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**Robert Hanawalt, Founder**

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**OFFICIAL NOTICE**

**The 2000 Annual Meeting of The Amarna Research Foundation will be held September 10, 3:00 PM at 7110 South Old Farm Road, Littleton, Colorado.**

**Nominations for board members and officers must be directed through the Nominating Committee at least 15 days in advance of the Annual Meting. The chairman of the Nominating Committee is Dr. William Petty, 7110 South Old Farm Road, Littleton, CO 80123.**

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# EES FIELD DIRECTOR'S REPORT SPRING 2000

**By Barry Kemp**

March and April saw the expedition back at Amarna for an intensive two months of work, with the maximum number of people that the dig house can hold, some coming for one month and then being replaced by others. Like last year I had decided to divide the season's work. We have a range of active projects, each with people who have an interest in seeing them continued (myself included) yet we cannot undertake everything at the same time. I had decided that it was high time we returned to Kom el-Nana, where we had last worked in 1994, the last season before the terrorist threat suddenly appeared.

This part of Amarna lies about half a mile south of the dig house. It was one of a number of isolated enclosures which were built during the Amarna Period well beyond the limits of the city (Maru-Aten was another). They seem to have contained mainly ceremonial buildings set in wide open spaces and might have been the sun temples belonging to royal women which are referred to in texts of the Amarna Period. It is now reached by a winding track that gives a good view of what is currently happening in this part of Egypt. At first it passes the cemetery for the village of el-Hagg Qandil which is expanding as the village expands. I don't think a single day passed without seeing builders and gravediggers at work, beside them the heaps of bright white limestone blocks which have now replaced mud bricks even in the building of the courtyards without which no family tomb is complete. Then it passes between fields, those on the right having appeared since 1994, on the last remnant of desert between Kom el-Nana and village. As elsewhere at Amarna many of the farmers have turned to growing watermelons. To do this they dig deep and narrow trenches, by hand or by machine, the earth from them left heaped in between. In March planting had just been completed, one row of tiny plants to a trench. I talked to our inspector about the economics of working like this, expending so much labour for

the trenching. With each plant managing to grow, quite tighly spaced, on the orange desert soil and producing several melons, each fetching two or three pounds on the market, there is an income to be earned but not, I suspect, a very handsome one.

The journey can be walked briskly in about ten to fifteen minutes but the police still will not allow us to do this. All trips have to be by our aging rattling pickup truck which we hire, with its portly but engaging driver, from the village. More often than not he sits, not very happily, in the back, to make way for the police officer of the day who will usually insist on taking the wheel. Most years since 1994 I have made a quick trip of inspection to Kom el-Nana, noticing how huge irregular patches of brown dampness are spreading everywhere. We now know that, even where the site rises to form mounds and the surface is still dry, the bottom two feet or so will be damp wherever we excavate. The water is coming from the surrounding fields which, on the east, abut the site without an intervening canal. Two fresh developments were there to greet us this year, perhaps connected. The owner of the land to the east has switched a strip of his field, which normally grows cereal, to water-melons. A mechanical digger has been brought in to gouge out the trenches, and these have encroached for a short way on to the archaeological site, actually crossing (and in so doing destroying) the eroded remnants of Akhenaten's mud-brick enclosure wall. There is no point in complaining. The antiquities organization is powerless in the face of local vested interests and will not be backed up by the police in a case like this. The other development is that on the side facing the fields a long stretch of our rough-and-ready barbed-wire fence has been removed since last year, the iron posts snapped off. One of the antiquities guards offers the view that they have rusted through but this is obviously not the case; he later admits that the landowner does not like the fence being there, presumably because it represents a check to his ambition to take over more of Kom el-Nana.

On the first visit, accompanied by two of the site supervisors (Conn Murphy and Anna Smith) who were to supervise the digging and had not been to Amarna before, I achieved a moment of great and very rare self-congratulation. Since we began here in 1988 the survey base line from which all surveying is done has been marked by a line of iron spikes hammered into the ground so that they normally do not show. Two of them mark the corners of a very shallow excavation which is also now all but invisible. I can nonetheless still recognise its outline and, at the corners, dug my fingers into the sand and immediately located them. With a 50-metre tape-measure we quickly located more further along the base line, one rusted completely through. I could see that Conn and Anna were very impressed, and so was I. So sure was I that, after an interval of six years, it would be difficult to locate these points that I had considered bringing a metal-detector with me but had run out of time for buying one in Cambridge.

Over the course of the next two days we laid out two portions of the five-metre grid which, notionally, runs out from the base line, each grid square defined by iron spikes joined by orange cord bought at a builders' merchants in Cambridge. One set of squares ran over the early Christian monastery which covers the northern part of Akhenaten's enclosure. Not many such sites are properly excavated in Egypt and I have developed quite an interest in it, which is served by several experts in the period who form part of the regular team at Amarna. It is Amarna's only other significant period of archaeology prior to the present, and represents a time in the fifth and sixth centuries AD when a significant part of the population of Egypt took themselves off into monasteries and convents, often preferring the edge of the desert and turning themselves into colonisers and frontier people.

*Kom el-Nana: View, to the west, of a group of houses of the Amarna Period. The enclosure wall is in the background, beside the temporary fence. (BK 8-2-2000)*

*Balloon view 1: Excavations south of the Smenkhkara Hall. Our temporary camp, with parked wheelbarrows, stands in open ground between the Hall itself and this year's excavations in building O43.1. (BK)*

The other set of squares covered a low mound near the southeast corner of the enclosure. When, in the Amarna Period, the site was enclosed much of the ground was left empty. Spread across it, but widely spaced, was a range of buildings, most of them of mud brick but two of them of stone, the whole forming a complex rather like Maru-Aten though differing significantly in detail. One cluster of brick buildings lay in the south-east corner. In past seasons we had dug part of a thick pylon entrance, a curious pavilion with sunken gardens which lay behind it, a prominently placed platform which had supported a columned hall, and a group of small houses. A full published report on our work at Kom el-Nana is now overdue. This collection of brick buildings in the south-east is the part where our work comes closest to being finished, except for a small low mound between the houses and the pavilion. If that could be examined then the way would be clear to write up a complete sector at Kom el-Nana. So this became our other area, and Conn and Anna were assigned to supervise. A third supervisor who arrived a day or so later (Lauren Bruning) and myself looked after the monastery.

Often at Amarna the tops of walls are so close to the surface that they become visible as sand is scuffed by people walking over them, and this happened to our mound. Within a day or so of the digging starting, the vague outlines of rooms grew visible, partly as smudges of brickwork and partly as hollows where the sand between the walls became further compacted. Soon, in some of the excavation squares, the top few courses of bricks stood out and we could begin to talk about the kind of building we were looking at. Over on the east, across an open court, stood a group of five similar houses in a row facing to the west which we dug in 1988/89. The walls on our new mound look rather similar, except that the houses seem to face north.

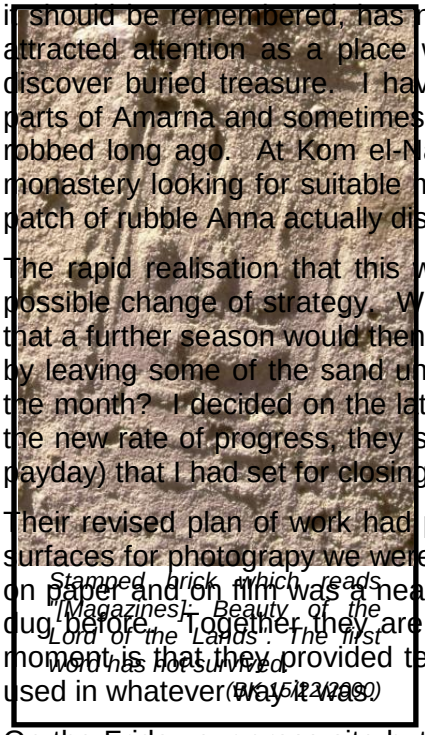
Within a few days, in one central room and in a back room, the workmen reached the floor. By then it was apparent that the condition of the houses was different to how we found it in the other group. After Amarna was abandoned most brick buildings stood until the walls fell down, gradually burying themselves in their own rubble. That is how the mounds were formed. As we dig out the sand not only should the tops of walls appear but also the top of the tumbled mass of fallen bricks filling the spaces in between. This time there was almost none. The soft sand extended unbrokenly to the level of the floor, except that, to begin with, we could see no proper floor. A little later an isolated portion of a brick floor emerged and suddenly all become clear. Someone had been here before us, but not in modern times for there was no sign of disturbance before we began. Amarna,

*Balloon View 2: A closer view of the excavations. (BK)*

it should be remembered, has never been far from where people have lived and has probably always attracted attention as a place where useful things can be found and where perhaps the lucky will discover buried treasure. I have noticed before, both in the pictures of the old excavations in other parts of Amarna and sometimes in our own work, that bricks from walls and floors have obviously been robbed long ago. At Kom el-Nana it is quite possible that the scavengers were the monks from our monastery looking for suitable material for making their own mud bricks. Indeed, low down in a small patch of rubble Anna actually discovered a tiny Late Roman coin.

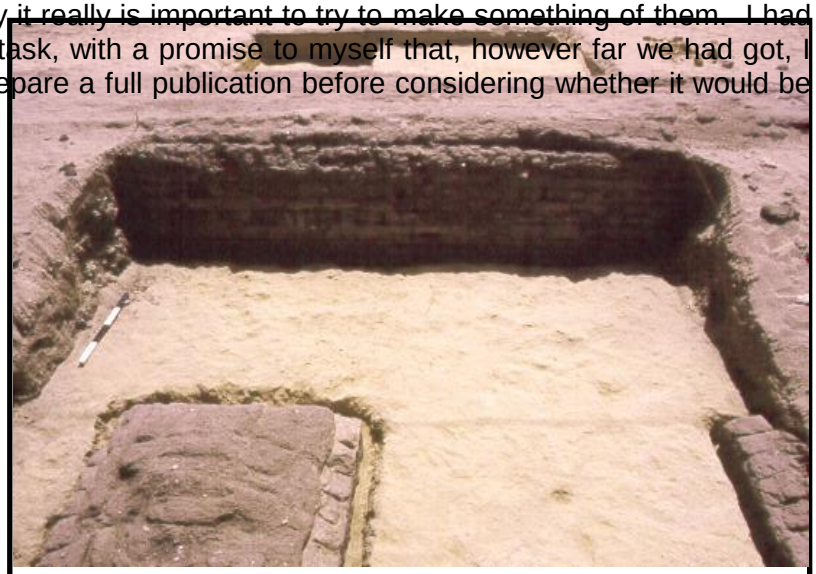
The rapid realisation that this was likely to be the case across the whole set of rooms pointed to a possible change of strategy. Was it worthwhile to excavate each room down to ground level, knowing that a further season would then be needed to complete the mound, or should we speed up the process by leaving some of the sand unexcavated and aim instead to complete the plan of the building within the month? I decided on the latter course, and not long afterwards Conn and Anna calculated that, by the new rate of progress, they should indeed cover the whole site by March 30th, the day (a Thursday payday) that I had set for closing Kom el-Nana and moving all our equipment to the Central City.

Their revised plan of work had perfect timing. With enough time left for a final brushing of walls and surfaces for photograpy we were able to declare this part of the site finished by the date set. Recorded on paper and on film was a neat housing group which lay in the same compound as the group we had dug before. Together they are the only houses we have located at Kom el-Nana. My guess at the moment is that they provided temporary accommodation for court attendants when Kom el-Nana was used in whatever way it was.



*Stamped brick which reads "[Magazines]: Beauty of the Lord of the Lands'. The first word has not survived. (BK 15/23/2000)*

On the Friday our grass site huts, wheelbarrows and other equipment were moved to the Central City, to the area immediately to the south of Smenkhkara's great hall. On the Saturday (April 1st) we were ready to start again. Saturday was one of those days of hot southerly wind when it feels as though one is standing in the draught of a fan-oven. Walking about in a haze of fatigue we set out the new grid and the men half-heartedly removed sand from the edge of last year's work. The area south of Smenkhkara's hall presents an intriguing challenge on paper but the actual appearance of the ground is not encouraging. Old maps and aerial photographs show the outlines of huge buildings which are clearly not houses, but although no archaeologist has ever dug here, more than a century ago the villagers must have turned over the ground and also removed bricks to increase the earth content of their fields. The ground now is flat and almost featureless, although two seasons of digging have shown that, if we are careful, the plans of walls can be recovered. Since these buildings represent a major gap in our understanding of the city it really is important to try to make something of them. I had allotted slightly less than a month to the task, with a promise to myself that, however far we had got, I would draw a line under this work and prepare a full publication before considering whether it would be worthwhile to go on in the future.



*A trench dug across the wall of the Smenkhkara Hall. In the foreground is the base of one of the massive brick pillars which is such a distinctive feature of the building. (BK 13/25/2000)*

Anna, Conn and Lauren transferred to the new site, Conn for only a short time before leaving to work on Crete (shades of John Pendlebury). Neal Spencer and John McGinnis joined us, both having supervised here last year. By the end of the season we had excavated and fully recorded a continuous spread of 23 of our five-metre squares, just over six thousand square feet. Not a bad tally. On the last day we flew the TARF helium blimp over it and obtained some excellent photographs (see pg. 3). Much of the site was as expected, just a few inches of foundation brickwork lying not far beneath the surface, often sealed

*One of the brick-lined pits. Note, on the further wall, the beginnings of curvature from a vaulted roof.*
*(BK 11/22/2000)*

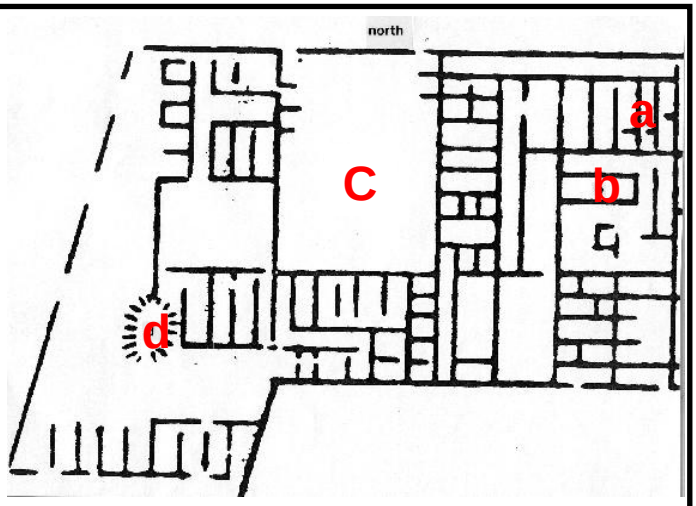
by a layer of cemented mud and stones. Over one patch an area of mud-brick paving miraculously survived even though it was virtually at the modern surface and needed only light brushing to be revealed. On the north side, where we hit the boundary to the building, the walls were a little better preserved, with some of the original rubble still in place, in part from a vaulted brick roof. Two bricks lay in one wall here, side by side, impressed with a hieroglyphic stamp. The stamp is similar to one found last year, but not exactly the same. It begins with a sign which is probably a fancy way of writing the word 'magazine' (or 'storehouse') and then gives its name: 'Beauty of the Lord of the Lands' (plural; last year's gave us only 'Lord of the Two Lands'). And, indeed, this part of the building seems to be a set of long parallel storerooms. The rest of the area, however, turned out to be a veritable labyrinth of walls, some quite thick, and following more than one alignment. They surrounded a central, not quite rectangular space, about 46 x 20 feet, which was covered with a stone and gypsum mix, almost certainly the foundations for a stone floor. The gypsum had filled many of the cracks between the surrounding brick walls, showing that both walls and gypsum were laid at the same time. What was odd was to find an area of stone surrounded by walls not likewise of stone but of mud brick.

As was the case last year, several small shallow rectangular pits or rooms had been dug into the ground and lined with brick. One of the linings still preserved, at the top, the beginnings of an inwards curve from a low vault. Another of the pits had been sunk into the middle of the stone-floored room. What on earth are they doing here? The first point to establish is whether they belong to the Amarna Period at all or were cut into the site at a much later time. The excavation constantly throws up pieces of thick coarse pottery coffin that we were able to establish last year are of the Late Roman period. As elsewhere at Amarna the ruined mounds of the city had attracted burials. Four of the pieces this year came from faces with hair carefully modelled in the clay and painted. At some time in the perhaps not too distant past the burials and their coffins had been thoroughly broken up and the pieces scattered. Is it possible that some of these brick-lined chambers are the remains of the tombs themselves? In the case of some of those found last year, and one this year, the answer has to be no, for the brick linings are integral with the main walls of the buildings. With the others found this year there is no neat answer, even though we discussed the possibilities on site, looking for minor clues as to relative date. From the way they seem to align themselves to the surrounding walls of the building it is more likely that they are original. But what could they have held? They were so shallow that, if they had been roofed with vaults, the vaults would have risen above the level of the surrounding floors.

*General view of part of the excavations, looking south. Note the brick pavement in the foreground.*
*(BK 15/16/2000)*

It would help to know what was going on in this huge building. Despite the name stamped into the bricks little of it so far seems to have the expected character of a set of storerooms. This is still, however, an early stage in evaluation, and there is one thing more that can be done to clarify the plan. It should be remembered that the reduction of the walls to the merest foundations has happened only in the last century or so. When, in the first half of the 19th century, Wilkinson and Lepsius visited Amarna and sketched what they could see of its plan they mapped the walls of this building which must have stood several courses high. They did so quickly and at a very small scale, in places drawing in wall lines in a conventional manner to indicate a 'busy' area. They also took little notice of the funny alignments of some of the walls, and so made their plans look more rectilinear than they really were.

On the Lepsius plan there are some fairly clear points of contact with our own plans. I have used these as 'anchor points' and from them have skewed and stretched the Lepsius plan so that it corresponds more to our own. One can see that the former was actually done quite well and that from it some of the parts missing on our plan, either because the walls have gone completely or because they lie outside the excavation area, can be restored with confidence. With other parts the lack of fit appears to be greater, and reluctantly they have to be discarded. What I am including here is what I have been able to achieve since I got back from Amarna during a busy term of teaching and examining at the university. I will aim to refine it during the coming summer. Even a more complete plan, however, does not immediately take us much further forward in understanding how the building was used.



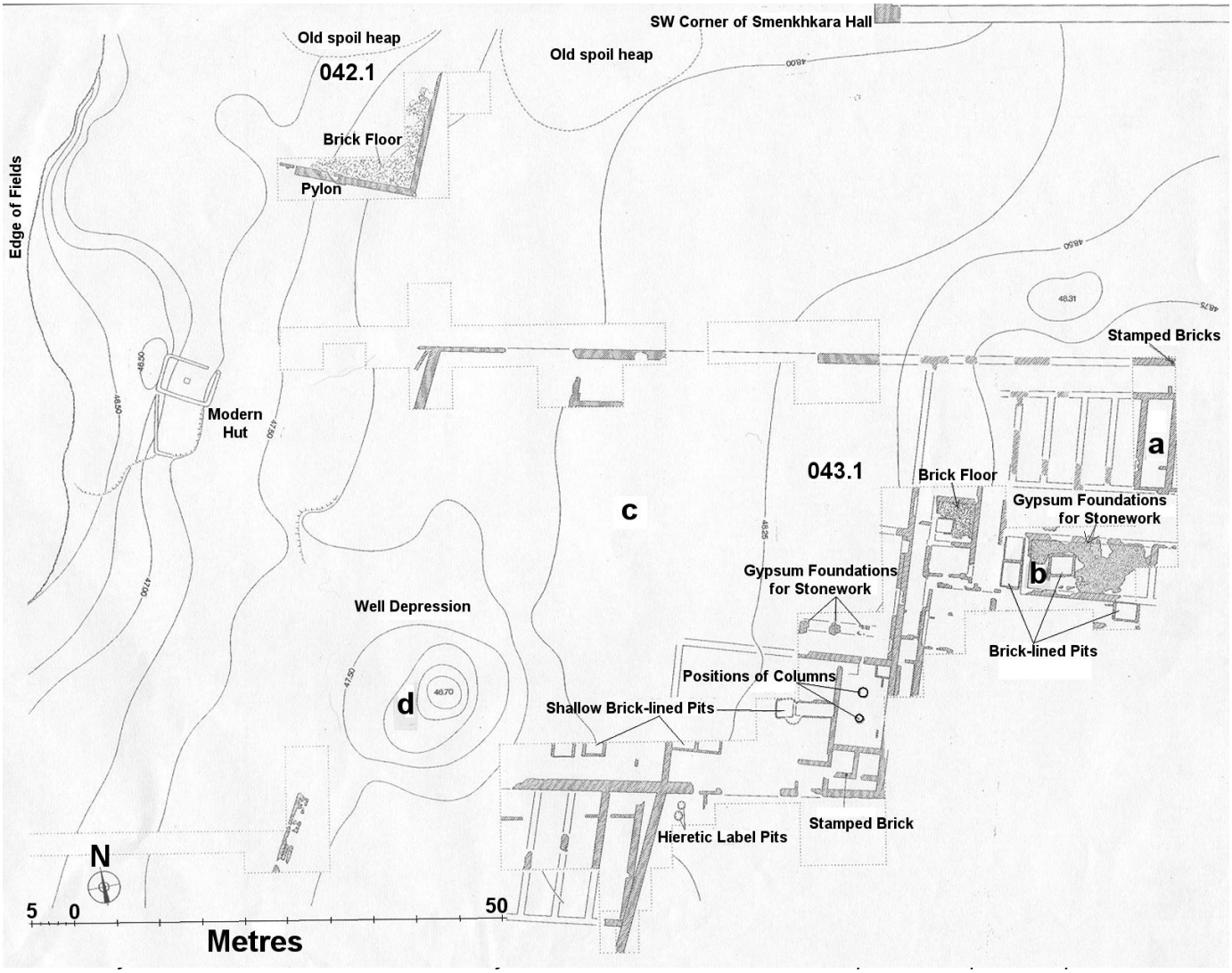

*Plan of the same area made in the 1840's by the Prussian expedition directed by C. R. Lepsius. The letters "a" to "d" relate four parts to the plan of the recent excavations. (BK)*

Towards the end of the season an architect, Corinna Rossi, made an overall plan of the area, taking in the adjacent unexcavated parts. As she moved the surveying station about she picked up a broken piece of dark stone which lay on the surface. It turned out to be part of the torso from a statue wearing beautifully modelled pleated garments, almost certainly a statue of an Amarna royal woman. Had it stood in this building originally or somehow been transported from the Great Palace and dropped?

Corinna's main job was to make an overall check on the plan of the Small Aten Temple, as its publication slowly edges forwards. Not all of the buttresses had been cleared, for example. In doing this more evidence was found for the enclosure wall which had stood here before the main enclosure was built, the one that we see now. At the same time Suresh Dhargalkar, our principal architect, supervised his men as they carried out further repairs to the brick pylons and spread out more of the old 1930s dump behind the sanctuary in order to build up the ground level to be more like it was in Akhenaten's day. Suresh now has the recipe for really strong bricks well under control (the principal trick is to add slaked lime to the mix and leave it for a few days). The rear pylon in particular now looks like a pylon again. Most of the bricks from the middle had been robbed out, leaving a thin eroded edge, as if a pair of huge upturned box lids had been left behind. These are now filled and have the solid mass that one expects for Egyptian temple pylons. On several mornings I spent some time at the temple, recording four large sandstone blocks bearing the remains of texts and, on a slice of column drum, a scene. I have been meaning to do this for several years but this year put in that extra bit of effort to get the job done. As I copied them, possible historical implications came to mind and these I have written up in a separate piece in the Sun.


*Part of the torso of a statue of a royal woman wearing pleated garments. (BK)*

It had been our hope that, at the very same time, Suresh would be able to start up work at the North Palace as well, and to this end we had left a stock of newly made bricks there. In the event we reluctantly agreed that, in the time available and with the resources we had, it was not practical to do this on this occasion. From time to time we have to recognise our limitations.




*can judge for themselves how much of the Lepsius plan can be used to construct the walls which are now missing or lie outside the excavation area. (BK)*

## Research at the field station

As always, more members of the expedition were working indoors than outdoors, cataloguing and recording, and pursuing various lines of research. Rainer Gerisch from Berlin, for example, specialises in identifying tree species from charcoal. He willingly agreed to break off from this for a day or so to look at the collection of wooden spindle whorls that we have from our past excavations at the Workmen's Village. Most turned out to be, as expected, made from local species of tree, but a few had been made from a coniferous wood, presumably imported from the Lebanon or an adjacent place. Rosemary Luff, in a project to study the changing character of Nile waters over the last three thousand years, has turned to molluscs for guidance. They are sensitive indicators to water temperature. Many have come from the excavations in the past and this year one of the workmen, who is also a fisherman, obliged her by making collections of living ones for comparison.

Finally, Sun readers might like to know that National Geographic is preparing a major article on the Amarna Period for next spring. One of their staff photographers, Ken Garrett, spent a week with us, photographing everything in sight, whether a distant donkey at sunrise or fragments of statues in our storerooms.

Amarna is one of the expeditions of the Egypt Exploration Society. Again it benefited greatly from a generous grant from The Amarna Research Foundation. Without your help the programme would have had to be cut back quite significantly.

## THE AMARNA GLASS PROJECT

**by Dr. Paul T. Nicholson**

During his excavations at Amarna in 1891–2, the British archaeologist Sir Flinders Petrie discovered kilns where glass was made. Since then the site has been fundamental to understanding the world's earliest glass. Amarna is not the place where glass was first made (glass from Mesopotamia appears to be earlier), but it was the first excavated production site. Petrie's work was carefully conducted, but left many questions unanswered and, through no fault of his, has sometimes been misinterpreted. The main cause of uncertainty and confusion concerned the nature of the furnaces. Petrie clearly stated that no furnaces were found. Yet, his published reconstruction of the glass and glazing processes, and his speculation on the nature of the furnaces that would have been needed, have often been confused with their actual discovery.

Over a number of seasons Dr. Paul Nicholson, now of the University of Cardiff in Wales, assisted by Dr. Caroline Jackson of the University of Sheffield and a small team of archaeologists, has pursued a separate research project within the overall framework of the Egypt Exploration Society's mission to Amarna. Funded by the Gerald Averay Wainwright Fund for Near Eastern Studies (University of Oxford), the team works in late August and September, most recently in 1999.

*Amarna glass kilns.* *(BK)*

It was the aim of our new work at Amarna to try to locate a glass and faience workshop and to unearth the furnaces that must have been associated with it. Petrie's sketch map of Amarna gave us an approximate location, and when walking in the area we found pieces of slag-like material on the surface. Thanks to a geophysical survey using proton-magnetometry by Ian Mathieson, we were able to pinpoint the area likely to contain kilns or furnaces. The building complex in which it occurs has the designation O45.1. It is located not far from the edge of the modern fields, just to the south of the modern water tower which is such a landmark at Amarna.

Excavation over a number of seasons has shown that this was an industrial area, and has provided sufficient evidence for thinking of it as a small 'industrial estate'. A potter's workshop, complete with kiln and clay preparation area, was there, along with evidence for the making of faience beads and amulets as well as glass objects. We also found evidence for the use, and probably the preparation, of pigments.

Our central discovery was of two large, heavily vitrified furnaces. These are quite unlike the typical Amarna pottery kilns, of which many examples have been found, in that their construction is much more

robust, and the brickwork pattern more complicated. They were lined with a 'sacrificial render' (a removable lining) of clay so that they could be repaired and re-used without the need for complete rebuilding. The heavy vitrification of this lining indicates that they were fired to temperatures much higher than necessary for the production of pottery. Since evidence for high temperature materials other than glass is lacking at the site, we concluded that the making of glass from its raw materials was what these furnaces were most likely used for.

*Experimental glass kiln at Amarna. (BK)*

One way to check on whether this conclusion is workable is by experiment. Dr. Caroline Jackson and I therefore built, in a previous season, a full-scale replica of the largest of the furnaces, using mud bricks locally made to the correct ancient size. The lowest part was constructed in a circular pit cut into the ground behind the expedition house. This was covered at ground level by a low cone of bricks which left small shelves around the inside walls and an aperture for access to the fire. Having collected a good pile of wood we were ready to fire it. The composition of ancient Egyptian glass is known from many studies. For our raw materials we chose local Amarna sand as the source of silica, and mixed it with plant ashes and with cobalt, which was used to impart the blue colour and was probably derived from alum deposits in the Kharga and Dakhla Oases. Petrie himself had believed that glass was not made in a single step, but that first a crystalline material known as glass-frit was produced which then had to be powdered and fired again.

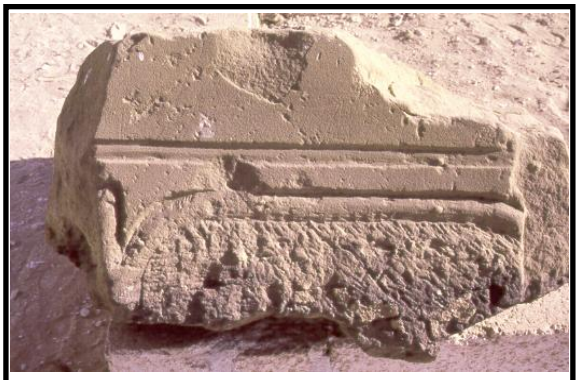
Our very first firing with the kiln loaded up went ahead successfully, reaching high temperatures (1,100 deg. C) which were recorded on a pyrometer via a thermocouple inserted through the kiln wall. When the kiln had cooled and was opened we were very pleased to discover that not only was frit produced, at the coolest part of the furnace, but that a good quality blue glass had formed elsewhere in hotter spots. This points to the likelihood that the Egyptians produced glass in a single stage, and that their technique was therefore more sophisticated than had previously been imagined.

Our experimental glass was made in cylindrical vessels which we had brought with us. They were made of a modern refractory material, but of the same shape and size as the ancient clay vessels that are found exclusively associated with glass and glazing installations in Egypt. Both Petrie and ourselves found many at the Amarna site. They have a diameter of about six inches and are about four inches tall. It seems to me that they served a number of functions, but most importantly were crucibles and, because the glass was allowed to cool in them, became the actual moulds for glass ingots. There is some direct evidence for this. Not only has glass been found adhering to the inside of some of them, but numerous ingots of blue glass of exactly the shape and size of the interior of these cylindrical vessels have been found, though not in Egypt. Some years ago a Bronze Age shipwreck was discovered off the Turkish coast, at a place called Ulu Burun. The little ship had foundered some years after the Amarna Period (although it carried a gold ring bearing the name of Nefertiti). The ingots were part of its diverse cargo. The match between them and some of the moulds from our excavations is very close indeed. Was the ship carrying glass ingots exported from Egypt?

*Blue glass made in the experimental kiln. (BK)*

Our findings at site 045.1 suggest a complex and integrated system of craft activity. Potters at the site appear to have made not only domestic wares but also the cylindrical

vessels used by the glassmakers. We know this from finds of sherds from unfired cylindrical vessels. It is likely that the glassmakers also produced faience, and that the blue pigment, probably produced at the site, was being used as a colorant in faience. It is also possible that the cobalt used to produce the dark blue glass was also being used to decorate blue-painted pottery, but this is much less certain. If materials and technology were being shared, then it is also very likely that craftsmen, too, were working in what we today would regard as several industries. We may have to think in terms of specialists in vitreous (glassy) materials, who made faience, glass and pigments. It may even be that we are seeing specialists in kiln/furnace technology who fired the products of the potters and glass/faience workers.



*Sandstone block No. 2 at the Small Aten Temple. The erased cartouche originally contained the name of Nefertiti. (BK 9/18/2000)*

Not only do we appear to have a highly organised industrial estate, but one which was producing glass - a relatively new, and highly valued material - by innovative means, perhaps in quantities large enough to be exported to other sites in Egypt and even abroad. The questions generated by Petrie's excavations have proved to be ones well worth examining by modern techniques.

*Paul Nicholson is joint editor, with Ian Shaw, of Ancient Egyptian Materials and Technology. Cambridge, Cambridge University Press 2000. xxii + 702 pp. Many illus. Index. Chapter 8, by Paul Nicholson and Julian Henderson, deals in detail with glass.*

## LAST DAYS AT THE ATEN TEMPLES?

**by Barry Kemp**

The Pendlebury expedition left several large sandstone blocks in front of the site of the Sanctuary of the Small Aten Temple. Most of these come from monumental columns and a few are pieces of architrave and probably of a gateway which presumably formed part of the entrance to the Sanctuary. They provide us with unusually direct evidence for what an identifiable part of an Amarna stone building looked like before it was demolished. Four of the blocks bear parts of hieroglyphic inscriptions and, in one case, a part of a scene.

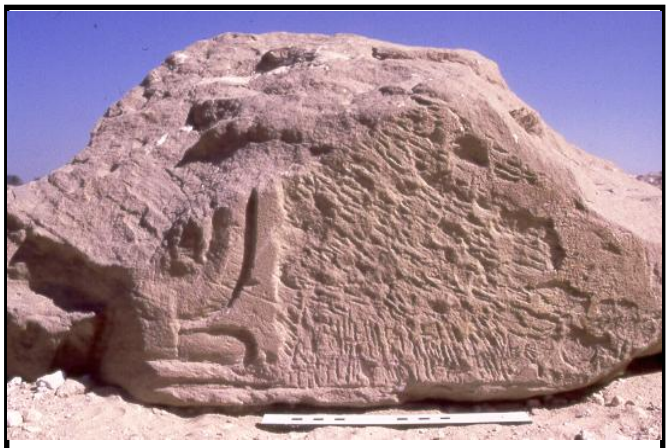
1. Part of a corner on which both faces were carved with huge vertical cartouches of the Aten; hence it can be concluded that it comes from a door jamb. The borders to the cartouches, which are heavily convex, are 15 cm and more wide. The cartouches themselves must have been more than a metre wide and thus about two and a half metres tall. All that survives of the deeply cut hieroglyphs are the beginnings of one of the didactic names of the Aten on one of the faces. It appears to be the first cartouche of the earlier name. The surface is well preserved and, significantly, shows no sign of damage or of reworking, especially of the reworking that has been seen in other instances where the intention was to change the cartouches to the later form.

2. Part of a block which bears a cartouche from a horizontally set inscription, perhaps an architrave. The border of the cartouch e is 3.5 cm wide. The cartouche itself would have been 53.5 cm long and 24 high. By virtue of careful chiselling the whole interior space of the cartouche has had its surface removed, with the intention of using the chisel grooves as a means of keying a layer of plaster, a part of which still survives. Where the plaster has fallen away a few traces of hieroglyphs survive, mostly forming a group reading 'Aten' in the centre, placed to face towards the rear of the cartouche. This arrangement in a horizontal cartouche of the Amarna Period

matches the writing of the name of Nefertiti. It is possible that traces of more than one nefer-sign are visible at the right-hand edge but it is hard to be sure that this is so.

3. Part of a broad block, 1.10 m in depth, which has the remains of an inscription on one of the sides, and perhaps comes from a lintel or even from an architrave. At the left side is the edge of a vertical cartouche with a broad convex border measuring 4.5 cm in width. Almost nothing survives of the signs within the cartouche, but the context implies that it is one of the cartouches of the Aten. To the right comes a panel which has been thoroughly worked over with a chisel, to reduce the surface very evenly. As with block no 2, the intention was to create a surface which would hold a layer of plaster, a good part of which has survived. Of the original text, one hieroglyph (di) is clearly visible at the bottom left of the panel. Above it the curving end to a vertical cartouche has also survived. There seems little doubt that the panel bore the line of three cartouches which wrote the names of Akhenaten and Nefertiti, with a dedicatory formula below, the whole standing to the right of Aten cartouches on a larger scale.

4. A section of column drum which includes a full-length strip from a raised panel which had born a carved and painted scene. At this point the diameter of the column itself was about 2 m, the panel protruding from it by about 7 cm. The curving surface of the panel extends for 2.12 m. The surviving traces of carving suggest a grouping of Akhenaten on the left and, facing him and on a smaller scale and thus lower, Nefertiti (of whom only the two-plumed headdress survives). Akhenaten was in the pose of adoring the Aten; between the royal couple was probably a pile of offerings. Across the whole band of preserved panel are diagonal chisel marks and the remains of a plaster coating. The chiselling has not, however, been as thoroughly destructive of the underlying relief as on the two blocks.



*Sandstone block No. 3 at the Small Aten Temple. At the left edge is the remains of a cartouche of the Aten, which had probably not been damaged. To the right the surface of the stone has been cut back to obliterate a set of cartouches of the royal family. Towards the right-hand edge a patch of the gypsum plaster coating survives on which it was probably intended to write other names. (BK 9/25/2000)*

The location of the blocks is highly significant. On account of their size and weight it is unlikely that they have ever been moved far from their original positions. We are thus probably seeing a fragment of the facade of one of the most important cult buildings at Amarna as it was shortly before it ceased to be a place meriting respect. Taking the four blocks together, a picture emerges of a time when it was appropriate still to honour the Aten in its didactic names (and the earlier ones at that), but not the names and images of Akhenaten and Nefertiti. Whoever had custodial charge of the temple was thus perhaps attempting to make it acceptable to a new regime who regarded the Amarna royal family with distaste. The surfaces where they had appeared had been given a fresh coating of plaster but on this there is no sign of a recutting of a name or an image, although this does not preclude the possibility that they had been painted on.

Further evidence for this policy can be seen in the Great Aten Temple to the north, and there a date is preserved. The Petrie/Carter excavation recovered a corner block bearing part of the name of Horemheb from the west end of the temple enclosure; subsequently the EES expedition found a number of pieces of carved stone of the same reign from the Sanctuary, at least one from a sphinx statue. We are unlikely ever to find written evidence for a full account of what happened after Akhenaten's death. We can but create imaginary scenes. The following is mine.

The initial removal of the royal residence back to Memphis was only the first step in the abandonment of Amarna. For much of Akhenaten's reign Amarna had been the centre of the empire and huge

quantities of valuable commodities must have accumulated in its palaces and capacious storage facilities (including those south of the Smenkhkara Hall). The central city and other separate royal buildings were sealed off and guarded whilst a full inspection and inventory was carried out. We know that the Treasurer Maya performed a national inventory in Tutankhamun's reign and it is natural to think that Amarna was included. Once completed, the ensuing transfer to new places of storage took time. By Horemheb's accession, perhaps thirteen years after Tutankhamun's, a caretaker administration was still in place at Amarna. A royal visit was announced, perhaps ahead of a final decision on the city's fate. Out of respect for the new king, artists and builders were sent to make adjustments to the entrances to the two principal Aten shrines. Of what they did we have the Horemheb material from the Great Aten Temple and, from the Small Aten Temple, the reworked blocks described here. If we remember how little of the original stonework has survived in situ, they could actually have done quite a lot more.

We need not imagine that anyone tried to make a case for keeping a cult going at the temples. In any case, their fate soon was decided. At Hermopolis a large pylon probably built under Horemheb used Amarna blocks in its fill, though they had been little damaged.

## WORDS FROM THE FIELD

## Chicago House, Luxor -- 6 December 1999

### by J. Brett McClain, TARF Scholarship Recipient

When I arrived at Chicago House in Luxor almost a year ago, it was the realization of many years' hard work and anticipation. Here, at the headquarters of the University of Chicago's Epigraphic Survey, I found myself at the epicenter of Egyptological research in the ancient city of Thebes. On the first evening after my arrival, I climbed to the roof and looked across the green Nile at the western hills, purple and gold in the setting sun, the resting place of the kings - this was the sight I had longed for, even before I began my studies in Egyptology. Years ago, I read a popular magazine article that featured the Survey and its mission among the ruined monuments of Luxor, and I thought to myself that such work would suit me very well! Now, thanks to a rigorous course of study and the help of many advisors along the way, I have been able to move from that fleeting notion to the reality of serving with the finest field project in Egypt.

No part of Egypt, save perhaps the deserts east of Giza and Memphis, holds a concentration of ancient remains so extensive and important as the region of Luxor. Those who know well the Nile valley and its antiquities will be quite familiar with this, the old Fourth Nome, whose capital Waset the kings of Egypt embellished with ever-larger and more beautiful temples and shrines of stone, from the Middle Kingdom until the coming of the Romans. Here, too, in the days of the Empire, kings, nobles, and craftsmen made their tombs in the shadow of the western hills. The monuments of Luxor, two thousand years and more of building, are almost uncountable; and although scholars have worked here since Champollion's time, recording and studying the ruined structures, most of them remain to be documented in a proper fashion. Herein lies the mission of the Epigraphic Survey, known in Egyptological circles for the extreme accuracy of its facsimile copies of reliefs and inscriptions from the monuments of Thebes. Since the 1920's, the Survey staff have been carefully documenting the carved wall decorations of a number of the most important temples in Luxor and its environs. In this environment, with the opportunity to be part of such an important mission, I have found a life and work which are meaningful and satisfying, as well as innumerable opportunities to continue my own ongoing research.

My years of coursework at the University of Chicago in Egyptology are now completed, and my next task is to write a doctoral dissertation. For this reason, working with Chicago House is doubly advantageous for me; I am able to apply my training to "real" Egyptological work as a Survey

epigrapher, but my off hours can be devoted to personal dissertation research. Moreover, my academic interests lie in the area of monumental architecture, art, and historical inscriptions, and I am particularly devoted to studying the history of the city of Thebes; so I find myself in an ideal situation. Already my own work has benefited from the chance to work directly with Theban monuments. At the annual conference of the American Research Center in Egypt in April 1999, I presented a brief paper entitled "The Decade Festival of Thebes," which examined a ritual procession of the ithyphallic statue of Amun, occurring every ten days, in the New Kingdom and later periods. The destination of this regular ritual journey, according to a number of texts, was the Small Temple of Amun at Medinet Habu, which, by good fortune, is the monument in which the Survey is now concentrating its efforts. By observing first-hand the physical layout of the temple, and with access to the extensive information, as yet unpublished, which our project has amassed on the structure, its inscriptions, and its significance, I was able to make a number of determinations which were relevant to the Decade Festival, and which became crucial parts of my study. Moreover, this season in the course of our work we are discovering more and more exciting details of the history of the Small Temple, which, as the mythical resting place of the Divine Ogdoad, was one of the most sacred sites in Egypt from the Middle Kingdom onwards.

There is no substitute for the inspiration and insight provided by direct, daily contact with the monuments; new realizations and understanding await only the chance angle of sunlight reflected on the carved stone, or a surprise detail revealed as conservators clean away centuries of grime.

Although my ultimate research topic is not yet finalized - this will be done formally during the coming year - I hope to focus my investigations on aspects of the city's history as reflected in its monuments. Specifically, I am interested in how temples continued in use over time, and were restored, renewed, and added to by successive kings and dynasties, in particular during the turbulent first millennium B.C. Again, the Small Temple of Amun is of great interest for this question; the site's cultic importance meant that it stayed in use as a ritual center long after the nearby mortuary temple of Ramesses III fell into disuse. From the Twenty-first Dynasty down to the Roman period, the kings of Egypt made repairs and additions to the temple, and often left records of their works in the form of restoration inscriptions. Similar processes may be observed at a number of other sites, including the various temples at Karnak, and I hope that by close study of these architectural additions and restoration inscriptions patterns may be observed which will be indicative of the attitudes and policies of rulers toward the city and its cult centers. In this way, I combine my interest in monumental architecture and inscriptions with my desire to elucidate the history of this region; and there is no better way to approach these problems than by gaining mastery of the skills of the epigrapher. In my work, I am of course dependent upon the excellent collection of our field library, and I also derive considerable benefit from conversations with the many Egyptologists and other specialists who call here during our long field season. No student could ask for a more stimulating or beneficial environment in which to complete the final stages of his academic training.

My time here at Chicago House, this beautiful villa amidst the palms, has been made possible in part by the generous support of the Amarna Research Foundation, from whom I received a scholarship award this year. It is with pleasure that I send to those patrons of my field, greetings from hundred-gated Thebes, and express my gratitude for their interest in my own work and in the mission of the Epigraphic Survey. Should any chance to visit Luxor, they will find themselves welcome in the quiet evenings here, and myself an obliging host, glad to answer questions or to hold conversation on things Egyptological.

*(editor's note: We thank Mr. McClain for his words and generous invitation.)*

## A GLASS CASE FOR BOUNDARY STELA A AND A NEW HEAD OF NEFERTITI

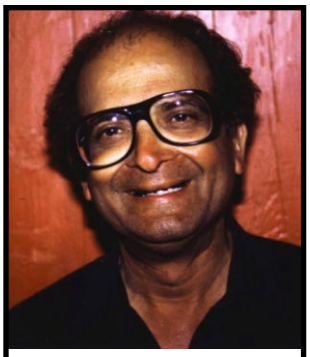
**by Barry Kemp**

The Middle Egypt Inspectorate, under the authority of its regional director Mahmoud Hamza, recently carried out a series of site enhancements at Tuna el-Gebel. Akhenaten's Boundary Stela 'A' was paid particular attention. Readers will recall that to reach it the vehicle in which you are travelling on the narrow asphalt road, which runs between the modern village and the ancient necropolis, has to stop about three quarters of a mile short of the latter. You climb out and walk across the sand plain, the last part is a gentle climb up to the stela which is cut into a low bluff and has, for many years, been protected by a modest concrete canopy. The first part of the trip remains the same, but the ascent to the stela is now by means of a long wide ramp, fitted with steps at intervals, built on a monumental scale and visible in the landscape from far away. At the top comes a viewing platform and a huge plate-glass front with gold-coloured trim which, in effect, puts the stela inside a huge museum case. It is certainly now well protected from human damage and is viewable with the kind of concentrated focus one gives to a large museum exhibit. It is bathed in soft natural light and I found the effect quite pleasant though it must make it more difficult to photograph. The new arrangements were formally opened on March 26th (as part of Minia Day celebrations) by the Governor of Minia Province and Dr Gaballah, General Secretary of the Supreme Council of Antiquities.

In the course of clearing the sand from around the stela to provide footings for the glass surround, the workmen discovered one of the missing heads from the statue groups. It is made from the same limestone as the stela, packed with nummulite shells and with a slight pink coloration. All its surfaces are weathered, but the crown with uraeus on the front marks it unmistakably as Nefertiti. It must derive from the life-size southern statue. There appears to be no plan to re-attach it, which would probably require the insertion of a metal support.

The boundary stelae generally pose a problem of protection. All of those on the east side remain in their natural state. This makes for pleasant unspoiled views but also leaves them vulnerable to weathering and vandalism. The solution chosen for stela 'A' is not feasible since they are too remote to ensure that a glass front would not be damaged. Enclosing each of them within an iron box with a door or grille across the front (as was done long ago for many of the tomb facades) would nowadays seem to be questionably intrusive. But leaving them as they are requires faith in the 'keeping-fingers-crossed' view of the future. To emphasize their fragility, last year some of the members of the expedition visited Stela R on their way back from a trip to Hatnub. Lying in the sand beside it was a foot from one of the statues. It was brought back to the dig house and is now a registered antiquity, stored in the magazine.

## EXPEDITION PROFILE: SURESH DHARGALKAR



***Suresh Dhargalkar***

A few years ago the architect who had started us off on the path of conserving buildings at Amarna, Michael Mallinson, found that his professional practice would not allow him to continue to devote a month or more each year to being at Amarna. He was, however, able to introduce us to a worthy successor, Suresh Dhargalkar. Suresh came to England from India as a young man, to train as an architect. He quickly developed a taste for the conservation of buildings and joined the British government agency which has responsibility for Royal Palaces and Museums in London. This led to his appointment as Superintending Architect to the Royal Household in Buckingham Palace, with the job of looking after other palaces as well, including Windsor Castle. He retired from this post in 1996, having been awarded the rank of Lieutenant of the Victorian Order, although he retains a position at Buckingham Palace, working voluntarily as Assistant to the Keeper of the Royal Philatelic Collection.

What better background could one have for tackling the palaces of Amarna? Suresh's hallmark with us is great attention to detail and a reluctance to accept poor standards. Neatly dressed, wearing a white trilby hat, he works alongside his band of builders and workmen, making sure that each brick is properly placed. His men respond well to his enthusiasm and to his humour, since he is not averse to setting little competitions amongst them to get jobs done. He inherited a method of making new mud bricks which we had pioneered at Amarna, and has continued to experiment to improve them further. Using his contacts in London he has had made new brick moulds from marine plywood, which seem to be almost indestructible. Suresh also inherited the wearying job of completing the laying out in new stone blocks the Small Aten Temple sanctuary. He must have doubled the rate of progress, and now the task is finished.

But not only do the ancient buildings benefit. Suresh, in his spare time, has given himself the job of improving the dig house, not by a grand plan (which we could never afford) but in stages, as he spots some deficiency that he can remedy. His greatest achievement so far has been a group of four new bedrooms with a small enclosed terrace beside them, attractively tiled. Instead of my approach, which is to leave a local builder to get on with the job (and philosophically to accept the consequences), Suresh put into the job the same energy as he shows at the North Palace. The result represents for us a new era. The expedition and the site of Amarna are fortunate in attracting people of this calibre.

## BOOK REVIEW by Richard Harwood

## Chronicle of a Pharaoh: The Intimate Life of Amenhotep III

### by Joann Fletcher

*2000, Oxford University Press (New York); 176 pp; 120 color photographs and illustrations; Bibliography; glossary; $24.95 hardcover; ISBN 0-19-521-1660-1*

*[Published 2000 by Duncan Baird Publishers (London) under the title of Egypt's Sun King: Amenhotep III. United States publication date: October, 2000]*

Most Egyptologists would agree that the Eighteenth Dynasty reign of Amenhotep III was a zenith in the history of ancient Egypt. The country enjoyed unprecedented wealth and peace, art flourished, and it was a time of enormous architectural building and change. Joann Fletcher's Chronicle of a Pharaoh brings this period alive in a highly readable, well researched, and beautifully presented new book.

Using a format of very short, year-by-year chapters, Dr. Fletcher traces Amenhotep III's remarkable fifty-year life from shortly before his birth to shortly after his death. All of the major events are well covered: his ancestry and real birth, as well as his famous "divine" birth depicted on the walls of Luxor Temple; his ascension to the throne at about age twelve; his marriage to Queen Tiy; the peace and prosperity of his reign; his massive building projects including Luxor Temple and his embellishments to Karnak; and his death and burial in the West Valley of the Kings.

Fletcher uses these landmarks as a framework on which to build a full and realistic picture of the entire reign of Amenhotep III. Drawing heavily on the Amarna Letters (several of which are translated in detail) and inscriptions from the tombs of his nobles, Chronicle of a Pharaoh fills in details often found only in ponderous accounts of Amenhotep's reign. The text is lively and interspersed generously with side-bars and "special sections" that provide additional details about individuals, lifestyles, culture, architecture and international relations during the period.

The descriptions of the daily life of the king at his residential and administrative palace at Malqatta on the West Bank at Luxor, his international diplomacy and personal feelings toward individual leaders of the known world, and his increasing love of luxury throughout his reign give the reader a sense of Amenhotep as a real person as few other books have done. Fletcher has written and lectured extensively about such intimate aspects of the ancient Egyptians as hair and wig styles, cosmetics and perfumes. Her coverage of these subjects, as well as clothing, food and family pets also help to recreate the world of the late Eighteenth Dynasty.

More is known about the nobles and officials of Amenhotep's reign than perhaps any other reign in Egyptian history. Fletcher's knowledge and extensive research of the period is evident in her clear portrayals of many of these individuals, particularly the king's scribe and "overseer of all works", Amenhotep Son of Hapu, who was later deified and worshipped as a god for over a millennium.

For readers interested in the Amarna Period, Fletcher presents a well-reasoned argument that traces the increasing emphasis on the worship of the Aten from Akhenaten's grandfather, Tuthmosis IV, through Amenhotep III, to Akhenaten himself. She does not, however, venture many opinions on the more controversial aspects of the Amarna Period. For example, she dismisses the question of a co-regency between Amenhotep and Akhenaten with the simple comment, "... this remains to be proven".

Despite its thorough research, the lack of citations or footnotes keeps Chronicle of a Pharaoh from being a truly scholarly work. Fletcher is quite good about prefacing theories and conjectures with statements like, "It has been suggested that …". A citation to the source of the suggestion or theory would make it much easier for the reader to pursue additional study.

Chronicle of a Pharaoh presents the life and time of Amenhotep III based on known facts (many of which have been discovered only recently) and does so in a highly readable format that will be valuable to scholars and Egyptophiles alike. The book is lavishly illustrated with outstanding, full-color photographs, and the graphics and layout encourage its enjoyment from cover-to-cover.