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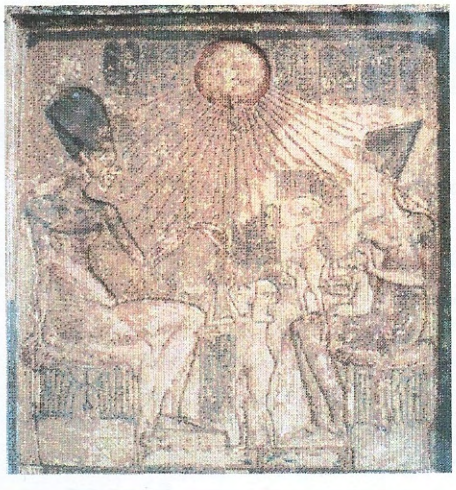
Robert Hanawalt, Founder

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THE PRESIDENT'S PAPYRUS

By David Pepper

The September 11th 2001 attack on the World Trade Center has resulted in increased security in the United States and throughout the world. Once again, tourism in Egypt will suffer and the lives of many will be negatively affected by the acts of a few. The prayers and thoughts of the board of trustees go out to the people of many nations who were impacted by this senseless act.

This issue contains three articles: the first is an extensive report on recent work at Amarna by the Egypt Exploration Society, under the direction of Barry Kemp; the second is an article by Kristin Thompson on her work with Amarna statuary; and the final report is part 2 of Bob Hanawalt's chronicles of his visit to Troy.

Due to extensive travel and an extremely high workload, I have decided to step down as the Foundation's President. I will continue to serve as a board member, however, and Bob Hanawalt will resume his former role as President.

The results of the annual election, held on September 8, 2001, are:

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EES FIELD DIRECTOR'S REPORT SPRING 2001

By Barry Kemp

I traveled to Cairo on March 2nd hoping to have the official paperwork settled before the start of Islamic New Year, and slightly apprehensive because, only a very short time before, the Egyptian government had added a crucial day's extra holiday for state employees. Thanks to the efficiency of the Egypt Exploration Society's representative in Cairo, Ms Rawia Ismail, all indeed was ready. It proved possible to start without delay, through the gracious assistance of Samir Anis, the archaeological director for the Amarna area, who attended his office and received us during the official holiday. His own superior, Mahmud Hamza, who has run the archaeological services of Middle Egypt (including some of the oases) for more than twenty years, was away on the pilgrimage to Mecca. He will retire in December in what will seem like the end of an era.

The first group of the team, including myself, moved into the expedition house on March 5th. It is at this moment that the expedition becomes a reality: an alternative life that is suddenly there to be resumed. The site itself stretches all around us and never fails to look both beautiful and intriguing. Our caretaker, Mohammed Omar, who lives at the house all the year round, greets us, as does our cook who has arrived the day before. Soon there are visits from men from the villages, come on a social call which also serves as a reminder that they are there to be employed for the season. This year there was to be no major excavation, which affects the balance of employment between the villages of el-Till in the north and el-Hagg Qandil in the south. We need a fairly large team for the building work at the Small Aten Temple and North Palace, but both of these places are in the north (whereas Kom el-Nana is in the south). Inevitably the expectation is that most of the men will be those from el-Till, but I have to make sure that a core of men from el-Hagg Qandil (who have worked with us from the very beginning) are given a place, as well.

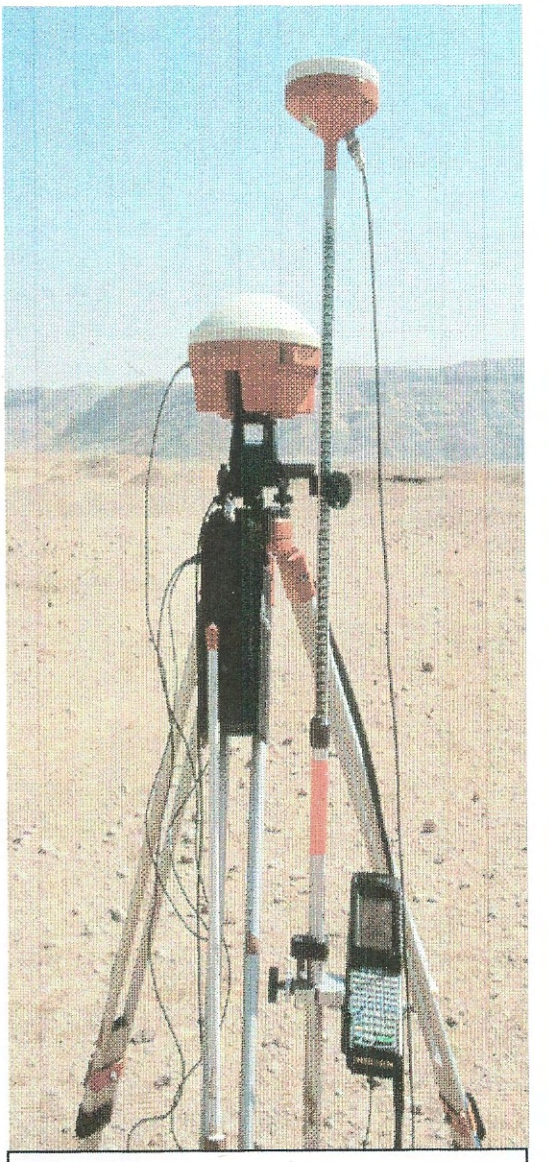
As every year, there is work for three of them immediately. Wherever we have a field team we erect a three-roomed hut made from the long dry stalks of durra, lashed into mat-like sheets and supported on thin tree branches. During the day one room provides the archaeologists with shelter for meals and equipment, while another serves as a shelter and social centre for the guards who are always there in varying numbers. In between is a tiny third room where one of the workmen brews tea for whoever is in need of it. At night this area becomes the guard house for the two night watchmen. The local word for such a shelter is a sabbata and making a new sabbata has become almost a ritual which marks the start of the season. An Egyptian visiting from Cairo later in the season said he had not come across the word before; it must be a countryside colloquialism.

Because of the New Year holiday we had a few days in which to clean the house and check the equipment. One task, small in itself but a great leap into the modern world, was to establish an internet link on the new laptop computer which the EES purchased. A company called Link Egypt has an office in Minia and offers subscriptions to a dial-up service, providing a CD-Rom with the necessary software. Internet connections and mobile telephones are spreading rapidly in Egypt, providing a relatively cheap and easy escape from the conventional telephone system. Our connection proved to be very slow (sometimes painfully so) but effective and reliable. The main purpose was to provide ourselves with a cheaper connection with the outside world than is provided by our international telephone line the charging rate for which remains alarmingly high. This was also the first season with the new kitchen, which Suresh had completely refurbished in December. It still required some finishing touches and for a while one of the bedrooms had to double as a temporary kitchen, but the great day duly arrived for moving in. The new kitchen not only looks good, but by the end of the season no one had felt unwell, the first time, I think, that this has happened. There is a lesson to be learned here. The next targets are the showers and the whole plumbing system.

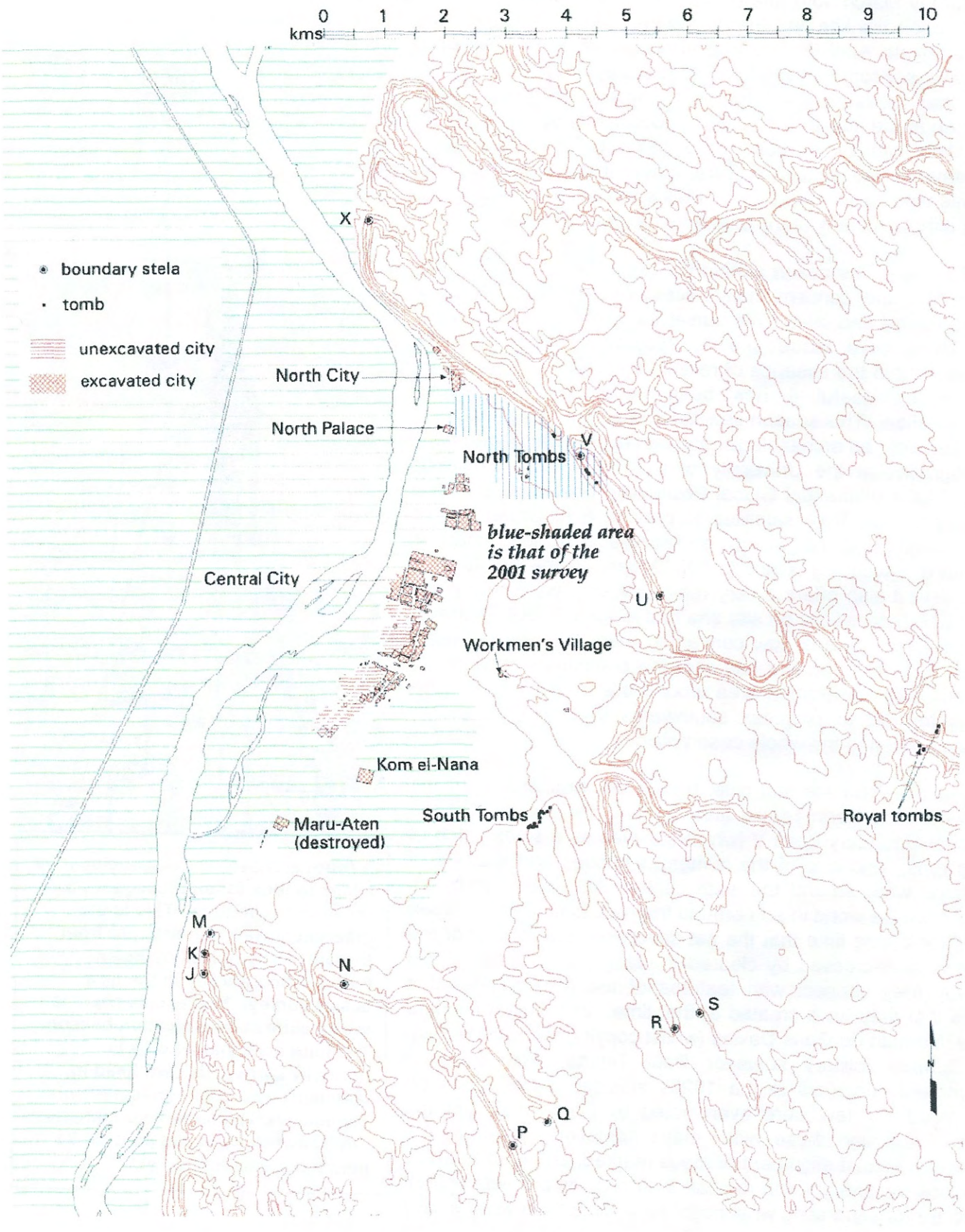
On Saturday March 10th, the holiday out of the way, the official party of inspectors, with Samir Anis, came to open the site and the magazines officially. From then until we left on April 9th we had a trouble-free and busy and successful season. The improved security in Middle Egypt meant that, whilst we still had our garrison of officers and policemen at the house, they did not accompany us each day to site. This greatly increased the flexibility of our working arrangements and enabled several different groups to work at the same time, widely separated. I will summarize the results by theme, although many of the elements ran concurrently.

Desert survey: The desert behind the city of Amarna, out to the cliffs and beyond, contains many traces of human activity, of the Amarna Period and later. We ourselves, like our predecessors at Amarna, have made sketchy records of some of this evidence, but in the absence of reliable maps at a large enough scale to be useful it has been hard to make proper documentation. This season saw the first step in filling this gap. Helen Fenwick, an archaeologist and surveyor in the Department of Geography at the University of Hull in northern England, brought out a differential Global Positioning System unit, which interprets signals from satellites to provide a measurement of position, including height, to an accuracy of less than a centimetre. Accuracy is not its only asset. In the hands of a skilled user it also offers a very rapid rate of progress. By the end of her three weeks on site she had logged 20,000 readings in digital form. She is now converting them into printed maps back at her university and has sent me preliminary versions. I have included a specimen area around the Desert Altars. The plan is for her to progress southwards in coming seasons, gradually covering the whole desert plain.

We now have, for the first time, a detailed contour map of the cliffs where the North Tombs are. It marks the positions of the tombs, of Boundary Stela V (which survives as a small patch of hieroglyphs), and also of the numerous houses and shelters of Christians who, around the sixth century AD, briefly sought a retreat from the world in and around the rock tombs. It has been known for a long time that the flat desert surface in front of the tombs is criss-crossed by cleared roadways and paths. From the way they connect with features of the Amarna Period it seems that they were created at that time. In the past Flinders Petrie, Norman de Garis Davies (whilst copying the rock tombs), the German military surveyor Paul Timme, and Egyptian government surveyors in the 1920s included these roads on their maps. A few were even noted by Carl Lepsius in the 1840s. Although these older maps sometimes differ in the number and exact alignment of roads marked, and tend to make them look too straight and regular, their records are very useful, especially for separating what might be ancient from what is very recent.

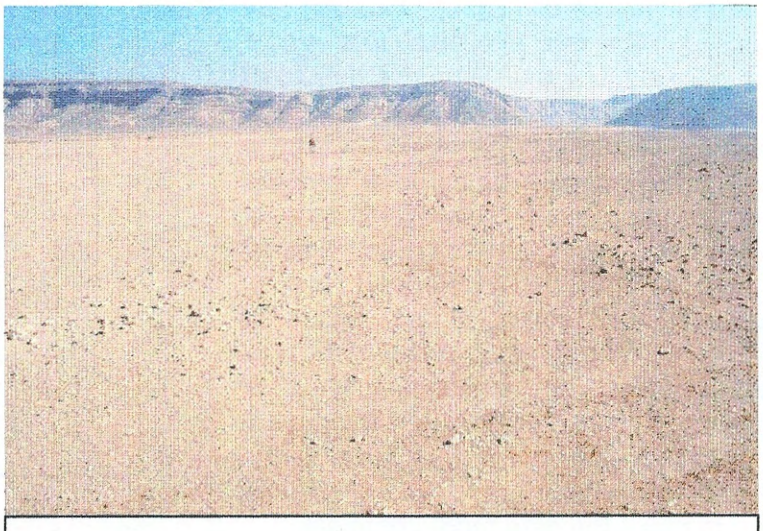


A robot archaeological probe sent by aliens to look for an intelligent past on earth? Not quite. This is the differential GPS unit brought from the University of Hull by Helen Fenwick and the key to the new desert survey. The 'alien's head' is the satellite communication beacon. The long staff that it holds is normally carried, its own head in constant radio commun-ication with the beacon. The hand-held computer enables each surveyed point to be numbered and annotated.



Area Surveyed at Amarna by the GPS unit in 2001

The roads are naturally vulnerable to modern traffic and some have been overlaid by vehicle tracks. Nonetheless, despite the amount of traffic which crosses the desert in this area, serving modern quarries as well as tourism, the ancient pattern has survived remarkably well. Tracking them still needs careful attention, however. Many of them are very faint, barely showing up on aerial photographs, if at all. Sometimes it requires the soft raking light of early morning or late afternoon to pick them out. To make maximum use of Helen's surveying skills two of the team, Lauren Bruning and Corinna Rossi, went on ahead, making sketch maps of what could be seen, using copies of the older surveys to guide Helen's steps as she tramped across the desert surface carrying the positioning pole which remains in constant radio contact with her base station.



A view northwards along the line of one of the roads which were laid out to criss-cross the desert in the Amarna Period, and seem to have served more than one purpose. The distant figure is Helen, the surveyor, walking its length and marking the positions of both sides of the road with the GPS unit. In the background the gap in the cliffs is the one which divides the North Tombs into two groups, and which leads on to the quarries both ancient and modern.

With so much of the road network still to survey, they extend all the way to the southern borders of the Amarna plain, it is too early to talk about them as a whole. It is clear that they served more than one purpose and must be, in part, connected with Amarna's security. Sometimes they run more densely, and this is so in front of the North Tombs. Some of them run in long and more or less straight lines from the direction of the city to the foot of the slope up to the North Tombs, though usually they do not climb the slope itself. They seem intended to provide for processions to the tombs. Two of them, however, run from the tombs to the group of structures which Pendlebury called the Desert Altars when he cleared them in 1931–2. We ourselves spent a few days adding details to Pendlebury's plan and Helen duly included them in her surveying.

The 'altars' are in two parts. The one that is now the more prominent is a run of three buildings in a row aligned roughly north–south. The northernmost consists of four ramps which meet, cross-like, at a central square platform which has a large hole in the centre, as if originally a stone object had stood there. If one stands at this point and looks along the line of the eastern ramp, the line of sight is continued by one of the roads directly to the tomb of the high-priest Panehsy. This connection is emphasized by a curious aspect of the 'altars'. When they were laid out, the surrounding desert was cleared of stones, leaving a boundary ridge which is still visible. This was done, however, only on the east side. I have walked around the area several times over the years and am convinced that this ancient attempt to create a smooth field around the altars was not done on the west, the side facing the city. This makes sense if the altars were to be approached from the east, from the direction of the North Tombs. The west side would have been in the background. But this raises the question, what were the 'altars' for? Like others, I have been inclined to see them as one of Akhenaten's many ceremonial stopping-off places. But it could be that they were actually 'private', serving in some way the tombs of the high officials buried in the cliffs to the east and especially that of Panehsy. He must have been a kind of 'master of ceremonies' for the cult of the Aten, with a separate official residence beside the rear of the Great Aten Temple as well as a particularly prominent house in the main city.

The other part of the Desert Altars site is a single enclosure that lies on the west, in ground which had not been smoothed and tidied up. It consists of a boundary wall enclosing a modest rectangular space, the wall made steady by buttresses placed at outside intervals. Although Pendlebury cleared it, the plan made at the time is reproduced as an inset to the fold-out plan of the Desert Altars in *City of Akhenaten* II. The interior space was largely occupied by the remains of one of the gypsum-concrete foundation beds which, at Amarna, always mark the site of a building made from stone talatat-blocks. Pendlebury found it largely broken up, but here and there patches survived bearing the thin bed of gypsum mortar into which the underside of the lowest layer of stone blocks was impressed. On the old plan this whole feature appears as a tiny rectangle devoid of detail. This time two of the workmen brushed the whole surface clean and, as a result, it was possible to make a detailed plan of the block marks which will help in understanding what had originally stood there. Once this was done the men covered the gypsum with sand, in the hopes of protecting it. They also investigated the corners of the brick enclosure, three of which had eluded Pendlebury's workmen. One indeed has long been washed away, but the other two were there to be found and so help to make the plan more complete.



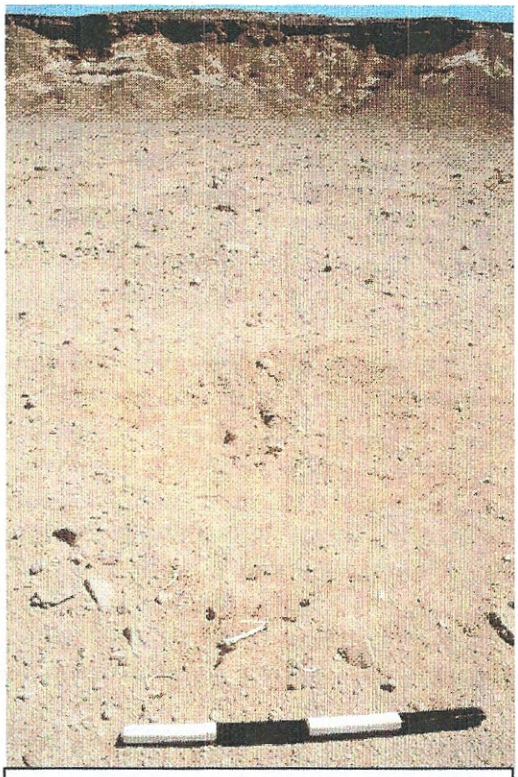
A balloon photograph of the easternmost of the two cemeteries. The circular 'craters' are the results of recent illicit digging.

The discovery of a cemetery: The desert south of the North Tombs, on the way to Stela U and the track to the royal wadi, has always seemed bleak and featureless, and is a part that neither myself nor others who have worked with me have taken more than a passing look at. For a few days Helen set up her base station below and slightly to the south of Panehsy's tomb, the southernmost of the sequence. On one fine clear morning I took a stroll across the nearby desert a little further to the south, where it becomes uneven as it approaches the slope up to the cliffs. I began to notice pieces of human bone, a few weathered sherds, and places where unmistakably someone has been recently digging holes and then filling them in again, trying to smooth them over but still leaving tell-tale marks. These are the signs of an ancient cemetery. My first thought was that this must be the cemetery for the Christian community which lived inside and in front of the tombs, and some of whose huts were immediately above. It seemed to make a neat logical grouping, especially since they had used Panehsy's tomb as a church and thus made it the focus of their spiritual lives.



A balloon photograph of the other cemetery, lying further to the west. Little craters mark the positions of graves probably robbed. Across the wadi, near the top of the picture, larger pits probably mark the positions of larger shaft tombs.

On the following morning I invited our inspector, Mr. Helmi, to come as well. He lives in el-Till and I particularly wanted to draw his attention to the signs of recent digging. He, too, had not noticed this patch of ground before. He asked me the question which is so often asked of Amarna: where were the ordinary people of Akhenaten's time buried? I had just finished giving a not very satisfactory answer when one of the pottery experts (Gillian Pyke), who had also come out that morning, approached carrying a handful of sherds. To my casual question: 'is there anything of interest?' came the reply: 'it's all New Kingdom'. When I took a closer look, yes, indeed, this was the case. The few pieces belonged to a category of rough jars that conventionally are sometimes called 'beer jars'. Mr Helmi is far too polite a person even to comment on this sudden reversal of my views. At the same time another smaller cemetery was identified lying further to the west, and what are probably two or three larger shaft tombs on a low rise in the same general area.



Bleak yet intriguing, the disturbed stretch of desert that marks an ancient cemetery. Close to the metre scale lie fragments of human bone including a piece of rib. This is a portion of the cemetery shown in the previous aerial photograph.

Two questions now arise. Roughly how many burials are present, and what condition are they in? The modern diggings give the impression that the graves are shallow, small and perhaps fairly close together, and maybe thoroughly rifled. There could be a few hundred. But surface appearances can be deceptive. Helen went on to make a very detailed plan of the surface over a part of the main cemetery and later we flew the balloon and now have good aerial photographic coverage of both cemeteries. In the past it might have seemed natural almost immediately to make a small excavation to get a clearer idea, but now one approaches the task more cautiously. Even without the Amarna connection, New Kingdom cemeteries in Egypt (outside Thebes and Sakkara) are surprisingly rare, and these days one knows that the human bones themselves are likely to be by far the most informative of the kinds of evidence present. Cemetery excavation should not be undertaken lightly. It is a slow skilled process requiring its own kind of logistical support, in the form of adequate storage (specially-made bone boxes), good laying-out space for study and, of course, a bone expert. A professional standard of work requires that each and every scrap of bone is sought out and kept.

The next step really ought to be a survey using an electronic ground-penetrating system. Two years ago, at Zawiyet Sultan, a colleague from Sheffield University brought out a magnetometer for a survey of a part of the site, and it worked well. Whether he will be available for the next Amarna season remains to be seen, but I am keen to try and arrange it.

For the time being, the next time someone asks: where were the ordinary folk of Amarna buried?, I will have a better informed answer. It also leads to a third and particularly intriguing question. Are there equivalent cemeteries in front of the South Tombs? There the ground is more sanded over and traces might be even harder to spot, especially without electronic equipment. This is another task for a future season.

The source of Akhenaten's building stone: Working at the northern end of the site made it easy to make further visits to the ancient quarries which lie along or behind the cliffs in the area, continuing the exploration which had begun in December when Jim Harrell, geologist from the University of Toledo, had taken a good look at quarry sites all the way from a point south of Amarna to Deir el-Bersha in the north. I briefly wrote about this exploration in the last issue of the Sun. Jim had located two which I particularly wanted to spend more time at. The first is very close to Sheikh Said, and overlooks the Nile from the top of a steep climb. It had originally been a huge cavern with the roof supported on dangerously thin pillars, but at some time perhaps quite recently a huge collapse of the roof has taken place, dividing it into a north and a south part.

Much of the quarry probably had nothing to do with Akhenaten. You can see on the walls of the cavern how the quarrymen cut blocks in regular rows and these are too large for Akhenaten's well known small talatat-blocks, which aimed to be 52 x 26 x 26 cm, the 52 cm being the length of an Egyptian cubit. Nonetheless, the quarry is interesting in its own right on account of the numerous lines and annotations in red paint which run across the ceiling in places. Other examples are known and they reflect the close supervision of quarrying which sometimes Egyptian officials insisted upon. Sheikh Said was evidently the site of a professional, state-run enterprise. Only at the north end, where the rear face of a smaller underground quarry survives, do the stepped marks represent blocks closer to those used at Amarna. But if it did serve Akhenaten's builders it did so in only a small way. It is now obvious from Jim's survey where most of the stone came from.

Since Petrie's rapid survey in 1892 it has been known that a quarry existed part way along a straight wadi which runs behind and parallel to the line of cliffs at the northern end of Amarna, reached by a breach in the cliffs close to rock tomb no. 2. It now bears the name Wadi Zubeida, after a female saint, Zubeida, whose tomb occupies a prominent headland at the far end where it reaches the Nile, a little to the north of Sheikh Said. When Petrie went there he found the name of Queen Tiye written inside it and ever since it has been known as 'Queen Tiye's quarry'. The name no longer survives, although I am fairly sure that a square hole on one of the rock pillars shows where it had been. It is a large cavern from which Amarna-size blocks have been methodically removed. One of this year's team, Corinna Rossi, an architect turned Egyptologist, made a plan and from this has calculated that it could have produced around 30,000 talatat-blocks.



A balloon photograph of the Queen Tiye quarry at Amarna. It has several entrances cut into the side of a rounded headland. White banks of ancient quarry spoil lie in front.

In December Jim spotted any number of small shallow quarries scattered over the adjacent desert, and this time we took a closer look at them. The more one looks the more one finds. Jim reckons that they cover an area of around 0.7 square kilometres. Sometimes they are on the flat top of the plateau, sometimes they are cut shallowly into the hillside. Abandoned talatat-blocks, roughly shaped, are quite common. Here and there one can see where longer narrower blocks were cut, presumably for door jambs. The main addition to the picture which Jim gained in December is the scale of quarrying just below the upper lip of the cliffs which overlook the North City. Most of the edge has been turned into a gallery quarry for a distance of nearly two kilometres. The cliffs here are taller and steeper than those where the North Tombs are. The view from the top, over the city and then over the river, which is quite close, is spectacular.

In places the quarry face is uncomfortably close to a vertical drop. One of the advantages of cutting small blocks is that one or two could have been loaded on to a donkey for transportation. Donkey and driver would then have needed to pick their way carefully along a narrow path to avoid a fatal plunge over the edge. The way down is not difficult to spot. A protruding knoll part of the way along fortunately provides a steep but not too challenging way down to the desert floor. Around a century ago both the German surveyor, Paul Timme, and Petrie marked on their maps a straight track, which they took to be ancient, leading from this point directly towards the city. We have looked for this on the ground and from above, in different light conditions, but none of us has been able to identify it.

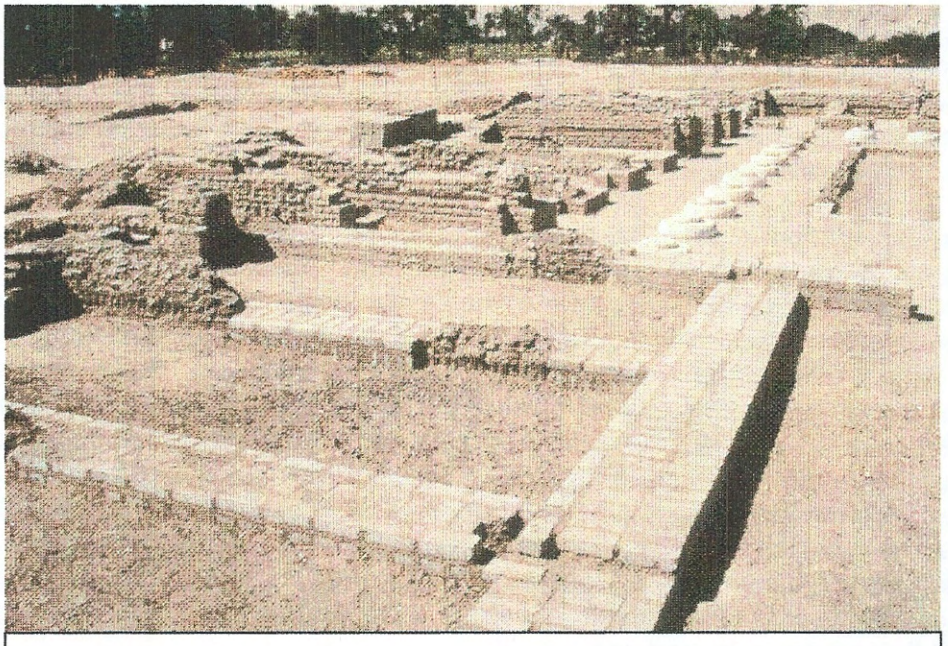
The underground 'Queen Tiye' quarry gives the impression of methodical work tightly organized, which would be the case if the quarry was in some way in the ownership of Akhenaten's mother. The open quarries give a very different impression. It is as if an army of people had spread themselves over the desert, each person or small group of persons, intent upon hacking out a quota of stones. Sometimes they formed into long lines to attack a low vertical face, sometimes they squatted down and cut straight into the ground. Some of the groups gathered boulders to make into shelters which can still be seen. Then a moment came for the work to finish and many of them walked away for the last time, leaving partly hewn and occasionally completely separated blocks behind them. This landscape of abandoned industry has remained oddly untouched ever since.

One can imagine the rush to provide stone for the king's buildings, all of which might well have been started at the same time. A gang of quarrymen who worked under Queen Tiye's patronage was sent to open a quarry, but it was quickly obvious that they could not supply enough. So what was done next? Was the army sent up, supplied with hundreds of bronze chisels, to boost the supply? Or was a levy placed on the citizens who would already have been setting up house in the city, with each household required to furnish a given number of blocks? Both possibilities are equally plausible and perhaps both were employed. Although the area they covered is impressive, the numerous places where they worked are often very widely separated, even isolated, as if some of the groups of people preferred a certain distance between themselves and others. The limestone is quite soft and, as long as the blocks are made bigger than required, leaving enough stone for a skilled mason subsequently to remove by dressing, no particular skill is needed to hack them out of the ground. The private houses, too, used a certain amount of limestone, especially for doorframes and column bases. There are traces that both of these were extracted, too.

We now have an outline record of this Amarna scene, including some good balloon photographs. A full survey would be a major task, although it would bring closer the possibility of calculating just how much stone was taken from the hills. For the time being at least it has to be a low priority until Helen has finished the survey of the plain. Jim, Corinna and myself are now writing up the results for an article which I hope will appear in the Cambridge Archaeological Journal.

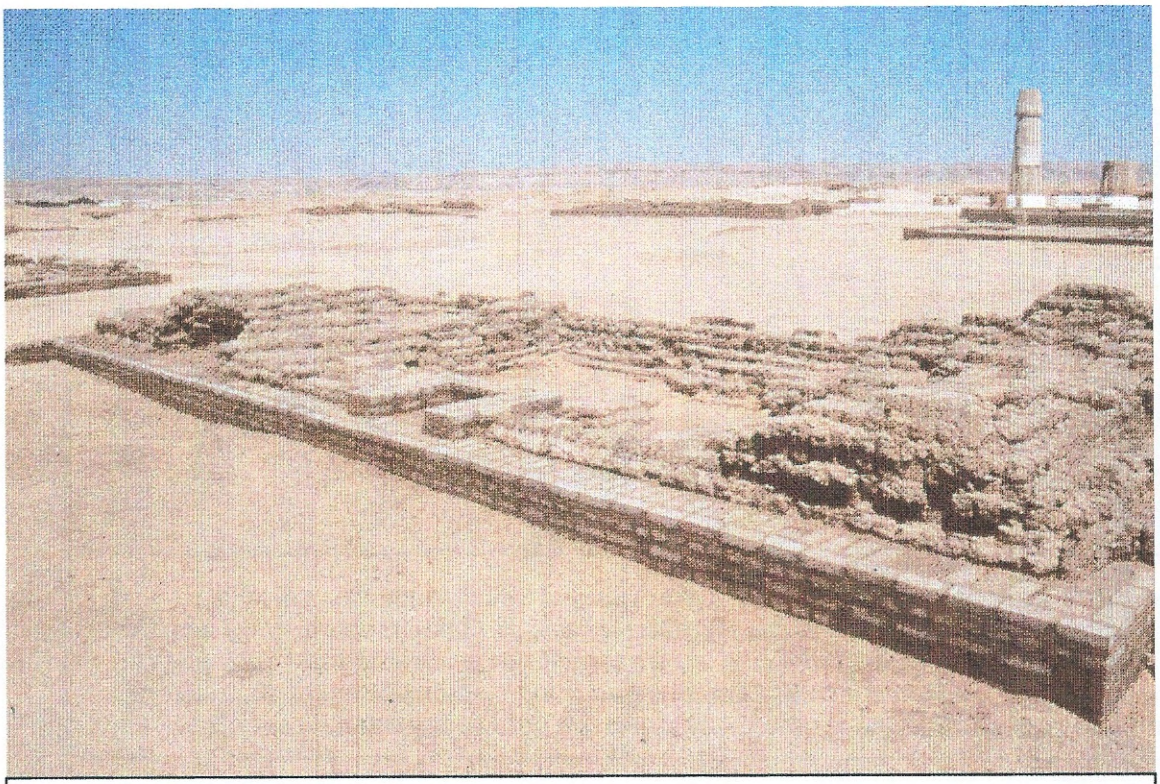
Consolidating the walls of the Small Aten Temple and North Palace: When Bob Hanawalt first came to Amarna he was much saddened by the deteriorating condition of much of it. We were already doing repairs to the Small Aten Temple following a re-clearance and fresh survey of this central building. One of his aims in creating the Amarna Research Foundation was to raise and channel funds to the continuing rescue of the site from the ravages of time, weather and human carelessness. As a result we expanded our efforts to include the North Palace, then showing signs of even more rapid collapse of the brickwork, probably connected with the new (and illegal) cultivation of the desert to the east which seems to have raised the local level of humidity. Last year architect Suresh Dhargalkar and myself considered trying to run the conservation work simultaneously at both sites but in the end gave up the idea on account of the difficulties this would create with the close policing which we have had for the last few years. This year the atmosphere was much more relaxed and, without any difficulty, we ran teams of workmen at both of the sites at the same time.

It is a slow and labour-intensive kind of work. We need, of course, a supply of new bricks. These we make from local materials, according to a formula which Suresh has devised, and within moulds of the correct ancient size which he has also supplied. At each site two brick makers between them manage about seventy per day, and then the bricks take about a week to dry. We had a stock left from last year at the temple, but had to start afresh at the North Palace. The repairs mostly take the form of first identifying weakened masonry that needs to be replaced (often at the bottom of a wall), then scraping it away and inserting stronger new bricks. Sometimes, however, where a piece of wall has completely disappeared, it seems right to rebuild the wall for a few courses so that the eye takes in a more complete outline or architectural shape. Some of the workmen are local builders and serve us well, but Suresh still finds it necessary to lay out carefully all the building lines that are to be followed and sometimes to supervise where each brick is to go.



Building work at the North Palace. In the background lies the garden court in the north-east corner. In the foreground is some of this year's work, where fragments of original brick wall have been consolidated and joined together with new brickwork. This helps to protect them and to make the building easier to understand.

One of the joys of building in mud brick is its adaptability. One of Suresh's aims this year was to outline more clearly the second and third sets of brick pylons at the Small Aten Temple. Having built up the bases so that they make firm straight lines he wished to hint at the slight slope (or 'batter') which Egyptian temple pylons had. He was able to do this by getting the workmen to carve or scrape the bottom course into the appropriate slope. At the North Palace a length of a major wall had vanished entirely. This was a case where a modern replacement made good sense. But, contrary to our usual practice, the builder started from one end rather than marking out the full line of the wall with string. It was only when it was well advanced that a tiny misalignment at the beginning had become so magnified that it was immediately obvious that the alignment was askew. There was no need to despair, however. By dint of scraping surfaces away and adding mud mortar where it was needed, and by laying part of the top course again, the wall was 'moved' to the correct line. Another task was to rebuild the brick piers which separate a group of quite well preserved storerooms. Whole bricks have started to drop out of them in the last couple of years, and without a re-facing they would soon be reduced to rubble.



Building work at the Small Aten Temple. In order to protect the remaining original brickwork and to clarify the outlines, the base of the pylons are built up with new brickwork. Also visible is the outlining of the original niches which supported the wooden flagpoles.

Although it is slow work it does accumulate from year to year, and at both sites a much clearer impression of what the buildings looked like is emerging and, of course, the loss to the ancient fabric is halted. In my view this work must remain one of the expedition's priorities.

Recovering the pottery from the royal tomb(s): Late in the 19th century, when foreign archaeologists began to explore Amarna in earnest, they found that local people had already located and dug for treasure in and around a rock-cut tomb in a remote valley behind Amarna, a tomb which was quickly recognized as having belonged to Akhenaten himself.

In 1931–2 and 1935 John Pendlebury carried out a thorough excavation of this tomb and of three others (nos. 27, 28, and 29), which lie in an adjacent wadi system. Eventually Geoffrey Martin published a detailed account of what the Royal Tomb had contained. In 1984 he returned and assisted Ali el-Khouli of the Egyptian Antiquities Organization in a further exploration of nos. 27–29. What was omitted from their study was the broken pottery, of which quite a lot had been collected, some from the Royal Tomb itself and some from nos. 27 and 28. Part of the collection was deposited for temporary safe-keeping in a side corridor of the Royal Tomb, but some fragments from nos. 27 and 28 they left as a series of heaps in the adjacent wadi.



A low-level balloon photograph of the side valley in which were cut two of the unfinished 'royal' tombs at Amarna, numbers 27 and 28. Their mouths, lying close to one another, are the dark shadows at the bottom of the picture. In front is a natural terrace of water-laid silt which has itself been eroded by subsequent rains, some of them fairly recent. The sherd dumps lay along the floor of the dried watercourse.

One of the current Amarna team, Amanda Dunsmore, is in the early stages of a research project involving pottery of the period from certain contexts, and has identified the Amarna royal pottery as a valuable group for her studies. We therefore obtained permission to gather the pottery and transport it to the expedition house. It is now stored in secure labeled crates, and Amanda had the time to lay some of it out and begin the long job of cataloguing. Although some will probably have come from Akhenaten's tomb, the pottery from the other wadi is more likely to have been part of the supplies to the workmen who cut the tombs in these remote valleys.

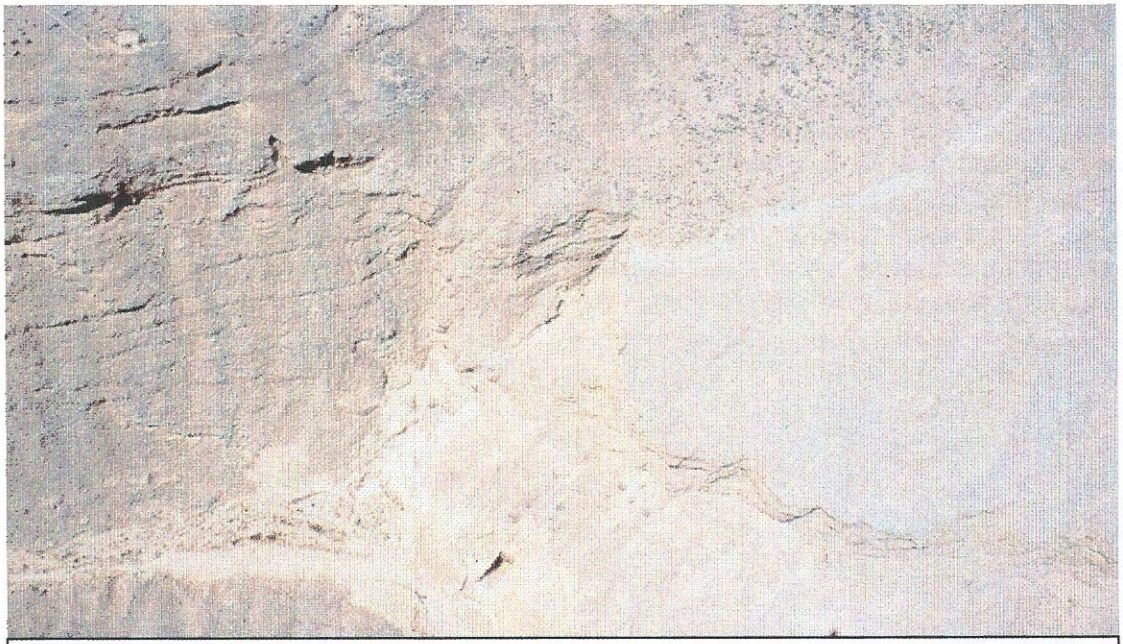
The operation of retrieval took a few days and several slow journeys by a local pickup truck. We took advantage of this aspect of the season's schedule to take the helium balloon up one morning for a series of photographic runs over the royal valley system. Some of the valleys are quite narrow. In order to keep the balloon centred over them in a strong cross-wind it was necessary to run up the steep sides to the desert plateau on top, hauling the guide strings. Working in conditions like this inevitably takes its toll on the balloon itself and it looks as though the balloon envelope already needs replacing.

Amanda's pottery interest fits nicely in with a quite separate survey project being undertaken by the French Egyptologist, Marc Gabolde, of the University of Montpellier. He has already meticulously examined the various spoil heaps and rocky slopes around the royal tomb itself, and plans to complete his work by doing the same around the other three tombs. By agreement, we have left untouched a scatter of individual sherds which have been spread by water action down the wadi from tombs 27 and 28. These he will map and gather separately, although Amanda will also include these in her studies. Marc's aim is to rescue such clues as remain to point to where the sherds have been washed from, and to look for any other debris which might shed light on, for example, the order in which the tombs were cut. Marc, with Amanda, now plan to do this work in December and January.



An aerial view of Akhenaten's tomb cut in the side of a lonely valley.

A small excavation: I am engaged upon preparing the final report on the excavations done between 1996 and 2000 south of the Great Palace. They covered an area previously dug by Pendelbury beside the Smenkhkara Hall and an entirely new though very eroded area to the south. As I have inked in the plans and puzzled over them I have become increasingly aware that two five-metre squares which occupy a significant position on the plan of the 1996 season were never actually examined. Time ran out at the end of that season. The squares in question cover a place where a line of three long parallel walls run in from the west and approach the west wall of the great pillared hall. We know, from the results of the 1996 season, that one of them actually dived underneath and reappeared on the other side, inside the hall. This is because it had been built earlier. The missing squares covered the adjacent wall which could have done just the same. Right at the end of this year's work I measured out where these squares would be and put a small group of men to clear away the sand and farmyard debris. I was pleased I did so. For the wall in question does indeed run across and had originally continued into the ground later occupied by Smenkhkara's hall. Moreover, this wall has square buttresses on the outside, agreeing with a feature on an earlier Pendlebury plan of the westward continuation of this wall. Here we probably have part of a palace enclosure wall of the very first years of occupation at Amarna which must have occupied part of the ground later taken by the hall. It was very satisfying to see this small but significant extra piece of the jigsaw drop neatly into place.



A second view of Akhenaten's tomb. Behind it the cliff rises to a pinnacle close to the top left corner of the picture. The narrow path leads to the remains of a circular stone 'hut', clearly visible in the picture, where a few Eighteenth Dynasty potsherds still lie.

Fragments of Amarna statuary: At various times we have come across collections of broken stone (and other objects) buried by previous excavators as surplus to their requirements. One, which re-used the buried base of a circular grain silo of the Amarna Period, lay just beside our dig house. The others come from pits dug by Pendlebury some distance behind his own house in the north. Apart from one group which went to the Cairo Museum in 1982 as part of the divisions procedure (now thankfully discontinued) this material lies in tray after tray in the large storeroom (magazine) attached to the dig house. This year Kristin Thompson came out to start the job of sorting and cataloguing. Her visit opens up a new chapter in our work. I leave it to her to relate her findings separately.



Inside the dig house, trays containing fragments of granite statue await their turn to be catalogued and photographed. These particular trays contain material thrown away by John Pendlebury in the 1930s and probably found by him at the Great Palace.

Back home: I am writing in the midst of the long break in the university teaching year which runs through much of the summer (which in Cambridge tends to be damp, either from chilly rain or from humidity on the occasional warm days). I have a number of jobs of writing to do unconnected with Amarna, but the greater part of each day is devoted to Amarna. There are endless routine jobs of sorting and cataloguing the records, but two tasks are particularly prominent. The artist and conservator Fran Weatherhead (assisted by her partner, a fine draughtsman, Andy Boyce) has for several years been working on the hundreds of fragments of painted plaster which we recovered from the chapels at the Workmen's Village in excavations in the 1980s. She has now delivered to me her final text and a mass of beautifully inked-in drawings, some of them reconstructions, which are to be the basis for a full report on the chapels. In deference to her achievement I have decided to devote a part of my time in the coming months to completing the detailed report on the other aspects of the chapels, which raise a number of interesting topics. In the years that have elapsed since the preliminary reports appeared in the Amarna Reports series I have learnt better how to interpret what comes from the ground at Amarna, and have come to a richer appreciation of the broader context. A fattish and nicely illustrated volume on the chapels should be the result.

The other task complements the GPS survey. Again, for several years I have been creating an electronic mapping framework for the expedition, using the powerful ArcInfo GIS program. If one is working for a limited period of time at a smallish archaeological site then one might as well still prepare site plans and distribution maps in the traditional way, by hand. But for a site as large as Amarna, and with information being added each year, often to several different parts of the site at once, maintaining hand-drawn plans becomes almost impossible. One of the things that I and others work at from time to time is the compilation of lists of various categories of finds to see where they come from and whether they group themselves significantly from place to place. Again, hand-drawn distribution maps are far from satisfactory since it is sometimes necessary to correct the positions as well as to update the whole. Electronic maps provide the answer but the scale of the undertaking makes for slow progress. Nevertheless, the essence is that it is additive. As a 'live' database it grows by the year.

All of the many parts of Kom el-Nana (both Amarna Period and early Christian) are now digitized, as are the intricate plans of the area around the Smenkhkara Hall where we have worked in recent years, and parts of the plans of the North Palace and Small Aten Temple. On one day's detour this year Helen mapped in key points for the main city (we use the modern electricity pylons as one set of referents). I have therefore also started to digitize block plans for the individual buildings of the city as a whole, the aim being to compile a series of unified layers for the whole of Amarna – city and plain – which will deal with buildings, desert features and many other aspects of the city where spatial distribution is of interest. This is a task which stretches ahead for as long as I am able to sit at a keyboard and work at the AO-size digitizing table which the EES bought for the expedition a few years ago. I am currently negotiating with my Faculty for funds (not large but nonetheless hard to come by) for the purchase of high-quality scanning equipment and a CD-ROM writer, which will greatly aid the dissemination of information.

Amarna is one of the expeditions of the Egypt Exploration Society. The Society has again committed some of its funds to Amarna for next year, although much of this is needed for supporting some of the members of the expedition involved in post-excavation writing up.

For the field expenses themselves the expedition relies to a great extent upon the Amarna Research Foundation. Again, a big thank you for your support.

PUTTING TOGETHER THE PIECES AT AMARNA

By Kristin Thompson

In November of 2000, Barry Kemp invited me to join the Egypt Exploration Society Expedition to Tell el-Amarna. Based on a study of Amarna reliefs which I had written, he felt I could take on the task of registering hundreds of fragments of statuary stored in the magazine at the expedition's dig house. Naturally I was thrilled to have the chance to live for a while on the site and to work with unpublished pieces of Amarna art, however damaged. The arrangements were quickly made, and I was able to participate in the March, 2001 season.

Not knowing the procedure for getting to Amarna, I met Barry and Suresh Dhargalkar (the architect who has been helping to conserve the ruins at Amarna) at Heathrow, and we flew to Cairo together.

I can attest that Barry does not fritter away his sponsors' support on lavish accommodations for the expedition members. We rolled in from a (delayed) EgyptAir flight at about 2 am to the Garden City House Hotel. This one-star hotel may be a bit basic, but its staff is friendly, and its position between the Hilton and the Semiramis provides, for a fraction of the cost, the same spectacular view of the Nile that one gets from those five-star institutions.

Our little group soon expanded. The next morning I met Amanda, the pottery expert; Rainer, an authority on ancient charcoal, arrived later in the day. Despite having already been in Egypt for some time on other digs, both were excited at the prospect of returning to Amarna, which they obviously considered a special place.

It being a holiday, there was no hurry to get to Amarna, so we spent the weekend in Cairo. I naturally headed for the Egyptian Museum, where one "new" East Karnak colossal head of Akhenaten (seen in the "Pharaohs of the Sun" exhibition) has been installed. Another is evidently in preparation, lying on a skid in the Ramesside room (where I seized the chance to photograph details like nostrils and earlobes). An unexpected bonus was Mark Lehner's generous invitation out to Giza for a long tour of the workmen's village southeast of the Great Pyramids.

The drive to Amarna began with a stop in an industrial suburb to purchase two cylinders of helium for the balloon that the Foundation donated some years ago and that has made possible many excellent and revealing aerial photographs. (Some of these have graced previous issues of the Akhetaten Sun.) Then it was off for a pleasant drive of several hours, stopping briefly in Minya for tea at the office of the local antiquities inspectorate.

Upon arrival we each claimed a room from the rows of little attached huts that surround the courtyard in front of the main house. After we settled in, there were the workrooms to be cleaned of a year's worth of blown dust, a task enlivened by the view of the beautiful cliffs at the southern end of the Amarna plain.

The national holiday continued, and so the local inspector with the key to the magazine was not yet available. For me this meant there was no access to the statuary fragments on which I was to work. Instead a few of us spent the next day helping Amanda collect pot sherds from a number of dumps left in the Royal Wadi by previous excavators. We ended up with about twenty crates of these and also visited the three unfinished royal tombs on the opposite side of the main wadi from the Royal Tomb itself.

At last on Wednesday our local inspector Helmi Hussein and his colleague Samir Anis officially opened the season (and the magazine). Suddenly the long, empty tables in my part of the workrooms were full of large blue plastic trays full of pieces of statuary. All of these came from previous excavators' dumps, buried long ago for possible future retrieval. The ones I tackled first were from a single spot near the southern dig house (in current use by the EES). The location of this dump had long been forgotten, and it is not even clear who buried these fragments.

After they were rediscovered by accident in 1993, Barry had roughly sorted them by type of stone. Quartzite, calcite (a.k.a. alabaster), slate, and granite fragments were identified and stored away.



Amarna Research Foundation Trustee Kristin Thompson putting registration numbers on some of the hundreds of statuary fragments stored at Amarna.

My job was to paint registration numbers on each piece, fill out a form giving its physical details, including my judgment as to which ones belonged together and what sort of object they had originally formed a part. I had been warned not to expect to be able to fit any of the pieces together, as joins were extremely rare. I still hoped I might get lucky and find one or two.

The trays contained many small, unidentifiable fragments of stone. Among them, however, were lovely little portions of princesses' heads from roughly life-size quartzite statues; I was able to make two joins among these, from two separate heads. Another group of pieces came from what must have been a superb standing statue of Akhenaten, in black slate and also about life-size. These bear many hammer marks, testifying to the systematic way in which they were broken up in the attempt to wipe out Akhenaten's memory. Most of the collection evidently came from a sculptor's workshop, for the fragments lacked final details and polish.

The nature of my task changed abruptly when I started examining the largest group, 188 black-granite pieces. Elbows, knees, and bits of legs were apparent in the jumble, and I soon realized that these were on roughly the same scale and probably belonged together--though how many statues were represented was initially unclear. I started sorting out this big, three-dimensional jigsaw puzzle. I was able to make several joins per day (alternating with my registration duties), and Barry soon suggested that I start gluing the pieces together.

Epoxy not being a commodity available locally, a call went out to a team member who was still in Cairo to scour the shops and bring as many tubes as possible. Fortunately he found enough to last my stay, and I started reconstruction in earnest.

Over the next weeks the statue took shape, and it became apparent that all the pieces belonged to a single, nearly life-size statue: almost certainly Akhenaten and Nefertiti seated side by side. I estimate that the pieces we have represent perhaps between a third and half of the original. Unfortunately the heads and hands are among the missing parts, though it is evident that the couple's arms all extended straight forward along their thighs; what they were doing with their hands remains an intriguing mystery. The first (and still the largest) section of the statue to come together was Akhenaten's torso, made of 14 pieces, which is nearly complete from neck to stomach. Other parts not yet attached extend down his left arm and side to his ankle, with a gap in the thigh. Alas, more of Nefertiti is missing, with only her midriff, right leg, and parts of her arms present. We also have many small fragments of whatever they were sitting on--the reconstruction of which will be more difficult.

Possibly in the 2002 season we will locate more pieces of this statue near where these were found. Even if a future search turns up nothing more, the fact that only two known statues of Akhenaten show him seated (the yellow statue in the Louvre, the small unfinished one with him kissing a princess) makes this new piece particularly important. Amarna statues in black stone are also unusual.

The other group of fragments had been buried near the north dig house by J. D. S. Pendlebury's expedition in the 1930s. They were nearly all of pink granite, and presumably form a portion of the "thousands of fragments of granite colossi" Pendlebury describes as having been found near the



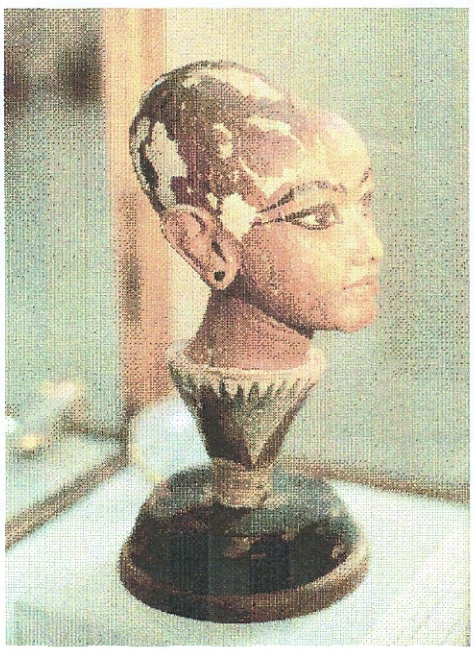
The largest section of a nearly life-size black granite statue currently being reconstructed: Akhenaten's torso.

broad hall of the Great Palace (City of Akhenaten III, p. 52). Certainly some of the identifiable body parts hint that these statues were indeed very large. So far no joins are evident, but there is the possibility of finding more pieces, both in Pendlebury's dump and in museum storerooms. Even as broken and incomplete as they are, some of the fragments yield hints about poses.

I spent my days in one of two long, parallel workrooms in the dig house, both full of wooden tables. The personnel of the expedition divided up into two groups: those who worked in the field (this year mostly on mapping, as Barry's report describes) and those who stayed "at home" and investigated finds from past seasons. During the time I was there, the latter included Rainer testing charcoal, Amanda sorting Amarna-era pottery, Gillian handling the Roman and Coptic finds, and Chris identifying seeds and other plant remains.

The perquisites at Amarna include sightseeing on our days off. We visited the Workmen's Village, which I had never seen. Indeed, there is not much to see, as sand has reburied most of the ruins. But the village occupies a place roughly at the center of the Amarna plain, and from the surrounding flat-topped hills one can survey the entire sweep of the cliffs, with their three dramatic wadis, as well as the length of the ancient city. Another day a few of us enjoyed an unhurried perusal of the North Tombs. I also had the privilege of a quick visit to "Queen Tiye's Quarry" (described by Barry in "Building in stone at Amarna" in the previous issue). Apart from the spectacular view from the quarry's cliff-top location, the galleries inside, covered with chisel marks, had a golden glow created by the early-morning Aten rays.

During the course of the season at Amarna, participants come and go. I left after three weeks, vacating my hut for Gwil Owen, who arrived the next day to recommence his photography of the site. Since then I have begun an investigation of Amarna statuary, both reading about it and visiting museum storerooms. (In July I got a good start on the latter, visiting the Petrie and British Museums in London, the Louvre, and Brussels' Musées d'Art et d'Histoire.) The hope is to gain a better sense of the quantities and sorts of statuary fragments from early digs that survive--a subject about which remarkably little is known. Perhaps with such information we will ultimately be able to place the pieces at Amarna in a larger context and gain further clues about the statuary program in Akhenaten's great stone buildings. Next year I plan to be back at Amarna, and I hope to report considerable progress on our statuary project in these pages.



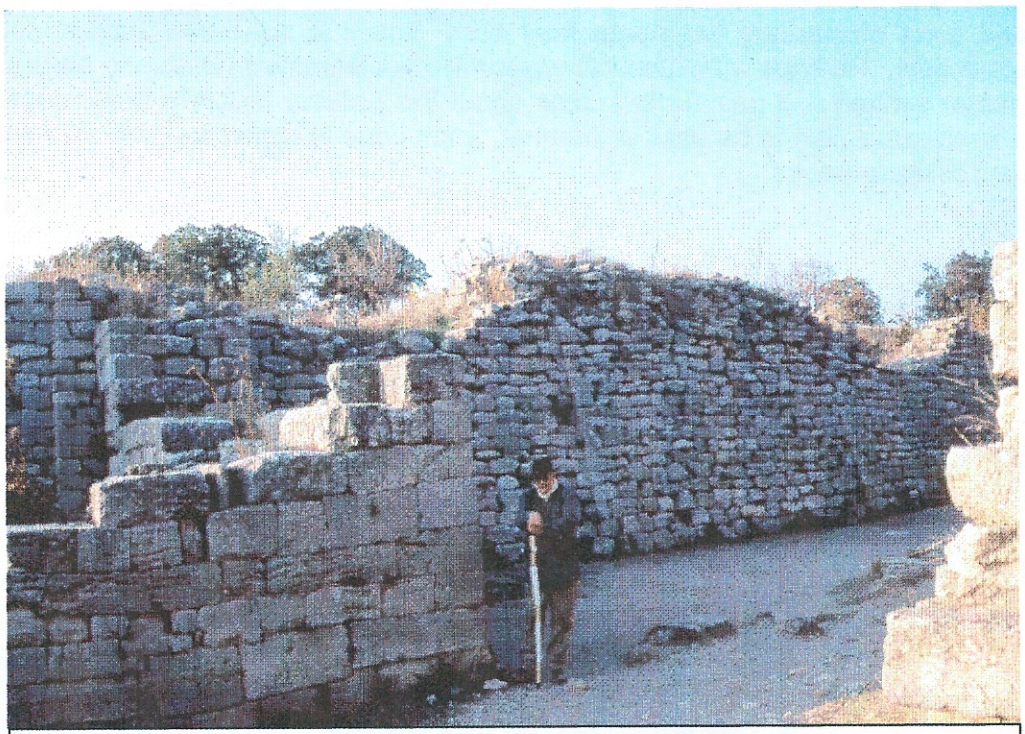
THE ROAD TO TROY - PART II

By Bob Hanawalt

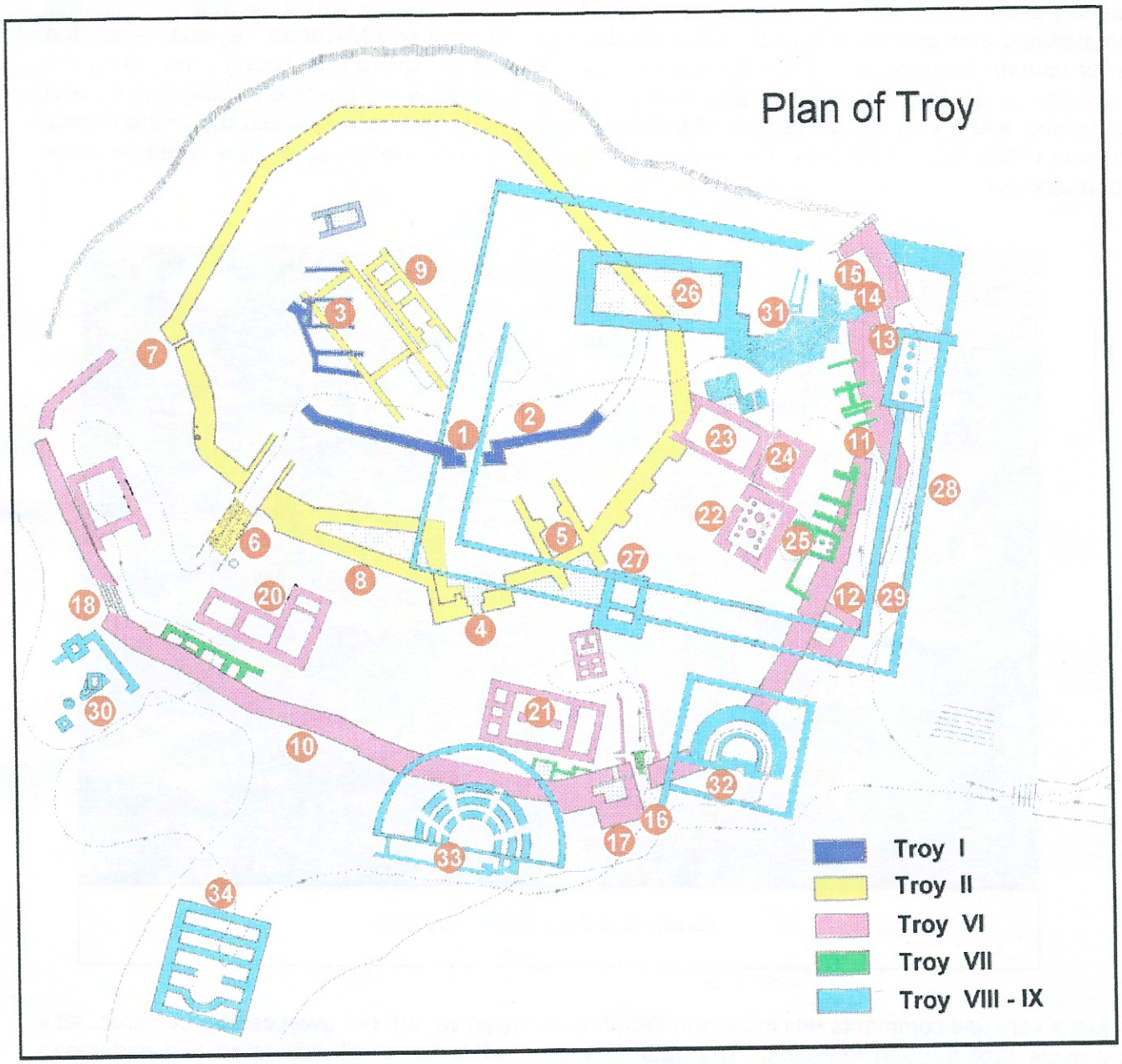
Apparently Troy does not have many visitors. At least it didn't the day we arrived. I will admit that mid-December is not exactly the height of the tourist season, but the parking lot, which is fairly large, contained only one tour bus, and ours was the only car. We saw the group from the tour bus from a distance and there could not have been more than fifteen or twenty people in it. Troy, that day, seemed like a very lonely place.

We disembarked, visited the ever present government book shop, and then a made a quick stop at the government licensed (I'm sure - it was the only one) souvenir shop where my guide told me that the owner knew about everything there was to know about Troy. Unfortunately, he was out with the tour bus group and we didn't get his services. If this sounds like an "arrangement", it probably was, but in this case the extent of the shop owners knowledge as described by my guide turned out to be true, as I later found out that he had published several books on Troy, was personal friends of a number of archeologists, and had participated in several of the digs. I really, really wish he had been with us, as my guide knew little more than I did.

We walked down a path some fifty yards in length to the entrance to the citadel ruins. What a pile of rock! That's what it seemed like - one big pile of rock. Initially it doesn't look like there is much form to it. Also, the parking lot is about on the level of the top of it. Accompanying this article is a map of the citadel site showing some 6 of the 9 levels of the ruins. (An additional lower level dating c.3500BC has recently been found that locals call "Troy 0", but archaeologists term "an earlier Troy".



The author at the base of the remains of the north-east tower of Troy 6. The north-east entrance can be seen to the right. This was taken from a wall of Troy 9.



1- GATE
2- CITY WALL
3- MEGARONS
4- FN GATE
5- FO GATE
6- FM GATE AND RAMP
7- FJ GATE
8- CITY WALL
9- MEGARONS
10- CITY WALL
11- VI. S GATE
12- VI. H TOWER
13- VI. R GATE
14- VI. G TOWER
15- WELL-CISTERN
16- VI. T DARDANOS GATE
17- VI. I TOWER
18- VI. U GATE
19- VI. A HOUSE
20- VI. M PALACE - STORAGE HOUSE
21- PILLAR HOUSE
22- VI. F HOUSE WITH COLUMNS
23- VI. C HOUSE
24- VI. E HOUSE
25- VII. STORAGE
26- ATHENA TEMP
27- ENTRANCE TO THE TEMPLE (PROPILAION)
28- OUTER COURT WALL
29- INNER COURT WALL
30- HOLY PLACE
31- WATER WORK
32- PARLIAMENT
33- ODEON
34- ROMAN BATH

Let me say at the outset that I think that Schliemann, the discoverer of the Troy ruins, has been greatly underestimated and wrongly criticized. After his discovery of Troy and Mycenae, he was called "the father of modern Archeology". Then he was roundly criticized for "doing it all wrong", "not using the proper techniques", and in general making a mess of the site. This is the ultimate paradigm in *ex post facto* thinking and a very good example of professional jealousy that has pervaded the archeological world even to this day. If he were the father or inventor that was pre-figurative, how could he know proper methods?

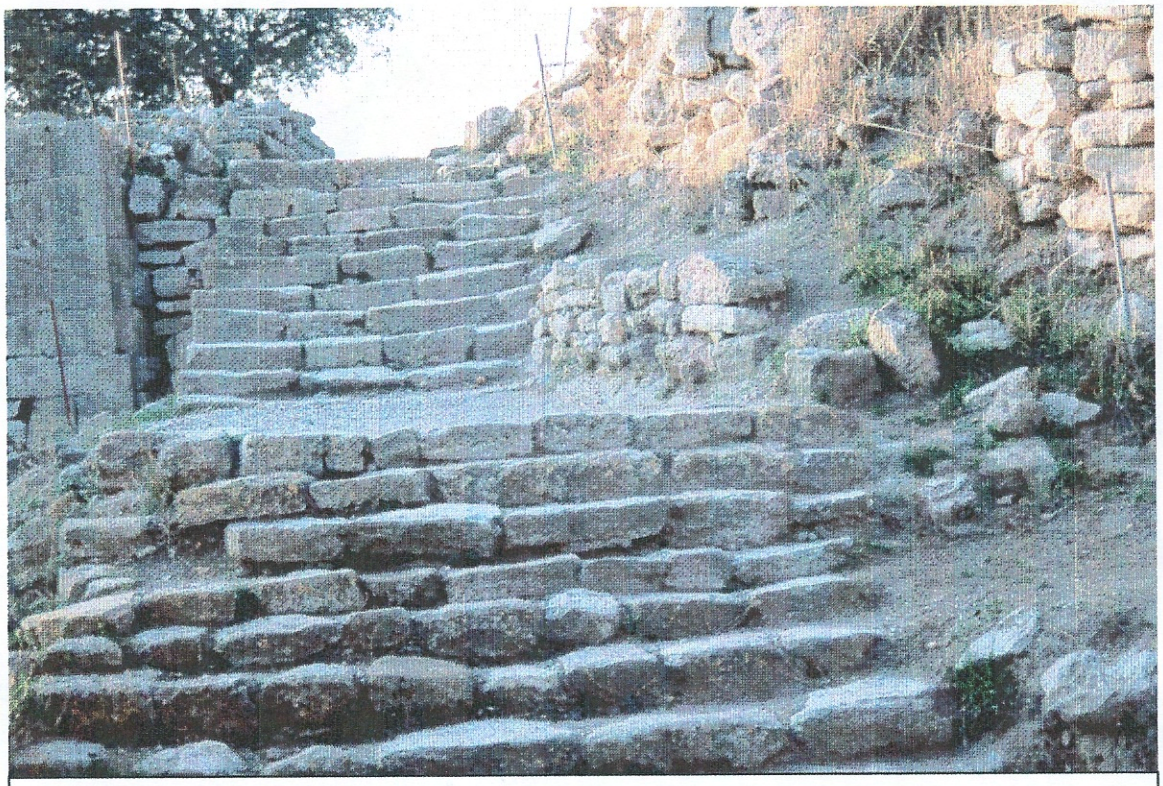


Ramp to a Palace in Troy 2

With just a very few comments relating to the Trojan War, which we are not even certain occurred, let's take a quick stroll through the ruins. The path we must walk is very well delineated and partitioned from the site by wire; consequently there is a lack of freedom to wonder through the ruins and be totally confused, but also protects the ruins from being even further scattered and mixed up. We enter the ruins at point 28 on the map. This is the base of a huge watch-tower (NE tower) that traditionally has been identified as the tower where Priam watched as Achilles fought Hector. This is a Troy six structure. We then proceed down the very narrow gateway to point eleven, and make a left 90-degree turn through what would be the entrance to the citadel. Some think that this is the Skean gate that the Trojans supposedly drug the wooden horse through. It must have been very small, since the gateway is quite narrow.

To the left of the gate at spot 11 are a number of walls of houses that are from the Troy 7 period. Further along the path one gazes into the so-called "Schliemann's trench", where Heinrich Schliemann conducted his famous dig, cutting through the ruins. The walls that are seen at the bottom of the trench are remains from Troy 1. In the distance is the plain of Troy where the battle, if any, took place.

Proceeding down the designated path, we come across a small portion of a wall and tower of Troy 1, and then we cross a small bridge belonging to the Troy 2 area (number 6). We wander through various city levels and into areas where digging is still in progress. From the ruins of the pillared house (Point 21) we do get a very good view of a ramp to a temple or palace that is in the Troy 2 level. We then backtrack around the Parliament and then back to the parking lot, totally confused, but exhilarated.



Looking up the steps form Troy 6 to Troy 9

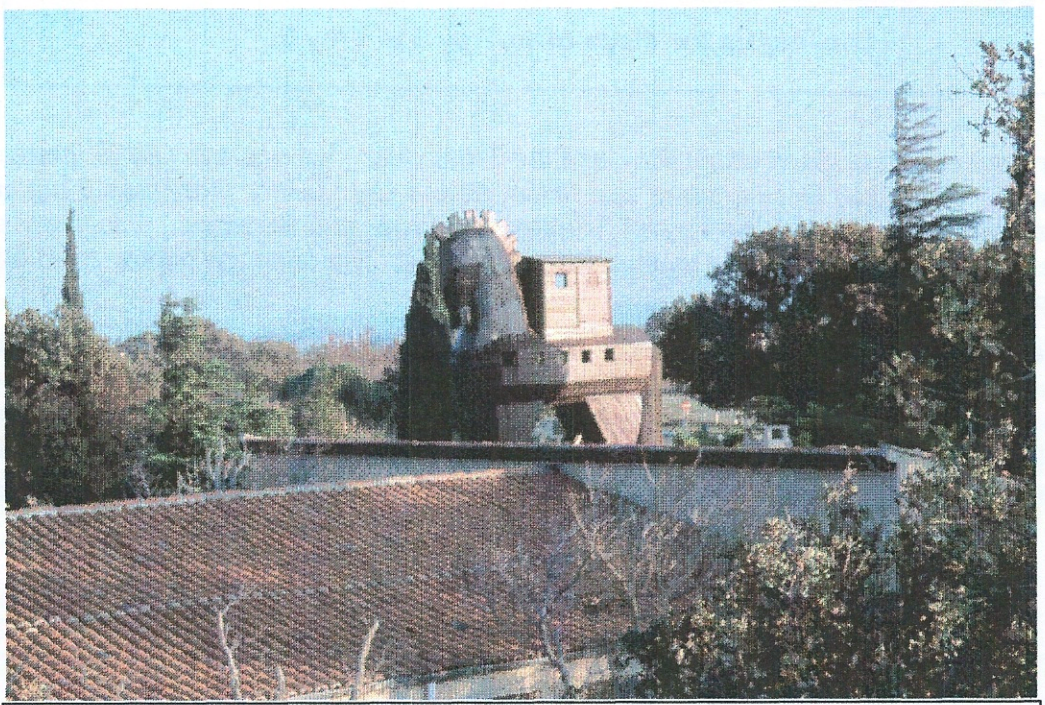
There are many unanswered questions about Troy and the Trojan war. No one can say for certain just who the Trojans were. Some say Greek, some say Hittite, others say Luvian. Troy was a big city by bronze-age standards, comparative to the size of Thebes, Meggido, and Bogozkoi. What we see is the city center; the defended part for sacred institutions and royalty. The common person lived outside the walls and on the plain.

And yes, there is a connection with Egypt. Hieroglyphic inscriptions have been found on the site, so certainly trade must have existed. Troy 7 was inhabited during the same time as Akhetaten, so the ancient Egyptians should have known something about a great war just north of their country, but so far nothing found in Egypt mentions Troy. Apparently some Troy pottery shards have been located at Akhetaten, but the whereabouts of these are apparently unknown, however they are mentioned in the literature.



Schlieman's Trench. The walls across the bottom are a part of Troy 2

So we have stood on the windy walls of Troy, - and yes, they are windy. I would like go to back, but I would want to make sure that I could get that souvenir stand owner as my guide.



Trojan Horse (but not the original!)