THE KERKENES PROJECT

A PRELIMINARY REPORT ON THE 2004 SEASON

Geoffrey and Françoise Summers

with a contribution by
Scott Branting

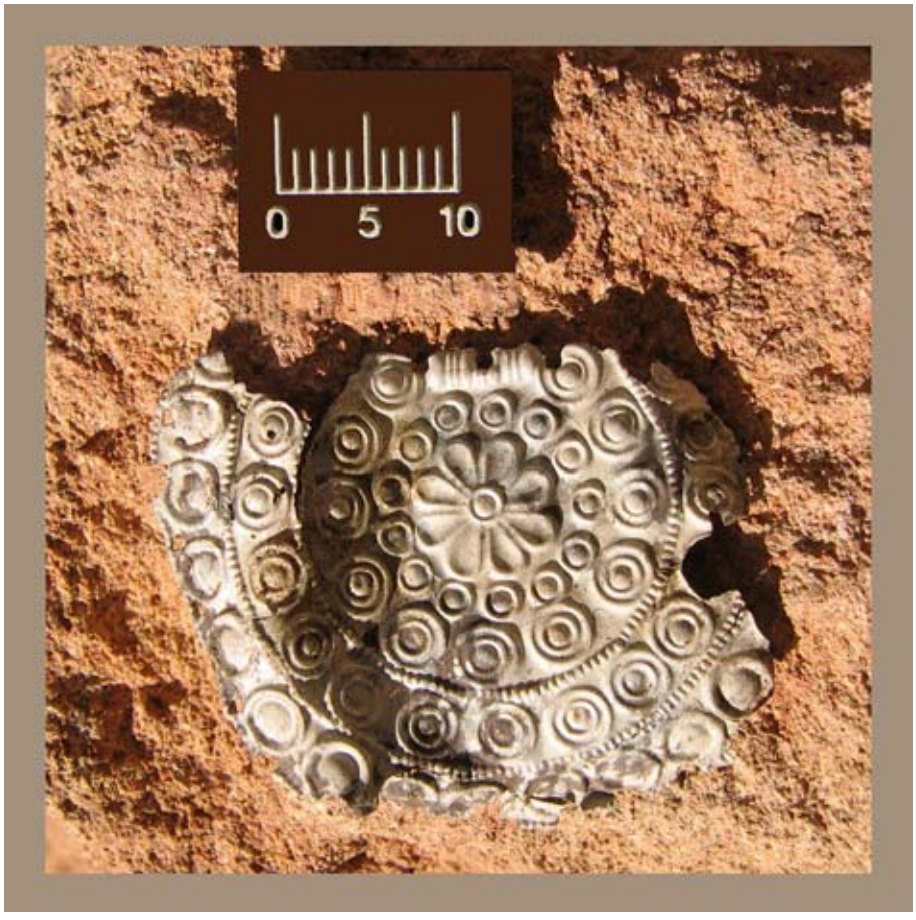

Figure 1. Embossed silver foil appliqué. (04dpcs0924)

LOCATION

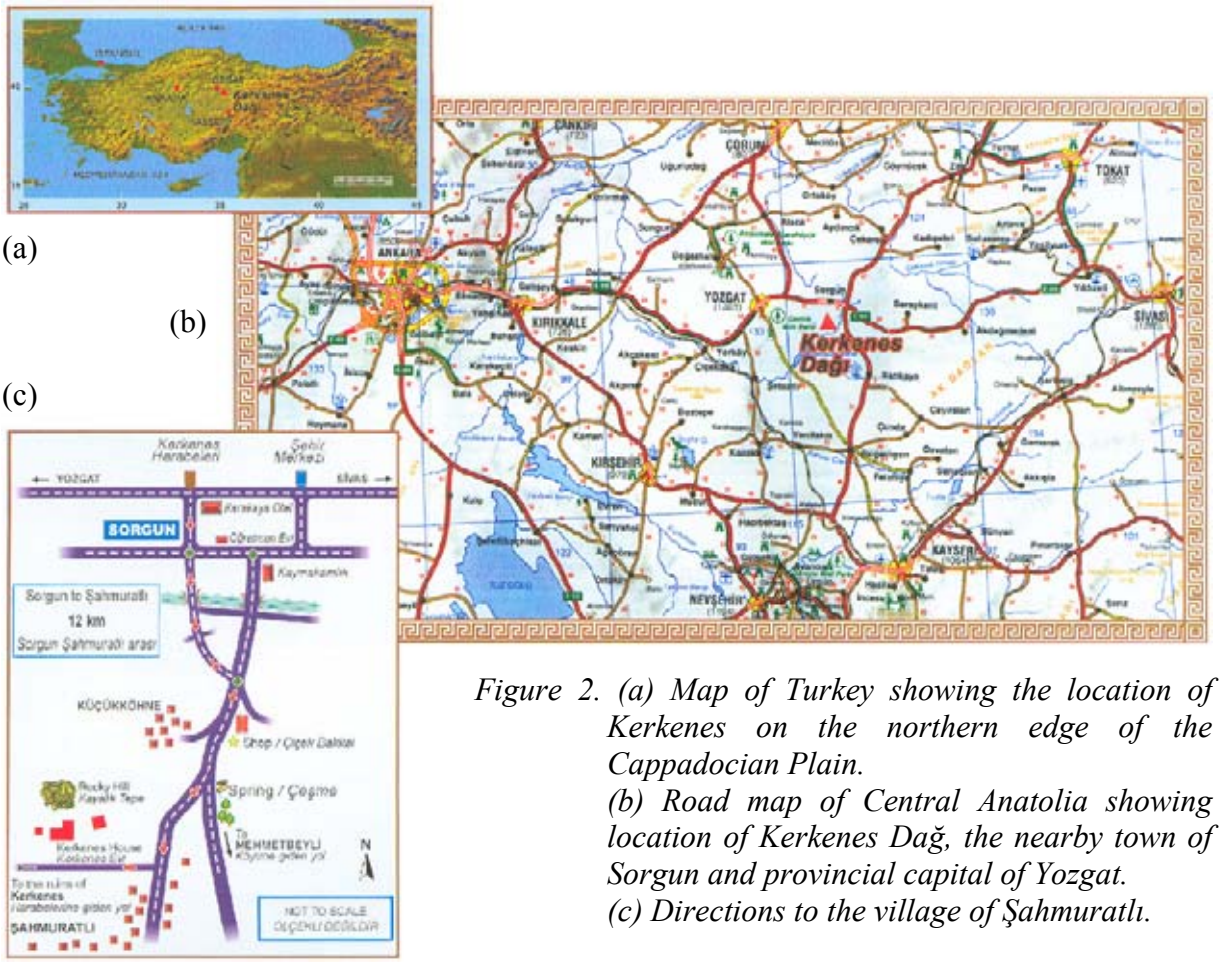

Figure 2. (a) Map of Turkey showing the location of Kerkenes on the northern edge of the Cappadocian Plain.
(b) Road map of Central Anatolia showing location of Kerkenes Dağ, the nearby town of Sorgun and provincial capital of Yozgat.
(c) Directions to the village of Şahmuratlı.

Kerkenes Project Office

Room B04, Solmaz Izdemir Salonu,
Library Building
Middle East Technical University

Postal Address

The Kerkenes Project
C/o Department of Architecture
Middle East Technical University
Ankara TR-06531
TURKEY

Tel/Fax: +90 312 210 6216
METU Fax: +90 312 210 1249

or

C/o British Institute of Archaeology at Ankara
Tahran Caddesi 24
Kavaklıdere
Ankara TR-06700
TURKEY

Tel: +90 312 427 5487
Fax: +90 312 428 0159

The Kerkenes Web Page

http://kerkenes.metu.edu.tr

THE 2004 TEAM

Geoffrey D. Summers
Adjunct Associate Professor of Anthropology
State University of New York at Buffalo
and
Settlement Archaeology Graduate Program, Institute of Social Sciences
Room 419, Faculty of Architecture New Building
Middle East Technical University
Office Tel: +90 312 210 6218 *Home Tel/Fax:* +90 312 210 1485
e-mail: summers@metu.edu.tr

Françoise Summers
Dept. of Architecture, Room 85
Middle East Technical University
Office Tel: +90 312 210 2221 *METU Fax:* +90 312 210 1249
e-mail: fsummers@metu.edu.tr

Scott Branting
Director, Center for Ancient Middle Eastern Landscapes
The Oriental Institute, Room 207
The University of Chicago
1155 East 58th Street
Chicago, IL 60637
Tel: +1 773 834-1152 *Fax:* +1 773 702-9853
e-mail: branting@uchicago.edu

Participants and students

Aylin Ağar
Aysun Akkaya
Çetin Alataş
Fırat Ant
Ahmet Beyazlar
Ruth Bordoli
Scott Branting
Claude Brixhe
Ben Claasz Coockson
Melissa Clissold
İbrahim Çalışır
Nurdan Çayırezmez
Andreé Bojalil Daou
Catherine Draycott
Tasha Granger
Piraye Hacıgüzeller
Evangelia Ioannidou
Tuna Kalaycı
Maria Kelly
Catherine Kuzucuoğlu
Harun Muratdağı
Isabelle Ruben
Noël Siver
Judith Sellers
Cumhur Sal
Seher Sencer
Françoise Summers
Geoffrey Summers
Natalie Summers
Pamela Summers
Derya Ulusoy
Nilüfer B. Yöney

Kerkenes Eco-Center

We would like to note the participation of the key members of the Kerkenes Eco-Center Programme, Özge Beşgül, Zehra Çakıcı, Soofia Tahira Elias-Özkan, Emre Ilgin, Tuğrul Karagüzel, Bora Topluoğlu and Kate Topluoğlu. A report on the 2004 activities of for the Kerkenes Eco-Center Project appears separately.

ACKNOWLEDGMENTS

Figure 3. A panoramic view of the village of Şahmuratlı with the Kerkenes Expedition House, Depot and Laboratory Building and Eco-Center in the foreground. (04dpjv3322pan)

We would like to extend our thanks to the General Directorate of Cultural Assets and Museums, and especially to Director General Nadir Avcı, Assistant Director General İlhan Kaymaz as well as to Çiğdem Morçöz and Songul Erbay for their strong support and good advice. Particular thanks are due to representatives Ahmet Beyazlar from the Gaziantep Museum in the spring season and to Cumhur Sal from the General Directorate for the summer. The Acting Director of the Yozgat Museum, Mehmet Ayar, and Assistant Hasan Şenyurt have as usual been most supportive and their cooperation has been greatly appreciated.

We would also like to thank the Governor of Yozgat, Vali Gökhan Sözer, the Director of the Department of Rural Services, Muharrem Şengül, the Director of TEDAŞ, Bülent Gürel and the Director of Türk Telekom, Resul Aydın, and their staff in Yozgat and Sorgun, for great improvements to the road and to the village infrastructure and services. The Sorgun District Governor, Kaymakam Meftun Dallı, and the Sorgun Mayor, Belediye Başkan Ahmet Şimşek, have provided help and assistance essential to the work progress.

The main sponsors of the archaeological research in 2004 were Lafarge Sağlık Eğitim ve Kültür Vakfı, The Loeb Classical Library Foundation, The Oriental Institute of the University of Chicago, The Joukowsky Family Foundation, The Anatolian Archaeology Research Foundation, John Kelly Consulting Inc., The Charlotte Bonham Carter Trust and anonymous donors. The British Institute of Archaeology at Ankara made a grant towards the cost of the site guard and preparation of publications, the latter also sponsored by the Anglo-Turkish Society. Life in the field was made more comfortable thanks to The Ankara Hilton, The British Embassy, MNG, Onduline and Yibitaş Yozgat Çimento / Yibitaş Lafarge. Sokkia-Seza loaned surveying equipment. ESRI, ERDAS, Işlem and Geoscan helped with software and Datasel, Eternal/Hızlı and Romar with hardware. Research activities, including those related to the Eco-Center, are supported by funds from AKG, The Australian Embassy, The Canadian Embassy, Erdoğan Akdağ, MESA and Yenigün, channelled through the METU Development Foundation. METU Computer Center provides technical support and METU Press assists with publication.

At METU, staff and students from the Faculty of Architecture and the Settlement Archaeology and Archaeometry Graduate Programs are involved in various aspects of the Kerkenes Project including the environmental studies focusing on the Kerkenes Eco-Center programme of activities. The project has also ongoing programs of collaboration with the METU Museum, TAÇDAM, GGIT, the Department of Geological Engineering and the

Department of Metallurgical Engineering. The Computer Center continues to provide technical support and particular thanks are due to İbrahim Çalışır for his patience in dealing with old computers. We are extremely grateful to the Office of the Rector for providing office space for the Kerkenes Project to replace the project office no more available in the Faculty of Architecture.

Collaboration outside METU includes SUNY Buffalo, the Oriental Institute of Chicago University, the Malcolm and Carolyn Wiener Laboratory for Aegean and Near Eastern Dendrochronology at Cornell University, the Department of Near Eastern Studies of the University of California at Berkeley, Laboratoire de Géographie Physique of the CNRS and the Department of Hydrogeology at Hacettepe University. We would like to thank David Stronach, Prof. of Near Eastern Archaeology at Berkeley, for his continuing support beyond his formal involvement with the Kerkenes Project.

In the spring season Nurdan Çayırezmez was Acting Director at times when the Director was in Ankara, while Scott Branting took charge for part of the summer when the Director had to take leave of absence for personal reasons. In addition to the authors the team comprised conservator Noël Siver, illustrator Judith Sellers, publication assistant Isabelle Ruben, registrar Catherine Draycott, archaeologist Nurdan Çayırezmez, trench supervisors Andreé Bojalil, Tasha Granger and Tuna Kalaycı, assistant supervisors Ruth Bordoli, Melissa Clissold, Piraye Hacıgüzeller and Natalie Summers and students Maria Kelly, Seher Sencer and Derya Ulusoy. Evangelia Ioannidou will study the bones at METU. Pamela Summers and Bediha Gençarslan ran the kitchen for most of the season while Harun Muratdağı assisted with administration. Muhtar Osman Muratdağı used his minibus to ferry workmen and do expedition shopping. Memiş Gençarslan continues to be the site and house guard and workmen were employed from Şahmuratlı Village to take part in resistivity survey in the spring and excavation in the summer.

Efforts to establish the Kerkenes Eco-Center, in the village of Şahmuratlı (Fig. 3), are continuing and the expedition base proves to be a very appropriate vehicle to convey the importance of a sustainable and environmentally friendly approach to our daily life and needs. Following the initiation of the first activities by grants from the Direct Aid Programme of the Australian Embassy and MESA, The Canada Fund has generously supported the 2004 programme focusing on activities which will help the establishment of the newly formed Village Association and bring new life to rural areas. The strawbale construction, arousing the curiosity of many visitors, and the brick press from Parry Associate (UK), donated by the Burdens Charitable Foundation in Manchester, have demonstrated the potential impact of the ongoing environmental studies research. The British Council Partnership scheme continues to permit collaboration between colleagues from the Department of Architecture at METU and the Architectural Association in London for further research in this field.

The Kerkenes web page is now divided into three parts:

- K-One, covering the initial ten seasons of research and which continues to be updated;
- K-Two, concerning developments from 2002 onwards;
- K-Eco reporting on the development of the Kerkenes Eco-Center and associated environmental studies.

Annual reports and details of sponsors and participants can be accessed with the new shortened web address which opens the Kerkenes Homepage with the three links.

http://www.kerkenes.metu.edu.tr

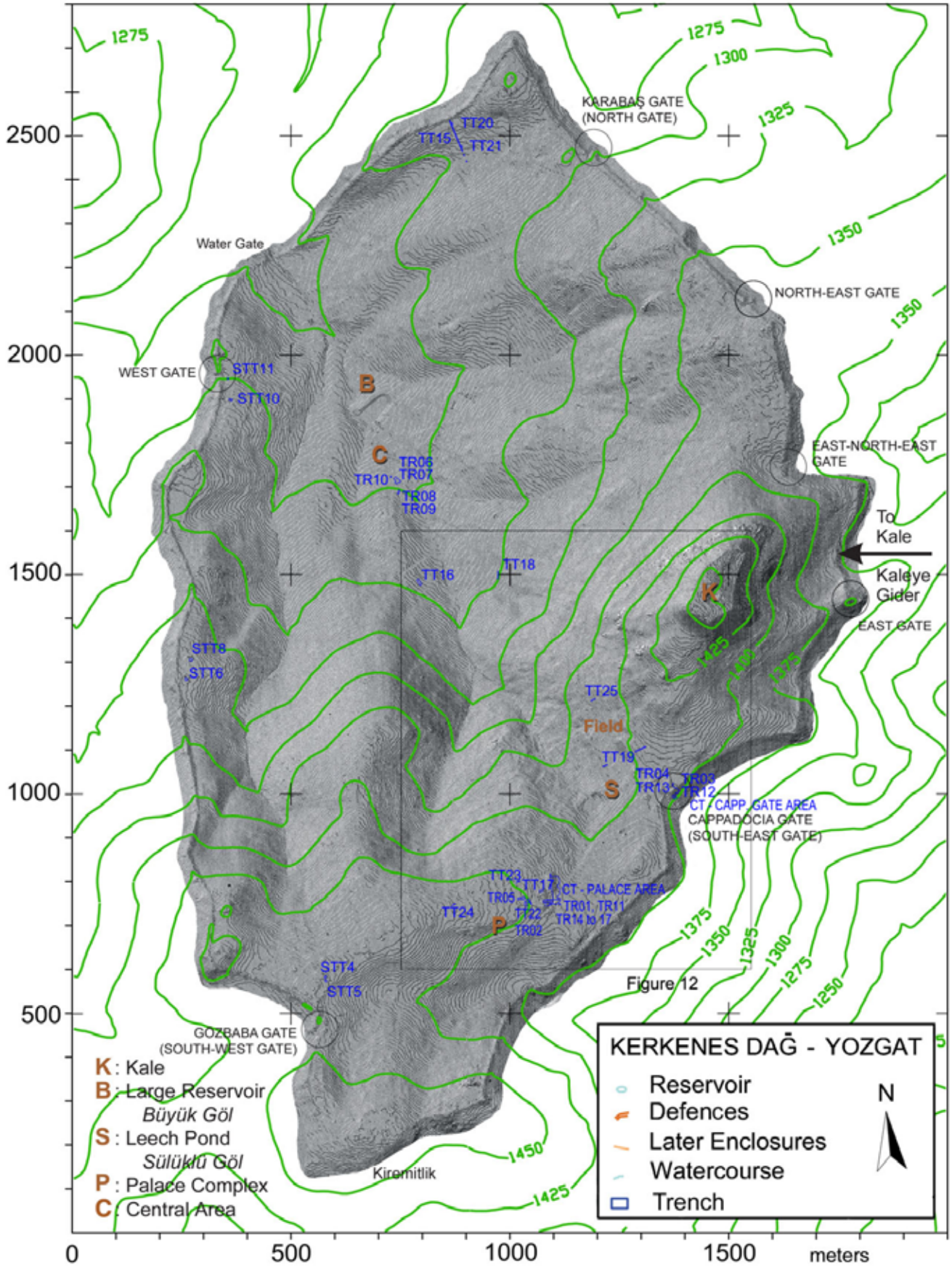

Figure 4. Digital Terrain Model (DTM) made by Işlem GIS, using ERDAS Imagine, from the GPS survey of Kerkenes. A rectangular frame locates Figure 12.

INTRODUCTION

The 2004 season of archaeological research at the Iron Age capital on the Kerkenes Dağ was divided into a short spring season of resistivity survey followed by a summer season of excavation.

In May, thanks to a spell of fine weather, it proved possible to conduct two weeks of electrical resistivity survey in the central, lower, portion of the city. The spring season also provided an opportunity to re-examine all of the sculpted and inscribed fragments that had been recovered in 2003. Many details, as well as a new set of digital photographs, were added to the existing descriptions in the catalogue and entered in the database. In particular it was possible to answer several questions concerning the inscriptions that had been raised by Prof. Claude Brixhe who is to include them in the new Supplement to his *Corpus des inscriptions paléo-phrygienes.*

In early summer the Department of Rural Services made a splendid tarmac road from Sorgun to the foot of the ancient city. The new tarmac road winds all the way up to the site and allows a comfortable ride for cars and coaches making it possible, even in wet conditions, to drive up to the city wall at the base of the Kale. In the village itself the Department of Rural Services completed installation of pipes for a new sewer system together with an enhanced system of water distribution.

In another development, MNG Holding delivered a 15 by 5m prefabricated building, which was erected next to the existing expedition house in late August. This will provide four spacious rooms for accommodation in future season, reducing dependence on tents and replacing temporary use of the village clinic, which is scheduled for refurbishment by the Ministry of Health pending the appointment of a nurse.

The excavation season was ended in mid-August. Several team members then attended the 6th Iron Ages Symposium in Eskişehir during which two papers on Kerkenes were presented.

At the end of August, the Kerkenes Project office at METU moved to its new location by the Solmaz Izdemir Salonu in the library building. The University President's Office facilitated the reorganisation of the office and allowed the team to resume the post-fieldwork, which includes preparation of reports, publications and web page updates all year round.

Figure 5. The new tarmac road winds all the way up to the site, allowing a comfortable ride for cars and coaches driving up to the city wall at the base of the Kale, the prominent hump on the horizon. (04dpjv3304)

THE RESISTIVITY SURVEY

For the most part, the survey connected and extended the work conducted in previous years, and in particular covered the low level ground around the Büyük Göl (Figs 6 and 7).

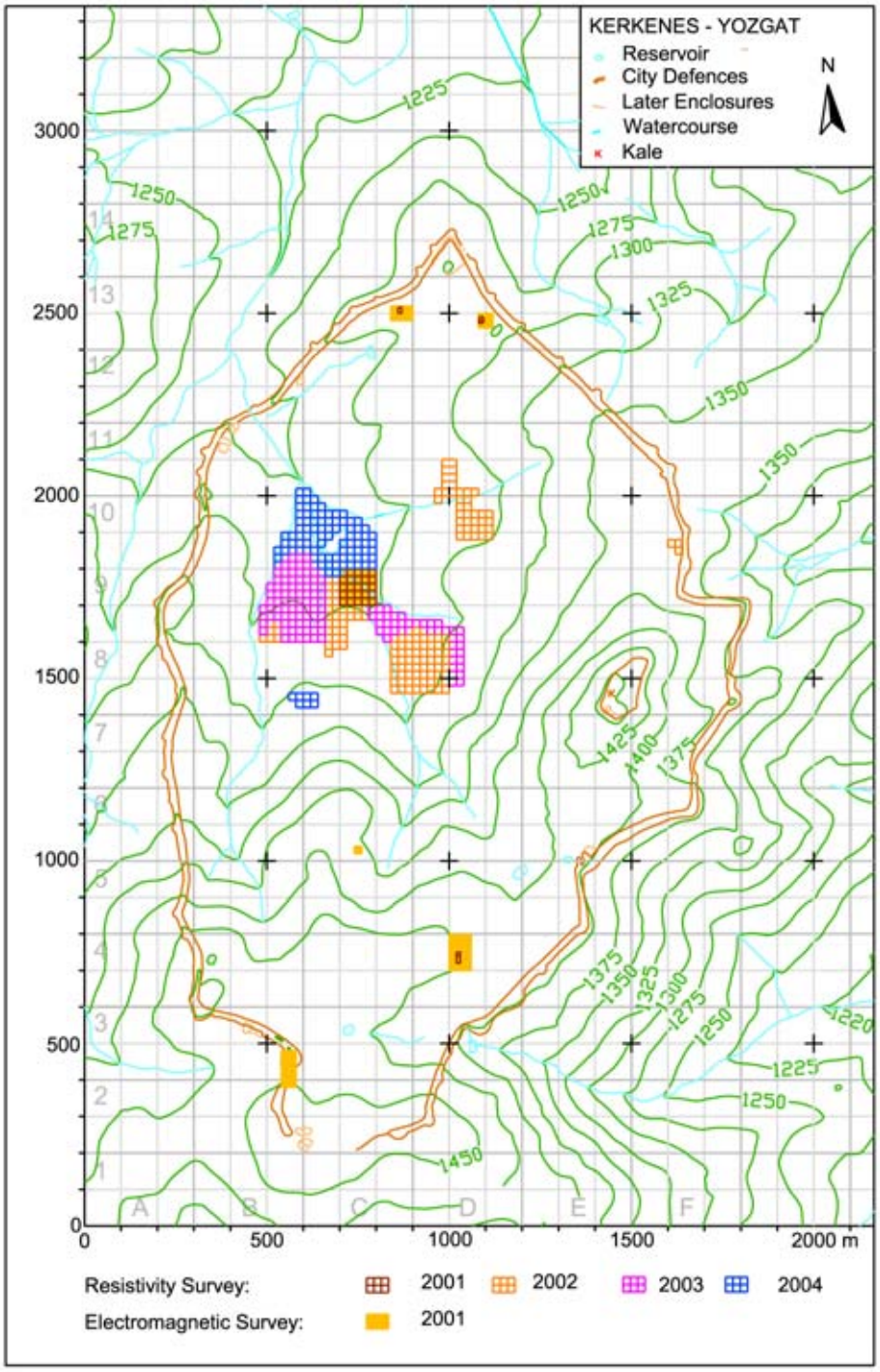

Figure 6. Progress map of the resistivity survey.

The Central Area

South-east of the Büyük Göl the resistivity survey (Figs 7 and 8) might be seen to have confirmed the existence of an open space first revealed by magnetometer survey. New evidence perhaps shows that this open area is bounded on its north-eastern side by a long narrow structure (Fig. 7 at lower right) which might be similar in nature to the building flanking the Field on the southern ridge below the Kale. If this interpretation is correct it would seem likely that there was some open public space in this central location adjacent to the largest of the city's reservoirs.

This same resistivity imagery could also, perhaps, show that there had been some encroachment of buildings onto the open space before the destruction of the city. On the tongue of land between two water courses to the north-west of the Büyük Göl (Fig.7 at upper left) a number of square freestanding structures were revealed together with the more usual two-roomed buildings.

The wet area immediately northwest of and below the reservoir was, not surprisingly, found to be largely devoid of remains.

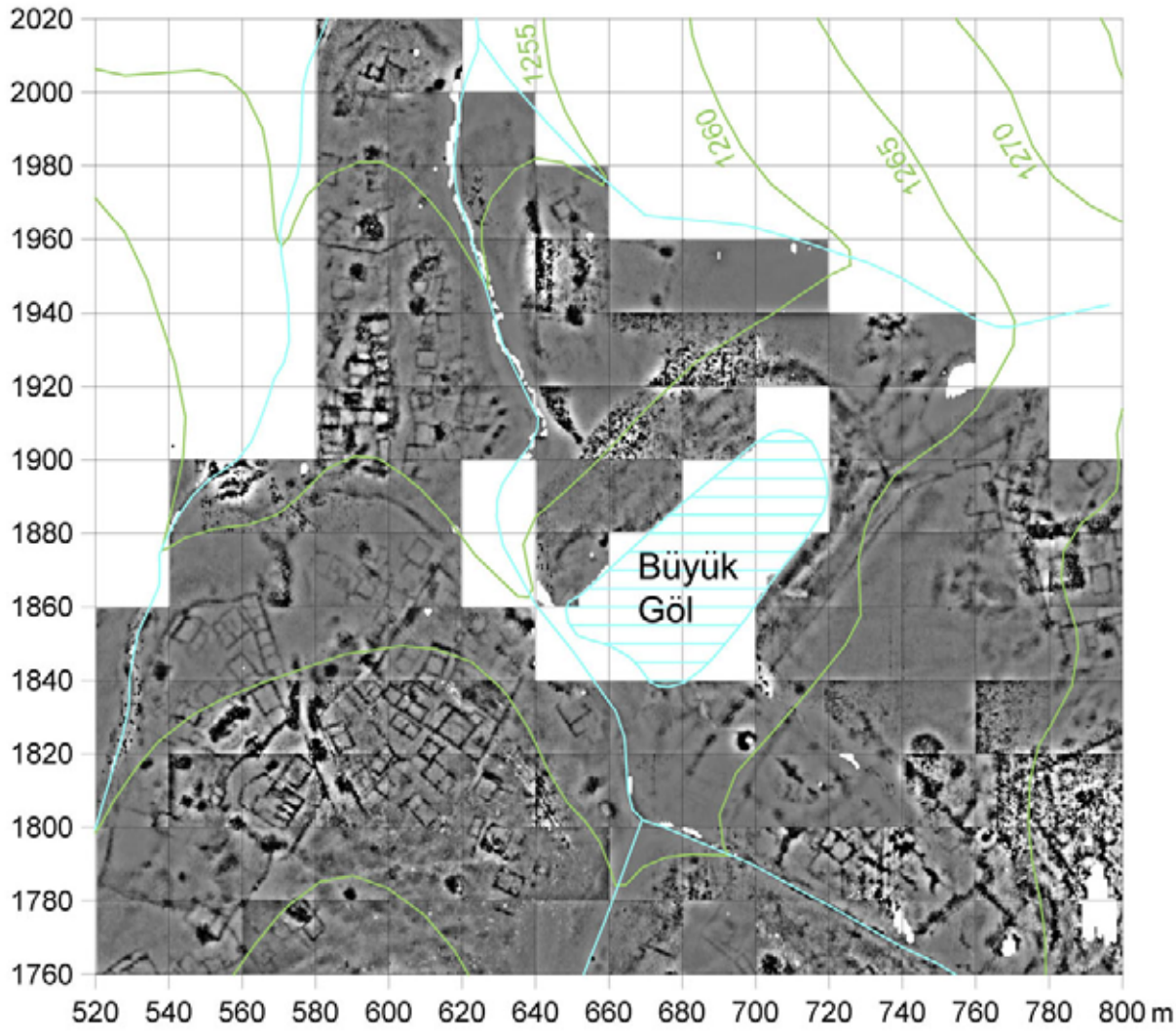

Figure 7. Map of the main portion of the 2004 Resistivity Survey. The blank area is the Büyük Göl and marshy streambed.

Figure 8. The central area of the city in May with the Büyük Göl at left and the western defences behind the shepherd's enclosure in the middle ground. (04dpjv0506)

It is to be noted that most of the remains, so clearly depicted by the resistivity survey around the Büyük Göl, are not visible on the ground. In the lower area of the site the ground is sufficiently moist until late spring and, with only few stones on the surface, presents ideal conditions for the use of a resistivity meter. A daily collection of data over 9 grids, each 20 x 20m, filling up the machine memory, is the daily target for a team of four.

A "Temple" at the Southern Edge of the Central Area

In another initiative, an entire day was devoted to the resistivity survey of a large, heavily burnt, two-roomed hall (Figs 9 and 10).

According to the evidence from the magnetometer survey, this building has been torched whilst the smaller structures around it appeared to have escaped unscathed. As expected, resistivity survey in this location provided clearer images of the unburnt structures, but failed to reveal the existence of stone bases to wooden columns or other internal features.

This unusually large hall, which does not seem to be situated in a large compound, fronts directly onto a broad street. This building clearly had some special function, and was very probably a temple.

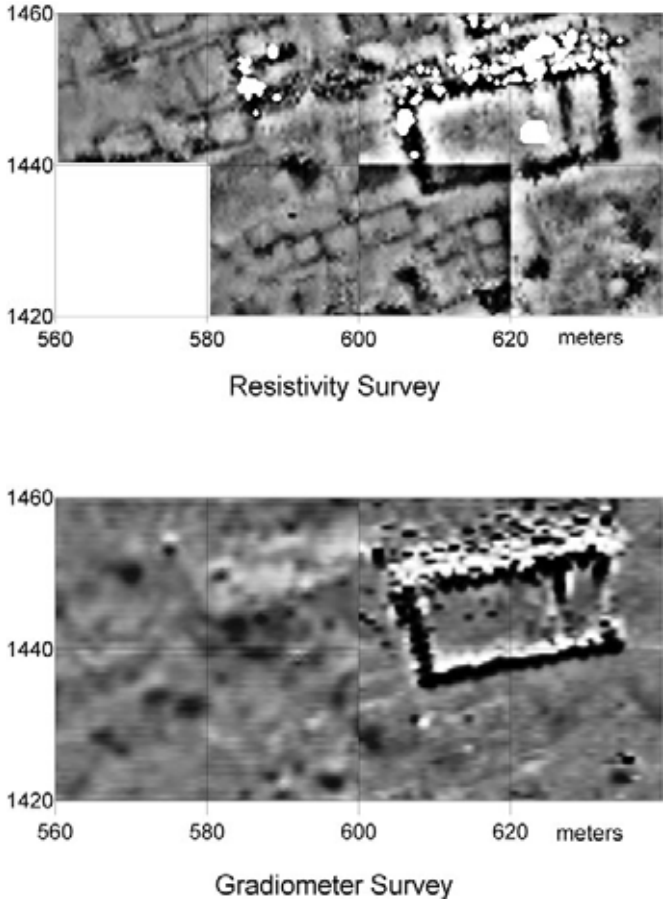

Figure 9. Resistivity map (above) and gradiometer map (below) of the "Temple" and its environs.

Figure 10. Resistivity survey of the "Temple" and its environs in progress The Büyük Göl is at centre right. (04dpjv0412).

THE 2004 SEASON OF EXCAVATIONS

In 2004 the six-week summer season began with the formal opening of the depot doors on the 10th of July (Fig 11).

Figure 11. Geoffrey and Françoise Summers, Mehmet Ayar, Cumhur Sal and Memiş Gençarslan gathered to cut the seal on the depot door at the beginning of the summer season. (04dpjv0805)

The Summer 2004 Activities

Research was focused on further excavation at the Monumental Entrance to the Palace Complex (Figs 12 and 13). The main aim of these excavations was to recover further fragments of small-scale relief sculpture with associated inscription in the Old Phrygian language.

Additionally, three test trenches, each designed to section a street, were dug by Scott Branting as part of his programme of GIS studies on transportation reported in the following section of this report.

At the Cappadocia Gate it was deemed desirable to remove the poorly preserved tuff step on which the aniconic stele was set so that both could be reconstructed in the laboratory.

Conservation and restoration of finds, with particular emphasis on sculptural and architectural material, were conducted by Noel Siver. Catherine Draycott acted as registrar. Illustration of this same material was done by Judith Sellers while much progress in the finalisation of the first monograph was achieved by Isabelle Ruben.

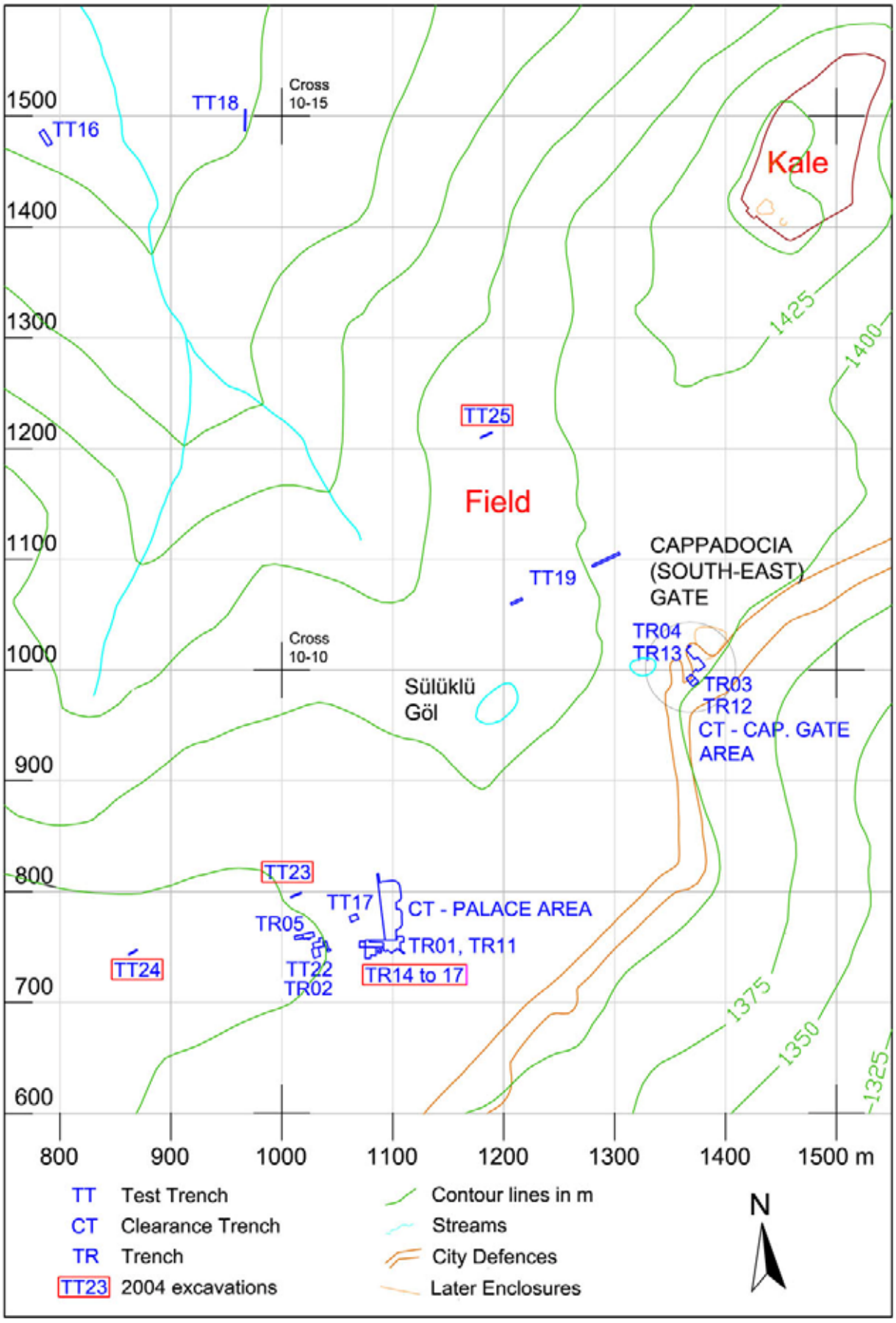

Figure 12. Map showing the 2004 excavation area.

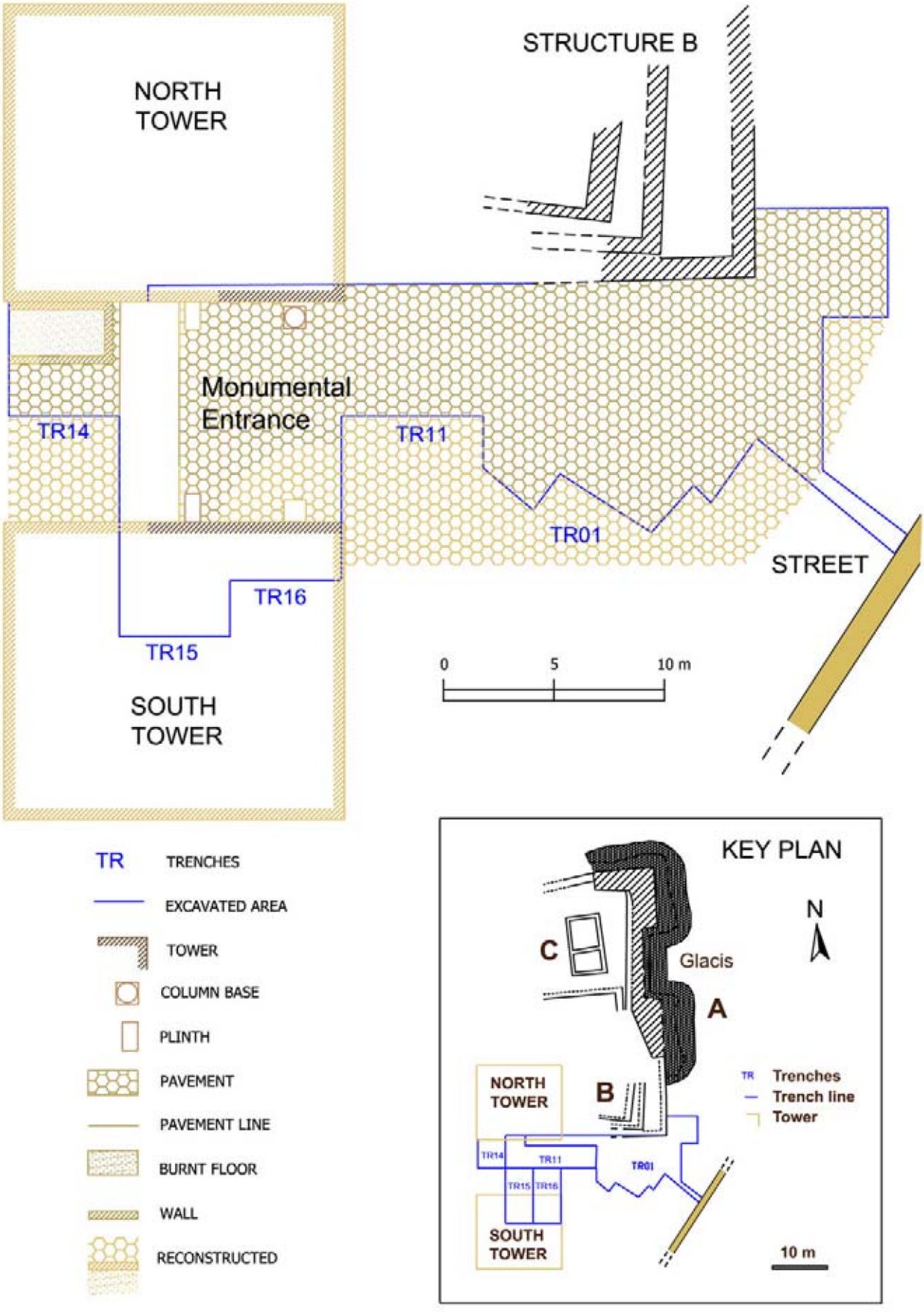

Figure 13. Tentative reconstruction of the Monumental Entrance to the Palace Complex.

The Monumental Entrance to the Palace Complex

The Monumental Entrance to the Palace Complex (Figs 13, 14 and 15) was partially excavated in 2002 (TR01), 2003 (TR11) and 2004 (TR14, TR15 and TR16). The inclined stone paved entranceway, flanked by two massive towers, appears to run in a westerly direction towards the palatial 'Audience Hall' that was partially excavated in previous seasons (trenches TT22 and TR02). A large conglomerate plinth to the left of the doorway was perhaps the base for a lion or sphinx. The construction of the entrance formed part of a remodelling of the Complex in a scheme that involved cutting through the southern side of the stone glacis and blocking of the paved way that led to Structure A. The complexities of the phasing are not yet fully elucidated.

Figure 14. The upper end of the pavement with the salt-encrusted north wall of the South Tower and the conglomerate plinth. The 1m scale rests on burnt debris at the base of which a layer of charred reeds can be seen in the shadow at left. Part of the city wall appears in the background. (04dpjv2505)

The Pavement Leading to the Palace Entrance

The stone paved area leading to the Palace Complex Entrance ended against a wide wooden partition which had burnt totally away leaving a void into which the burnt and fused superstructure of the towers collapsed. The position of the large pavers indicates the width of the double leaved doors and in the centre, where the trench is most restricted, they mark the front of the Monumental Entrance, beyond which setting lines in the earlier paving are on a different orientation (Fig. 15).

In 2002 the hindquarters of a pair of sheet-bronze ibex found on the pavement portended the discovery, in 2003, of sandstone architectural pieces together with sculpted reliefs inscribed in Old Phrygian from the entrance itself. In 2004 a smashed statue of a standing figure, one metre in height, was recovered from the fill of a robber pit.

Figure 15. The inclined pavement looking east. Burnt and fused debris in the foreground indicates the position of a monumental wooden screen and large double leaved doors. The section behind the scale is entirely fill of the robber pit from which the statue fragments were recovered. (04dpjv2307)

Building Methods and Materials

An astounding variety of materials was found to have been used for the towers while sophisticated construction techniques were further elucidated. The lower courses were constructed of large granite blocks which were carefully faced. Above these was a course of large sandstone and conglomerate blocks, the top of which in the South Tower appears to have been level with the internal floors. A further course comprised equally large blocks of soft white limestone. Large beams of black pine, *c.* 0.25m deep, were laid horizontally between courses. These had burnt out leaving voids that filled with very loose rubble. Yet higher walling would probably have consisted of a timber frame filled with rubble. Lumps of burnt clay bearing impressions of reeds and wooden rafters perhaps attest flat roofs to the towers.

Figure 16. The north wall of the South Tower is structurally unstable due to the burning of horizontal timbers between the courses of large blocks. A large conglomerate plinth set into the granite pavement and trimmed in situ, may have been the base for a lion or sphinx. (04dpjv2512)

Use of different types of stone, namely granite, sandstone and limestone, in the construction of the massive tower walls, demonstrates some understanding of their differing properties as building materials. In addition, the contrasting natural colours of the freshly cut and unburnt stones, enhanced by the dark timber elements between the courses, would have produced a striking effect. In this respect it is worthy of note that stones of contrasting colour were used in the retaining wall of the (post destruction) approach to the gate on the city mound at Gordion and, of course, that alternating colours for carved orthostats are well known from Assyria and its neighbours.

Against the north wall of the passage and set in from the front, a large square block of coarse sandstone that has a shallow seating to retain a timber 1m in diameter was excavated in 2003. It is possible, indeed likely, that some of the large sandstone bolster fragments found

were once part of an ornate sandstone capital for this large wooden column, probably of similar general form to the smaller example (Figs 20 and 21). There is no evidence as to the pitch of the roof, or the height of the pediment apex above the pavement, but it is not unreasonable to suggest that the height would have been approximately the same as the width, i.e. 10m. The use of reed thatch, the burnt remains of which lay on the paving, would suggest a steep pitch to facilitate the runoff of rainwater and snow. The slope of the entrance passage would have necessitated a comparable slope in the roof ridge.

Excavation in 2003 revealed that the North Tower had four surviving courses of granite facing stones on the front (east) façade and that these stones were narrower than those in the south wall that formed the side of the passage which would have taken some of the load from the pitched roof covering the passage. At its eastern end, the surviving stretch of the passage wall comprises two courses of granite above which there must have been several courses of sandstone and soft white limestone blocks. The corner itself may have been entirely of granite, but this is not certain. It is therefore possible that use of the soft sandstone and limestone, both prone to rapid weathering, was restricted to the sidewalls covered by the passage roof.

In the north wall of the South Tower a square indent was carved out of one of the sandstone blocks presumably to take a vertical timber although it could perhaps have taken a floor beam (Fig. 17). The inner, hidden face of that same block has a mason's mark. The burning of the interlaced large timbers greatly damaged the stonework to the extent that little can be saved.

Figure 17. A square cutting was carved out of one of the sandstone blocks of the South Tower wall presumably to locate either a vertical timber or a floor beam. To the left, a clamp cutting perhaps held a wooden clamp that tied the block to floor joists. The soft sandstone has been shattered by the fire and is encrusted with salts. (04dpjv2848)

Clamps

The wooden 'swallowtail' clamps used at Kerkenes display surprising variation in size and considerable irregularity, no use being made of templates (Figs 17, 18 and 19). The clamp cuttings appear to have been cut into the soft sandstone and conglomerate with simple woodworking tools, even though the row of cuttings for small mending clamps in a single granite block would have required more effort and different techniques. This use of wooden clamps reinforces the idea that the methods used for cutting the sandstone were essentially derived from carpentry. There is only one granite block with cuts for clamps, these clearly for mending a crack (Fig. 18). It would seem that on sometimes adjacent sandstone blocks were locked in place by wooden clamps which tied them together.

There is a good possibility that clamps were employed to tie sandstone blocks to large wooden floor joists in the South Tower of the Monumental Entrance (Fig. 13), perhaps indicating the technique of using clamps was not unknown to carpenters. If this could be substantiated it would demonstrate that the clamps were sometimes intended to provide structural strength and did not originate merely as a device for retaining stones in position during construction. It should be noted that, in addition to clamps, much use appears to have been made of squared wooden dowels.

Figure 18. A row of small clamp cuttings for mending the front of a split granite block in the north wall of the South Tower. This is probably a corner stone, the end being just beyond the baulk at right. (04dpjv2219)

Figure 19. A fallen block of conglomerate has two clamp cuttings, that on the top left being incomplete. The granite block seen in Fig. 18 is in situ in the tower wall behind. (04dpjv2215)

Bolsters

The term bolster has been adopted from the terminology long employed to describe similar elements, all be it on a much smaller scale, found on handles of bronze bowls and pottery from the Iron Age of Central Anatolia. In shape, the bolsters comprise conical elements at either end of a central cylinder. The end faces are decorated with compass-drawn concentric circles (Fig. 20a and 20b). Several pieces of bolsters were found in 2003 and 2004, a particularly well preserved examples (Fig. 20a) being added to the assemblage this year.

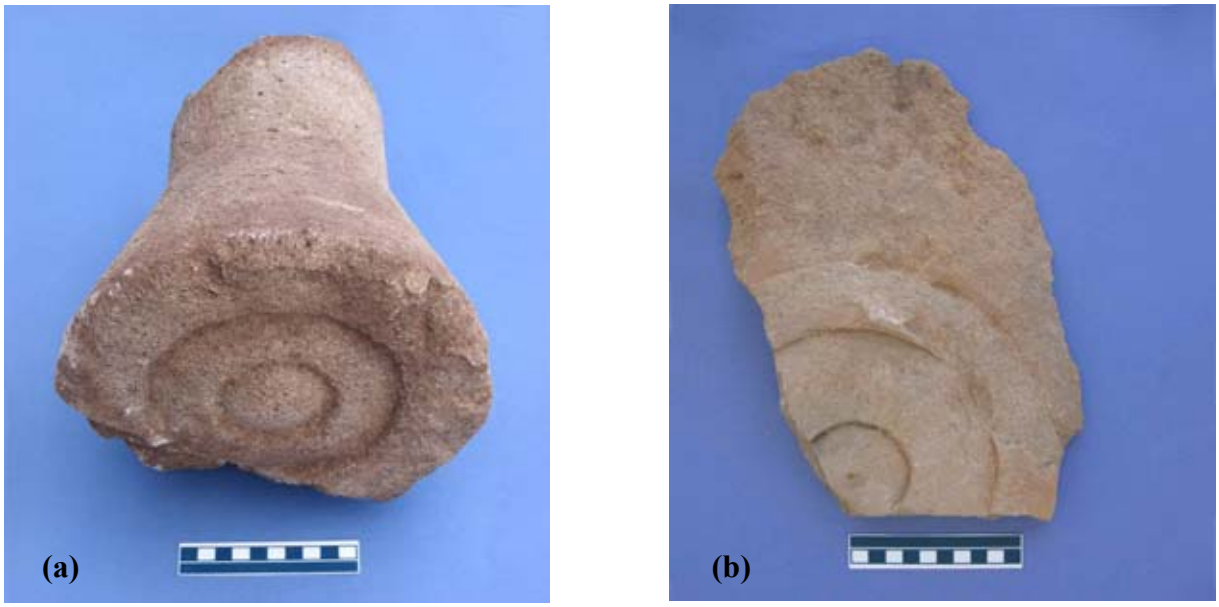

Figure 20. (a) Part of a large three-quarter round bolster with bevelled edge. The scale is 10cm. (04dpcs0421)
(b) Part of a large bolster end carved in relief. The scale is 10cm. (04dpcs0107)

Smaller examples of bolsters belonging to a square sandstone block (Fig. 21) have a raised ridge or bead moulding around the centre of the cylinder. This architectural piece was embellished with three-quarter bolsters at every corner with concentric circles representing bolster ends between them. Additional fragments (not illustrated) were recovered in 2004.

Figure 21. Part of an architectural block, with an offset recess and, on the underside, a square dowel cutting. Three-quarter round bolsters at each corner with pairs of bolster ends between. The scale is 10cm. (04dpcs1005)

Looting and Post-Destruction Disturbances

The absence of door sockets for the broad double leaved doors, together with damage to the stone pavement around their presumed positions, might suggest that these, if little else, were plundered from the debris before the masses of fused and melted walling fell into the void left by the reduction to ash of the partition. Whatever may have stood on the podium flanking the southern side of the doorway would also appear to have been removed. Whether the towers collapsed into the entranceway during the fire, as the timber framing in the walls burnt away, or whether there was an opportunity to pick through the debris after the fire, is not certain. One pointer might be that while a thick deposit of charred reed thatch lies on parts of the pavement (Fig. 15) there is no sign of the heavy roof beams that would have been required to span the 10m wide passage. This could be taken to suggest that the walls and the charred beams of the roof to some extent held up, their collapse perhaps being precipitated by looting. It does, however, seem that the collapse occurred very soon after the fire, there being no evidence of wash or silting between the layer of semi-burnt reed thatch and the masses of fused and melted walling and fragments of reed impressed clay from the flat tower roofs.

At some later date there was considerable robbing of the Monumental Entrance, and indeed of structures within the Palace Complex that, as earlier excavations have shown, included architraves, thresholds, column bases and cut blocks from both the "Ashlar Building" and the "Audience Hall" as well, doubtless, as other structures in the vicinity. That the bulk of this robbing and seeking after treasure took place in the early Byzantine period is supported by the recovery of a Justinianic coin in near mint condition in 2004 (Fig. 48) and, in 2003, a glass whorl of similar date. One of several intercutting robber pits was found to contain the burial of a young adult, apparently laid out in the partially filled robber pit and summarily covered with stones and earth. Whether all of the robbing took place within a short space of time some 1000 years after the destruction and abandonment of the city, or was carried out on a more piecemeal basis at various periods, has not been established, although the former might be favoured. The first to search for building stone and treasure would have doubtless seen the position of the uppermost surviving sandstone blocks on the South Tower of the Monumental Entrance, as well as stone column bases and cut blocks in the buildings already referred to. The extent of the looting suggests that some item or items of worth were recovered. It may also be surmised that the numerous stone cists of the Hellenistic period tumuli, perhaps of Galatian type, were also emptied at this time.

Architectural Reconstruction of the Monumental Entrance

Phases of Construction

It has been demonstrated that there are a minimum of four recognisable phases of construction at the eastern end of the Palace Complex. These are:

1. Building of Structure A and its supporting glacis at the base of its northern, eastern and southern sides (shown on the key plan of Fig. 13). The paved way, edged with large stones on its north-eastern side, leading to Structure A (the south-eastern edge of which can be made out in Fig. 14 at top).
2. North-eastern extension to the paving, of inferior workmanship (at the far end of the excavation in Fig. 15 at top).
3. The construction of terraces, Structure B, built on top of the pavement and cut through Structure A (Fig 13).
4. Construction of the Monumental Entrance (Figs 13 and 14).

The stratigraphic, and therefore chronological, relationship between phases 3 and 4 of this scheme, i.e. between the Monumental Entrance and Structure B, is not (yet) known. Further, the precise number of phases in the laying of the stone pavement, as opposed to lines that merely represent working methods, is unclear. However, the alignment of setting lines within the paving (two of which are visible in the middle ground of Fig. 15) makes it highly

probable that all of the paving that lies to the east of the Monumental Entrance (without regard to the number of phases) predates its construction.

It remains to be demonstrated whether a part of the pavement leading up towards Structure A in front of the North Tower of the Monumental Entrance remained clear, or whether the construction of Structure B and associated modifications completely blocked this approach. A related and equally unresolved problem is the architectural form of Structure B. It might seem unlikely, however, that Structure B would have obscured much more than the base of the North Tower of the Monumental Entrance. If this was in fact the case the original height of Structure B would not have been significantly greater than the present re-building, less than 1.5m above the pavement level. In any case, the quantity of fallen stone was such that any walling that may have extended much above the level of reconstruction carried out in 2000 would presumably have been in mud-brick which, given the absence of burnt debris above the southern portion of the paving, seems not to have included significant timber elements. A more complex possibility would be that the construction of the Monumental Entrance also involved a remodelling of Structure B.

Additionally, as reported in previous seasons, the northern side of the glacis was cut through when the long northern wall of the Palace Complex was constructed. At the same time, or sometime thereafter, substantial modifications were made to the area west of Structure A. These included the raising of the ground level on the north, west and south sides of Structure C. It is difficult to assess whether these considerable modifications were made in association with one or two major schemes of improvement, or were of a more piecemeal nature.

The Monument

Whatever the eventual resolution to the complexities of phasing may be, the overall architectural scheme of the Monumental Entrance (Fig. 22) is now emerging. Figure 13 provides a tentative reconstruction of the towered and paved entrance together with an inset key plan that shows the location of the trenches as well as the position of the Entrance in relation to both Structure A and the terraces of Structure B.

Figure 22. The pavement running to the doorway of the Monumental Entrance marked by the large edge-stones. Burnt debris and ash on the pavement contain evidence for a pitched roof of thatch above the passage. (04dpjv2355)

The planner or architect was faced with the challenge of designing a monumental device that confronted the problem of transition from a lower, external, elevation to a higher internal one. This objective included the provision of a wide, paved, approach which could be closed and, presumably, securely controlled. This entrance seems to be leading to a large two-roomed building, the 'Audience Hall', with pitched roof supported by two rows of wooden columns with sandstone bases. This building is thought to have been an Audience Hall because of its prominent public position within the so-called "Palace Complex" (Stronach and Summers 2003). It is thought that this designation carries the greatest probability, although there is a dearth of supporting evidence.

The sheer monumentality of the entrance under discussion, together with the huge area of the 'Palace Complex' that would appear to extend westwards for some 280m in a series of ever more discrete sets of buildings or walled terraces, might be thought a more appropriate scheme for secular palatial functions than for primarily religious ones. It can be assumed that the difference in elevation along the passage reflects natural topography and irregular outcrops of granite similar in nature to those that still exist on the slopes beyond the city wall. A 10m wide sloping pavement was laid between flanking towers. The lower portion of each tower, up to a height above that of the external paved area within the Palace Complex appears to be solid. It is likely that the four walls of each tower were built around the outcropping bedrock and the gaps within the base of each tower were filled with stone derived from levelling bedrock in the vicinity.

In plan, the wide entrance is simply flanked by two monumental square towers. In section, the paved passage inclined upwards at a gentle gradient from the forecourt outside to the Audience Hall. Between the towers midway along the entranceway was a massive timber construction that could have been closed with a set of large double leafed doors and which supported the end of the roof over the front half of the passage. This pitched roof, covered with reed thatch, must also have been inclined to match the gradient of the pavement. Whether or not the internal portion of the entrance was also roofed is less certain.

Because of later robbing it is doubtful that sufficient remains exist for the internal plans of the towers to be ascertained. They would presumably have been two storied and have possessed internal staircases leading to an upper floor and thence to the flat roof of reeds and mud on timber rafters, traces of which have been found amongst the burnt debris filling the entranceway.

The front elevation of the entire entrance would have looked nothing short of imposing. The fronts of the towers to either side would have stood no less than 6m. The lower portions, 2m or more in height, would have been of granite capped by contrasting sandstone, above which walling comprising a timber frame and mud-plastered rubble would have continued to rise. The entire structure was interlaced with large timbers. There may have been some use of paint. Huge timbers, the joints of which were strengthened with iron cramps, were supported by timber columns on either side, the sandstone bases for which indicate diameters of 1m. It is likely that the front pediment was adorned by a central tree of life flanked by rampant ibex. The lower halves of these animals, cut from sheet bronze, indicate that they approached three-quarter life-size. They would probably have been embellished with horns of gold, and perhaps with wings of precious metal.

As to the position of the doors, the existence of which would seem to be attested by the remains of two long iron strips with holes pierced to accommodate large dome-headed nails, it is not implausible that their fixture was associated with the straight end of the stone paving in the centre of the passage towards the upper, western, end of Trench TR11. It is possible that the 10m wide passage was restricted in some way at this point. Because of the slope of the pavement any doors in this position would, of necessity, have opened outwards. It is reasonable to assume that there were large double-leaved doors of wood, and that the two iron strips recovered in 2003, the larger of which is some 2m in length, and the large dome-headed nails with which it was affixed, came from the doors. In this case it might easily be imagined

that the doors themselves were constructed from horizontal planks, in similar manner to the Balawat Gates, and that the larger iron strip ran vertically down the outer edge so as to hold the planks in position. It is to be hoped that the door sockets will yet be discovered, although they are likely to have been a target of the robbers.

Beyond the central screen and doors a room was constructed on the northern side of the entrance, against, presumably, the southern wall of the North Tower. This structure, which had a clay floor and an external bin appended to its eastern side, was devoid of internal features and objects.

Architectural Parallels and Chronological Implications

Freestanding Buildings and Pitched Roofs

Pitched roofs do not have Bronze Age antecedents on the central plateau of Anatolia. Their presence at Kerkenes, together with the tradition of freestanding two-roomed buildings would seem, therefore, to indicate the importation of new architectural concepts. The monumentality of both the Entrance to the Palace Complex and the columned halls suggests that origins should perhaps be sought in the west rather than, for instance, in the Pontic region.

Parallels for Clamps

No evidence for the use of clamps has been reported on the Anatolian Plateau (e.g. Boğazköy, the city mound and tumuli at Gordion or the Phrygian Highlands) before the Hellenistic period. Their earliest known use in the Aegean is apparently in the tomb of Alyattes at Sardis, dated to the first half of the sixth century BC. The use of clamps at Kerkenes would, then, indicate their introduction from outside, plausibly from the west or southwest, carrying with it the implication that foreign craftsmen might have been drafted in.

Parallels for Bolsters

Close parallels to the smaller bolsters are found in architectural terracotta elements from Pazarlı (Koşay 1941, Pls XXXIII top, XL, LX) now on display in the Museum of Anatolian Civilisations at Ankara. The ends of these bolsters, however, carry painted designs rather than concentric circles. Mahmut Akok's brilliant reconstruction of the tiled façade with its grilled window represents only one possible way in which these architectural terracotta elements might have been used. Yet closer parallels for the smaller bolsters and their arrangement can be seen on the rock-cut monument known as Bahşayiş, at Gökbahçe in the Phrygian Highlands (Berndt-Ersöz 2003 no. 28, 280-81 and fig 32, also 137 and 141; Sivas 1999 71-79, 241 tablo Vb, lev. 30-41). The arrangement of bolsters on the Bahşayis monument, where they are depicted on the sides and the front of the king post as well as on corners of the façade, while perhaps somewhat fanciful does indicate a variety of possible arrangements for the pieces found at Kerkenes. Larger but not dissimilar elements, also with concentric circles on the ends, protrude above the niche on the rock-cut façade of Mal Taş in the Köhnüş valley (Berndt-Ersöz 2003, no. 24). Unfortunately these are no longer visible. Similar bolsters appear on the shoulder of the aniconic stele in the Cappadocia Gate (see Fig. 40) with a close parallel from Tumulus B at Gordion (Kohler 1995, TumB 17). Bolsters may also be echoed on the silver foil disk (Figs 1 and 46).

The use of architectural bolsters at Kerkenes represents yet another clear instance of the importation of building practices from the western plateau. There are, in addition, important chronological implications. All that need be said here, however, is that these western parallels are entirely consistent with a date for the construction of the Monumental Entrance to the Palace complex at Kerkenes in the first half of the sixth century. Precise chronology of the Mal Taş and Bahşayiş monuments is a matter of discussion, but the parallels with Kerkenes confirm a sixth century date.

THE 2004 GIS STUDIES ON TRANSPORTATION

By Scott Branting

"These feet were made for walking"

Figure 23. Inscription in old Phrygian from the Monumental Entrance to the Palace Complex. (03dpjv5407)

Transportation Studies

Modern city planners make extensive use of transportation simulation computer programs when adding new streets or modifying existing ones. By simulating virtual traffic moving through the network of streets they can predict the effects of changes to that network before construction is begun.

Over the past two years these same computer simulation programs were applied to a reconstruction of the ancient street network at Kerkenes Dağ, an Iron Age city where inscriptions in old Phrygian (Fig. 23 illustrating piece 03TR11U04stn04) were first discovered in 2003. By simulating virtual pedestrian traffic moving along these ancient streets, the street network (Fig. 24) was organized and analyzed in a coherent fashion to determine how it functioned during the occupation of the city.

These simulations revealed which of the streets were main streets that carried heavy traffic loads of people and animals and which streets were small back streets and alleys that saw very little traffic (Fig. 25). These results can be directly related to how the ancient population may have made use of particular areas, compounds, or buildings within the city (Fig. 26).

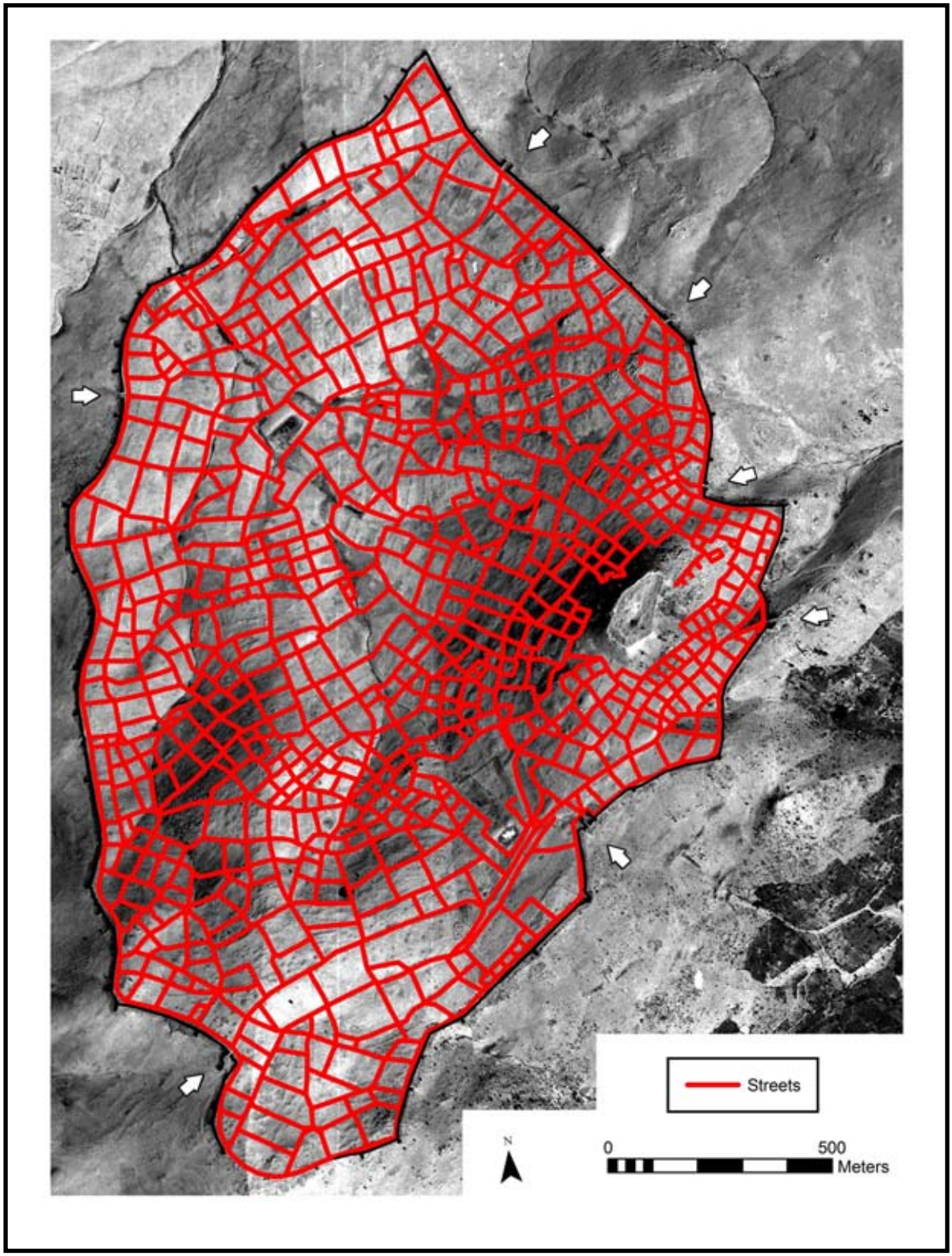

Figure 24. Reconstructed street network at Kerkenes Dağ.

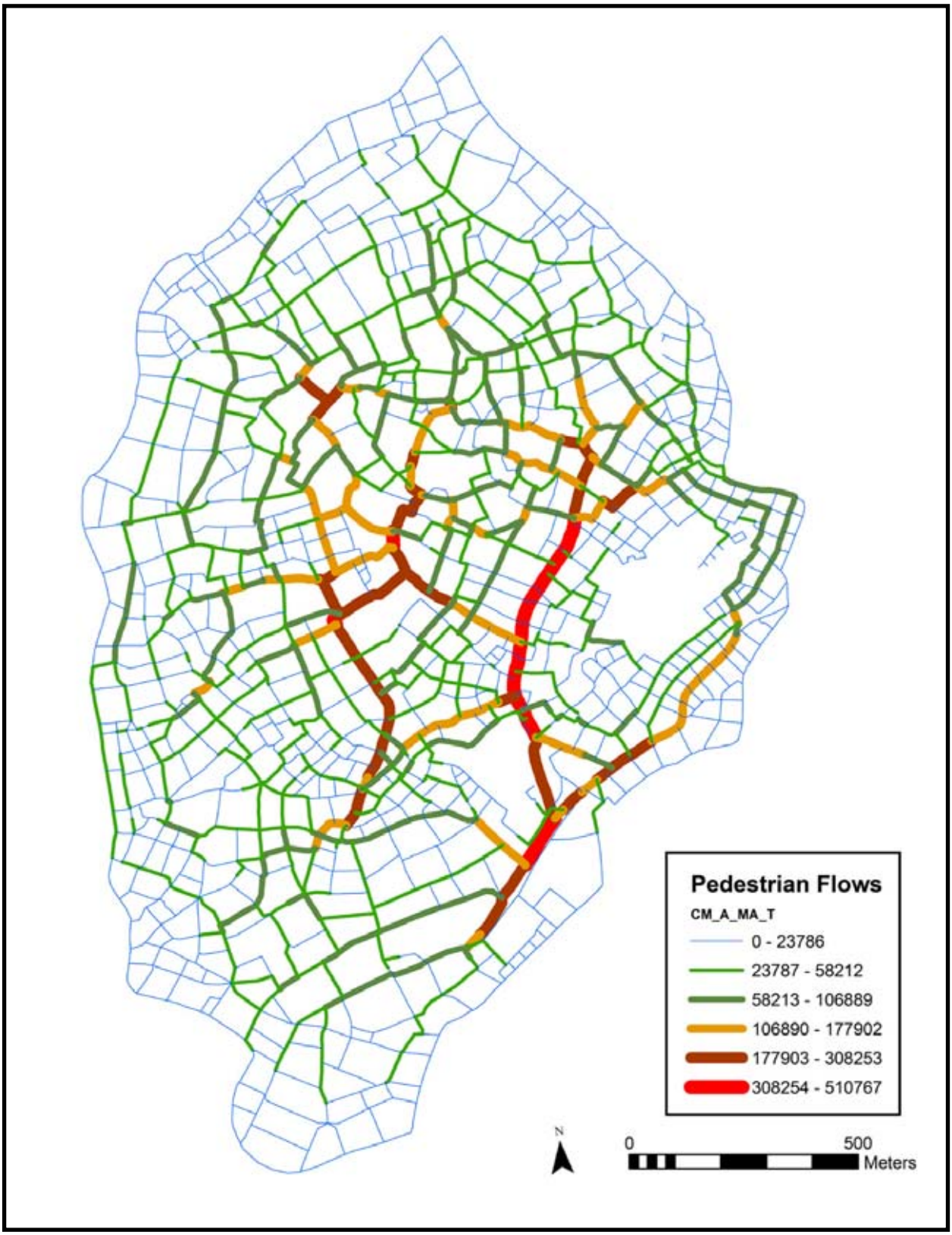

Figure 25. Results of simulated pedestrian transportation in the ancient city.

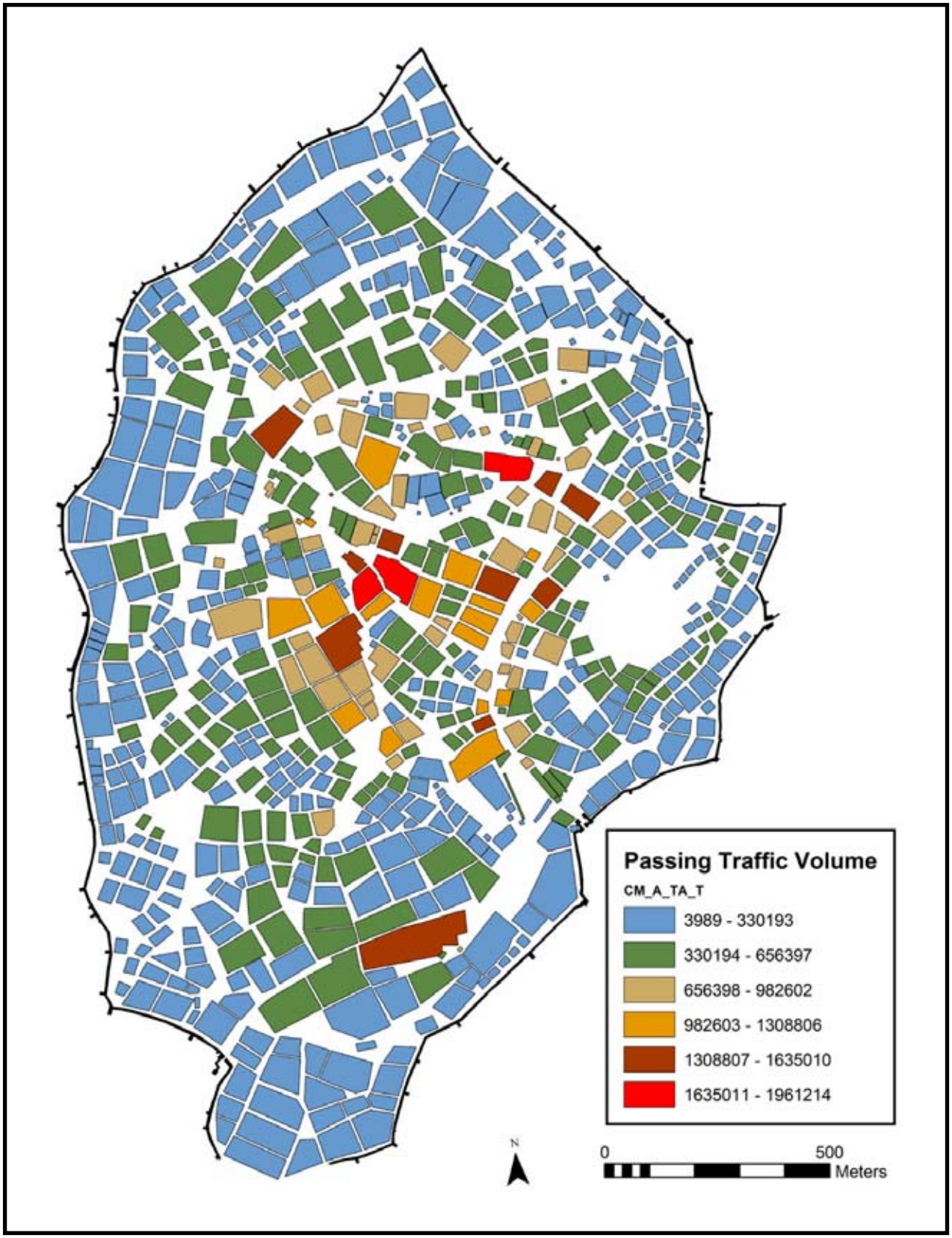

Figure 26. Relating simulation results to the different urban blocks.

The 2004 Transportation Trenches (TT23, TT24, TT25)

In order to check the map of ancient streets and to calibrate the results of the computer transportation simulations, three test trenches (TT) were excavated during the 2004 season. Each trench was laid out to completely cover the area between two different urban blocks where it was hypothesized that a street had existed (Fig. 27). Test trench TT23 was located so as to come down upon the full width of a street that the computer simulations predicted would have low amounts of traffic. Test trench TT24 was positioned to encompass the full width of a street with a middle range amount of simulated traffic. Test trench TT25 was cut through the street in the ancient city with the highest amount of simulated traffic volumes.

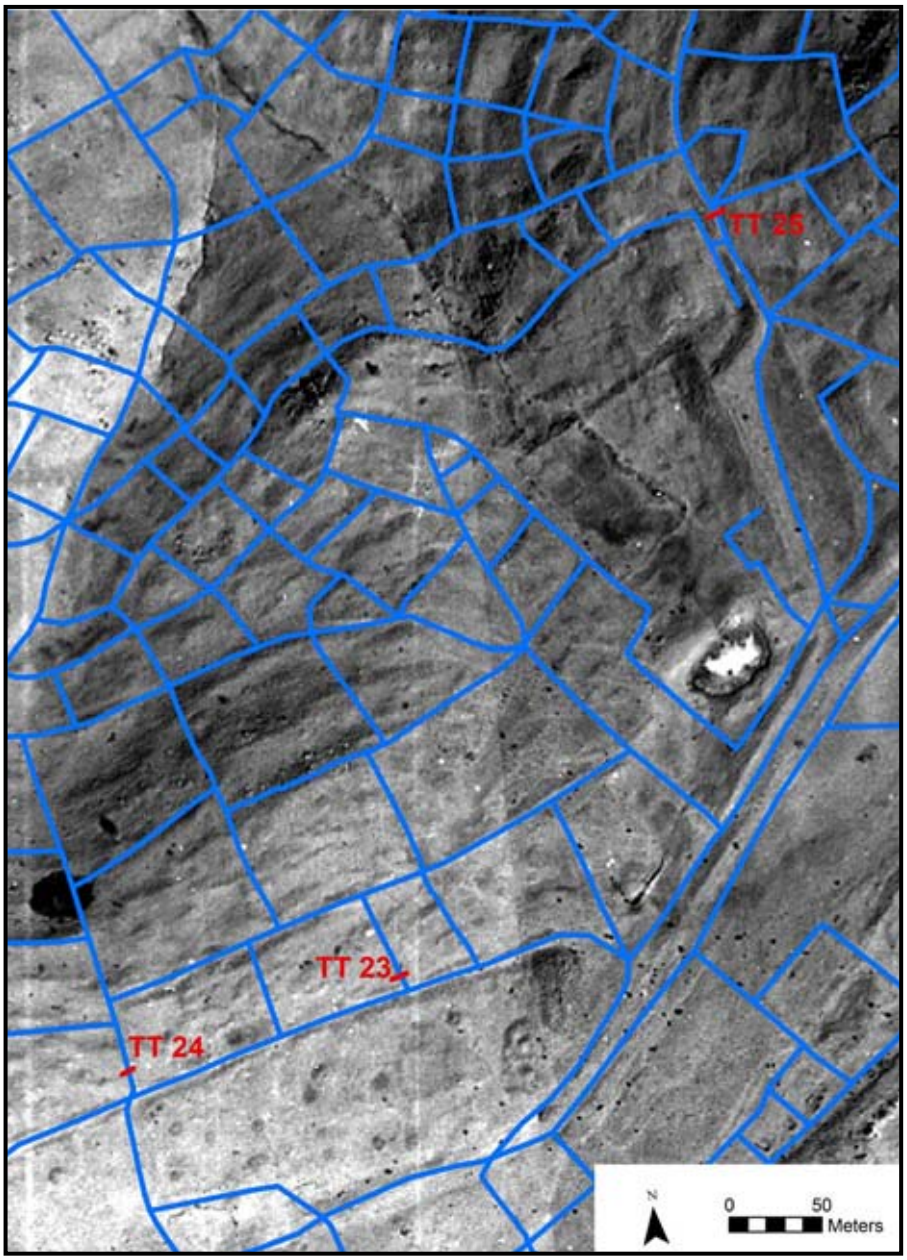

Figure 27. Location of 2004 transportation test trenches.

In each trench any evidence for an actual street surface was recorded and micromorphology samples were taken from the surface of the street and just below it (Fig. 28). These micromorphology samples are being sent to Dr. Charles French at Cambridge University in England for further analysis to quantify the amount of compression on the surface generated as the result of the numerous feet and hooves that once walked upon these streets. Such analysis will allow the results of the transportation computer simulations to be calibrated and tested. Finally, once excavation and recording were finished each narrow test trench was filled in to the modern ground surface.

Figure 28. Taking a micromorphology sample from an ancient street. (04dpjv2133)

Test Trench TT23

Excavation within this 10.3 by 1m test trench revealed the outside walls of two different urban blocks, a small portion of the interior of each urban block, and the exterior surface between them (Fig. 29). The two urban block walls were preserved for three to four courses up to the modern ground surface. As with all the walls in these test trenches they were constructed of unshaped granite stones dry-laid upon the natural matrix of eroded granitic bedrock with larger stones laid at each face. Within the two urban blocks there was no evidence for stone paving, a feature that has been commonly found within excavations of urban blocks elsewhere in the city. This absence can be explained in the easternmost of the two urban blocks by the presence of a small secondary wall built almost up to the main urban block wall. This secondary wall, preserved to only two courses of stone is likely the outer wall of a structure or installation within this particular urban block. Few sherds were found within the limited exposures of the interiors of the two urban blocks.

Figure 29. Test trench TT23. (04dpca0204)

Between the two urban blocks a roughly level brown sandy surface was encountered at a depth of *c.* 0.5m (Fig. 30). It covered an area extending outward for *c.* 3.5m from just in front of the easternmost urban block wall. It extended downwards between 4 and 18cm where it ended directly on the sloping layer of eroded bedrock. This "street" surface was comprised of numerous thin layers of sand with evidence of feathering from the action of water during its deposition. A few pieces of pottery and several pieces of animal bone were found on and occasionally embedded within the layers of this surface, but no evidence for trampling of the material was seen. A good amount of animal burrowing activity was noted throughout this sandy layer. The material between the street surface and the modern ground level is largely erosional wash and the collapse of the two urban block walls as can be clearly seen in the section. The collapse of the eastern urban block wall, in fact, appears to have aided in the preservation of the street surface beneath it. To the west of the street surface the westernmost 1.70m of the area between the two urban blocks was covered by numerous pieces of animal bone and a few pottery sherds dumped on top of the natural eroded bedrock (Fig. 31). This accumulation increased in depth as it neared face of the western urban block wall. It likely represents the dumping of kitchen waste by the ancient inhabitants of the city up against the urban block wall alongside the street, a practice with good parallels in both ancient and modern times. The bone from this context has been sent to Dr. Evangelia Ioannidou at METU for species identification and further analysis.

Figure 30. Ancient street in test trench TT23. (04dpca0216)

Figure 31. Area of occupational dump alongside street in test trench TT23.

(04dpca0224)

Test Trench TT24

Excavation within this 8.5 by 1m test trench again revealed the outer walls of two urban blocks as well as a street between them (Fig. 32). The quantity of pottery recovered from the trench was higher than in TT23, and included many more incised or painted sherds (Fig. 33). As with TT23 the urban block walls were preserved for two to three courses, up to the level of the modern ground surface. Unlike the previous test trench these walls lacked two clear faces. Instead the inside face of both urban block walls, the side facing into the respective block, was either collapsed down, as in the eastern urban block wall, or had apparently never existed, as in the western urban block wall. Indeed, the western wall might have served a dual purpose, as a terrace wall retaining leveling fill inside the urban block as well as enclosing it. The base of the westernmost wall was built on a *c.* 10 to 50cm deep layer filled with scattered occupational debris rather than on the underlying natural eroded bedrock. This is significant and could reflect different phases in the construction of the urban block walls within the city or at least a later rebuilding of an existing wall. No evidence was found in the limited exposures within either urban block for paved surfaces.

Figure 32. Test trench TT24 looking east. (04dpca0261)

Figure 33. Pottery from test trench TT24. (04dpca0337)

Between these two walls the same sort of brown sandy "street" surface was encountered (Fig. 34). However, here the surface very gently sloped down to the east from a level area against the west wall, following the contours of the ground rather than being roughly level all the way across. The street surface extended all the way across the area between the two walls. It was thicker here than in TT23, extending down between 14 and 34cm to the sloping layer of natural eroded bedrock. Yet it was buried at a similar depth (*c.* 50 to 60cm) from the modern ground surface, beneath erosional wash and the collapse of the upper courses of the urban block walls. Once again a fair amount of animal burrowing activity was noted in the sandy street layer.

Figure 34. Ancient street in test trench TT24. (04dpca0259)

Test Trench TT25

Excavation within this 11.5 by 1m test trench across the main city street revealed the outer wall of a single urban block and a second wall with traces of a street running between (Fig. 35). The quantity of pottery recovered from the trench was higher than in TT23 and nearly on par with that from TT24. Like TT24 it included several incised or painted sherds. The easternmost wall within the trench, the outer wall of an urban block higher on the Kale slopes, was preserved to a height of only one and a half courses at a level equal to the modern ground surface. Given the slope of the urban block above, this wall must have originally served in some capacity to retain the soil and perhaps leveling fill underlying the structures in that block. No evidence was found for paving within the extremely small exposure of the inside of the urban block beyond. The western wall within the trench is quite different. It is apparently not a part of any urban block, but rather it seems to divide the main street from a secondary street running parallel to it at a lower elevation. It also quite clearly was used to retain the road surface and leveling fill to the west of it.

Figure 35. Test trench TT25 looking southwest. The scale in the trench is 0.5m. (04dpjv2117)

Between these two walls ran the ancient street (Fig. 36). The traces of it are more difficult to see than in TT23 and TT24 owing to the mass of wall collapse and erosion that have impacted its preservation. At a depth of *c.* 60 cm, preserved under the eastward tumble of the western wall, was a small thin section of a street surface, similar in composition to those seen in TT23 and TT24. It lay directly on top of a leveling fill that can be seen stretching between fingers of bedrock in the trench for over 6m. The street surface by contrast can only be seen following the top of this leveling fill for *c.* 42cm, though it probably once continued all the way across. On top of the street, there is a layer of occupational debris, perhaps deposited by erosion from the urban block above or perhaps as dump accumulation to the side of the street as was seen in TT23.

Figure 36. Ancient street in test trench TT25. (04dpca0322)

Results

The transportation test trenches excavated in 2004 have revealed several important pieces of information. Firstly, we now know that well preserved portions of unpaved streets exist under the modern ground surface at Kerkenes Dağ. Secondly, we now know a great deal more about the structure and composition of these streets. Thirdly, we know that on at least some of these streets we can expect to find in situ deposits of refuse from adjacent urban blocks. Fourthly, we have seen the first evidence that some of the urban block walls may have been later additions or reconstructions. And fifthly, we know that the practice of paving streets with stone pavement, such as was found in the palace gate area, is not the normal practice for street surfacing within the city. Rather a great number of the streets were likely unpaved streets. Further information about these streets will be gained when the results of the micromophological analysis is complete. However, already an enormous amount of information has been gained from these three test trenches concerning how the street network was designed and used within this ancient city.

FINDS FROM THE 2004 SEASON

Sculpture in the Round

Two pieces of sculpture in the round were recovered in the Monumental Entrance to the Palace Complex in 2004. These represent the first evidence for such an artistic tradition at Kerkenes. In addition, the Stele from the Cappadocia Gate was restored together with its base.

Statue of a Figure in Human Form
K04.182, ID no. 04TR16U02stn01, (Figs 37 and 38)

This unique draped figure, a little over 1m in height, is carved from soft, fairly fine grained, sandstone. It is incomplete and not fully restored.

Figure 37. Front view of the upper part of the statue and the bottom part with a skirt and plain belt. There are no feet. The torso joins onto the skirt. (04dpcs22comb)

The statue was smashed in antiquity, quite possibly when hurled into the Byzantine pit from which it was recovered. The pit is not fully excavated, so that the recovery of further fragments can be anticipated.

The figure is standing, holding in the right hand an incomplete rod-like object that curves slightly over the right shoulder. The gender of this beardless figure, which may or may not represent a deity, is unclear. Shoulder length hair is depicted running back over the head in a ribbed pattern and curling onto the shoulders. The face is fragmented, only the shallow, lozenge-shaped right eye being preserved. The mouth was small and shown with a slight smile, the lips closed. The chin was shallow and rounded. Clothing comprises a ribbed skirt and belt beneath a plain top. There is a square dowel hole in the base and another hole cut diagonally through the side of the skirt. The lower portion of the statue appears to be short and rather simply carved in comparison to the top.

Figure 38. The statue showing the hair style and the slightly inclined head. Restoration is awaiting the likely recovery of additional fragments in 2005. (04dpcs2225)

Fragment of a Life-Sized Lion or Sphinx.
K04. 183, ID no. 04TR16U00stn01, (Fig. 39)

This sandstone fragment was discovered sculpted side down on the surface. It is decorated with relief-carved chevron patterning that has central guidelines running through the centres of the chevrons. Part of what appears to be an ear is preserved. The carving of the mane is similar to the ribbed dress on the statue.

Figure 39. Fragment from a life-sized sculpture of a lion or sphinx (04dpcs2308).

Stele from the Cappadocia Gate
ID no. 03TR13U08stn01, (Fig. 40)

The stele is made from white tuff and very fragmented. Its extant height is 0.5m and width is 0.56m, with the central recessed panel being approximately square. Of the circular head, which is on the same plain as the recessed "body", only the corners are preserved, but during restoration it was discovered that amongst the tiny chips of stone assiduously collected when the sculpture was first uncovered, there were fragments of small three-quarter bolsters on each shoulder, perhaps representing curls of hair. The back was undressed. The base, measuring 1.80 by 0.75 by 0.46m has a slight recess in which the stele fitted.

Figure 40. The aniconic stele, made of tuff, from the Cappadocia Gate during reassembly in 2004. The rounded edge of a "bolster" on the shoulder can be seen at top right. (04dpcs1607)

Relief Sculpture and Inscription

The Inscribed Sandstone Monument

Further fragments of the inscribed sandstone monument, with recessed panels containing small-scale relief sculpture, were recovered from the Monumental Entrance in 2004. In addition, an important new join was made between the largest piece, ID no. 03TR11U08stn02 and another one, ID no. 03TR11U08stn24 (Fig. 41). A new fragment of Old Phrygian inscription, ID no. 04TR16U08stn01, joins a darker brown piece, ID no. 03TR11U03stn05 recovered in 2003 (Fig. 42).

Further evidence was found to confirm that parts of the monument had been spread over a considerable area as a result of later, Byzantine, disturbance, and that some fragments were totally destroyed by the heat of the fire. The monument was originally a monolithic block, square or rectangular in plan, with recessed panels on a minimum of two sides. It is highly probable that all of the fragments of relief sculpture and inscription came from this one monument. Inscription is found on the frames that border the panels, running vertically on the sides as well as along both top and bottom. There is more than one inscription, and at least two different hands can be discerned. New joining fragments proved that inscription did not need to cover entire sections of the frame. Some inscription was lightly marked out before being finally cut, and it seems possible that not only the spacing of the letters but also the wording may have been changed. At this preliminary stage it can only be said that one inscription is a dedication by or to Tata (Fig. 41).

Among the pieces of small scale sculpture, thought to have belonged to the same sandstone monument, one fragment depicts a pair of bird's feet (Fig. 43). Other fragments of wings seem to belong to the rosette found in 2003 (Fig. 44).

Figure 41. A new fragment added at right, and a new join between a vertical element and part of the top at left. (04dpcs1511)

Figure 42. A new fragment of Old Phrygian inscription, darker brown at top left, was found to join fragments recovered in 2003. (04dpcs1320) 04TR16U08stn01 joins 03TR11U03stn05

Figure 43. Small-Scale Sculpture in the Round. A fragment apparently depicting a pair of birds feet, perhaps grasping a snake, is the first attestation of this genre of sculpture at Kerkenes. (04dpcs1309)

Figure 44. The most noteworthy of the new fragments of relief sculpture is a wing that very possibly belongs to the rosette found in 2003. (04dpcs1209)

Mason Marks and Graffiti

Fragments of three masons marks and one complete mark comprising two signs, all on sandstone, have now been recognised.

Several signs and two graffiti in Old Phrygian were scratched on sherds of pottery. These discoveries demonstrate that the use of the Old Phrygian language was not restricted to sculpted monuments but could have been written by inhabitants of Kerkenes. The growing number of such marks is indicative of the extent to which alphabetic script was used.

Bowl with graffito

K04.179, ID no. 04TR11U22pot01, (Fig. 45)

This bowl has a graffito on the base.

Figure 45. Bowl with graffito on the base. (04dpcs2112 and 04dpcs2111)

Metal Finds

Silver Foil Appliqué

K04. 175, ID no. 04TR16U15met01, (Figs 1 and 46)

A silver foil appliqué in the form of an embossed three-quarter disc was found between paving stones in the Monumental Entrance. At the centre is a rosette with eight petals and a central boss, then a register of small bosses within a single circle, followed by larger bosses each inside two concentric circles which is in turn separated from a band of the same motif by a line of beading. A second line of beading is followed by a register of large bosses within single circles. At the truncated top there is a clasp-like device that resembles a pair of bolsters. The entire outer edge is perforated with small attachment holes, presumably for sewing onto material.

Figure 46. Silver foil. (04dpcs1024)

Iron dress pin

K04. 173, ID no. 04TR14U16met02 (Fig. 47)

The iron dress pin (*dopplenadel*) has both prongs broken.

Figure 47. Iron dress pin with both prongs broken. (04dpcs2005)

Byzantine Coin
K04.170, ID no. 04TR16U05met01, (Fig. 48)

The Byzantine coin was identified as a bronze Follis of Justinian, year 34 equals AD 560/1, minted at Antioch (Theupolis) officiana (workshop) 3; diameter 34mm, weight 18.3 grams. It came from a robber pit in the Monumental Entrance.

Figure 48. Bronze Follis of Justinian.
(04dpcs0617 and 04dpcs0618)

PUBLICATIONS AND CONFERENCES

Great progress has been made with the first Kerkenes monograph, which will contain the entire remote sensing survey and the results of the 1996 and 1998 test trenches. In addition to the annual *Kerkenes News* and the reports in the Annual Symposium a study of the ivory excavated in 1996 has appeared (Dusinberre, E. R. M. 2003, "An Excavated Ivory from Kerkenes Dağ; Turkey: Transcultural Fluidities, Significations of Collective Identity and the Problem of Median Art", *Ars Orientalis* 32, 17-54), as has a substantial report on the megaron and associated structures excavated only in 2003 (Summers, G. D., Summers, F. and Branting, S., 2004, "Megarons and Associated Structures at Kerkenes Dağ: an Interim Report", *Anatolia Antiqua* 12: 7-41).

Electronic publication through the Kerkenes Web page is updated regularly and contains all the Annual Reports.

http://www.kerkenes.metu.edu.tr

In March Geoffrey was invited to present two papers at an international colloquium at the Middle Eastern Cultural Centre at Tokyo. In June the authors were pleased to give lectures and seminars at the Universities of Berlin, Tüebingen, Marburg, Frankfurt and Muenster. Several members of the team took part in the Sixth Anatolian Iron Ages Symposium held at Eskişehir in August during which two papers were presented on Kerkenes. Geoffrey gave the lecture at the joint BIAA and the Anglo-Turkish Society meeting in London on November 1st followed by lectures in New York and Buffalo.

CONCLUSIONS

The architectural concepts and decorative embellishments seen in the Monumental Entrance to the Palace Complex at Kerkenes seem to conclusively point towards influence from western portions of the Anatolian Plateau. Phrygian cultural elements are undoubtedly recognisable, yet the use of clamps might point to traditions from even further to the west. It is worth noting that one result of the recent re-dating of the Destruction Level at Gordion, from around 700 BC to 800 BC (DeVries *et al.* 2003), is a paucity of sixth century architecture at the Phrygian capital. Further west, in the Phrygian Highlands, Phrygian architecture is almost entirely represented by rock-cut monuments, no substantial foundations having been excavated, e.g. at Midas Şehir. Although an absence of direct parallels is perhaps more a reflection of the dearth of excavated sixth century capitals than the uniqueness of Kerkenes, one significant factor might be the extensive use of stone for monumental buildings at Kerkenes in ways that are not seen at Gordion or in the Phrygian Highlands at this time.

The complexities of cultural traditions at Kerkenes are slowly emerging, and are seen to contain many striking and unexpected components. There is still no evidence that the city was in existence for any great length of time and no good reason to posit a date for its foundation earlier than the middle, or even the last quarter, of the seventh century. Some aspects of the city, not least the 7 kilometres of stone defences, perhaps reflect Central Anatolian traditions that derive ultimately from the Hittite world. Before the destruction Kerkenes had become, if it was not from the start, highly "Phrygianised", as documented by its architecture and the use of Old Phrygian for both monumental inscription and every day scratching on pottery as well as by elements of iconography. The city was put to the torch and its defences thrown down, an act of utter destruction that is completely compatible with the actions of Croesus as related in the tangled account of Herodotus, and traditionally dated to 547 BC. The objects and pottery excavated at Kerkenes, together with the use of wooden clamps for building, would all fit comfortably in the first half of the sixth century and some, just possibly, a little earlier. If Herodotus has any credibility, and he surely has some regardless of how difficult it might be to disentangle, Kerkenes was Pteria and was in some way a dependency of the Medes. However elusive evidence for Median culture at Kerkenes might be, and however slight Median presence might have been, the historical problems and associations are not to be ignored. Indeed, it is out task to attempt to elucidate them.

Figure 49. The distant landscape, fought the Medes and the Lydians, is dominated by the snow-caped Erciyes Mountain. (04dpjv0808)

FUTURE PERSPECTIVES

Looking to the future, in 2005 we will focus on completion of the excavation of the Monumental Gateway, not least so as to recover such fragments of sculpture and inscription as survive. A second monograph, devoted to excavations at the Palace Complex together with the sculpture and inscriptions, is envisaged. Work at the Cappadocia Gate has been halted because of the very poor condition of much of the Granite in the walls of the gate chamber. Further clearance could only be conducted hand in hand with a major program of conservation and restoration, for reasons of both safety and preservation. Such a program, while possible, would be very expensive and would require a team of experts in architectural restoration together with masons experienced in working with granite.

In a second initiative Associate Director Scott Branting, who has just taken up an appointment at the Oriental Institute of Chicago University, will continue his transportation and urban studies at Kerkenes and will be applying for funding to work on a larger scale from 2006 onwards.

REFERENCES

Berndt-Ersöz, S.

2003 *Phrygian Rock-Cut Shrines and Other Religious Monuments: A study of structure, function and cult practice,* Department of Classical Archaeology and Ancient History, Stockholm University, Stockholm.

DeVries, K., Kuniholm, P. I., Sams, G. K. and Voigt, M. M.

2003 "New Dates for Iron Age Gordion", *Antiquity* 77 no. 296: *http://antiquity.ac.uk/ProjGall/devries/devries.html*

Dusinberre, E. R. M.

2002 "An Excavated Ivory from Kerkenes Dağ; Turkey: Transcultural Fluidities, Significations of Collective Identity and the Problem of Median Art", *Ars Orientalis* 32, 17-54.

Kohler, E. L.

1995 *The Gordion Excavations (1950-1973) Final Reports, Vol. II, Part I: The Lesser Phrygian Tumuli: The Inhumations*, University Museum, Philadelphia.

Koşay, H. Z.

1941 *Pazarlı Hafriyatı Raporu : Les Fouilles de Pazarlı,* (Türk Tarih Kurumu Yayınlarından V. 4), Ankara.

Sivas, T. T.

1999 *Eskişehir - Afyonkarahisar - Kütahya İl Sınırları İçindeki Frig Kaya Anıtları*, T.C. Anadolu Üniversitesi Sosyal Bilimler Enstitüsü, Eskişehir.

Stronach, D. and G. D. Summers.

2003 "The Ashlar Building at Kerkenes Dağ: An Interim Report", *Anatolia Antiqua* 11, 111-129.

Summers, G., F. Summers and D. Stronach

2004 "Kerkenes Dağı Projesi 2004", *25. Kazı Sonuçları Toplantısı, 26-31 Mayıs 2003, Ankara*, 1, 183-194.

Summers, G. D., F. Summers and S. Branting

2004 "Megarons and Associated Structures at Kerkenes Dağ: an Interim Report", *Anatolia Antiqua* 12: 7-41.

KERKENES DAĞ PROJECT PUBLICATIONS - BY YEAR

Kerkenes Dağ Home Page: http://www.kerkenes.metu.edu.tr
This site represents a major experiment in the electronic publication of an international archaeological project.

2004 Summers, G., Summers, F. and Stronach, D.
Kerkenes Dağı Projesi 2002, *25. Kazı Sonuçları Toplantısı 1.Cilt, 26-31 Mayıs 2003, Ankara*, 183-194.

2004 Summers, G., Summers, F. and Branting, S.
Megarons and Associated Structures at Kerkenes Dağ: an Interim Report, *Anatolia Antiqua* 12, 7-41.

2004 Summers, G.D. and Summers, F.
Demir Çağı Kenti'nin sırları, *ODTÜLÜ Sayı 32*, 16-17.

2003 Stronach, D. and Summers, G. D.
"The Ashlar Building at Kerkenes Dağ: An Interim Report", *Anatolica Antiqua* 11, 111-129.

2003 Summers, F., Atalan, N., Aydin, N., Basagaç, Ö., Uçar, G.
"Documentation of Archeological Ruins and Standing Monuments Using Photo-Rectification and 3D Modeling", in Altan, M. O. (ed) *Proceedings of the XIXth International Symposium CIPA 2003, New Perspectives To Save Cultural Heritage, Antalya, Turkey, 30 September – 04 October, 2003*, CIPA, Turkey, 660-668.

2003 Summers, G., Summers, F. and Stronach, D.
"The Kerkenes Project 2003", *Anatolian Archaeology* 9, 22-24 .

2003 Summers, G. D., Summers, F. and Stronach, D.
"Kerkenes Dağı Projesi 2001", *24. Kazı Sonuçları Toplantısı 1.Cilt, 27 -31 Mayıs 2002, Ankara*, 449-460.

2003 Summers, G., Summers, F., Stronach, D. and Branting, S.
Kerkenes News 6, 2003 – Kerkenes Haberler 6, 2003, METU Press, Ankara.

2002 Aydın, N., Toprak, V. and Baturayoğlu, N.
"The Geophysical Survey of an Iron Age City in Central Anatolia: Kerkenes Dağ", in J. Albertz (ed.) *Proceedings of the XVIII. International Symposium CIPA 2001 Surveying and Documentation of Historic Buildings – Monuments – Sites Traditional and Modern Methods, Potsdam (Germany), September 18-21, 2001*, CIPA, Germany, 516-523.

2002 Baturayoğlu, N.
"The Survey and Documentation of the City Walls and Cappadocia Gate of the Iron Age Settlement on Kerkenes Dağ in Central Anatolia", in J. Albertz (ed.) *Proceedings of the XVIII. International Symposium CIPA 2001 Surveying and Documentation of Historic Buildings – Monuments – Sites Traditional and Modern Methods, Potsdam (Germany), September 18-21, 2001*, CIPA, Germany, 100-107.

2002 Baturayoğlu, N., Summers, G. D., Summers, F. and Aydın, N.
"The Survey and Documentation of an Iron Age City in Central Anatolia: Kerkenes Dağ", in J. Albertz (ed.) *Proceedings of the XVIII. International Symposium CIPA 2001 Surveying and Documentation of Historic Buildings – Monuments – Sites Traditional and Modern Methods, Potsdam (Germany), September 18-21, 2001*, CIPA, Germany, 407-414.

2002 Branting, S. and Summers, G. D.
"Modelling Terrain: the Global Positioning System (GPS) survey at Kerkenes Dağ, Turkey", *Antiquity* 76, 639-640.

2002 Dusinberre, E. R. M.
"An Excavated Ivory from Kerkenes Dağ, Turkey: Transcultural Fluidities, Significations of Collective Identity, and the Problem of Median Art" *Ars Orientalis* XXXII, 17-54.

2002 G. D., Summers, Summers, F. and Stronach, D.
"The Kerkenes Project 2002", *Anatolian Archaeology* 8, 25-27.

2002 Summers, G., Summers, F. and Stronach, D.
Kerkenes News 5, 2002 – Kerkenes Haberler 5, 2002, METU Press, Ankara.

2002 Summers, G.D., Summers, F., Stronach, D. and Özcan, M.
"Kerkenes Dağı Projesi 2000". *23. Kazı Sonuçları Toplantısı 1.Cilt, 28 Mayıs - 01 Haziran 2001, Ankara*, 439-448.

2001 Summers, G. D.
"Keykavus Kale and Associated Remains on the Kerkenes Dağ in Cappadocia, Central Turkey", *Anatolica Antiqua* 9, 39-60.

2001 Summers, G.
"Simulation and Dynamics of an Ancient City", *ArcNews* 23.2, 12-13.

2001 Summers, G. D. and Summers, F.,
"Kerkenes Dağ". In A. M. Greaves and B. Helwing, "Archaeology in Turkey", *American Journal of Archaeology* 105, 508-509.

2001 Summers, G. D., Summers F., Özcan, M. and Stronach, D.
"1999 Yılı Kerkenes Dağı Projesi", *22. Kazı Toplantısı 1.Cilt, 22-26 Mayıs 2000, İzmir.* Ankara, 211-228.

2001 Summers, G., Summers, F. and Stronach, D.
"The Kerkenes Project 2000", *Anatolian Archaeology* 7, 22-23.

2001 Summers, G., Summers, F. and Stronach, D.
Kerkenes News 4 – Kerkenes Haberler 4, METU Press, Ankara.

2000 Summers, G. D.
"The Median Empire Reconsidered: a View from Kerkenes Dağ", *Anatolian Studies* 50, 55-73

2000 Özcan, M., Summers, G. and Summers, F.
"1998 Yılı Kerkenes Dağı Projesi", *XVII. Araştırma Sonuçları Toplantısı, 24-28 Mayıs 1999, Ankara.* Ankara, vol. II, 211-228.

2000 Summers, G. D.
"Archaeology on the World Wide Web: Who Wants What?",
http://www.achemenet.com/pdf/colloque/summers.pdf

2000 Summers G. D.
"Kerkenes Dağ", in Bienkowski, P. and Millard, A. (eds), *Dictionary of the Ancient Near East,* British Museum, London, 166.

2000 Summers, G. D.
"Kerkenes Dağı. Orta Anadolu'da Yer Alan Demir Çağı Kentinin Araştırılmasına Teknolojik Yaklaşımlar, 1993-1999", *1999 Yılı Anadolu Medeniyetleri Müzesi Konferansları,* 119-150.

2000 Summers, G., Summers, F., Özcan, M. and Stronach, D.
"The Kerkenes Project 2000", *Anatolian Archaeology* 6, 22-24.

2000 Summers, G., Summers, F., Stronach, D. and Özcan, M.
Kerkenes News / Haberler 3: 2000*,* METU Press, Ankara.

1999 Ertem, E. and Demirci, Ş.
"Characteristics of Hittite Pottery Sherds from Sites in the Kızılırmak Basin", *Journal of Archaeological Science* 42, 1017-1023.

1999 Summers, G. D.
"Medes, Lydians, the 'Battle of the Eclipse' and the Historicity of Herodotus", http://www.metu.edu.tr/home/wwwkerk/12propub/wwwpaper/eclbygds/index.html

1999 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağı 1997", *XVI. Araştırma Sonuçları Toplantısı: 25-29 Mayıs 1998 Tarsus,* Ankara, vol. II, 121-151.

1999 Summers, G., Summers, F., Özcan, M. and Stronach, D.
"Kerkenes Dağ 1999", *Anatolian Archaeology* 5, 19-22.

1999 Summers, G., Summers, F., Stronach, D. and Özcan, M.
Kerkenes News / Haberler 2: 1999*,* METU Press, Ankara.

1998 Ertem, E., Summers, G. D. and Demirci, S.
"An Archaeometric Study on Plain Ware Ceramics from the Hittite Period, Kızılırmak Basin", in Alp, S. and Süel, A. (eds) *Acts of the IIIrd International Congress of Hittitology, Çorum, September 16-22, 1996,* Ankara, 197-215.

1998. Summers, G. D., Özcan, M., Branting, S., Dusinberre, E. R. and Summers, M. E. F.
"Kerkenes Dağ 1996", *XIX. Kazı Sonuçları Toplantısı: 26-30 Mayis 1997 Ankara.* Ankara, vol. I, 627-659.

1998 Summers, G. D. and Summers, M. E. F.
Kerkenes News / Haberler 1998*,* Ankara (METU Press).

1998 Summers, G. D. and Summers, M. E. F.
"The Kerkenes Dağ Project", in Matthews, R. (ed.) *Ancient Anatolia*, London (BIAA), 177-194 and colour pls 29-30.

1998 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağ", *Anatolian Archaeology* 4, 25-27.

1997 Korolnik, S. A.
"The Conservation of a Carved Ivory Plaque", *Anadolu Medeniyetleri Müzesi: 1996 Yıllığı* XI, 173-196.

1997 Summers, G. D.
"The Identification of the Iron Age City on the Kerkenes Dağ in Central Anatolia", *Journal of Near Eastern Studies* 56.2, 81-94.

1997 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağ", *Anatolian Archaeology* 3, 23-25.

1996 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağ", *Anatolian Archaeology* 2, 27-28.

1996 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağ 1994", *XIII. Araştırma Sonuçları Toplantısı: 29 Mayıs - 2 Haziran 1995 Ankara,* Ankara, vol. 1, 99-122.

1996 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağ 1995", *XIV. Araştırma Sonuçları Toplantısı: 27-31 Mayıs 1996 Ankara,* Ankara, vol. II, 331-357.

1996 Summers, G. D., Summers, M. E. F., Baturayoğlu, N., Harmanşah, Ö. and McIntosh, E. R.
"The Kerkenes Dağ Survey, an Interim Report", *Anatolian Studies* XLVI, 201-234.

1995 Gurney, O. R.
"The Hittite Names of Kerkenes Dağ and Kuşaklı Höyük", *Anatolian Studies* XLV, 69-71.

1995 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağ 1993", *XII. Araştırma Sonuçları Toplantısı: 30 Mayıs - 3 Haziran 1994 Ankara,* Ankara, 567-582.

1995 Summers, G. D. and Summers, M. E. F.
"Kerkenes Dağ Survey Project", *Anatolian Archaeology* 1, 22-23.
1995 Summers, G. D., Summers, M. E. F. and Ahmet, K. "The Regional Survey at Kerkenes Dağ: an Interim Report on the Seasons of 1993 and 1994", *Anatolian Studies* XLV, 43-68.

1994 Summers, G. D.
"Kerkenes Dağ", *Research Reports 1994,* BIAA, 18-20.
1994 Summers, G. D.
"Kerkenes Dağ 1993", *Anatolian Studies* XLIV, 15.
1994 Summers, G. D. and Summers, M. E. F.
"The Mountain Top City on Kerkenes Dağ (Yozgat) in Cappadocia", *Arkeoloji ve Sanat* 62-63, 2-20.