraph 5 (a charting program) with their Strontium (Sr), Rubidium (Rb), and Iron (Fe) values, we did not see definite groups forming. Seeing that the Fe values set possible groupings off, as the values varied extensively in each samples, we plotted the samples only using Sr and Rb. The resulting diagram (see Fig. 210) does seem to show 2 distinctive groups of mud bricks and mortars: the later levels and the earlier levels. Level IX mortars that have the distinctive white colour group separately from all other samples. There are a few anomalies, like sample 14, 22 and 8 and this may be due to methodological problems or the recycling of materials. These main two groupings may have also formed due to pedological processes, specifically salt movement (personal communication with Prof Walter Alvarez).

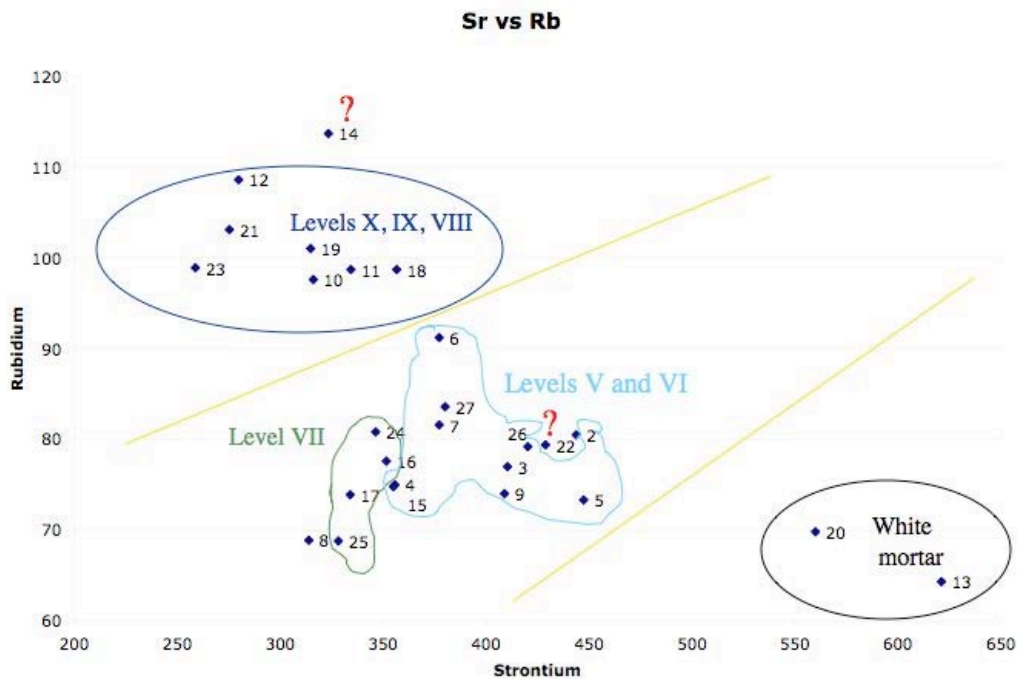


Figure 210 Strontium and Rubidium plotted. Parts per million.

This pilot study is incomplete in its content, but will be further pursued coupled with other analyses – mineralogical descriptions using thin sections, x-ray diffraction to understand the different clays, and general macro analyses. Also, results will be compared with natural sediments. I have already collected a small sample of natural marl and clay sediments around the site, from exposed sections (see Fig. 211), during the 2005 and 2006 field seasons.



*Figure 211: Sample collection from ditch, marl used for modern building practices today.*

### **Future Directions**

I am currently in the process of analyzing all samples collected from Çatalhöyük, at the Soils Laboratory in the Archaeological Research Facility within the University of California, Berkeley. The results of the building materials will be examined in relation to the different features that make up a Çatalhöyük house, and houses will be compared to each other. My sample size includes the buildings that have been excavated by the Çatalhöyük Research Project since 1996. The buildings I have sampled are as follows: Buildings 18 and 23 from Mellaart's Level X; Buildings 2, 16, 17 and 22 from Mellaart's Level IX; Buildings 4, 6, 7, and 21 from Mellaart's Level VIII; Buildings 8, 20, 24 and Spaces 112 and 113 from Mellaart's Level VI; Buildings 65, 56 and 44 in the South Area; Buildings 33, 34, 61 and 62 and Spaces 120 and 246 in the TP Area; Buildings 47, 49, 54, 57 and 58 in the 4040 Area; and Buildings 1 and 5 in the North Area.

The results of this research will hopefully aid, in conjunction with Serena Love's work, towards our understanding of the different building practices that took place at Çatalhöyük through time, and whether it is possible to have a comprehensive understanding of the passing down of building tradition through a detailed geoarchaeological approach.

S.	Type	Level	Sb	Sn	Cd	Ag	Sr	Rb	Pb	Se	As	Zn	Cu	Ni	Co	Fe	Mn	Cr
			Antimony	Tin	Cadmium	Silver	Strontium	Rubidium	Lead	Selenium	Arsenic	Zinc	Copper	Nickel	Cobalt	Iron	Manganese	Chromium
2	brick	VIA?	343.5	277.6	135.1	98.6	443.7	80.5	14.4	-5.5	5.3	21.8	33.5	-3.5	125.7	24.2K	257.1	-26.9
3	mortar	VIA?	77.9	-12.4	-15.2	16.7	410.4	77	18.7	-0.8	6.8	58.7	18.5	30.1	84.7	22.9K	363.4	86.2
4	Brick	V	133	68.8	9.5	31.9	355.7	75	18.8	-2.3	14.2	24	-36.5	81.5	102.1	24.4K	478.9	64.6
5	mortar	V	168.1	115.8	28	40	447.4	73.3	33.2	1	7.3	63.6	74.7	38.7	-0.1	21.2K	591.4	28.9
6	brick	V	277.1	178.9	43.4	70.6	377.2	91.2	16.4	-3.4	9.4	28	45.7	45	65.1	25.9K	905.4	91
7	mortar	V	305.2	232.2	74.1	89.5	377.2	81.6	22.1	-4.8	7	49	71.4	56.5	20.2	24.4K	550.4	38.3
8	brick	V	91.7	-2.8	5.6	11.3	313.9	68.9	9.5	-1.8	14.8	32.1	36.9	59.6	70.5	24.9K	589.3	16.8
9	mortar	V	224	159.5	61.2	14.9	409	74	30	0	8.1	43	-8.2	82	73.3	234K	630.3	41.6
10	brick	X	399.2	283	67.1	63.8	316.1	97.6	23.5	-1.8	13.1	35.1	62.8	47.6	140	30.3K	374.3	64.6
11	mortar	X	309.7	218	84.9	92.4	334.4	98.7	16.9	-3.2	11.3	39.9	83.7	29.4	31.4	31.5K	288.8	125.3
12	brick	IX	510.2	390.7	117.1	119.8	279.8	108.6	16.3	-1.1	15.9	56.7	75.2	76.3	234.5	31.2K	412.5	138.6
13	mortar	IX	444.2	279.2	89.8	110	621.2	64.3	20.7	-2.6	4.4	36.4	63.5	34.4	140.6	18.9K	463.6	9.1
14	brick	VIII	471.5	370.8	118.3	146.3	323.4	113.7	11.5	0.7	22.1	78.4	62.9	90.9	81.7	33.5K	302.8	125.6
15	mortar	VIII	395.8	277.6	88.2	95.4	354.9	74.8	24.7	-2.6	7.6	14.1	30	53.6	92.9	24.5K	490.8	129.8
16	brick	VII	256.4	194	39	62.9	333.9	73.9	21.4	-2.3	6.8	31.2	44.6	31.4	80.6	25.7K	428.7	56.1
17	mortar	VII	315	194.1	55.2	71.4	351.6	77.6	18.8	0.2	11.2	29.9	17.2	57.7	72.3	26.3K	433.3	9.3
18	mortar	X	352.3	274.8	97.8	80.5	356.6	98.7	22.4	-0.4	10.5	80.7	6.3	115.4	-67.3	30.1K	358.9	86.1
19	brick	X	341.5	237.1	74.2	63.3	314.7	101	19.7	-2.2	12.5	53.3	53.3	71.2	82.4	29.8K	405.8	127.1
20	mortar	IX	440.1	372.7	141	96.9	560	69.8	14	-2.9	13.1	-3.4	36.7	-27.6	35.1	21.4K	352.8	56
21	brick	IX	238	149.8	49.1	44.2	275.3	103.1	11.5	-3.1	17.2	43.6	80.8	74.5	32.9	30.4K	359.2	75
22	mortar	VIII	378.4	193.8	73	62.3	428.9	79.4	12.9	-3	15.2	26.4	-6.7	81.7	141.8	26.2K	341	130.9
23	brick	VIII	140.3	105.9	16.6	14.4	258.8	98.9	16	-1.3	14.5	54.2	-3.5	78.7	177.7	27.8K	220.7	45.7
24	mortar	VII	300.6	218.3	93.5	91	346.3	80.8	24.7	-3.7	7.4	20.4	46.2	56.9	2.4	29.1K	338.5	66.5
25	brick	VII	269.1	207.1	80.4	69.5	328.3	68.8	18	-2.4	9.1	34.2	-1.9	65.9	24.3	26.3K	642	63.3
26	brick	VI?	116.8	45.7	-3.6	14.4	420.3	79.2	17.2	1.9	7.4	45.3	-10.2	69.9	89.4	25.8K	322.9	62.4
27	mortar	VI	255.4	234.5	104.2	97.4	380	83.6	21.2	-3.5	11.5	27.6	53.1	26.2	90.8	26.6K	625.2	143.1

Table 66: Elements measured in parts per million

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