

# horizon

ISSUE 13 Summer 2013

The Amarna Project and Amarna Trust newsletter

## Tasks completed

Despite political uncertainties, the expedition's work has gone on without interruption. Our main news this time is of two completions. In April the excavation of the South Tombs Cemetery, that began in 2006, came to a successful end. Whilst following a careful plan to gain even coverage across the site, the target of 400 Amarna Period individuals, set by the anthropologists, was reached. Much study and writing have already been done, and the aim now is to complete in the coming two years a major report on the cemetery and what it tells us about the people of Amarna. A selection of recently found objects is presented here, on pages 2 and 3.

The first stage of repair at the Great Aten Temple, started in spring 2012, has also been finished, namely, the laying out in new stone of the small palace inside the outer mud-brick pylon. For photographs, see pages 8 and 9.

Once more it remains for me to thank all our supporters, whose donations and encouragement enable the project to function.

Barry Kemp, Chairman



In 1994 a replica of one of the original giant sandstone columns was erected in the Small Aten Temple. In the spring of 2013 the sculptor responsible, Simon Bradley, returned to carry out an inspection and maintenance. The first step was to surround the column with scaffolding. On page 12 you will find illustrations of the final stage.

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# From life to the afterlife:

## burial goods at the South Tombs Cemetery

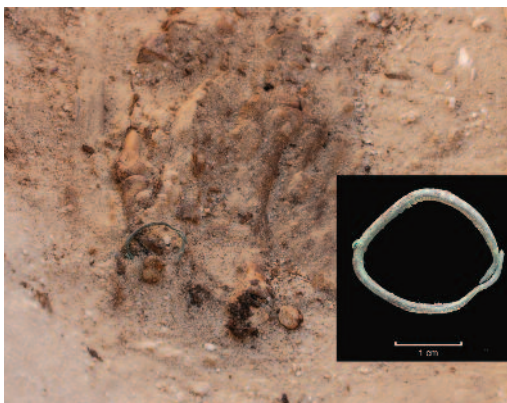
Anna Stevens

Excavations at the South Tombs Cemetery have yielded a small but important assemblage of artefacts, deposited as burial goods for the deceased.

Most common (apart from the ubiquitous potsherd) are small scarabs, decorated beads and other items of jewellery – pendants, rings with decorated bezels and circular rings worn on the ears or in the hair. We have found calcite vessels, a small faience bowl and wooden tubes and applicators for kohl eye paint – sometimes still containing the kohl itself! A number of other cosmetic implements have also been recovered.

Only rarely can we identify objects that look as though they were purpose-made as burial goods. One example of such is a miniature bladed tool that might have been used in the Opening of the Mouth Ceremony (*Horizon 4*, page 3). More often, the objects seem to be items that were used in life, and then interred in the burial. They might have been taken to the grave because they were perceived to have protective qualities, or simply because they were important to the deceased. They offer a small glimpse of the problems, priorities and individuality of the people who lived at Amarna some 3000 years ago.

The selection illustrated here comes from the most recent seasons.



### Copper-alloy toe ring obj. 39993

Excavated in 2011, this toe ring was one of the most unexpected discoveries from the site – toe rings are not at all well known from ancient Egypt. It was found on the second toe of the right foot of a man aged around 35–40 who had suffered multiple broken bones during his life. Was it simply an item of adornment, or might it have had a magical or medical role connected with these injuries?



### Ring bezel with duck and papyrus motif obj. 40067

This fragile piece of metal forms part of the rectangular bezel of a finely made finger ring. The natural scene it depicts – a duck flying over a papyrus clump – is one more commonly known from Amarna wall paintings than from personal items of adornment.



### Faience Bes pendant obj. 40089

Found within a burial that had been heavily disturbed by robbers, this pendant in the shape of the domestic god Bes is very likely to have been worn by the deceased during life. Bes pendants are quite often found amongst houses at Amarna, and show that Akhenaten had little interest in outlawing religious practices that centred upon the domestic wellbeing of his citizens. This pendant is a particularly large and detailed example of the type.



### Faience bowl obj. 40083

Fitting neatly into the palm of the hand, this shallow faience bowl of rounded profile is a rare example of a faience vessel from the cemetery.





### Engraved plaque obj. 40085

Perhaps the commonest personal item in the cemetery is the single small decorated bead, in this case made from glazed steatite from which much of the glaze has worn away. On one side is carved a king in the form of a sphinx, the sign for 'ruler' behind him and for 'life' in front. On the other side, a gazelle rests amidst vegetation, suggesting a contrast between power and submission.



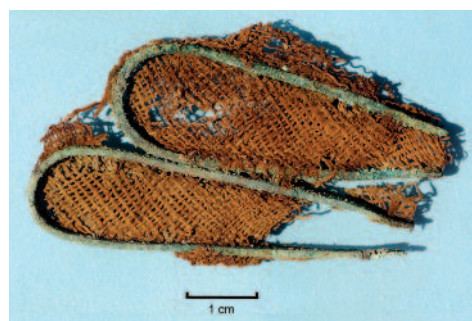
### Faience fish pendants from a necklace obj. 40116

With only a handful of intact necklaces and collars recovered from Amarna, finds such as this – a group of pendants found in a grave and once strung together – are very important. The pendants were found with hundreds of little ring beads, a selection of which is shown. The fish itself could be a symbol of rebirth, and so is an appropriate motif in a funerary context.



### Child's bracelet obj. 40115

This remarkable little bracelet was found in place around the wrist of an infant. What is unusual is the technology. Small lengths of gold wire have been hammered into links, which are then folded over one another to form a chain that looks very modern at first glance. It shows the amount of care that could be expended on goods for even the very young. Nothing like it has been found before at Amarna.



### Two sets of tweezers obj. 40119

Found together in the burial of a woman who had long plaited hair, these tweezers are the first so far known from the cemetery. Assuming they were used for cosmetic purposes, they show the importance of personal grooming and appearance – some things don't change!



### Stone bead with insect and lizard design obj. 40113

This little bead is noteworthy for the images of the lizard and insect carved on its underside, unusual motifs carved in quite a naturalistic posture. The meaning of the design is obscure to us now, but may well have had magical properties. What is also nice is that, whilst stone beads were often coated with a blue glaze, this has been bypassed here, allowing the unusual natural swirled design within the stone to show.



### Wooden handle or staff (?) with decorative binding obj. 40138

Wood is one substance that does not survive well at the cemetery. This patch of bark covering is probably from a handle or staff. Finely cut strips of another material have been plaited together and set into spaces shallowly cut into the bark.



### Finger ring with papyrus design obj. 40120

Faience jewellery is reasonably common at the cemetery, but this ring is unusual in that it has survived the millennia unbroken. It is also quite a finely made piece; after the bezel was moulded, sections of faience were carefully cut away to create an openwork design of conjoined papyrus heads, an unusual motif.

For burial goods found in earlier seasons, see *Horizon 1*, page 6; *Horizon 4*, page 3; *Horizon 5*, page 1; *Horizon 6*, pages 2–3; *Horizon 7*, page 3.



Individual 329 (skull 255). Skull with very well preserved hair, showing detail of hair extensions braided into the hair. The hair is covered with textile.



Individual 314 (skull 272). Skull of a child (8½ years old) with side lock of small braids.



Individual 310 (skull 275). Skull with hair possibly dyed with henna (?) and with dark inserted coloured extensions.

## Human hair from the South Tombs Cemetery

Burial in a desert valley that has occasionally been flooded means that most of the tissue on the bodies has been lost. The bones, however, have survived well and so has the hair. From the excavations have come many skulls with hair still in place, together with many loose hair samples that had become detached when the graves were robbed.

**Jolanda Bos, who began a study of the hair in 2012, writes:**

Between 20 and 27 May 2013, a triage was conducted of the skeletal remains from the excavation seasons 2012 and 2013. Over 100 skulls were looked at. On 28 of these hair was found and they were selected for study. The uniqueness of the Amarna human hair samples became clear this season, on account of the number of complete hairstyles dating to this limited period, especially in combination with the preservation conditions and the ethnic complexity of the group.

No wigs were found, but a large number of extensions was discovered, and the way in which the extensions were braided or tied into the hair was often well visible. Often the extensions were set in very short (10 cm) hair, by braiding the strands in with the hair of the individual. The extensions were then covered up by the original hair, creating a ridge in the coiffure. One of the skulls presented a very complex coiffure with approximately 70 extensions fastened in different layers and heights on the head.

## The fight against encroachments at Amarna

The free internet service 'Google Earth' offers satellite images of Amarna of very good resolution. They have recently been updated, with a series that bears the date March 16th, 2013. They capture a moment in the constant battle between villagers who want to extend their fields and agricultural buildings and the local antiquities inspectorate that seeks to prevent encroachments on land that belongs to the Ministry of State for Antiquities. The first step in encroachment is often to score the surface of the desert with a pattern of trenches made by dragging a hoe behind a tractor.

In both of the cases shown here, the attempts were abandoned following vigorous intervention by the antiquities inspectorate and the tourist and antiquities police.



1. Planned encroachment. 2. Expedition house. 3. Antiquities guards house. 4. Modern cemetery. 5. Village rubbish dump. 6. Largely unexcavated area of the South Suburb of the ancient city.





Individual 337 (skull 306). Skull with reasonably well preserved braids, covered with textile remains.



Unit (14743) (skull 316). Skull bearing reddish bands or lines, possibly discolouration from fibrous strips.



Individual 236. Skull with short braids and textile covering the hairstyle.

On almost all skulls, fat was used to model the hairstyles. In the dark brown hair a number of rings or coils around the ears were uncovered which seem to be an important feature of the Amarna hairstyles. These ear coils were modeled with fats, probably *post mortem* considering the delicacy of the work. No pins or other objects were used, as far as can be seen, to keep the braids in place.

On at least three children's skulls, sidelocks were found. One showed loose and well preserved braids on the left side, and other, fragmentarily preserved braids on the right back side of the skull. The braids were 8 to 10 cm long and very fine. On the other skulls, the hair was not preserved, but discoloration of the encrusted sand on the skull showed the location of the side locks. On these individuals also loose tresses of hair were found on top of the head. The children were 4½ years, 8½ years and 9½ years of age.

On most skulls remains of possible fat cones were discovered, either in the form of loose fragments of cones or where individuals had either a discolouration of the hair, tissue or bone which may have been a result of the melting of these possible cones. Some skulls showed lumps of 'melt' stuck to the side or front of the face. Possibly the cones were placed on a piece of textile in order to move them, or the textile prevented the mixing of some of the material in the cones with the hair.

On the back and the side of some of the skulls, botanical remains were found. They seem to have been bound with string to the back of the head of the individual; sometimes they were found in relation with a strip of textile. Possibly these are the remains of floral garlands draped around the head of the deceased.

See *Horizon 2*, page 3 for another skull with hair; and *Horizon 7*, page 3 for a skull with fat cone in place.



One of the trenches, dug at night by a tractor dragging a hoe. Limestone blocks mark the intended lines, as do palm branches pushed into the sand. In the background is the modern cemetery of the village of El-Hagg Qandil (see picture on the opposite page).

1. Planned encroachment. 2. House of the sculptor Thutmose. 3. City house of the high priest Panehsy.

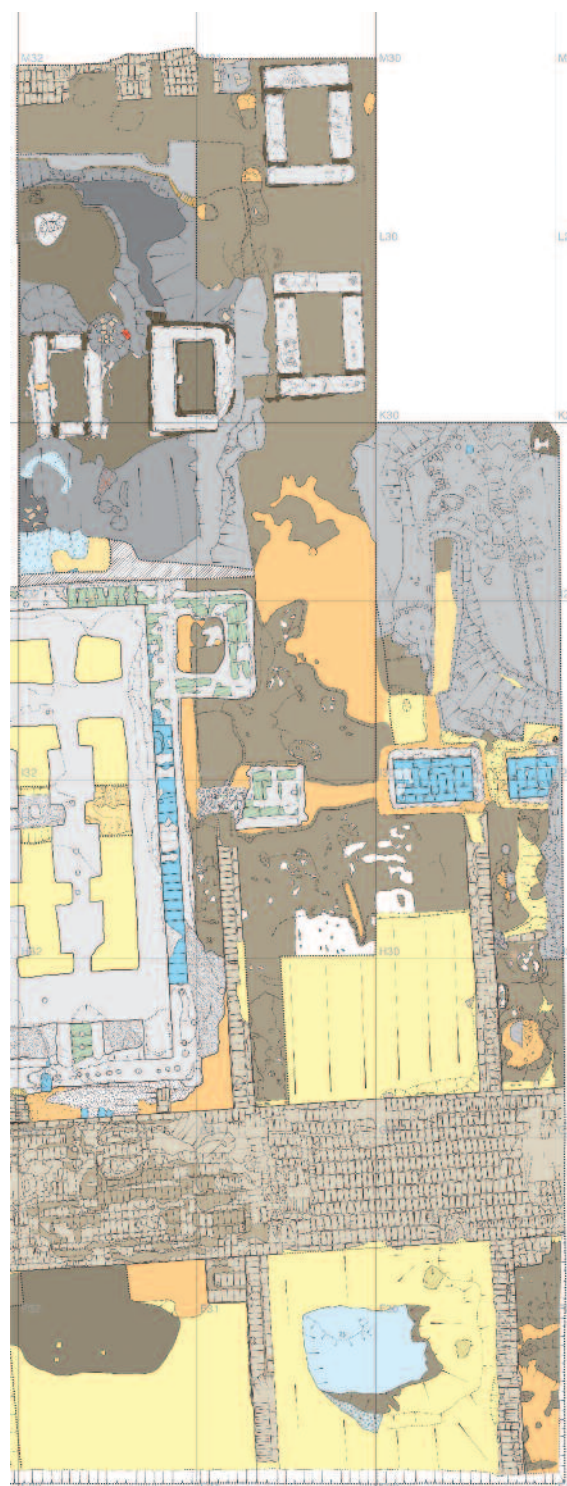
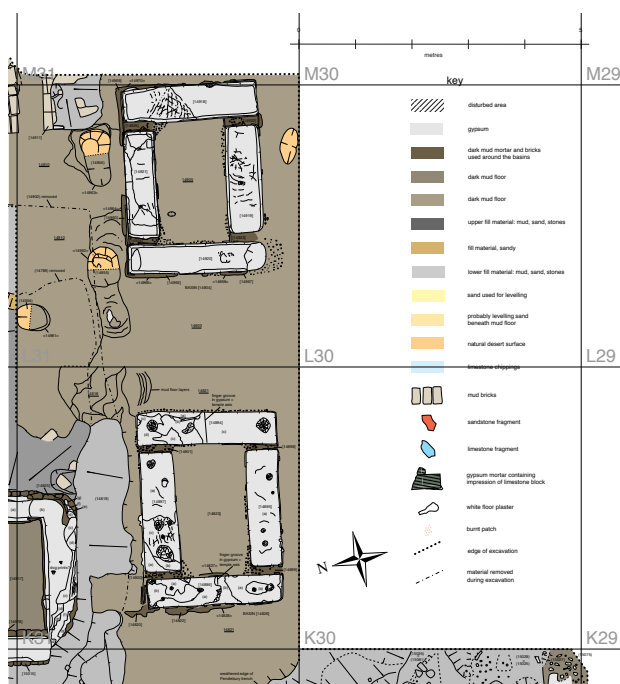
# The Amarna Digital Atlas

[www.amarnaproject.com/pages/recent\\_projects/survey/digital\\_atlas.shtml](http://www.amarnaproject.com/pages/recent_projects/survey/digital_atlas.shtml)

The project's web site describes an ambitious plan to create an electronic atlas of Amarna. Progress is slow but nevertheless does take place. The Atlas has two main components. One is a database of all objects found at Amarna by archaeological excavation. The last issue of *Horizon* (no. 12, page 4) reported on the start of a project to convert, into a database of standardised format and terminology, the essential information on all of the objects recovered at Amarna since the first season of the current excavations in 1979. For the continuation of this, we have launched a separate appeal (see opposite page).

The other component is a set of digital plans of Amarna as a whole and of individual parts, utilising the extensive corpus of excavation and survey plans made by the current expedition since it began in 1977. Over the years many of the plans have been rendered into outline digital format, and this work is now being extended and revised to a greater level of detail and in colour.

The sample illustrated here is of part of the Great Aten Temple, and is based on the field plans of B. Kemp, M. Bertram, D. Driaux, A. Hodgkinson and S. Kelly. In the smaller-scale sample the lettering has been omitted. A separate overlay sheet (not illustrated here) contains the numerous spot heights that are the key to appreciating height differences. It is not feasible to publish colour plans at the required scale by conventional printing (they have been prepared at the scale of 1:25). They will be made available on the project's web site, bit by bit. This is very much a case of work in progress.





## Fund raising

Since excavations recommenced at Amarna in 1979, around 24,000 artefacts have been recovered from the city's houses, temples, palaces and burial grounds. This collection of jewellery, statue fragments, stone furniture and a vast range of other finds forms one of the most important assemblages of artefacts from ancient Egypt.

At present, the objects are documented on paper registration cards. The time is long overdue to digitise this archive, making it more searchable, and ensuring that we have a back-up copy. The ultimate goal is that the entire database will be made available online for all to use and explore.

In 2012, a group of volunteers travelled to Amarna to begin the task of entering the object cards into a database. In October 2013 we aim to complete this work.

We have recently set up an online fundraising page in support of this project: [www.justgiving.com/Amarna-Archiving](http://www.justgiving.com/Amarna-Archiving)

**Can you help us?** Your donation will be put towards the costs of transport and lodging for the team of volunteers. No donation is too small – every bit makes a difference.

### Great Aten Temple

At the same time, we continue to appeal for funds to continue the work of cleaning the site of the Great Aten Temple and of preserving its outline in permanent form. For this, **The Big Give** web site remains open through the year for donations.

<http://new.thebiggive.org.uk/project/greatatentemple>

**theBigGive.org.uk**  
helping your donations go further

### Grants

Some parts of the work at Amarna are supported by grants. We are pleased to record two that underpin the work at the South Tombs Cemetery. The last two seasons, only three months apart, that allowed the excavation to be completed, were supported by a grant from the **National Geographic Society**.



The extensive work of professional conservators on the decorated coffins has been, in part, paid for by grants from The Aurelius Trust and from The Thriplow Trust. The next stage is now covered by a large grant from **USAID**, administered by the American Research Center's Antiquities Endowment Fund. This stage of the conservation programme will commence at Amarna during 2014.



More shelves. We have been able to add more sets of magazine shelving to the antiquities storeroom at Amarna, one of them paid for by the **Sussex Ancient Egypt Society**.



The new shelves, awaiting final adjustment and addition of wooden sheeting, stand at the far end of the outer magazine room.

## Tours

### Study Tour to Lower Egypt

**Thames Valley Ancient Egypt Society** 'Study Tour to Lower Egypt Including the Faiyum, Alexandria and the Delta'. The tour, run in conjunction with the Amarna Trust, is scheduled to run between Monday 9th December and Sunday 22nd December 2013. The itinerary begins at Saqqara and ends at Tanis (and Cairo), taking in a number of rarely visited sites. The trip will be led by Barry Kemp and Dr Rawia Ismail. A donation will be made to the Amarna Trust.



For more information (including an itinerary, booking form and information sheet) please contact [chairman@tvaes.org.uk](mailto:chairman@tvaes.org.uk)

### Cities of the Nile

**Ancient World Tours** 'Cities of the Nile'. Saturday, 27th September to Saturday, 11th October, 2014. The tour will visit many of the ancient cities that stand on the banks of the Nile, from Aswan through Middle Egypt to Cairo. Two full days will be spent at Amarna. Barry Kemp will accompany the tour throughout.

See [www.ancient.co.uk/Destinations.aspx](http://www.ancient.co.uk/Destinations.aspx) and [www.ancient.co.uk/Bookings.aspx](http://www.ancient.co.uk/Bookings.aspx)  
tel. +44 844 357 9494

## Amarna in Berlin

### Im Licht von Amarna/In the Light of Amarna: extension of the exhibition

The Staatliche Museen zu Berlin have extended the greater part of the special Amarna exhibition until Easter next year. The part in the basement will be dismantled, however, and the loans from the Metropolitan Museum of Art, the British Museum and the Petrie Museum will be returned, to be replaced by other Amarna pieces from the Berlin collection.

## Postscript to 'They worked at Amarna

Thomas Whittemore,' *Horizon* 10, pages 8–9

The Dumbarton Oaks Image Collections and Fieldwork Archives section of the Byzantine Institute, Washington has now posted its collection of early Thomas Whittemore photographs in an online exhibit. It includes the photographs he took at Amarna in 1923. The exhibit is entitled 'Before Byzantium: The Early Activities of Thomas Whittemore (1871-1931).' The Amarna pictures are at: [www.doaks.org/library-archives/icfa/special-projects/online-exhibitions/before-byzantium/amarna-gallery](http://www.doaks.org/library-archives/icfa/special-projects/online-exhibitions/before-byzantium/amarna-gallery)

# The House of the Aten

## The work of the spring 2013 season

Between 1 February and 28 March work resumed at the site of the House of the Aten (the Great Aten Temple). Two projects were pursued simultaneously. One was the re-excavation of a further part of the front of the building (previously cleared in

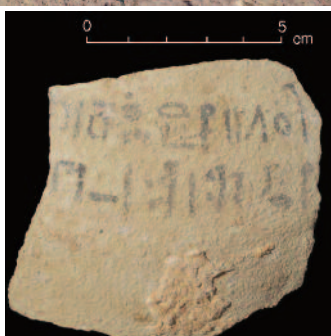
1932). The other was the completion of the laying out, in new limestone blocks, of the bottom course of a stone building, probably a small palace beside the mud-brick outermost pylon. A coloured plan of part of the area is on page 6.

Four sets of gypsum-lined basins, viewed to the north. Two (in the foreground) belong to the earlier phase of the temple; two belong to the later phase and so are at a higher level. They had been relined with gypsum plaster, perhaps every year. Although the purpose they served is not yet established, it was one that was maintained through the life of the temple. Photo by Gwil Owen.

General view eastwards along the axis of the temple. The mud-brick pylon is in the foreground. By the time of the photograph, back-filling had already begun. Photo by Gwil Owen.



Hieratic label from an amphora. The text (transcribed and translated by Marc Gabolde) reads: 'Regnal year 12, wine for the House [...] [from the] western river, of the chief [of the vineyard...]'

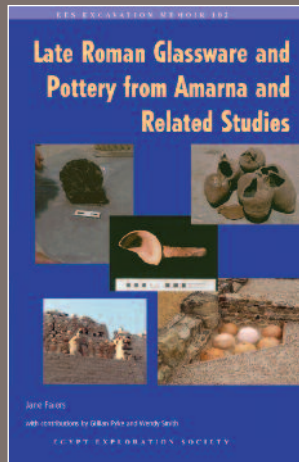


One of the statue fragments recovered from the front of the temple. In limestone, it is part of a back pillar for a statue of Nefertiti. Photo by Gwil Owen.



Archaeologist Sue Kelly records one of the sets of gypsum-lined basins.





## New publication

### Jane Faiers, Late Roman Glassware and Pottery from Amarna and Related Studies

EES Excavation Memoir 102, London: Egypt Exploration Society (2013). With contributions by Gillian Pyke and Wendy Smith. 267 pages, 151 figures. ISBN 978-0-85698-212-5.

This is the second volume on the monastic site of Kom el-Nana at Tell el-Amarna and brings up to date the excavations carried out there. The first volume (EES Excavation Memoir 72, 2005) contained mainly unstratified pottery and no glass, and included some of the Late Roman sites around Amarna. This volume brings together the stratified pottery and both stratified and unstratified glass and includes more Late Roman sites around Amarna which were visited by Robert Miller in 1988 and Barry Kemp in 1995.

Part of the foundations for a set of colossal columns, viewed to the east. They stood on the platform that is on the right of the picture and was made from layers of gypsum concrete and gravel. It had been surrounded by a foundation wall of limestone blocks removed after the end of the Amarna Period. The hieratic label of year 12 (see opposite page) was found in the left-hand trench wall, beneath the brick and stone rubble layers. This suggests that the building of the main stone temple began only after year 12 of Akhenaten's reign had commenced.



An early stage in laying out the design of the small palace: inspector Ahmed Fathy checks the positioning of one of the column base markers with builder Shahata Fahmy.



Shahata Fahmy and his team lay the wall blocks for the small palace.



The plan of the small palace at the front of the temple, newly laid out in limestone blocks. View to the north. Photo by Gwil Owen.





Alexandra Winkels examines one of the basins that are lined with lime-gypsum plaster.



Lime-gypsum mortar from a foundation level. It shows fine textile impressions that could only have been produced while the mortar was fresh and still deformable. To avoid premature drying, that leaves the lime-based binder within the mortar as a fine white powder that has no cohesive force, the surface has been covered with wet or damp cloth and probably even subjected to repeated moistening.

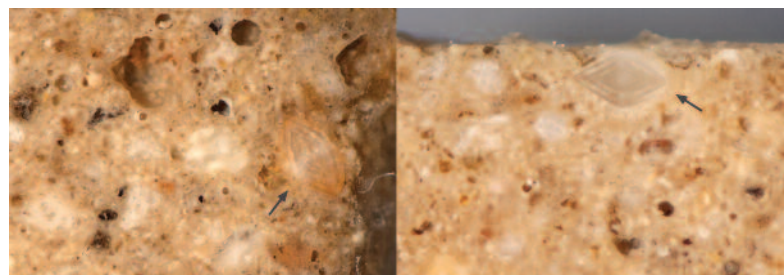
## Amarna's third building material

Amarna was constructed from sun-dried mud bricks and cut blocks of limestone (and some of sandstone). Wherever stone was used, so also was a whitish building material that passes conventionally under the name of 'gypsum'. As part of a broader study on the use of mortars and plasters in ancient Egyptian architecture, conservator Alexandra Winkels has examined samples of this material as it has come to light at the Great Aten Temple. Here she summarises her findings so far. They suggest that the correct term for the material is 'lime-gypsum mortar' and raise the question, where was all the limestone burning done that was needed for a mortar binder production on the required scale?

Analyses carried out at the expedition house prove that the white-brownish setting mortar for the stone *talatat*-blocks and the white-yellowish to white-brownish-greyish construction mortars used in foundations can be categorised as lime-gypsum mortars. All samples contain slightly different amounts of calcium carbonate (35%–36.5%) as well as calcium sulphate in their matrix. Both mineral phases appear to function as binder of the mortars. The gypsum content could originate from the binder production, through burning natural limestone with impurities of calcium sulphate components or when limestone and gypsum stone fragments were partly quarried and burned together, then slaked with water and used as a binder for the mortars. In the case of the analysed mortars, the gypsum content originates most likely from such a mixed firing process.

Further results that support this thesis derive from investigating *talatat*-block chips. Four chips (1.5–2 cm), already flaking off the surfaces of blocks preserved in situ, consisted merely of calcium carbonate but likewise contained an amount of calcium sulphate. The same stone material quarried near the *talatat*-block source or, in part, the residual material from the *talatat*-block production could equally have been used as raw material in the manufacture of burnt lime and mineral aggregates for the mortars.

Cross sections of two lime-gypsum mortar samples. The arrows point to tiny silicified nummulite fossils embedded in the mortar. These fossils are a characteristic feature of limestone from quarries in the Amarna area.







The Great Aten Temple site lies close to the edge of the cemetery used by the people of the village of El-Tell. As a way of separating the cemetery from the temple and, at the same time, of making access to the cemetery easier, in the spring of 2013 expedition workmen cleared and levelled a 3.5 metre wide road beside the cemetery. Here a funeral party carrying a shrouded bier makes its way along the new road.

# The Amarna Trust

The Amarna Trust is registered with the **Charity Commission** as no. **1113058**. Its registered address is

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The Amarna Trust submits an annual set of accounts to the UK Charities Commission. None of its income is used in the furtherance of raising funds. Its overheads are modest.

## The objectives of the Trust are:

To advance public education and to promote the conservation, protection and improvement of the ancient city of Tell el-Amarna, Egypt and the surrounding area for the benefit of the public in particular but not exclusively by:

- i) creating a permanent facility for study (the research base – The Amarna Centre);
- ii) undertaking and supporting field research (and publishing the useful results of such research);
- iii) promoting training in archaeological field skills;
- iv) providing, and assisting in the provision of, lectures and publications in furtherance of the stated objects;
- v) developing displays and exhibitions at a site museum for the benefit of the public and an educational outreach programme for the benefit of pupils at schools; and
- vi) working in partnership with the Supreme Council of Antiquities of Egypt to maintain the ancient city for the benefit of the public.



The Small Aten Temple column maintenance. Left: the internal iron support pillar has been cleaned and repainted. Right: a sturdy wooden cap has been bolted over the top. All work done by sculptor Simon Bradley assisted by local craftsmen.

The Trust invites donations from individuals or from corporations. Donations can be earmarked for particular purposes or they can be allocated by the Trust in pursuit of the stated objects of the Trust. The Trust is able to benefit from the present UK tax legislation by reclaiming tax on donations from UK tax-payers under the Gift Aid scheme, which increases the value of the gift by nearly a third. For this it is necessary to accompany each donation with a Gift Aid declaration form or a similar letter. There are further tax advantages for donors who pay at higher rates.

For residents of the USA, donations can be made either to the Amarna Research Foundation or to the Cambridge in America Foundation (both 501(c)(3) tax-exempt organisations) with the request that the donation be made into a grant for The Amarna Trust.

Further information, including downloadable forms, are available at [www.amarnatrust.com](http://www.amarnatrust.com) where you can also donate on-line. Donations can also be made via [www.justgiving.com/amarnatrust](http://www.justgiving.com/amarnatrust)



Ancient World Tours run regular tours that include Amarna and we are proud to be sponsors of the excavations carried out by the Amarna Trust. Contact AWT on 020 7917 9494 or at [www.ancient.co.uk](http://www.ancient.co.uk) or at [amarna@ancient.co.uk](mailto:amarna@ancient.co.uk)

All work done at Amarna relies upon the support and agreement of the Ministry of State for Antiquities of the Arab Republic of Egypt. We are indebted to its personnel, both local and in Cairo.

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