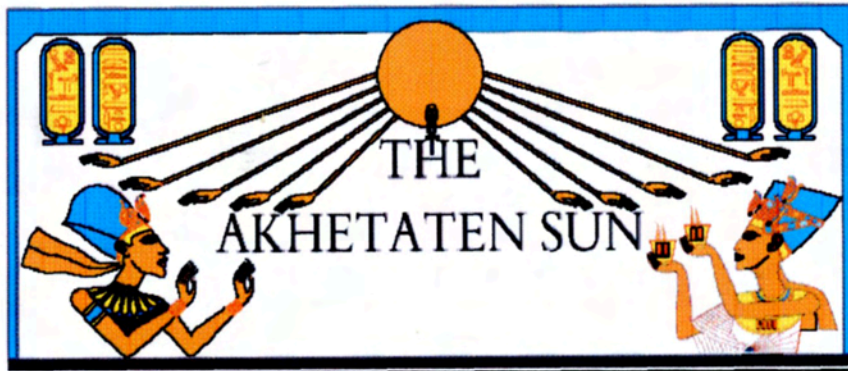


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Research
Foundation

Robert Hanawalt, Founder
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THE PRESIDENT'S PAPYRUS

The Amarna Research Foundation has supported work this past year by Lyla Pinch Brock and by Barry Kemp. One of these projects has been to record and conserve the painted art in tombs of the Amarna period, the other the conservation and excavation of the very homes of the artisans, nobles, and royals from this fascinating period. Many questions still remain unanswered, both at the city of Akhetaten, and throughout Egypt itself. What caused the pre-eminent rise of the Aten to power, and what events led to the Amarna period's sudden downfall? How can we help conserve these important sites?

We may never know the answer to the centuries-old mystery of what really happened, but great progress has been made in preserving the physical artifacts that still remain for future generations. With each passing year we learn more about what life was like during those times. But today's civilization continue to threaten the ancient sites. Everything from the relentless population growth and need for land, to the desire of modern tourists to walk in the footsteps of the ancients, stresses the ancient sites. Without conservation these sites will be lost to mankind. Their construction materials were enduring, but not permanent.

Recording and conservation are important activities. Indeed, many frescoes, paintings, and statuary only live on today because of the work of artisans and epigraphers of the past two centuries. The Amarna Research Foundation is proud of its sponsorship in helping to preserve some of this material for future generations. Helping to preserve the cultural heritage of this time period for generations yet to be, thanks to your generous support.

I am planning on visiting Akhetaten this year, to survey the work that has been accomplished since my last visit. Construction on the new visitor center and site museum are underway, to compliment the new Amarna history museum planned at el Minya. I'll share my experiences in the next Akhetaten Sun.

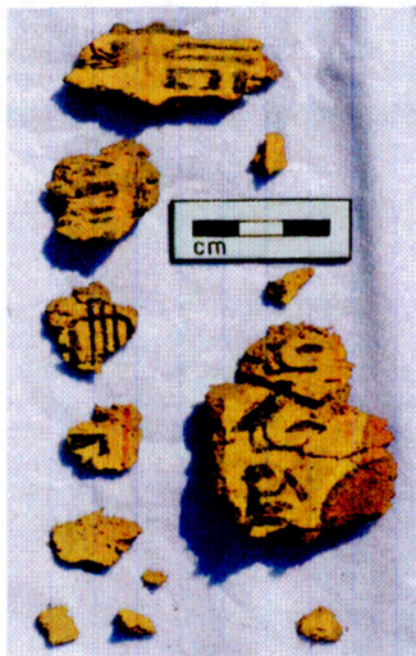
David Pepper

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Tell el-Amarna, November/December 2004

by Berry J. Kemp



Object 34588: fragments of painted mud wall plaster from a scene of a man named Tutu, found in the debris of the house over which Ranefer's house had been built.



Objects 34588 plus 34591: the same subject, with the addition of a fragment from an adjacent context.

The spring season was so busy that it seemed sensible to separate the recording of the new finds from the excavation itself. Accordingly I went back for nearly a month to Amarna to run a short study season devoted to the finds. I was accompanied by Dr. Anna Stevens and, for the first part of the season, Suresh Dhargalkar, our architect. Our SCA representative was Inspector of Antiquities Hamada Abd el-Muoein Kallawy, whose home is just across the river at Geziret el-Tell.

It was, I have to be honest, a pleasant change from the busy atmosphere of a full working season to be able to spend time at the house quietly, enjoying the atmosphere of the place and with the satisfaction of catching up on work left uncompleted. By the end of our time there we had recorded, by drawing, description and photography, a total of 383 objects from the spring excavations.

Of special interest was a small group of fragments of painted mud plaster from the surface of a wall. They had been found in the rubble beneath the floor of Ranefer's house and so must have belonged to the earlier house, which had been demolished. The fragments of painted plaster come from a scene, which showed at least one human figure accompanied by black-painted hieroglyphs on a yellow background. All that survived of the figure was part of the top of the head of a man, who had an 'incense cone' on his head. The hieroglyphs behind preserved the personal name Tutu, but no title. It is possible that this is the name of the owner of the earlier house. It would be wonderful to be able to say that he is the same Tutu who owned tomb no. 7 at Amarna, a man with many grand titles who is sometimes seen as the person who handled the diplomatic correspondence of the day, as represented by the Amarna Letters. Unless he moved on to a larger house somewhere else in the city, however, it seems unlikely that so great a personage would have lived in so modest a house as the one that lay beneath Ranefer's. And one has to remember that Ranefer only built his house after Akhenaten's death, as demonstrated by the 'Smenkhkara' name, which we identified earlier this year in his fragmented door jambs. So this is likely to be another and otherwise unknown Tutu.

We also spent some time preparing dossiers on two sets of material from various seasons in preparation for future studies by specialists. One of these relates to evidence for bronze-working. The absence of evidence for metallurgy at Amarna has long puzzled me. We now know, from the current German excavations at Kantir in the delta (the site of the Ramesside capital city of Per-Rameses), that the Egyptians were capable of constructing large bronze-smelting works of distinctive design. Nothing like this has ever been found at Amarna. The answer might lie in the many fragments of waste material and small crucibles found during the 1999 and 2000 excavations in the ground south of the Great Palace (grid 10) and similar pieces recently found within grid 12, including the debris of



Object 34619: one of several fragments of a pottery crucible used for the reworking of bronze scraps. A few small pieces, corroded green, are embedded in the vitrified surface of the crucible.

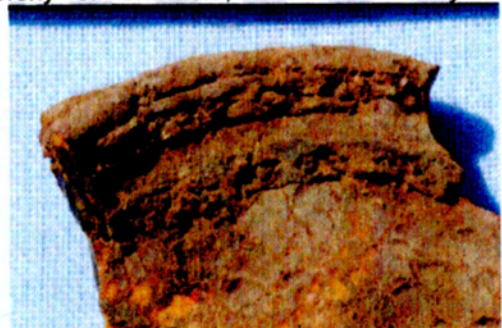
Ranefer's house. These are pieces so humble in appearance that it is easy to imagine that previous excavators threw them away. Yet, to judge from the spread represented by our two grids, this kind of material might be ubiquitous in the city. They suggest the existence of a widespread but small-scale 'cottage' industry in reworking already smelted bronze into particular artefacts. This is a theory that needs to be tested, and certainly the fragments themselves require specialist study. The person who has agreed to undertake this, and hopes to develop a full-scale study of the metalwork from Amarna, is Mark Eccleston of the Department of Archaeology at the University of Sheffield, who is currently completing a similar study of metalworking in the Roman period at Dakhleh Oasis.

The other set of material consists of many pieces of leather found during various seasons of excavation back as far as

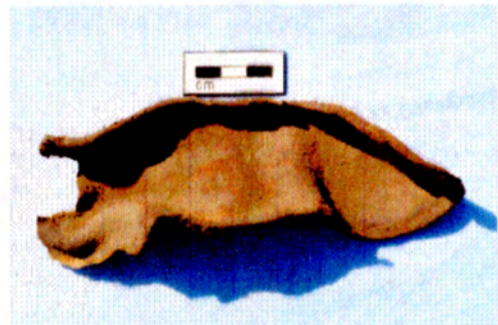
the early Workmen's Village days. The majority come from sandals, and include pieces from two found together in grid 12 in the spring. Or are they really two? Egyptian leather sandals were well made, the soles being of double thickness and very expertly stitched together with thin leather thongs. It is possible that our 'pair' is really the upper and lower layers from a single sandal. The leather has become so brittle that it does not do to handle the objects too much, and they await the attention of an expert. We have an interested person lined up: Andre Veldmeijer of Amsterdam, who is currently preparing a study of leather footwear from the Egypt Exploration Society's excavations at the much later site of Qasr Ibrim.

Not all of the leather comes from sandals, however. There is a well preserved square piece that helped to cushion the pivot at the bottom of a door. And there is a collection of many pieces of a thin leather sheet decorated with rows of short diagonal slashes, which are from this year's excavations. One of the fragments suggests a complicated shape that defies explanation.

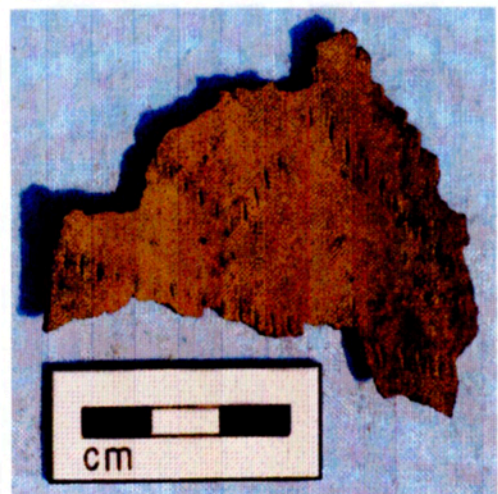
As a way of starting to understand better the processing of leather, at the end of the season Dr Stevens and myself went on a visit of exploration to the leather-tanning district of Cairo. We were aided by an Egyptian friend, Mohammed Mabrouk, a digital mapping expert who also runs Sahara Safaris a non-commercial society dedicated to developing a greater awareness of Egypt's past and natural resources amongst Egyptians. We made our tour in the late afternoon and early evening. The tanneries work around the clock. Despite the harsh conditions everyone we met was friendly and co-operative, and as a result we have a photographic record, although the gloom in which they work, even in the daytime, makes photography difficult. Though the machinery they use – huge rotating drums which swill the hides round and round in chemicals – will be nothing like the ancient technology, seeing



Object 34144a: a detail of the sole of a leather sandal from grid 12, showing the close stitching which held together the two layers of leather.



Object 34144b: a larger piece of the leather sole from a sandal.



Object 34148: one of the pieces of a thin leather sheet decorated with lines of diagonal slashes.



Smoothing hides again: a leather-worker in Cairo smoothing the surface of a hide.

animal hides passing through the stages in becoming leather brings one a lot closer to the industry, in whatever manner it is practised. One intriguing aspect is the use of a resinous substance imported in sacks from Zimbabwe, which they call 'mimosa', and is probably derived from acacia trees (though this needs to be checked out). The pursuit of archaeology is a path to many adventures.

In all of the recording we constantly used the new Canon digital camera, purchased through the special donation of Kristin Thompson. Any reservations I had about digital photography have now gone, although the question of permanent archiving still remains to be solved. One current option is a University of Cambridge initiative (the 'D-Archive'), which promises permanently updatable software and hardware specifically, designed for long-term archiving of research images.



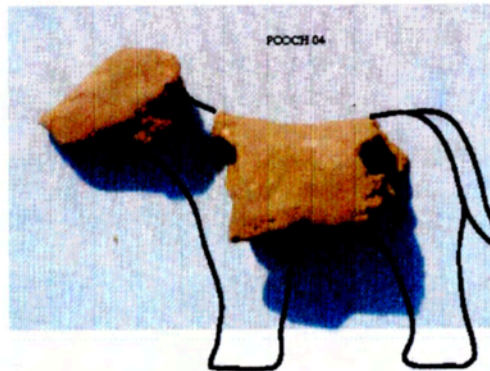
Object 34537: how did Egyptians stopper their jars? By means of a circular bung of criss-cross reeds sealed over with mud. The impression of the reed bung remains on the underside of the mud seal.

At the beginning of the season, our architect Suresh was with us to check out the current improvements to the expedition house; especially the recent rewiring that incorporates a full earth circuit and hence has British-style three-pin power sockets for safety. He also drew up a detailed specification for the next phase of development, which includes a conservation workshop, that needs to be big enough to handle heavy stone pieces, especially the huge fragments from the blown-up boundary stela S which now lie in our magazine.



Object 34599: a red-slipped pottery bowl used to contain blue and later green pigment, presumably used in the painting of Ranefer's house.

The dream of having an Amarna site museum seems to have moved a step closer. Architect Michael Mallinson tells me that a contract for building the museum has now been awarded by the SCA to a building contractor, and that work is scheduled to begin this month. Beyond the building, of course, lies the fitting out of the interior and development of the displays. This is a news story that is going to run for a long time, and could herald changes in our working practices at Amarna.



Anna's pooch: Object 34616: two fragments from a mud figurine, probably of a dog. The restored outline should not be taken as authoritative!

A Further Report on Work at Tell el-Amarna in 2005

by Barry Kemp, Amarna, 8 April 2005

This season's digging has been more or less of the same duration as last, and has involved roughly the same number of men. Almost twice the amount of ground has been covered, however. If this were a normal season I would now be worried since the final plan of the walls with all deposits removed, and the accompanying notes, have barely been started; nor has the selection begun of special objects to go into the government antiquities register. A quick look in the boxes tells me that there are far more finds than last year and, although mostly broken, from a wider variety of types of object. I have decided to take advantage of my sabbatical year, which leaves me largely free of university obligations, and to stay on at the dig house until the end of May, and to this end have applied to the SCA for an extension of the permit. The weather will get progressively hotter, but it will also be quiet, and the magazines that store the antiquities will stay open.



Dig house 32: a view of part of the expedition house at Amarna

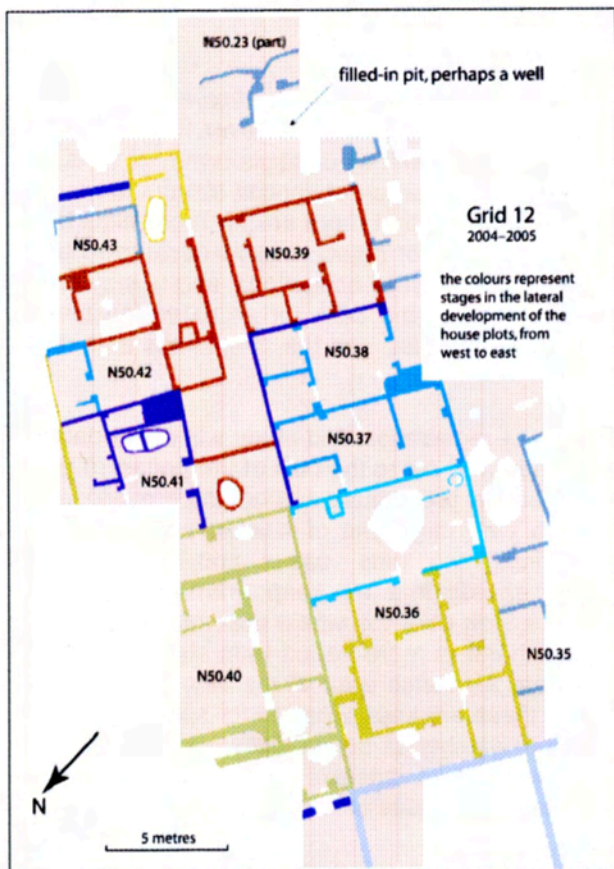
The process of registration and study will apply only to the 'small finds' and not to the bulk of the pottery. These have received the preliminary sorting process and what remains is a very large pile of labeled and numbered bags containing the rims, bases and handles, the selection of sherds that we keep. Pamela Rose has taken a quick look over the whole assemblage and has commented that it is more varied than she would have expected from a poorish area of the city. Amongst the sherds (and these are kept separate for specialist study) are many with patches of brown shiny resin adhering to them, the remains of incense that was imported and widely used in the houses at Amarna.



Dig house: a balloon photograph of the expedition house taken in April of this year.

There remain only two full days of digging although it will be possible to keep a few men on for cleaning the site for final photography. To this end I have started to erect the tall scaffolding photographic tower that will loom over one side of the site for a few days. It will not only provide a fine vantage point for photographs but will give a bird's eye view of the site and help us to group the maze of rooms into individual properties – 'houses' – that will then have index numbers assigned to them, beginning with N50.31. In many cases it is possible to see immediately where the interconnecting doorways were and so to decide which rooms or courts belong together. But sometimes the damage is too great and then it becomes a more intuitive process.

As is commonly the case at Amarna, the smaller houses were not built so that everyone's front door looked on to a street. Groups of houses formed intricate interlocking clusters that would have brought the occupants into constant contact with one another. Although the houses tend towards a common layout, no two are the same either in their areas or room arrangements. They appear to be classic products of rapid self-organization by groups of people – families related to one another? – able to achieve a common goal. The job of planning the complex and of making sense of it will be assisted by the ancient use of two contrasting brick types, one that is grey and made from gravel mixed with Nile alluvium, and one that is orange and made wholly from desert materials. The colour contrast is very obvious, and it is often the case that an individual wall will be built just of one or the other type of brick. This is something that was probably quite common at Amarna but never appears in the older excavation reports.



Outline plan of grid 12 showing the likely order in which walls and houses were built.

Sarah Parcak, with Greg Mumford, spent part of the season on the west bank survey, a project of her own. This season she was able to use the new coring equipment and to examine what lies below some of the identifiable sites. Surprisingly, even at depths of six metres the datable sherds were no earlier than Roman. Either sites of the Pharaonic period are buried at an even greater depth, or the locations of towns shifted considerably between the eras, so that the discovery of sites of later periods is not necessarily a guide as to where earlier settlements were. We might be only at the beginning of understanding the history of occupation of this stretch of the Nile floodplain.

At the end Sarah and Greg spent two days with the coring equipment, at the North Palace, trying it out on the huge well depression that occupies much of the rear court. They managed to reach a much greater depth than we have with previous equipment, as far down as 8.5 metres from the current ground surface of the palace. They had to stop at this point, having hit saturated limestone debris. Yet even so they think they are some way from the bottom. This finding reinforces the idea that the depression contained a deep, as well as wide, well and not an ornamental lake.

Desert survey

Helen Fenwick has concluded her GPS survey for the season, leaving me a digital file which plots the positions of all of the southern boundary stela, including the J, K, M set at the south end of the site beyond el-Hawata. This leaves only the distant northern stela X (not far from Sheikh Said) to be included in next year's work (the stela on the west bank are not at present in Helen's remit).

The aerial photographic survey

The helium balloon has been filled and taken out on two days for photographic runs. The excavation site has been covered from the full height, and a series of strips of city housing have been covered as well, including one to the south of the expedition house. The Small Aten Temple has also been included. One further run is planned for low-level coverage of the excavation, and if possible the North Palace will be photographed so that the new work can be recorded.

Although the balloon has a relatively new replacement envelope, and Gwil the photographer has lined it with a sealant, it is losing too much helium for it to remain viable. Gwil and I have concluded that this style of balloon is simply not sufficiently rugged for the Egyptian desert environment. When back in England we will try and locate other balloon manufacturers.



Sunrise at the Small Aten Temple in February, at a time close to when the Spring equinox would have occurred in the reign of Akhenaten.

Repairs at the Small Aten Temple

The building work this year, which employed three builders and their teams, continued the scheme to improve the definition of the first and second courts of the temple. To this end the two side gates of the wall that divides the two courts were refloored with stone at the same level as that of the central gateway, which was given a new floor last year. This brings out even more clearly how the ground of the temple rises from front to back, necessitating ramps in front of the side gates. These have been made in sand held in place by new brick walls on either side.



The excavation site, grid 12, halfway through the season, looking south.

The relaying of this stonework at the high level implied by the topography of the site led to the building up of the brick walls on either side, incorporating into them the step at the base of the walls which is a feature of all of the main walls of the temple. The original purpose was probably added stability but now this line gives further definition to the varying levels of the ground within the temple. Close to the end of the season a start was made on laying out the brickwork of the southern side gate of the wall that separates the rear sanctuary court from the middle court. This is in preparation for defining the side gates in the same way as has been done for the others, with stone block thresholds.

The central court had two small entrances in the middle of the north and south enclosure walls. These show no signs of having had stone thresholds. The repairs here took the form of replacing the sides with new brickwork.

The first court had contained a field of small mud brick altars arranged symmetrically around a large brick platform that had been reached by stairs on the temple axis. It is likely that this was built at the very beginning of the Amarna Period and later demolished. It was the place where the current programme of repairs to the temple fabric was begun in the late 1980s. The new bricks made then were not as good as those made now, and since the restoration was done the brickwork has deteriorated. This year the entire altar was remade in new bricks. The staircase was given a clearer definition, with three steps inserted flanked by the beginnings of sloping brick balustrades. The opportunity was taken of remaking some of the smaller altars and of setting out new ones so that the sets on the north and south sides of the main altar are symmetrical.



The excavation site, grid 12, at the end of the season, looking south-west.



Work begun in 2005 at the North Palace. Repairs to the domestic suite, including the bathroom. View to the south. The remaining step is to replace the stone bathroom floor that was present in 1923 but has since vanished.



Bronze bowl buried beneath a floor in building N50.23

gypsum. The entrances in question were the two on the south side, and the wide eastern doorway on the axis of the palace. The site of the entrance to the throne room was cleared of dust revealing another well preserved gypsum foundation. This was photographed but has not yet been planned.

The main work of the second team of builders was on the group of rooms immediately to the south of the central hall. The group included a bathroom and bedroom with alcove, and the broad staircase running behind them. The brickwork of the western rooms is relatively well preserved. When first exposed in 1924 the limestone floor and gypsum wall facings to the bathroom were still in good condition, although subsequently all traces of them vanished. The eastern rooms, by contrast, have lost most or all of their brickwork, which has evidently been deliberately robbed.

Repairs at the North Palace

Two builders with their own teams worked separately through most of the season. One concentrated on the rear outside wall of the palace, continuing the task of refacing the weathered upper part of the outside surface, the part that visitors see first. This was completed, and the refacing then taken around the north-east corner and along the north outside wall to a short distance beyond the northern gateway. The brickwork on the north side was especially in need of support and repair. The wall had originally contained wooden beams set end to end within the brickwork. They were long ago eaten away by termites, and the empty space left has been widened by weathering to undermine the overlying brickwork. As part of the repairs the deep groove was filled with mud

plaster, so preserving the location of the beam, and where it was sufficiently wide the missing mud brick courses above and below were replaced.

In recent seasons much attention has been paid to the central hall of the palace. The positions of the missing column bases have been marked, and the area of the stone platform outside the front has been covered by a new layer of stone blocks. The ground level around the platform is lower than it must have been in the Amarna Period. During this season some men were employed to spread soil from one of the old excavation dumps around the area of the platform in order to level up the ground so that the stonework is almost flush with it.

The broad thresholds of three of the entrances into the central hall were replaced with new stone blocks, following the patterns still preserved in the ancient foundation layer of



Limestone sculptor's trial piece with face of Akhenaten, found on the surface in front of the Small Aten Temple.

The lines of all of the walls have now been given at least two new courses of bricks, so that the plan of the little complex is now immediately visible. The aim in the future is to insert a new stone floor into the bathroom and to remake the alcove with its low bench in the bedroom. The staircase that ran behind these rooms rose over a line of three brick compartments that had originally been filled with soil. The eastern one had been repaired last year and the central one needed little attention. Both of them are now refilled with rubble. The missing north wall of the easternmost compartment has been rebuilt, enabling this one, too, to be filled up. At the same time, the greater part of the lowest four courses of the mud brick stairs have been replaced (leaving some of the original brickwork of the stairs where it survived best on the south side). A much better idea of the size of the staircase, especially its length, which implies that it ran to a considerable height, can now be gained from the tourist viewing area on the embankment towards which the staircase points.

South Tombs bone survey

I have just received from Jerry Rose, the physical anthropologist from Arkansas, his first outline report (I almost said skeleton report) on the collection of human bones. He writes at the end:

"Combining both bone collections provides that there is a minimum number of 53 adults with at least 19 females and 18 males. There are at least 14 juveniles with the ages of nine of them known: 5, 5, 8, 9, 10, 11, 15, 17, and 17 years. There is a minimum of 3 infants with one known to be 1.5 years from dental development." So there is a start on our first collection of Amarna people. Pity we shall never know their names. Jerry promises a second part to his report, covering the pathology.

I plan to travel to Cairo with the rest of the team on Tuesday. We will have a farewell meal and I have various bits of business to conduct. I will then return to Amarna for the second stint. I will let you know how I get on.



An example of the bones: radius with healed fracture



An example of the bones: healed depression fracture of the skull.

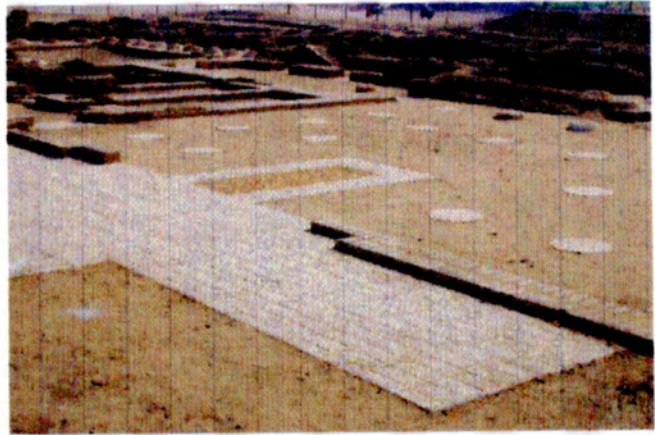


South Tombs human bone collection. Rainwash has strewn human bones from an Amarna Period cemetery down the floor of the wadi.

PHOTO GALLERY



View of house N50.39, towards the north.



Conservation at the North Palace. General view of the work completed so far at the rear of the building. View to the north-east.



View westwards along the axis of the palace, from the throne room to the main columned hall. Note the newly replaced stone threshold in the foreground.



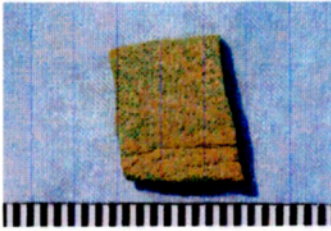
Conservation at the Small Aten Temple. General view to the east, along the main axis, of the work completed so far.



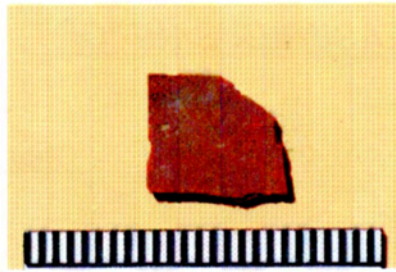
Visualization of the new Amarna site museum, looking northwards (design by Mallison architects).



This is a picture of the site of the new museum, as of 1 October. Barry took it on a quick visit to Amarna that he made in connection with the museum, that also included meetings in Cairo with Dr. Zahi Hawass and his colleges. We are very excited to see it starting to happen.



Working with glass. Piece of flat green glass bar. The wrinkled surface has probably been produced through patting in of the sides of the bar in order to straighten them.



Working with glass. A piece of red glass inlay. It has been made by grinding and smoothing a length of glass bar, treating the glass as if it were a piece of hard stone.



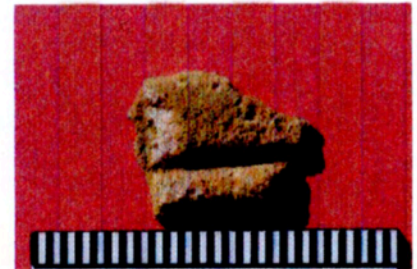
Working with glass. Fragment of a polychrome glass vessel made by softening canes of glass and winding them around a core.



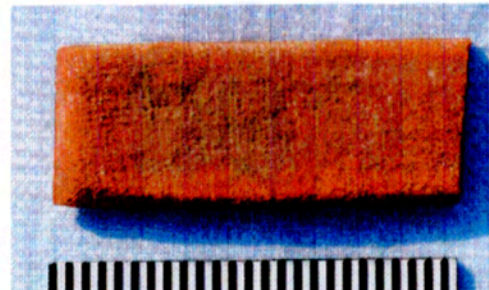
Working with bronze. Fragment of a crude pottery crucible in which small pieces of bronze scrap mixed with charcoal have been melted down.



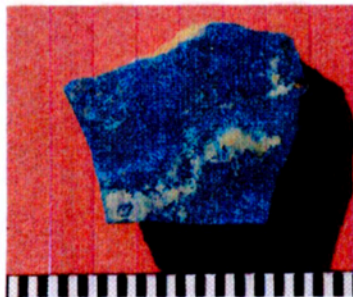
Working with bronze. Small piece of scrap bronze sheet that has been folded over to make it smaller.



Working with faience. The same piece of faience seen from underneath. The deep groove marks the line where the piece will be snapped in two. Unlike red inlays, blue faience inlays were not cast in moulds by cutting from large irregular tiles glazed only on one side.



Working with faience. A red faience inlay intended for insertion into a piece of stone architecture. It has been made in a mould covered with a piece of cloth to prevent the faience from sticking. The impression of the cloth is clear.



Working with faience. A piece of blue faience in the process of being made into an inlay strip by being cut around the edges.



Working with glass. The end of a brown glass 'cane' or rod that has been pulled from a pot of molten glass. The flattened end shows the marks where it has been held by metal tongs as it was pulled out.



Faience pendant of the domestic god Bes.

TREASURER'S REPORT

	<u>Checking</u>	<u>CD</u>
Beginning Balance	\$ 8,621.50	\$ 5,044.03
Grants received	10,915.00	
less returned check	(30.00)	
Interest		46.97
Grants made	(12,000.00)	
Expenses		
Advertising	(940.00)	
Administrative	(825.92)	
Current Balance	\$ 5720.58	\$ 5091.00
TOTAL	<u>\$10,831.58</u>	

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