THE 1995 SURVEY SEASON AT KERKENES DAĞ

A PRELIMINARY REPORT

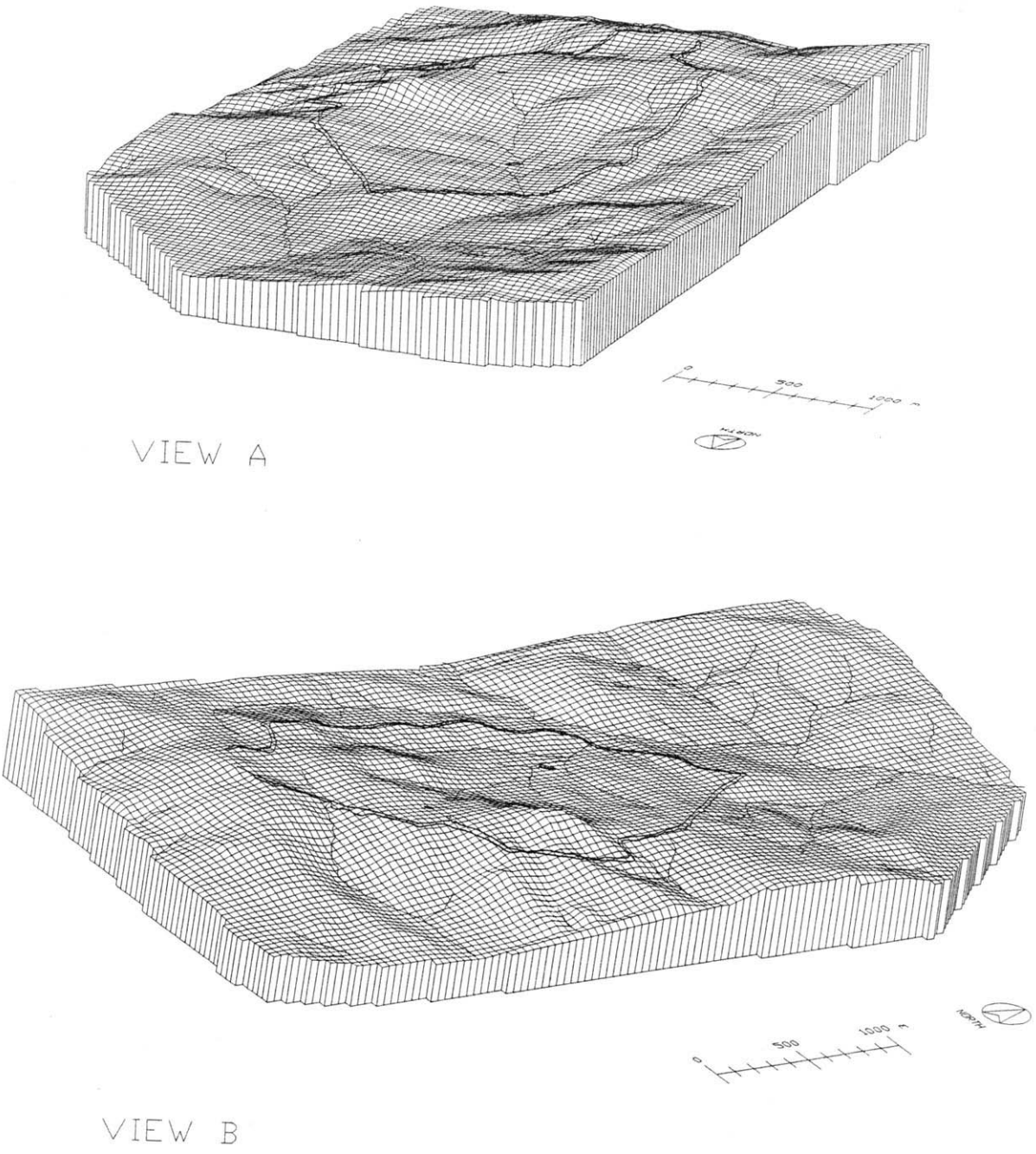
Geoffrey and Françoise Summers

Some areas of geophysical survey

NOT FOR PUBLICATION

The report is based on the field notes and drawings by various members of the team (p. 4). Final drawings were prepared by Koral Ahmet and Nilüfer Baturayoğlu.

Front cover: a portion of the ancient city on the western side, where the stream runs through the city wall. The letters indicate some of the areas where magnetic survey was carried out in 1995 (see Fig. 1). The photograph, like others in this report, was taken from the Kapadokya Lodge Hot Air Balloon in 1993.



Digital terrain models generated by Levent Topakta~ from the digital data produced by MNG Software Eng. Inc. from stereo pairs of photographs.

THE 1995 SURVEY SEASON AT KERKENES DAG
A PRELIMINARY REPORT

Geoffrey and Francoise Summers (METU)

ABSTRACT

The city on Kerkenes Dağ, the largest pre-Hellenistic site so far known on the Anatolian plateau, is situated on a low, undulating granitic mountain-top (alt. c. 1,500m.), the sinuous city wall skillfully laid out along the rim.

In 1995 eight summer weeks were spent in the field, despite some shortfall in funding partly compensated for by help in kind. The slightly reduced team, through hard work and commitment, fulfilled all objectives. Focus was on extensive geophysical survey and urban mapping. Results were surprising and exciting, not only confirming earlier ideas but adding new dimensions to the city and to future research. The current phase of research is progressing as planned with a final fieldwork season in 1996, during which small test trenches will be dug to aid interpretation of geophysical results and to address other specific problems. The urban plan was extended by checking balloon photographs (taken 1993/94) against remains on the ground and producing annotated plans on acetate overlays which, when rectified, are combined with the topographic map. Detailed stone plans and written descriptions of the two known temples were made, the Byzantine and earlier fortifications on the Kale and the church complex at its foot were planned and the regional survey completed.

It is now possible to see something of the dynamics of the city. The separation of space into secular/administrative, military, religious, residential (with some ranking or stratification based on size) and other (functions not yet established) is becoming clearer. There was no separation of the "palatial" area from the rest of the city, suggesting that the rulers could depend on loyalty from the urban population, an observation that has implications for identification of the inhabitants and their relationship with the rural population. There seems to have been military access to all parts of the defensive wall or, via the gates, to meet rapidly an advancing army.

Preliminary conclusions

1. The huge defensive system of wall, towers and buttresses, gates and glacis, and what is interpreted as a military area (stables, paddocks, barracks, exercise ground etc.) were not completed. These huge defensive works were probably abandoned some time before the desertion of the city.
2. The city appears to have been destroyed by fire, presumably by Croesus *c. 547* B.C.
3. Only the Kale was occupied in the subsequent period.
4. As revealed by the geophysical survey, the great stone walled enclosures, visible on the surface and the balloon photographs, are full of buildings, yards and other features not apparent on the ground. Many are assumed to be dwellings, although others would have had specialized functions. Test trenches in 1996 will address the problems of function. It should then be possible to make very realistic estimates of the urban population based on the number of household units.
5. The regional survey, completed in 1995, provides a picture of changing settlement pattern from the latest chalcolithic to the Roman/Byzantine period in a *c.*5km radius. This shifting settlement pattern is related to developing exploitation of the landscape and resultant change (deforestation and erosion).

REPORT

METHODOLOGY

The aim is to recover the city plan by methods other than large scale excavations. Balloon photographs from 1993/4 provided the basis. A lOOm x lOOm grid was imposed in 1993 and marked on the ground. Random control points were also marked and surveyed. Levent Topakta~ (METU) downloaded survey data into AutoCAD. A refined grid (Fig. 1) that created manageable areas for photographic and data processing was transposed onto the topographic map, produced from stereo pairs by MNG Inc. (Fig. 1), in AutoCAD. Hans Birk and Henning Schriever from the Bogazkoy Expedition surveyed the grid and established a net of extremely accurate points embedded in rock.

Much is gained from taking photographs on to the site during the production of working overlays (Fig. 2) and interpretation. The result is plans of urban sectors (Fig. 3). Because the camera angle was not horizontal there is photographic distortion to correct for. Known points marked on the ground with white powdered lime and/or in some cases the subsequent survey of recognizable features with a total station, allow rectification through AutoCAD or AERIAL. The new version of AERIAL, by John Haig of Bradford University, increases efficiency through the use of a scanner (Fig. 4).

Trial geophysical survey in 1993 led to large area magnetometer survey in 1995 (Fig. 1). Although the results (Fig. 5, 7, 10 and 13) speak for themselves, full interpretation necessitates test trenching. Combining geophysical with other forms of data is under active investigation.

MAJOR RESULTS

1.Historical

It has been argued that the city was ancient Pteria, latest observations provide further conformation.

2.Geophysical

Geophysical maps confirmed a number of hypothesis and yielded unexpected results:

a) Some areas were unfinished at the time of destruction, seemingly areas intended for military and administrative use, a result in keeping with the observation that the ambitious city defences were also uncompleted.

b) There is only one building level, confirming that occupation was brief, less than a generation.

c) The city was destroyed by fire, confirmed by geophysics and by further ground observation.

d) Many (?all) large enclosures visible on the surface in the lower city area contain buried buildings (Figs 7, 10 and 13). Most appear to be domestic, e.g. tworoomed houses with walled courtyards, and do not display the characteristics of centralised planning evident in the layout of enclosures and public buildings in the southern area of the city.

e) Most of the geo-magnetic maps are of outstanding clarity. Very large areas of the city lend themselves to future geophysical survey

3. City Plan

Plans of a large portion of the southern end of the city and other areas were produced in AutoCAD (Fig. 3 and 6). It is now possible to understand concepts that underlay the city planning and make a provisional attempt at dividing the city into functional zones: military, public, religious and residential. The importance and sophistication of both communications and water management within the city are more fully comprehended. The inter-regional importance of the city is better understood and its potential as a considerable military base has become clearer. Production of population estimates is a goal for the winter, but it is clear that the population was modest in relation to the size of the city, a few thousand at most. Nevertheless, there were no large empty spaces within the city.

4. *Temples*

The extra mural temple at Karaba~ was fully recorded and its plan elucidated (Figs 16, 17, 19 and 20). The smaller temple within the city has also been fully studied (Fig. 18). A report on both is being prepared for publication.

5. Later Monuments

The walls of the Byzantine castle and of an earlier phase, perhaps Achaemenid in origin, have been planned (Fig. 21), as has the small church complex (Fig. 22) at the castle foot. This completes study of later monuments within the city limits. Publication is in preparation.

6. *Regional Survey*

The Regional Survey, *c.* Skins radius, was completed in 1995. Preliminary conclusions are summarised below.

No neolithic or early chalcolithic occupation was observed on the high ground of the Kerkenes Dag, perhaps because it was then forested. Coring at Ku~akli Hoyuk in the E~ri Oz valley, 4km north of Kerkenes, demonstrates that early sites lie beneath later alluvium in the valley bottoms (as at Ali~ar HOyuk, H.H. von der Osten *Alishar III).* It is postulated that neolithic and early chalcolithic lies obscured below later occupation and geomorphological deposits in the region. Geomorphological landscape change may be related to highland exploitation, concomitant deforestation and erosion. We may be able to demonstrate a shift from small seasonal late chalcolithic sites to larger “urban” sites and permanent villages in Early Bronze II.

Small late chalcolithic or EB I sites are found on higher ground, many in very exposed positions. Models for this pattern of land use are being developed while the question of seasonality remains an outstanding problem.

Later EBA sites are fewer and in less exposed positions, perhaps representing the establishment of settled villages with large and modest sites in river valleys.

Second Millennium occupation is restricted to valleys, late Imperial Hittite being found only at Ku~akli, identified with ancient Zippalanda (Prof. O.R. Gurney *Anatolian Studies* XLV: 69-71; Dr. R.L. Gorny in press). The Kerkenes peak is probably the Hittite sacred Mount Daha, the later Kale presumably masks Hittite remains.

The Achaemenid period Kale was fortified with a stone glacis below strong walls. Small sites exist on surrounding peaks representing a sophisticated late Achaemenid system of control and administration centred on Kerkenes.

THE FUTURE

1996 will see completion of the city plan. It is anticipated that permission will be granted to clean Schmidt's 1928 test trenches and for limited new soundings. The aims are:

1. To test results of geophysical survey in order to interpret fully the maps.
2. Confirmation of dating by dendrochronology.
3. To address the problem of seasonality by analysing organic samples.
4. To determine the function of particular areas.
5. To solve outstanding architectural problems.

Publications

An interim report appears in *Anatolian Studies* XLV *(1995),* a further report is being prepared for *Anatolian Studies* XLVI (1996) and a paper on the identification has been accepted for *JNES.*

ACKNOWLEDGEMENTS

The field team comprised Koral Ahmet, Nahide Aydin, Nilüfer Baturayoglu, Stevan Beverly, Hans Birk, Scott Branting, Ibrahim çiftci, Begum~en Ergenekon, Esen Erten, Omur Harman~ah, Hakan Kava, Fatma Karamisir, Elspeth McIntosh, Sean Moore, Valerie Muir, Evrim Olcer, Henning Schriever, Lewis Sommers, Geoffrey Summers, Françoise Summers and Levent Topakta~. Sayin Ugur Terzioglu, from Samsun Museum, represented the Ministry of Culture and we thank him for his help and enthusiasm. We are extremely grateful to Sayin Ertugrul Ersoy (Vali of Yozgat), Sayin F. Necmi Kurt (Kaymakam of Sorgun) and Sayin Musa Ozcan (Director of the Yozgat Museum) for continued help and support. Once more we are indepted to the Muhtar, Mr. Osman Muratdagi, and the inhabitants of Sahmurath Village for their hospitability. Financial support was provided by the National Geographic Society, the British Academy and the British Institute of Archaeology at Ankara. Donations have been gratefully received from individuals and visitors. The BIAA provided an additional sum for post survey work. Small grants for post survey work have been given by METU and MESA AS. The contour plan was made by MNG Inc. from aerial stereographic pairs of photographs provided by Tapu ye Kadastro Genel MudurlugU. MTA provided a digital satellite image which dramatically shows the setting of the site and, after processing by Sayin Ilayati Koyunlu, even the city wall can be seen. Yibita~-Lafarge made further improvements to the expedition base, including a new kitchen. Enka-Bechtel, MESA AS, The Sheraton (Ankara) and Yimpa~ Holding made contributions in kind. To those mentionned above and to all friends and supporters the authors owe a special dept of thanks.

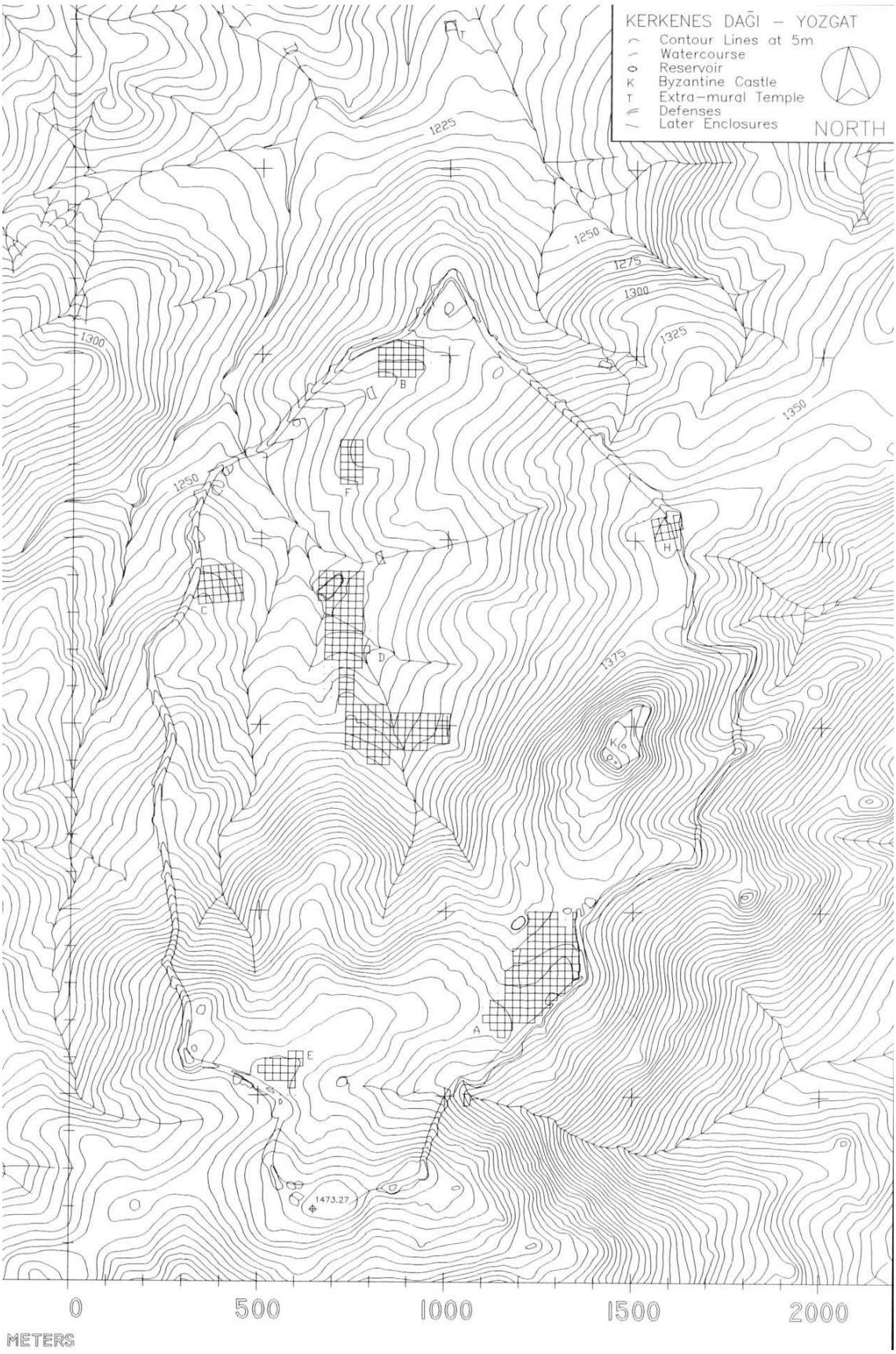


Fig. 1 Map of Kerkenes combining topography, grids and areas of geophysical survey.

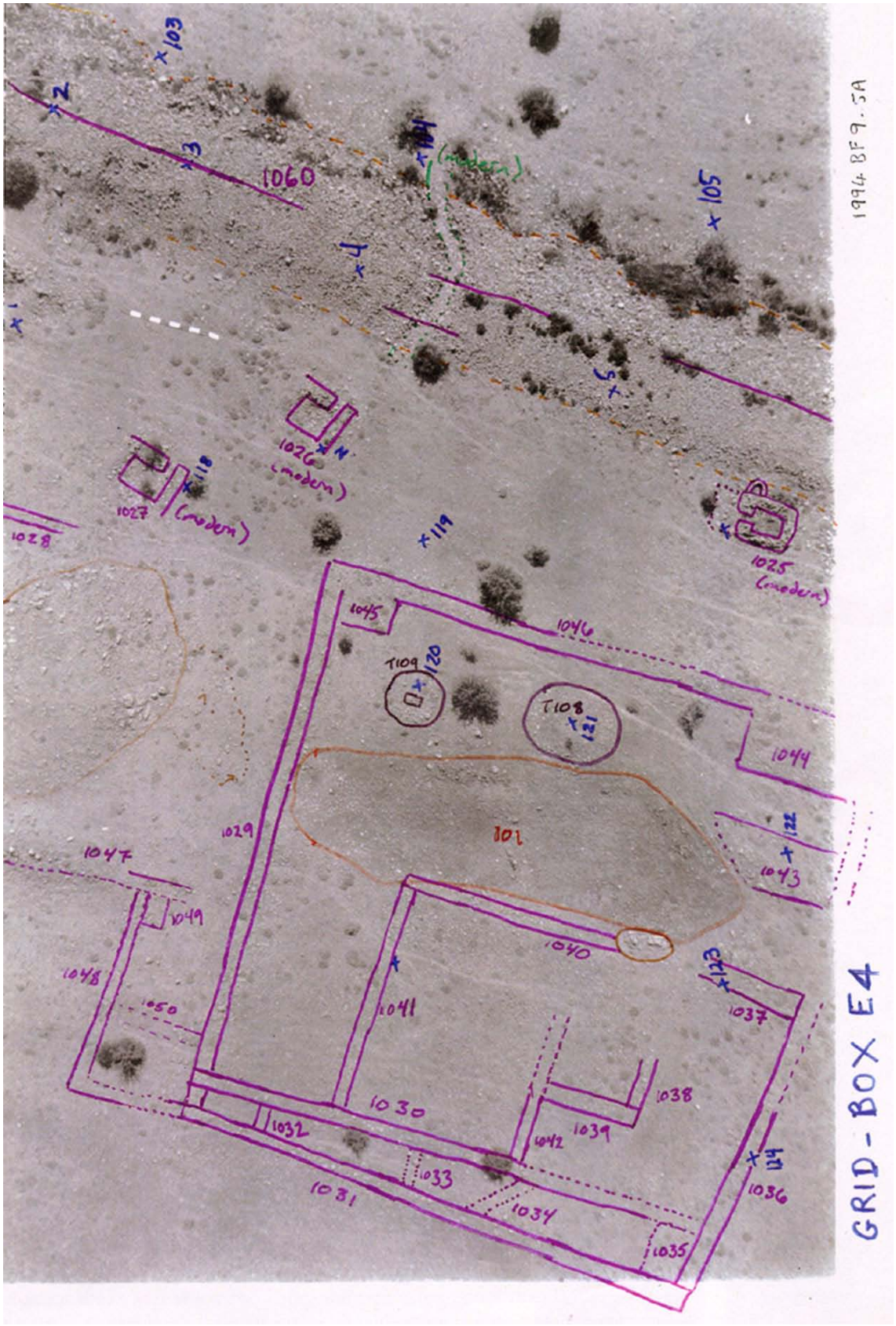


Fig. 2 Low level balloon photograph (*c*. 150m) with overlay and control points identified.

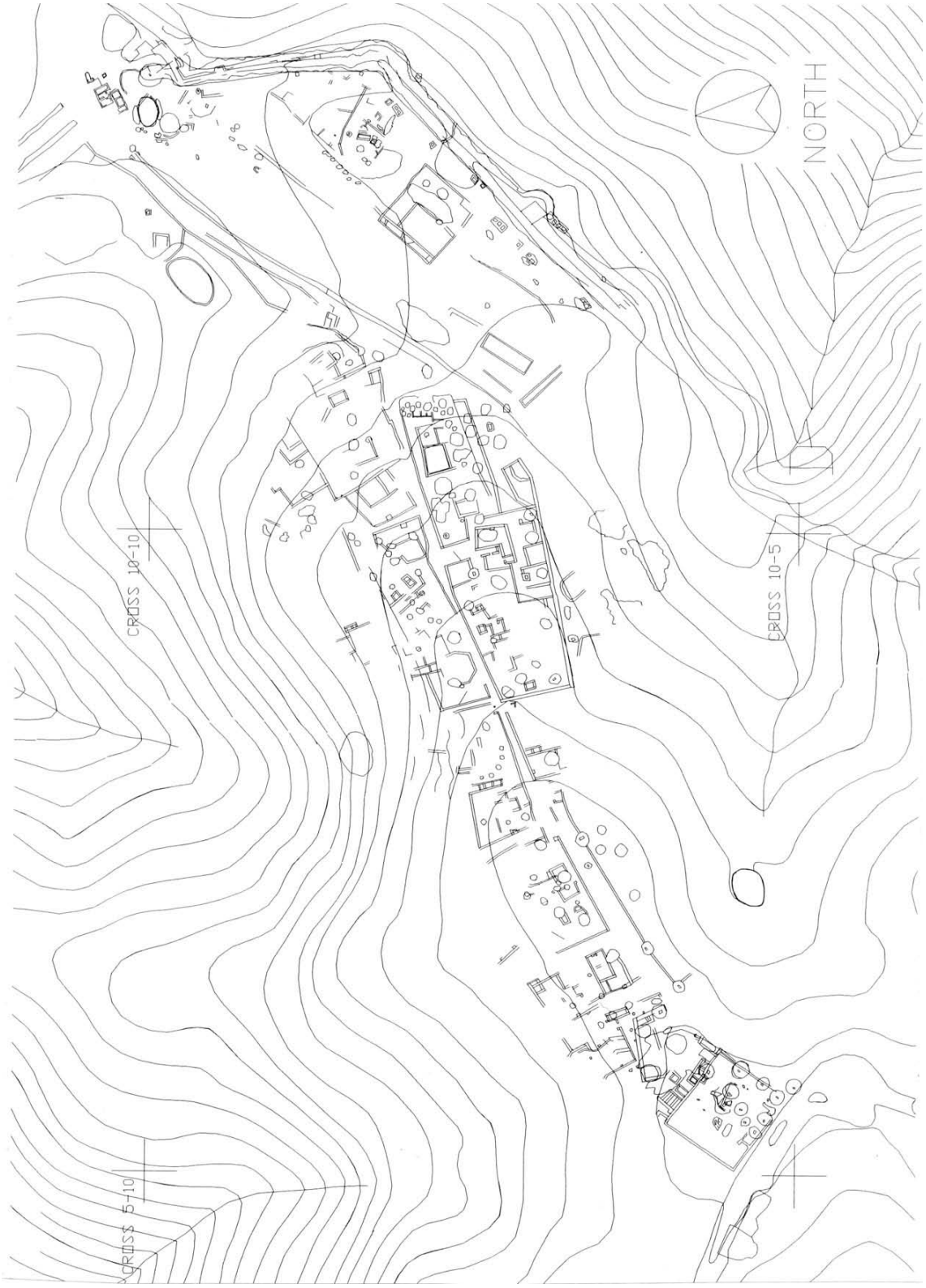


Fig. 3 Plan of the structures visible on the surface at the southern end of the city. During the winter of 1995/6 this plan is being extended by digitizing and rectifying images from adjacent areas and enhanced using the extensive geophysical map of Area A. By the end of the 1996 field season a similar map of the entire city will have been produced.

Fig. 4 Mosaic of scanned photographs rectified by John Haig.

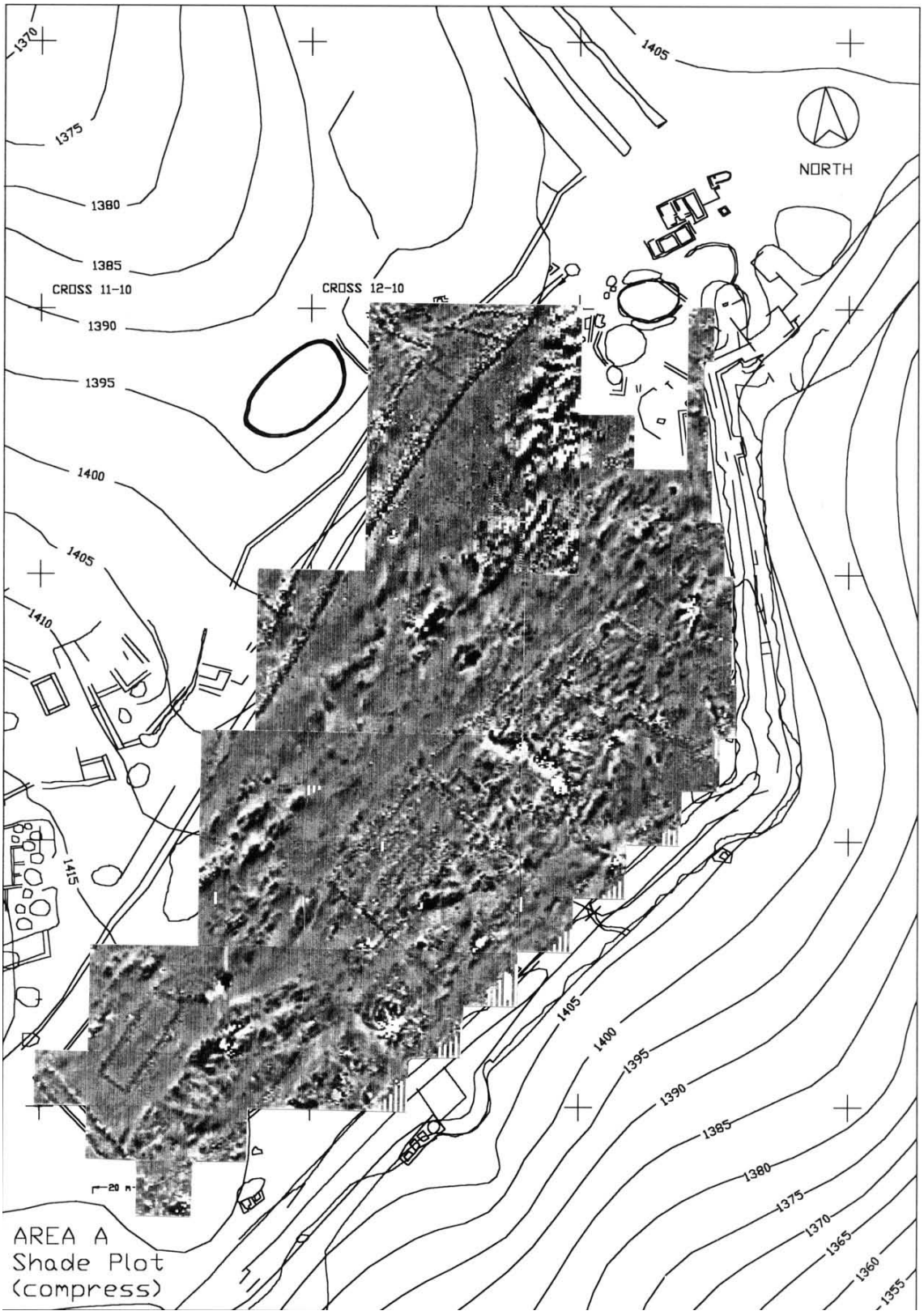


Fig. 5 Magnetic map of Area A. The walls are well defined but observation on the ground indicates that the buildings were not finished. The large empty areas are thought to have been intended to serve military purposes.

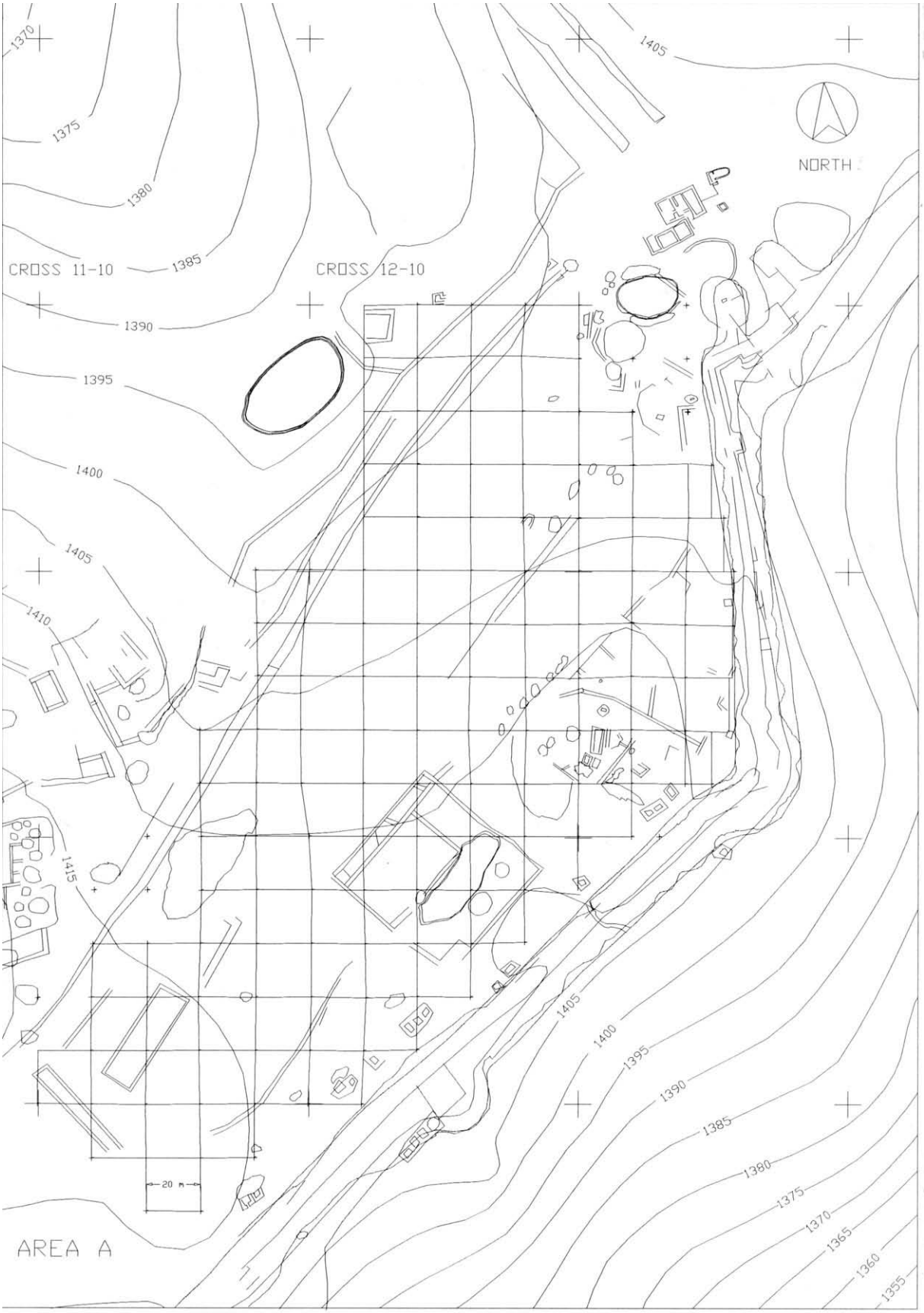


Fig. 6 AutoCAD generated map of area A with visible features digitised from aerial photographs and ground observation.

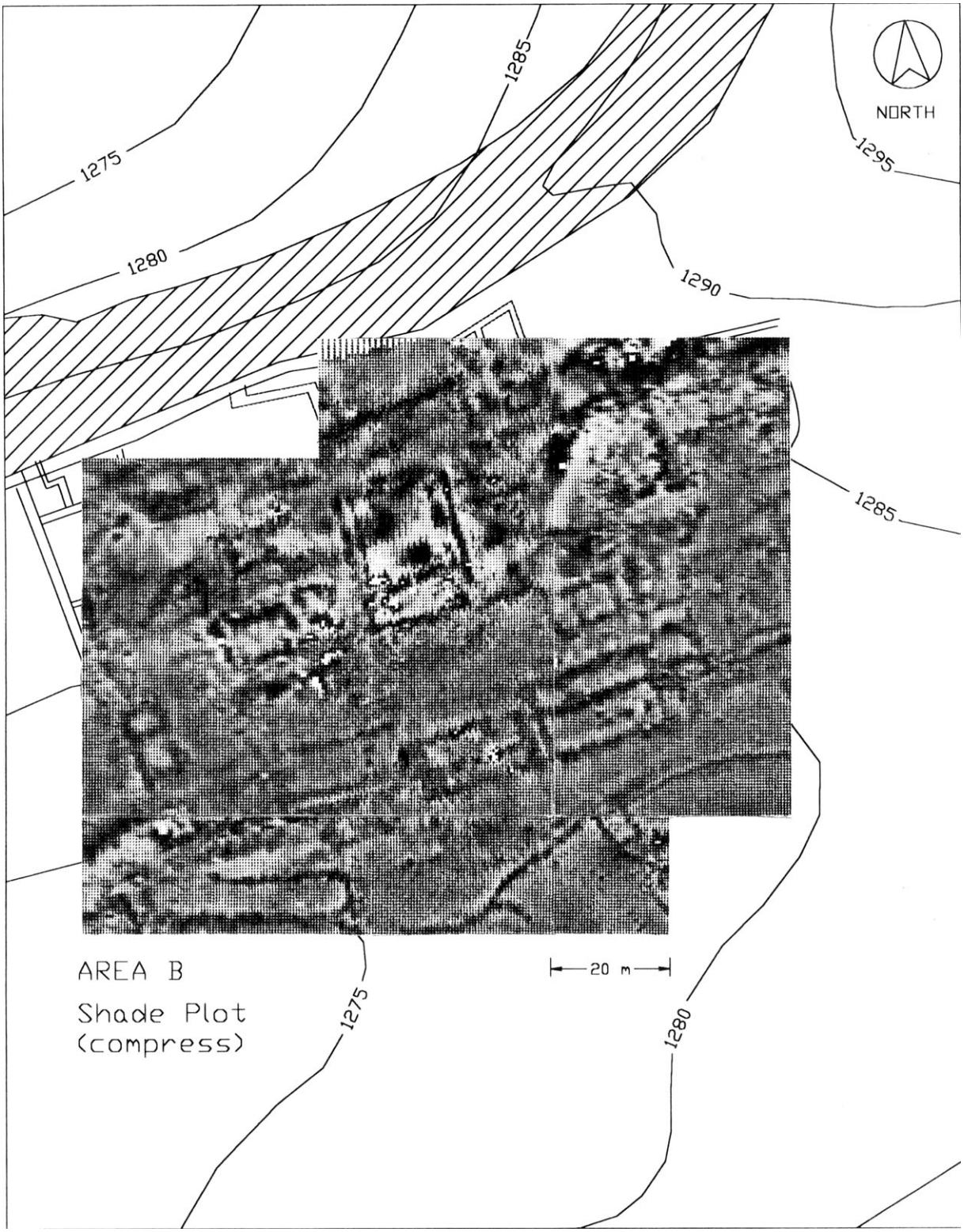


Fig. 7 Area B: the magnetic map superimposed on a section of the contour plan with surveyed structures and a section of the city defences.

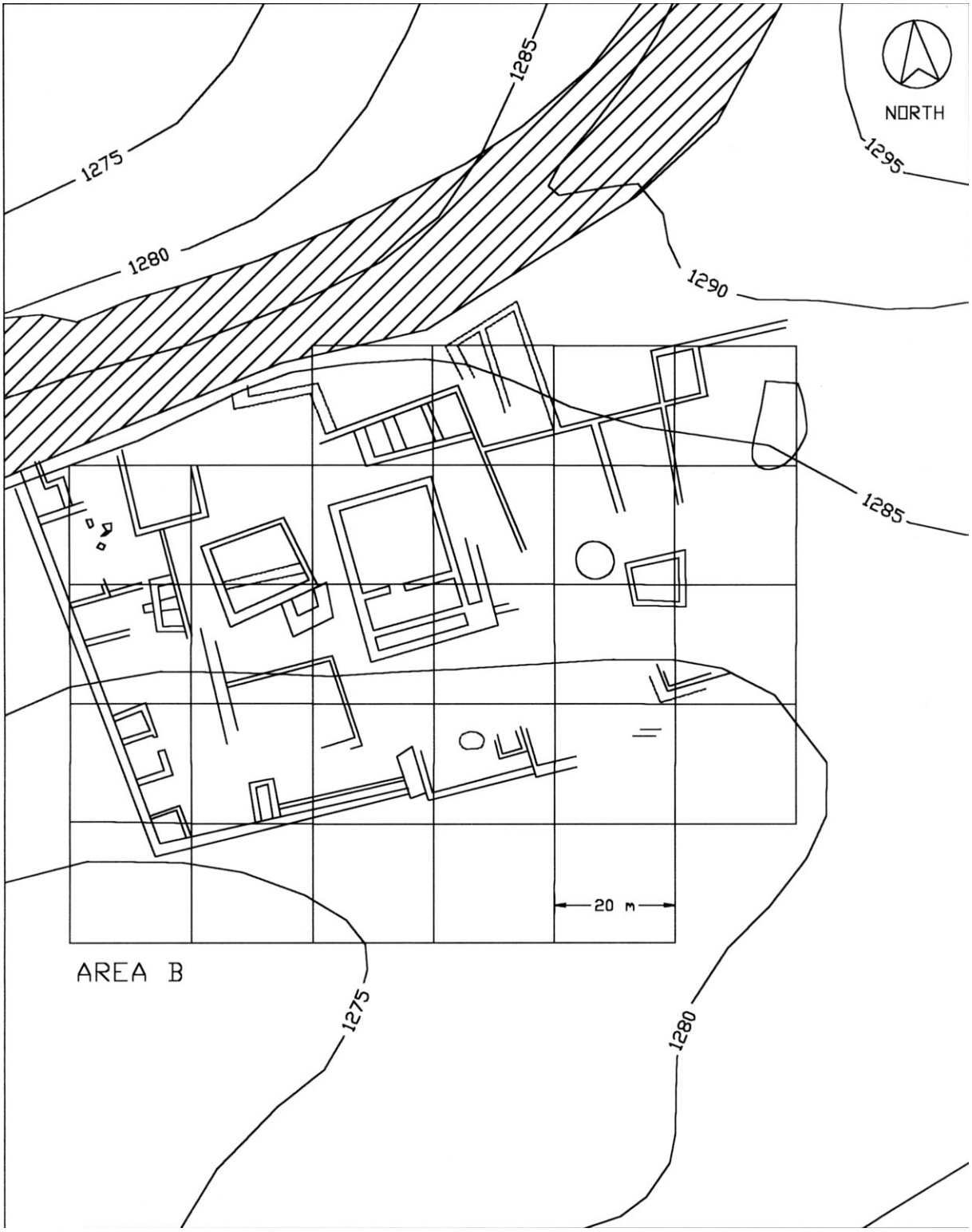


Fig. 8 Area B as planned from remains visible on the surface.

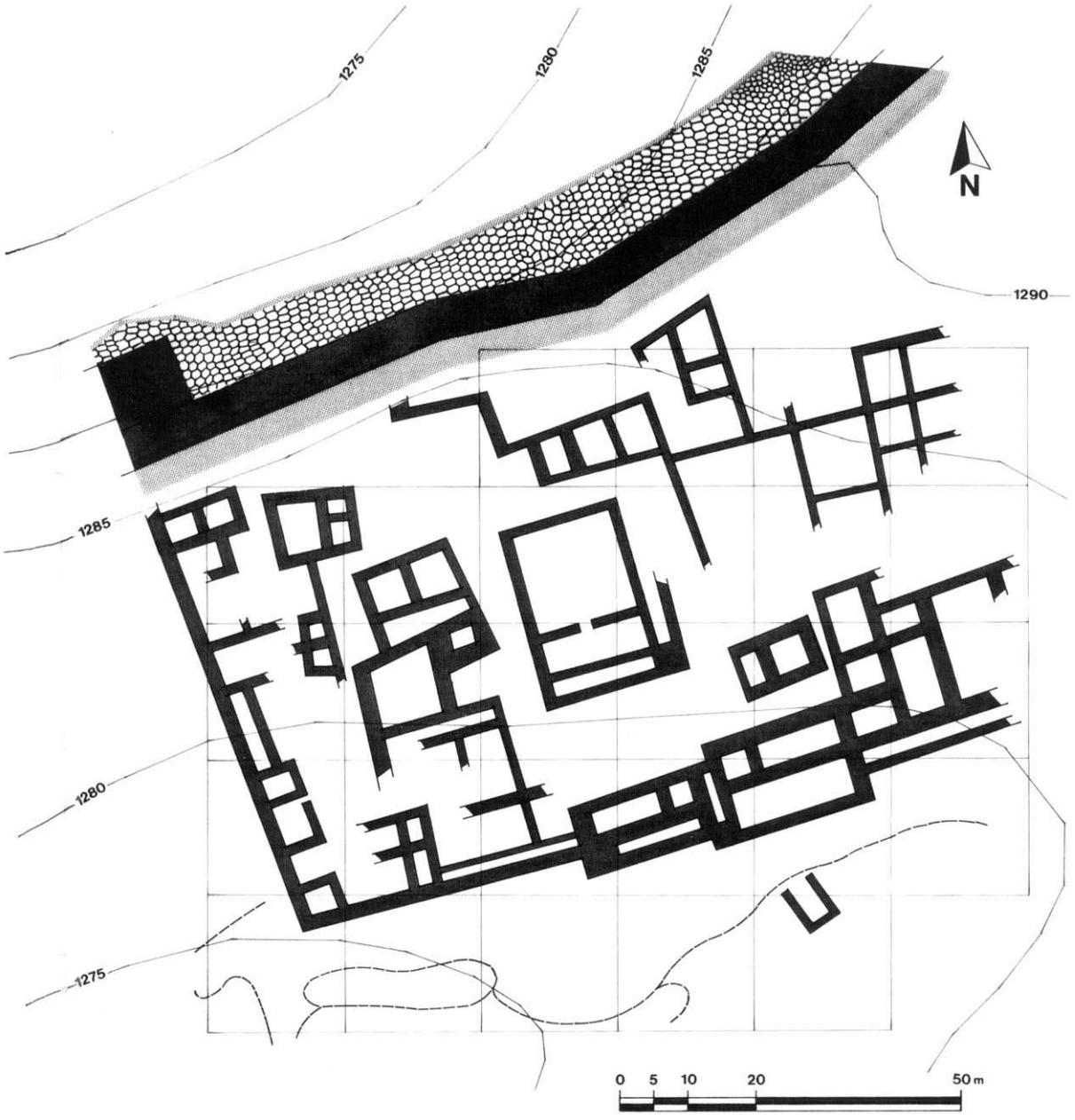


Fig. 9 Interpreted plan of Area B drawn form a combination of Figs. 7 and 8. These structures, like all those within the city, have no known parallel in Anatolia. There is a superficial resemblance to the earlier site of Hasanlu in northwestern Iran. One of the goals in 1996 is to test the validity of the apparent architectural parallel by determining whether the large central units were roofed rooms with rows of pillars or were open courtyards. Resolution of this problem will also aid estimating the population of the city.

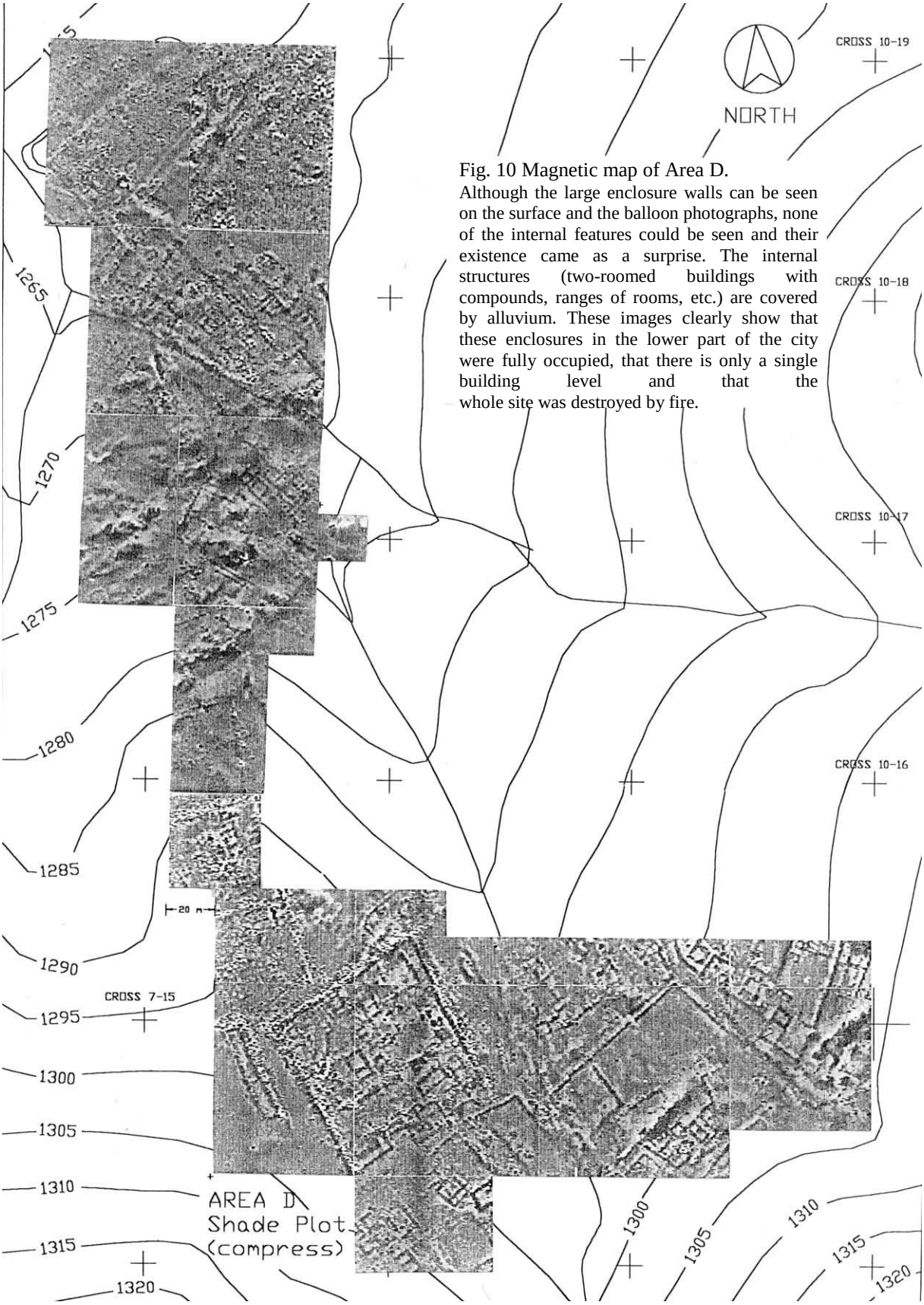


Fig. 10 Magnetic map of Area D.

Although the large enclosure walls can be seen on the surface and the balloon photographs, none of the internal features could be seen and their existence came as a surprise. The internal structures (two-roomed buildings with compounds, ranges of rooms, etc.) are covered by alluvium. These images clearly show that these enclosures in the lower part of the city were fully occupied, that there is only a single building level and that the whole site was destroyed by fire.

Fig. 11 Hot air balloon photograph of area D. The large dark feature at top centre is an artificial reservoir seen at top of Fig. 10, the big square enclosure at centre left is seen full of structures at bottom left on Fig. 10.

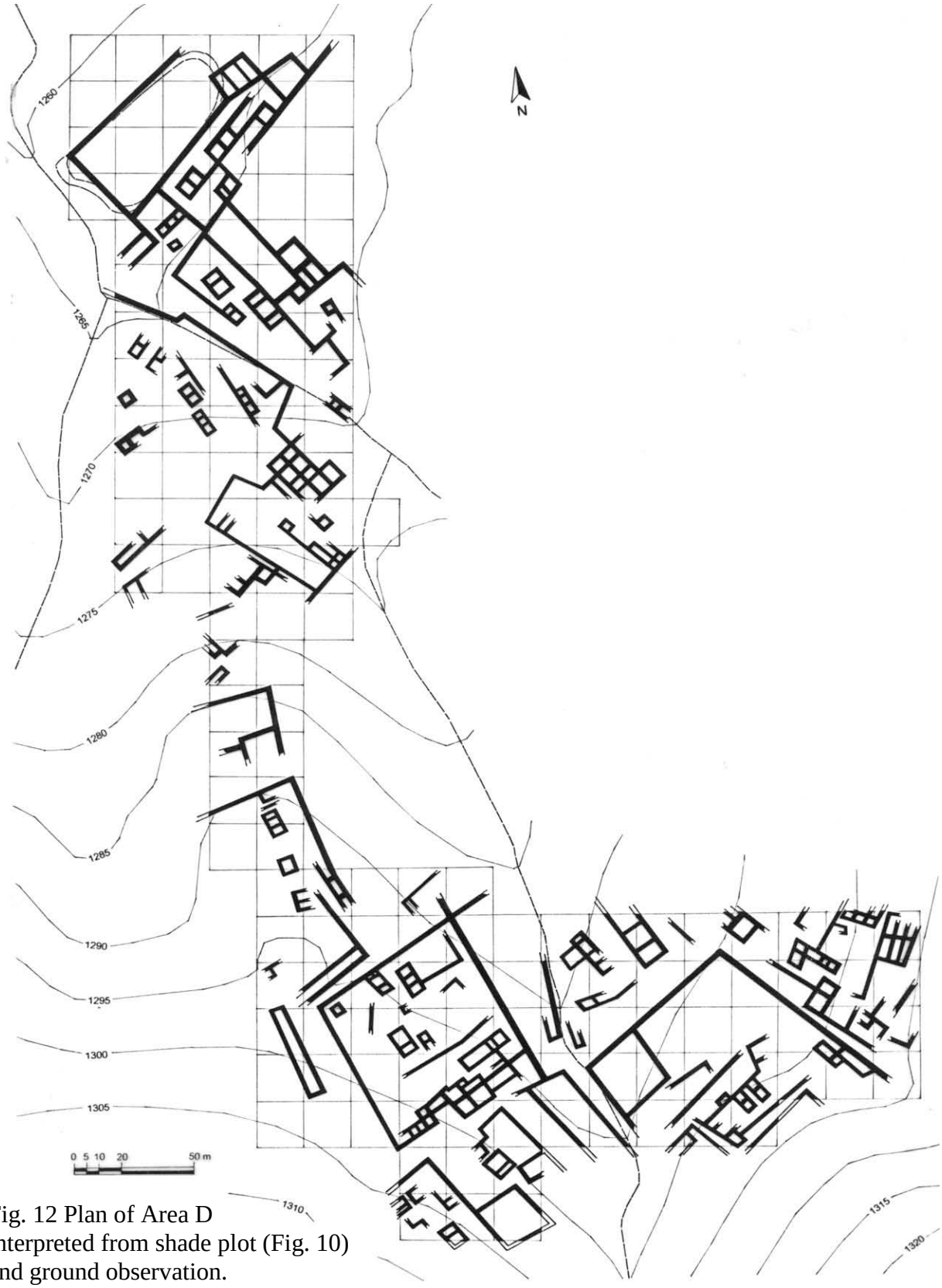


Fig. 12 Plan of Area D interpreted from shade plot (Fig. 10) and ground observation.

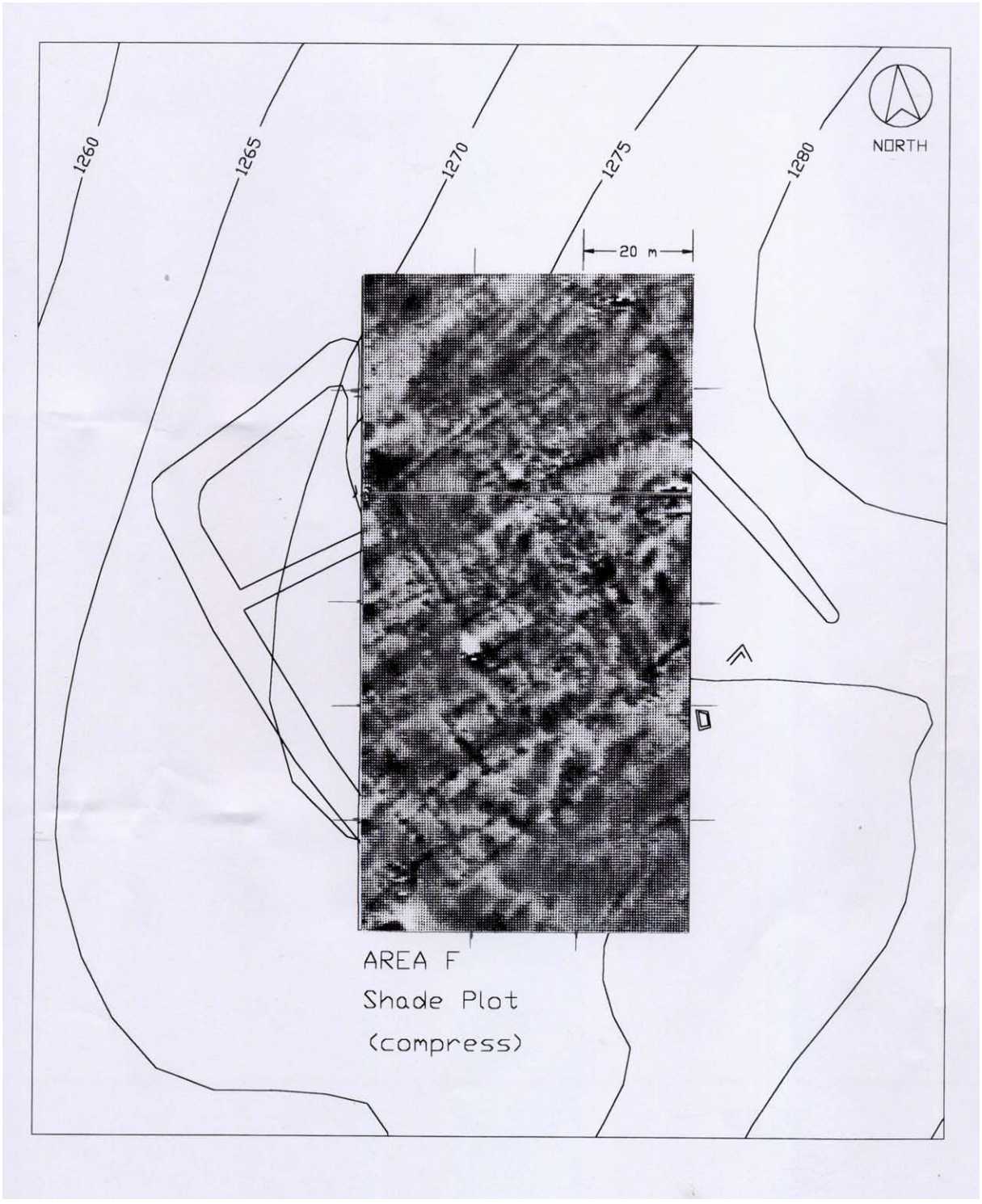


Fig. 13Magnetic map and base map of Area F.

Fig. 14 Blimp photograph of Area F.

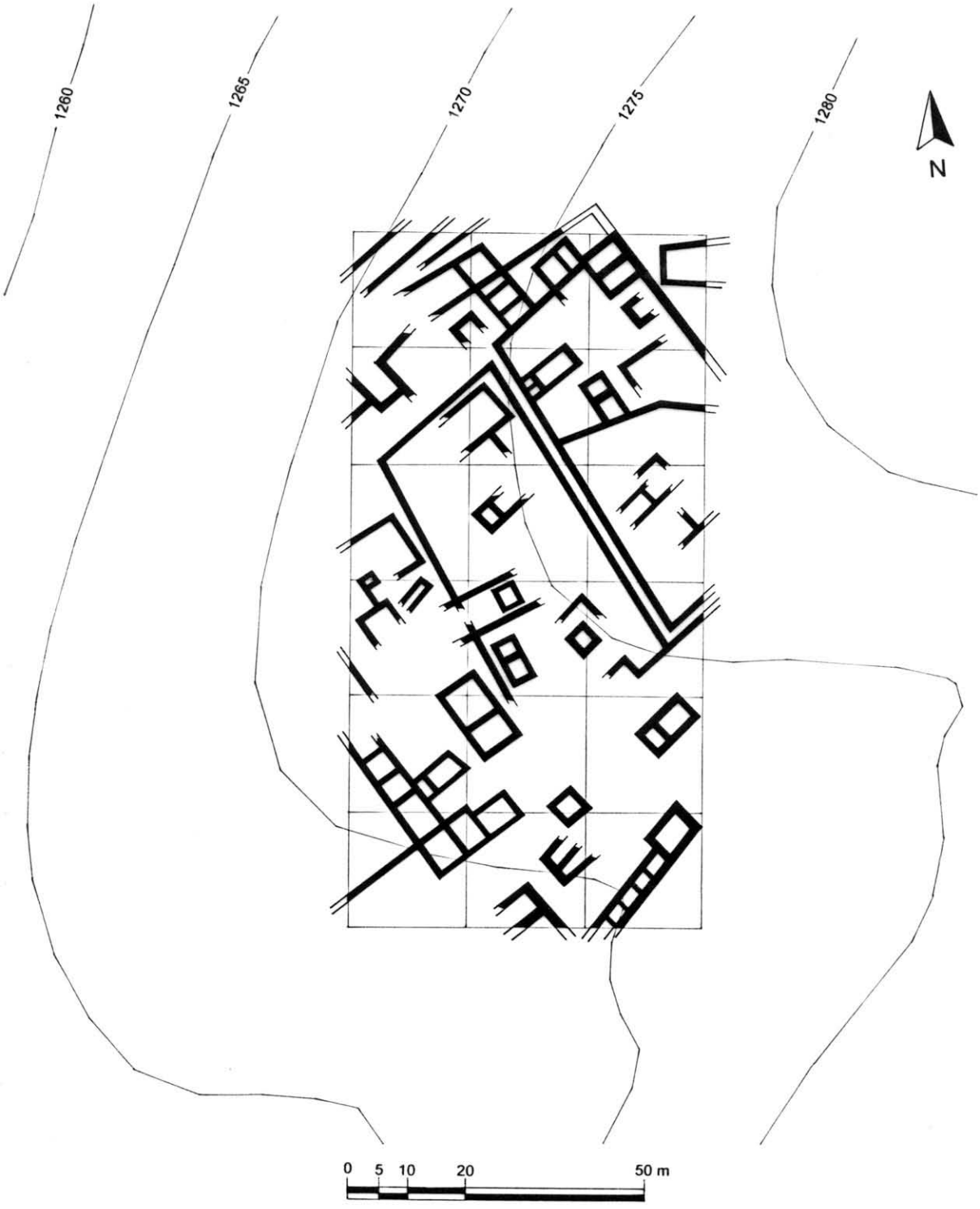


Fig. 15 Plan of Area F as interpreted from geophysics.

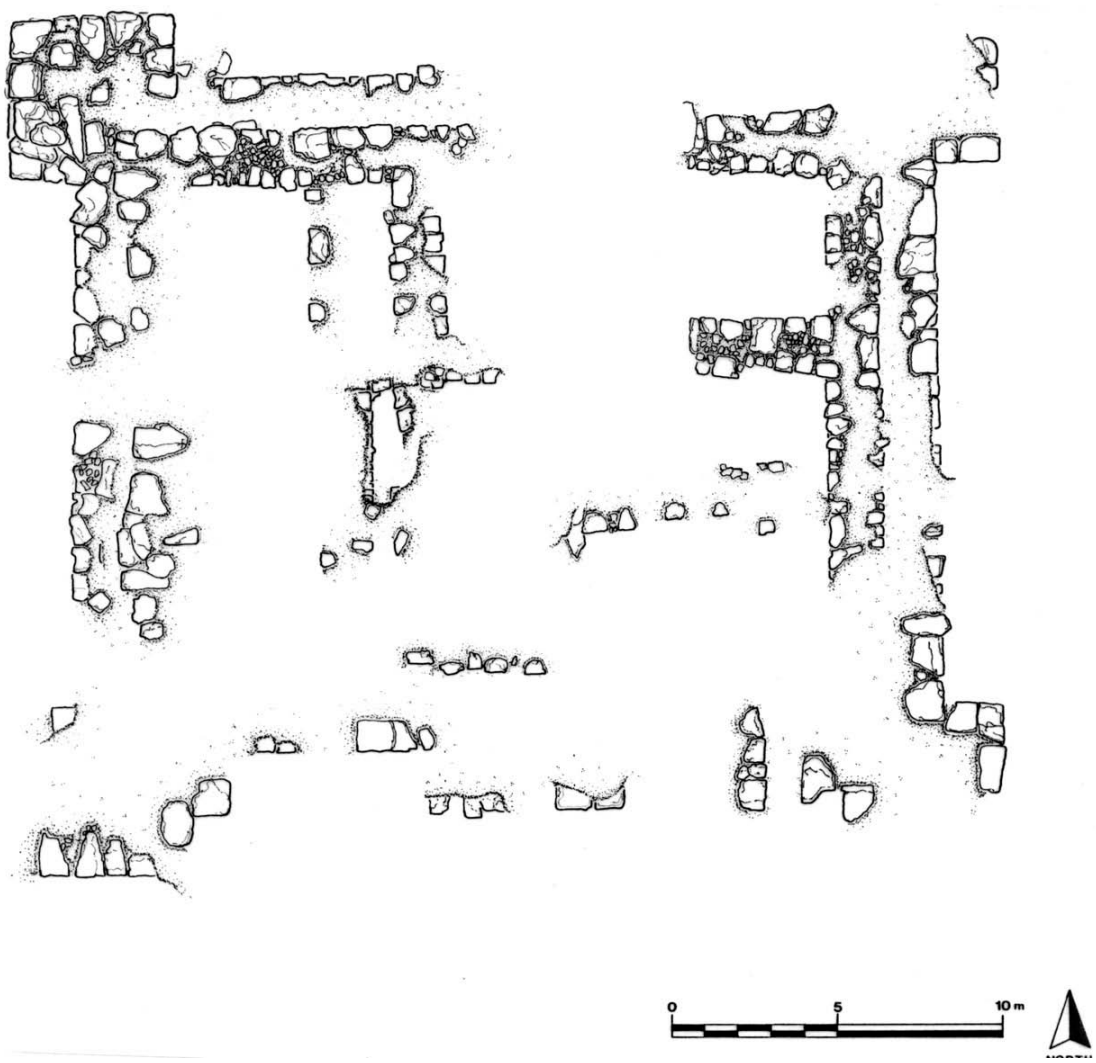


Fig. 16 Plan of the extra–mural stone temple at Karabaş.

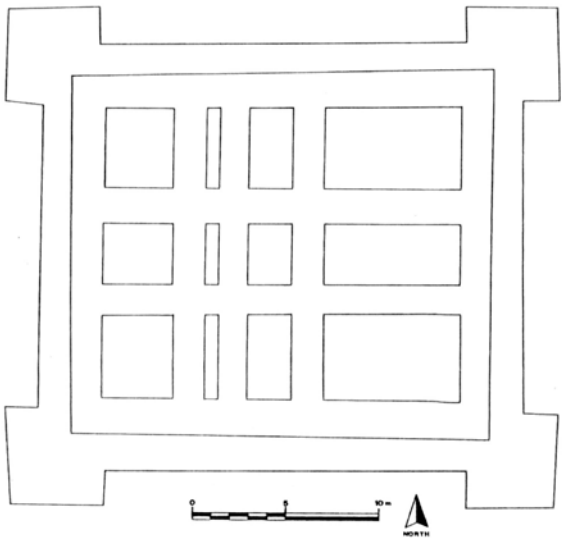


Fig. 17 Reconstructed plan of the Karaba~ temple. No Iron Age parallel has been found for the plan of this impressive monument, but the Middle Bronze Age temples at KUltepe bear a superficial resemblance.

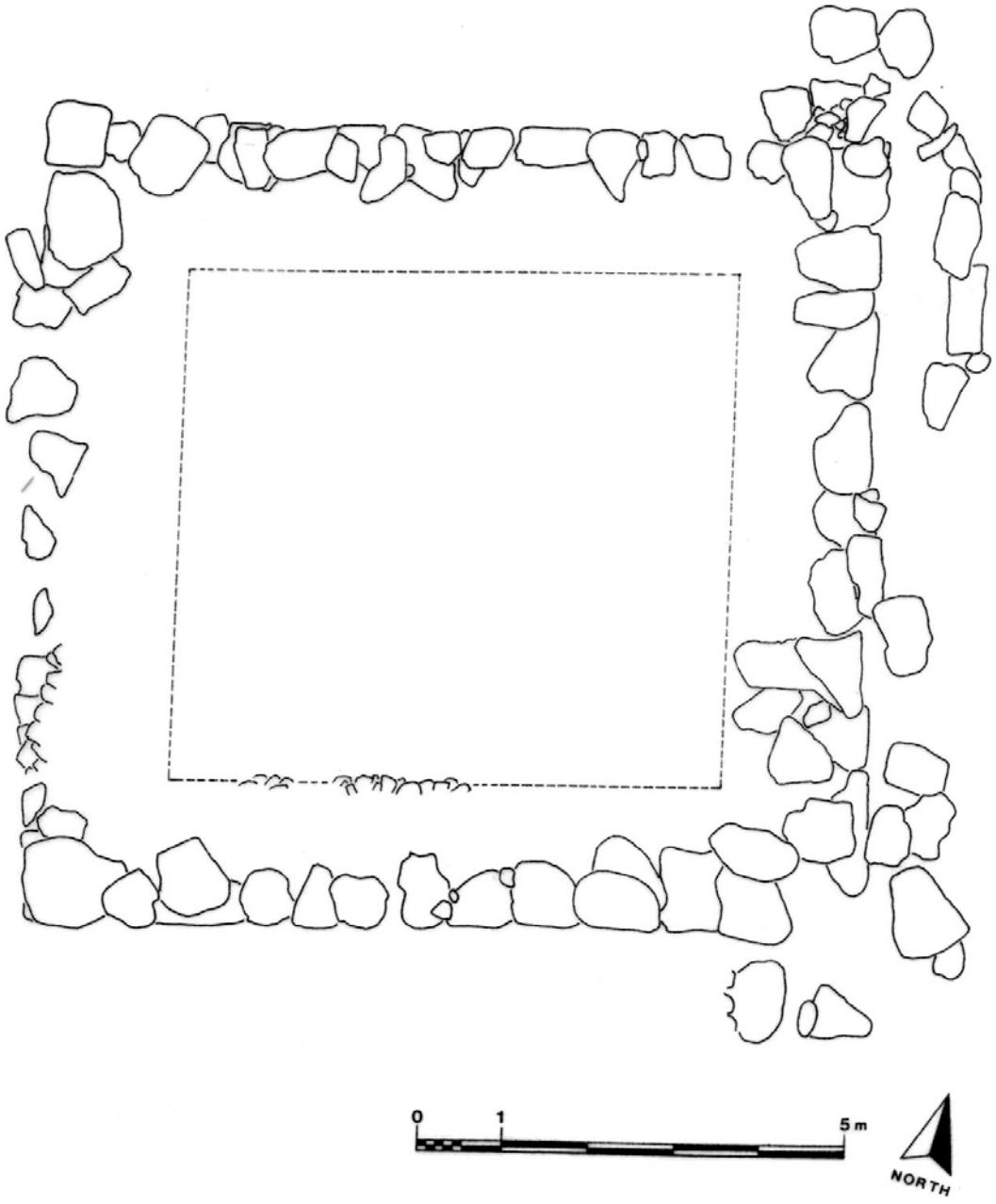


Fig. 18 Plan of a temple within the city which has a number of architectural features used elsewhere at Kerkenes, such as the sloping stone revetment at the rear. It too is without known parallel.

Fig. 19 The extra mural temple from the blimp. In plan it is roughly square with large corner buttresses, but incorporated into a larger medieval complex of very different character.

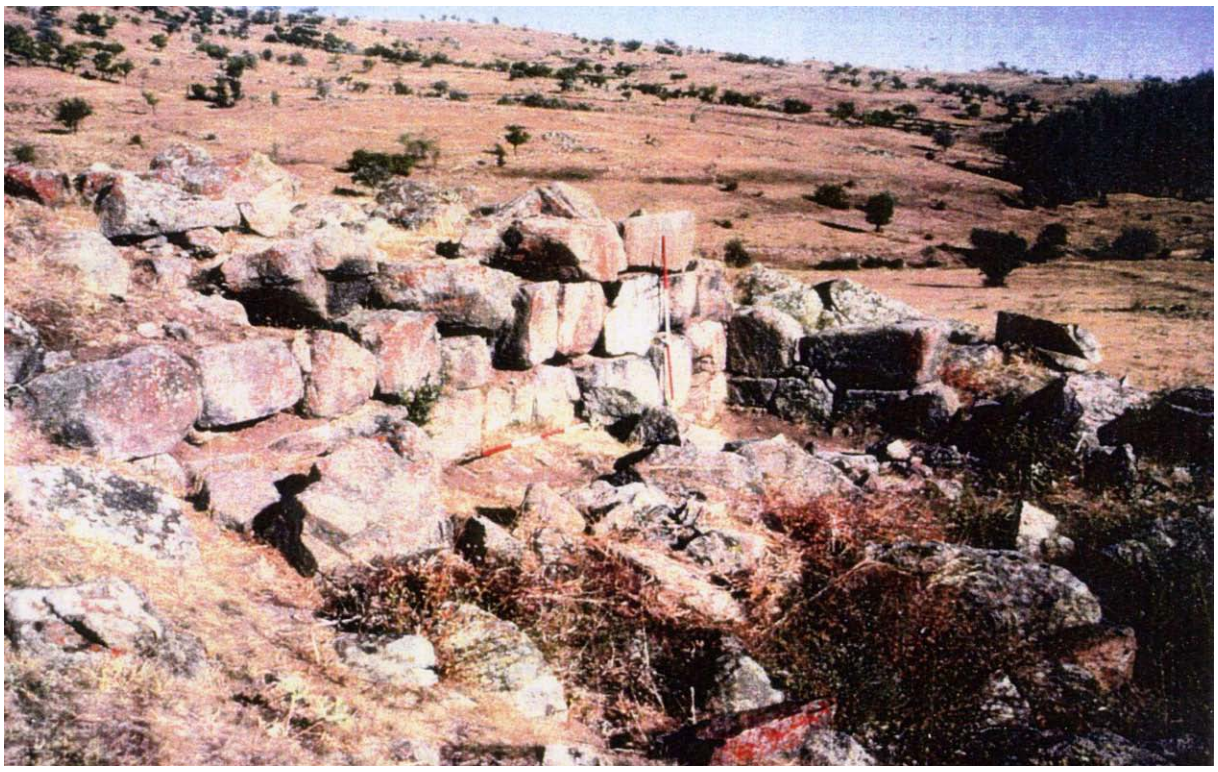


Fig. 20 The extramural temple, known as Karaba~. It is constructed of massive uncut blocks. The scale is 2m.

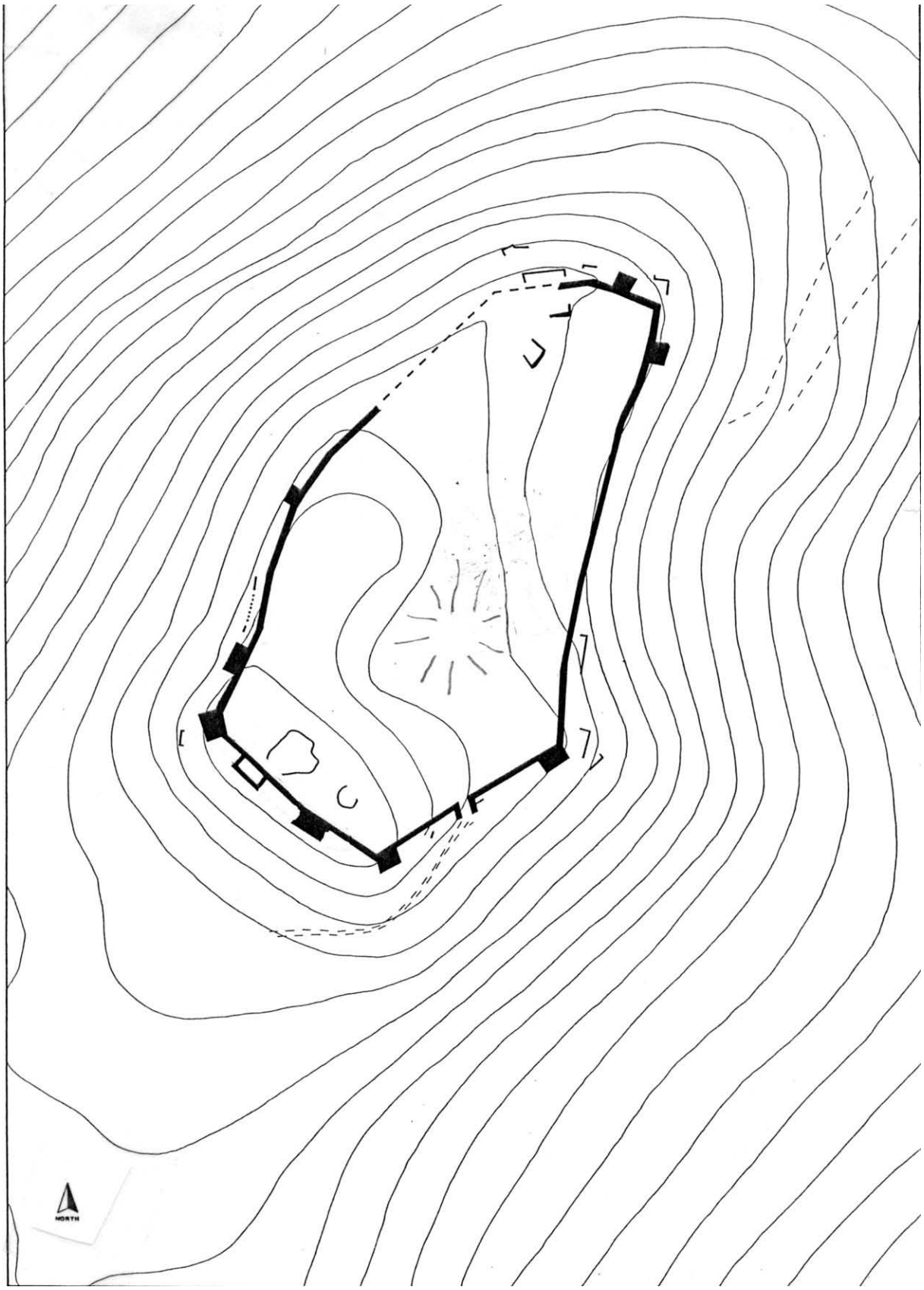


Fig. 21 Plan of the Kale at 1:2000. Contours are at 5m intervals and the highest contour line shows 1455 m.

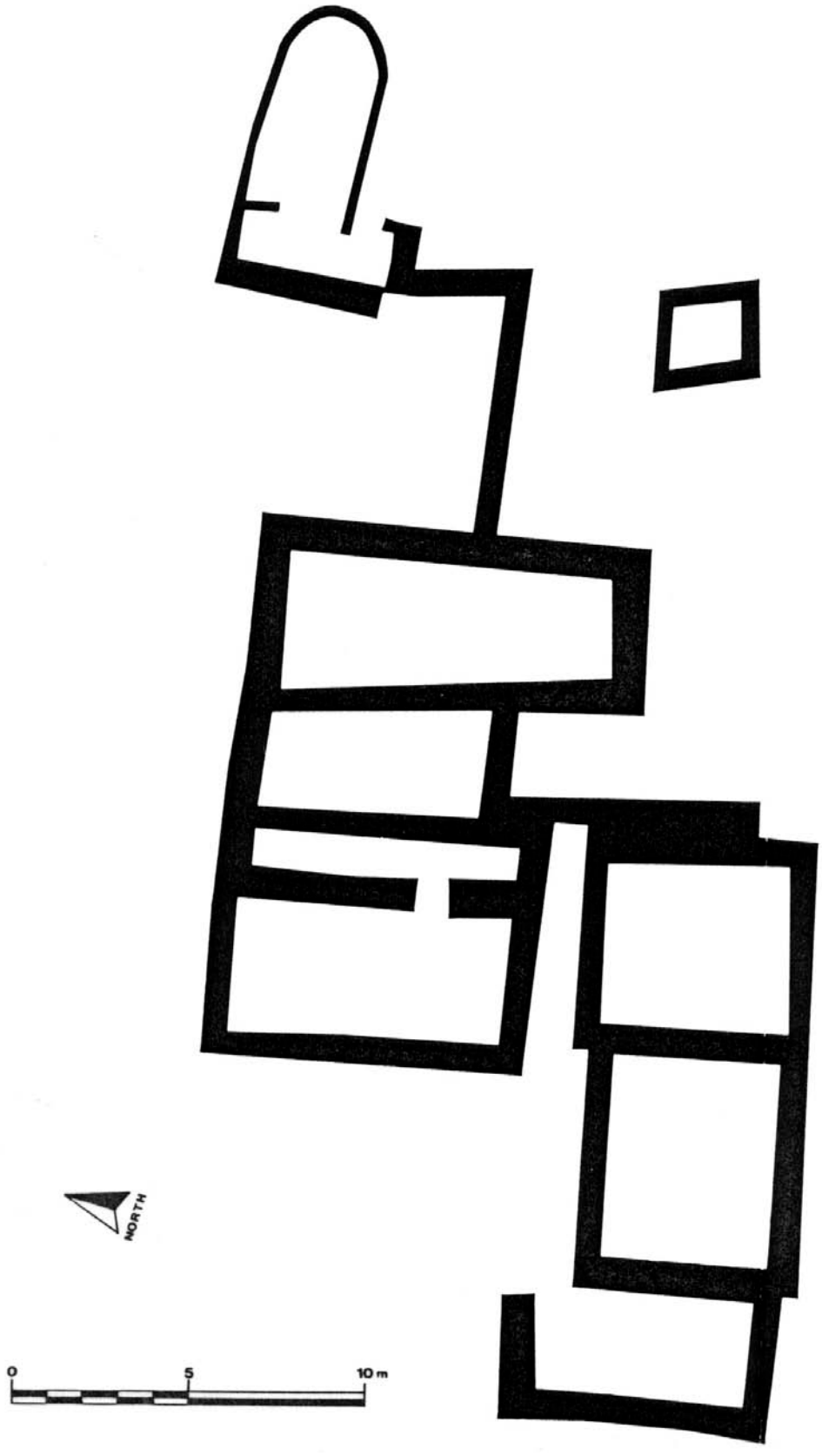


Fig. 22 Plan of the church complex at 1:200.

APPENDIX 1

GENERALISATIONS CONCERNING THE IRON AGE CITY ON THE KERKENES DAĞ

After three seasons of survey it is now possible to present in some detail a number of important and far reaching conclusions and to begin to assess the position of the city in wider contexts. Some outstanding questions remain to be answered by further research and through the application of both new techniques and new theory. In this summary the main conclusions and outstanding questions will be briefly set out.

At the macro level, the city was located on or close to the crossing of two major inter-regional routes; one linking Iran with the West, the other between the Black Sea and the Mediterranean Sea. It also commanded the northern end of the great Cappadocian Plain. The choice of the specific site is related to the magnificent views it affords, its defensible topography and to the granitic geology which retains the water that feeds perennial springs within the city. Drawbacks to the choice of site, which go some way to providing explanations for its long term failure, include its isolation from the major centres of political and imperial power once the geopolitical reasons for its foundation were changed by the expansion of the Achaemenid Empire to the Aegean, the high altitude (c. 1400m above sea level) and the consequent extreme winter cold, and to the difficult military logistics of garrisoning and defending some seven kilometres of (unfinished) city wall against a determined aggressor.

The city did not grow or evolve. Rather, it was a new foundation on an essentially virgin site (seasonal EBA exploitation and the probable presence of an Imperial Hittite temple on the summit of Mount Daha not withstanding). The plan of the city thus shows the practical execution of a conception that was rational and which contained all of those elements that the founder considered necessary or desirable. A couple of centuries or so later Alexander the Great was to found Alexandria (in Egypt) by marking out the line of the city wall himself and personally deciding on the location of the public and religious buildings. But the concept of founding new "ideal" cities has a long tradition in the Near East that stretches back to Akkad (yet to be identified) or, closer in time to Kerkenes, Neo-Assyrian cities such as Korsabad. At Kerkenes a link in the chain of developing urban concepts can be seen in totality. The primary goal of the survey is to determine and define those concepts of urban geography in historical, cultural and geopolitical terms.

Some striking conclusions can already be drawn. First, there is the historical point of the desire or need for a large and strong mountain-top city close to the middle of the Central Anatolian Plateau and the question of its wider role in the geographic mosaic of the Ancient Near East. Second, the founder(s) had both the power and the capability to enact their extraordinary vision. Third, the city was intended to be permanent and everlasting. Fourth, the sophistication of the urban structure and conceptualisation of urban space as well as the military, secular and religious architecture, strongly suggest the culmination of a pre-existing tradition of urban design, defensive logistics, resource (especially water) management, architecture and construction techniques, as yet unidentified, perhaps taken to greater lengths than ever before (although we know little, for instance, about Lydian Sardis). There does not seem to be anything tentative about the concept or its implication, the (apparent) uniqueness of almost all aspects of the site not withstanding. Fifth, the city was never completed. At the time of its destruction, when the was burnt, the city defences and some of the important complexes within the city had not been built above the level of the stone foundations. Occupation was brief, less than a generation. Sixth, there are no traces of internal defences separating a citadel or an acropolis, an observation which implies an urban population (whoever they might have been) whose loyalty to the ruling body was not in question.

The centralised control of the urban plan and its implementation, its strategic location,

strength and size are sure evidence that the city was intended as a base from which a very considerable inter-regional territory was to be ruled. In other words, it was to be a major, possibly the major, imperial base.

Turning now from these general conclusions, the dynamics of the urban geography can be addressed. It is clear that certain zones within the totality of the enclosed urban space were allocated for specific types of urban function (Fig. 3). The broad outlines of spatial patterning can be easily determined and the functions or, where uncompleted when overtaken by catastrophe, the intended functions of many are known or can at least be suggested. Certain elements can be determined with differing degrees of confidence: palatial, religious, military, administrative (store-houses) and residential. There is also some (circumstantial) evidence for farming and stock-breeding both within and outside the city. Other elements, which have yet to be identified and that may or may not have existed include industrial (workshops) and commercial (shops and markets).

One outstanding feature is the adaptive nature of the city and the architecture. The overall concepts were adapted to the topography. This can be seen at a general level in the laying out of the city wall with its gates, towers and buttresses so as to make the best possible use of the potential offered by the terrain, and in the location of the palace and other public elements within the urban fabric (Figs 1, 3 and 6). At a more specific level, the design of compounds, streets, buildings, city gates, water catchment and control, were all designed to make the best use of each individual site with its particular rock out-crops and level area, potential for building stone or water management. The implementation of the overall concept was thus achieved with the minimum of effort. No attempt was made to impose a rigid geometry. On the other hand, the result was the deliberate attainment of architectural elements that were in harmony both with each other and with opportunities provided by the chosen site. A further and extremely important aspect of innovation and adaptiveness is the inter-relationship between the architecture and the granitic stone which comprises the mountain and its environs. This hard stone does not lend itself to cutting. It has, however, flat cleavage plains and was levered away from outcrops. The resulting blocks tended to have flat faces and could be manoeuvred into the desired position. This use of what are essentially uncut field stones for construction is not in itself unusual, but the problem facing the builder was that the outcrops of bedrock themselves, while they could be reduced by quarrying, could not be cut so as to have smooth faces which could be built on or against. The unique solution was to face the outcrops with sloping and rounded facades. This was done for the complete seven kilometres of the defensive system, for the monumental entrance to the palace and to a small temple inside the city. When this adaptive approach towards both the setting and to the qualities of the only building material to hand, grano-diorite, are understood, the apparent uniqueness of almost all aspects of the city is easier to comprehend, as is the lack of exact, or even close parallels.

This very adaptiveness and the level of innovation, even experiment, does not by itself provide an explanation for many of the peculiarities of the city and its components. Had rigidity to preconceived norms been required, a different site with more amenable resources could surely have been chosen. The culture, then, displays a level of creativity rare in the ancient world and is perhaps in itself evidence that the creators themselves came from a new and different background, that they were foreign to Anatolia.

The Unity of the Urban Concept

It has been stated above that the site was a single new foundation, i.e. it was planned, laid out and constructed as a new city. The evidence is unambiguous. The circuit of the defensive system is of one build and the layout of the city within respects its line. The greater part of the interior of the city comprises enclosures with streets and alleys between, as can be plainly seen on the balloon photographs and the geo-magnetic surveys (Figs 1-15). The system of water collection and control also exhibits a degree of unity to be associated with central planning. The division of the urban space into enclosures and the construction of the enclosure walls themselves is not haphazard and both construction and layout would appear to have been under the direction of some central authority. Within the enclosures geophysical prospection, plans drawn from balloon photographs and subsequent control on the ground provide a less rigid picture (e.g. Figs 10-13), suggesting that the planning authority did not extend down to the level of individual dwellings. It is possible to argue that the construction of the city defences went hand in hand with the building of the enclosure walls and the public buildings for two reasons: first, the city wall was unfinished in that the mud-brick superstructure that was intended to surmount the stone base was never built, implying that this did not take complete precedence over construction within the city; second, if the city was to be inhabited the urban structure needed to be in place from the earliest possible moment, otherwise random division of space would have rapidly taken place.

Speed of Construction

It is not possible to determine just how long it would have taken to construct the city defences, public buildings and enclosure walls, but it is possible to make some estimates of the manpower involved and, thus, to look at the order of magnitude. The city defences comprise three structural elements: a sinuous curtain wall, seven kilometres in length, about five metres wide and, on average, some two metres high, towers, buttresses and gates butted onto the wall and a glacis that forms an outer skin to the complete circuit, all constructed from uncut dry stone. The dimensions for construction of the city wall have not been calculated in detail, but they are of the correct order of magnitude for the calculations that follow.

It is a reasonable assumption that one man can build 1 cubic metre of wall per day1. Assuming that a 1 metre length of wall contains 10 cubic metres of stone (1 x 2 x 5), then 10 men would build 1 metre of wall per day, thus 100 men could build 10 metres of wall per day (10 x 10). One kilometre of wall would then take 100 men 100 days (100 x 10 = 1,000 m.) and 7 kilometres 700 days or, say, 2 years. On this basis, and given the strong likelihood that construction would have been seasonal, it might be estimated 500 men could have constructed the curtain wall in a single season and the other two stages (towers and glacis) in a further season. The conclusion is that construction of the defences and the enclosures could have been extremely rapid. The limiting factors would have been availability of the work-force, presumably coerced from the surrounding villages, the logistics of food and water and the exercise of adequate control. It is thus possible that that the defensive system could even, at one extreme, have been constructed in a single year, and, at the other extreme, would not have taken more than five years.

The construction of a mud-brick superstructure would have presented different problems. The nature of the mountain-top is such that only sparse quantities of clay are present, thus the huge number of mud bricks necessary would have had to have been made in the plain below and transported up the mountainside. Either the logistics of such a large operation were beyond the means available or the city fell before the scheme could be taken to its conclusion. It seems possible that the ruling authority had moved away sometime before the catastrophic end. Indeed the city may have never taken on the importance that was originally intended for it and in that sense may have failed before reaching completion. This again raises the question who actually lived in the city and their relationship to the founding authority.

[1] This assumption is based on the experience of workmen at Tille Höyük and represents a total sum, including quarrying, transport, building and general logistics such as provision of food and water. If anything, the estimate is conservative since the stone was all immediately at hand and water plentiful.

Urban Concepts and Urban Zones

That the city founders had concepts of city planning is self-evident and should give no cause for surprise. Different areas of the city were assigned particular purposes, what might today be termed urban zones (e.g. Figs 3, 6, 8, 9 and 12). The juxtaposition of particular zones and their inter-relationships provide a tool whereby an understanding of the underlying philosophy, both conscious and unconscious, may be revealed. Specifically, relationships between military, palatial, religious, administrative, residential and other (yet to be identified) zones can be seen. The position of each zone relative to the topography of the city, taking into account such issues as defence, access, command and control, water, vistas, the prevailing climate, and relationship to other zones, reveals what was envisaged as the comparative importance and special needs of each. Military concerns seem to have been over-riding. The effort and skill that went into the building of the city wall and gates, the position of what appear to be military areas immediately inside the Cappadocia Gate Figs 5 and 6), in close proximity to both the palace complex and cities magazines, the relative ease of communications from this area to the other city gates, and what appears to have been a broad military strip running around the inside of the city wall (perhaps later encroached upon and evidently not finished) highlight one major area of concern that, at first glance, perhaps gives the impression of having been paramount. Against this view is the position of the great temple at Karabaş (16, 17, 19 and 20), beyond the northernmost point of the city wall, suggesting that the perceived threat was neither so strong nor so imminent as the emphasis given to military concerns may suggest. There is, however, a caveat to this: the function of Karabaş has not yet been determined and there may have been over-riding reasons for its position beyond the city wall, such as funerary or purity. Further, a second, much smaller, temple has been identified within the city (Fig. 18) and there is a possibility at least that the structure at the western end of the great street that runs past the palace (Fig. 3 bottom left) was ceremonial and or religious and even the possibility that it was in some way connected with a second extra mural monument, now obscured beneath a later remodelling, at Göz Baba on the very summit of the Kerkenes Dağ. The certain identification of religious monuments and thus the juxtaposition of palatial and religious monuments is a major outstanding problem in our understanding of urban zoning within the city.

APPENDIX 2

THE IDENTIFICATION OF THE CITY

It is argued below that the city on Kerkenes Dağ was an imperial foundation. This conclusion raises the question of who would have had reason to found a huge, new, skillfully designed and heavily fortified city on a mountain top close to the center of Anatolia towards the end of the pre-Hellenistic Iron Age. Clearly the city was unfinished and occupied but briefly. The founder chose the site for its naturally defensive position and the architect used the features of the site to the best possible advantage. The particular location was chosen for a number of reasons: its situation close to important east-west and north-south routes connecting the Black Sea with the Mediterranean and Iran with the west, the relative abundance of water which is peculiar to the granitic geology of the chosen site, its domination of the northern part of the Cappadocian plain. The city was founded out of necessity and displays an extraordinary vision on the part of the founder. There can be no doubt that it was an "ideal city" laid out according to preconceived concepts of a plan which was to contain all the elements thought necessary for a new imperial center: (in no particular order), royal, administrative, religious, military and residential. But it does not, on the other hand, display the repetitive conformation to a standard plan that may be seen, for instance, in Imperial Hittite Gates or the rectilinear rigidity of orthogonally planned Hellenistic cities. The obvious lack of any system of internal defenses, such as a citadel wall, suggests that the intended population was not perceived as posing any threat and it may thus be concluded that occupants were loyal supporters of the governing regime, not forcibly settled subject peoples. It is certainly clear, from the grandeur of the public buildings within the city and the extra mural temple at Karabaş, that the foundation was intended to be permanent, not a temporary expedient.

The date, based on the test excavations conducted by Erich Schmidt in 1928[2], is within the rather loose period known as Alishar V, i.e. somewhere between the seventh and the fourth centuries B.C. It seems inconceivable, however, that it could be a Persian foundation for three reasons: one, it is totally unlike any other known Achaemenid city; two, if it were Persian it would surely have been the seat of a satrap given its size, strength and strategic position, but it is not in the correct place for one of the satrapies according to any of the much debated reconstructions of Achaemenid geography; three, none of the finds are indicative of the Persian period. An eighth century date would seem to be ruled out by the pottery. A date in the seventh century, while it cannot be disproved on the evidence currently available, would have no historical context. If an argument ex silentio is permissible, the likelihood is that construction and abandonment took place within the sixth century B.C.

It is perhaps reasonable to assume that so great a city founded and abandoned or destroyed somewhere within this time range, or indeed earlier, would have found mention in the ancient texts. The more so since, whatever the exact date, there is nothing of comparable stature known elsewhere on the Anatolian Plateau. From amongst the extant sources there is only a single candidate and that is the city of Pteria mentioned by the ancient Greek historian Herodotus of Halicarnassus, "the father of history". The testimony of Herodotus (I.76) is worth quoting in full:

[2] Schmidt 1929: 83-92.

> *Croesus, when he had crossed [the Halys river] with his army, came in Cappadocian territory, to what is called Pteria. Pteria is the strongest part of all that country and lies in a line with the city of Sinope, on the Euxine Sea. There he encamped, destroying the farms of the Syrians and he captured the city of the Pterians and made slaves of the people, and he captured all the neighboring towns; moreover he drove the Syrians from their homes, though they had done him no manner of harm. Cyrus, on his side, gathered his own army, and took on, as well, all the peoples who lived between him and Croesus. (Before he set out to march at all, he sent heralds to the Ionians and tried to make them desert Croesus. But the Ionians would not listen to him). So when Cyrus came and encamped over against Croesus, then and there in that land of Pteria they fought against one another with might and main. The battle was fierce, and many fell on both sides. At last they broke off at the onset of night, without either having the victory; so hard did the two armies fight*[3].

It will be helpful to recount the well-known historical background that lead up to the Battle of Pteria before examining the implications of this passage from Herodotus in detail. The most convenient starting point is perhaps the fall of the Neo-Assyrian capital Nimrud in 612 B.C. to the allied forces of the Medes and the Babylonians. In 605 B.C. the Babylonian king Nabopolasser defeated the remnants of the Assyrian army and their Egyptian allies at Carchemish and Hamath (modern Hama). The Neo-Assyrian empire, together with the wider spheres of interest that included much of Anatolia, were divided between the Medes and the Babylonians: the Mesopotamian part of the empire went to the Babylonians and the northern arena, from Harran to the Anatolian plateau, to the Medes. In the space of ten years the power of Assyria was broken and, after military defeat, the empire vanished from the face of history. The unlikely alliance between the Medes, newly emerging from east of the Zagros Mountains as a major power in the Near East, and the Neo-Babylonians, at the end of a three thousand year tradition of urban civilization, fell into abeyance in the absence of a common enemy. Median strength was of sufficient magnitude for the Babylonians to have taken extensive defensive measures including the construction of a huge wall, impressively faced with baked brick, to keep out the highly mobile and destructive menace. Sources for the following period of Median expansion are shadowy and much debated, the sources being Greek and Babylonian rather than Median, and mostly somewhat later than events themselves[4]. By 590/589 B.C. the Medes were fighting the Lydians in central Anatolia. The power of Urartu in the highlands of eastern Anatolia and the Caucasus must therefore have been reduced to insignificance and may have been completely under Median domination, for Cyaxares could hardly have campaigned towards the Halys river without being sure of security in the rear. The Medio-Lydian war, perhaps best understood as a series of annual campaigns with both protagonists fighting towards the practical limits imposed by distance from their respective home bases, lasted into a sixth year when, on the afternoon of May 28, 585 B.C. it seemingly came to an end.

> *War subsequently broke out between the two countries and lasted for five years, during which both Lydians and Medes won a number of*

[3]Grene, D: (trans) 1987.
[4] Beaulieu 1989.

victories. One battle was fought at night. But then, after five years of indecisive warfare, a battle took place in which the armies had already engaged when day suddenly turned into night. This change from daylight into darkness had been foretold to the Ionians by Thales of Miletus, who fixed the date for it for the year in which it did, in fact, take place. Both the Lydians and the Medes broke off the engagement when they saw this darkening of the day: they were more anxious than they had been to conclude peace, and a reconciliation was brought about by Syennesis of Cilicia and Labynetus of Babylon, who were the men responsible both for the pact to keep the peace and for the exchange of marriages between the two kingdoms. They persuaded Alyattes to give his daughter Aryenis to Astyages, son of Cyaxares - knowing that treaties seldom remain intact without powerful sanctions. Herodotus I.74[5.]

There have been numerous attempts to reconcile this and other passages from Herodotus with the Neo-Babylonian sources but the date of the war and the terms of the treaty have not been questioned [6]. The problem of the reconciling the date of the treaty with the death of Cyaxares and the accession of Astyages is not insurmountable if it could be assumed that Astyages was leading the Median forces in the west while his father was still on the throne in Ecbatana (the Median capital), a situation that has many parallels in the ancient world[7]. That the Halys river formed the border between the empires of the Lydians and the Medes is well attested[8]. Whatever the nature and intensity of the war itself there are two points worth making: firstly that the Medes were capable of challenging Lydian power in Central Anatolia to such an extent that both Cilicia and far flung Babylon saw it as being in their own interests to secure peace between the warring factions and, secondly, the Medes could campaign on the Halys river without fear of serious attack from the rear.

Leaving aside the question of later hostilities between Astyages and Alyattes, the next series of events relevant to the story begins with the overthrow of Astyages and the establishment of the Achaemenid empire by Cyrus the Great. By this time Alyattes was dead and his son Croesus, brother-in-law of Astyages, was on the Lydian throne. Croesus saw the turmoil in the Iranian court as a time of dynastic weakness which provided him with an opportunity. Using the convenient, if not genuine, excuse of the murder of his brother-in-law, and having sent envoys to various oracular temples from which he received what he could only interpret as a favorable answer, he took his forces across the Halys river and sacked Pteria as recounted in the passage from Herodotus quoted above. The story was one of the most famous in the Greek world. After the inconclusive battle between Croesus and Cyrus, Croesus retreated to Sardis for the winter from where he summoned his Spartan and Egyptian allies in the natural expectation that Cyrus too would withdraw for the winter and that the confrontation would be renewed in the following spring. Cyrus, however, had superior forces and, being a man of action and not about to let victory elude him he went in immediate pursuit. The oracle at Delphi had been correct. An empire was destroyed as a consequence of Croesus' action: not, as he had so confidently expected, that of the Persians but rather his own

[5] Grene, D: (trans) 1987.
[6] Huxley G: 1965.
[7] *Ibid.*
[8] Pedley 1972.

It is the contention here that Pteria was the city on the Kerkenes Dağ and that this identification fits remarkably well with what little can be gleaned from both the ancient sources and the observable archaeological evidence. The location of the site fits well with that given by Herodotus, as has long been realized[9]. It lies to the east of the Halys river and within Cappadocia. It is more or less due south of Sinope and this is clearly what Herodotus intended the reader to understand. The position of Sinope on the Black Sea would have been known to Herodotus himself and familiar to his readers, unlike the geography of the interior. The city, as has been argued above, was a new imperial foundation. Who better to have had the need of a strong base in such a position than Astyages after the Battle of the Eclipse and the ensuing treaty, with a grand palace in which he could play host to his new Lydian bride? The brief period of occupation would fit with the historical record: founded soon after 585 B.C. and destroyed by Croesus some forty years later (see below for discussion of the exact date). The site would be consistent with the need of Astyages for a strong base east of the Halys river, and the lack of later occupation can easily be understood because once Cyrus had exerted control over Lydia the very reason for a strong base east of the Halys river no longer existed.

The argument is, admittedly, circumstantial and lacks the proof of inscriptions that would clinch the proposed identification. But there are additional arguments that, while not proof in themselves, combine to make a strong case. Firstly, there is no good parallel for the city in Anatolia and no obvious precursor for its genesis. Secondly, the complexes are very spacious, hardly intended to contain a large and crowded population such as might be expected if it had been conceived and constructed as a refuge and haven for a local population; rather it gives the impression of having been designed for a relatively small elite population. In other words, it was founded for a foreign, colonial, imperial community. Some hint of the correctness of this interpretation may be extracted from the testimony of Herodotus quoted above. It is striking that Croesus treated the inhabitants of Pteria differently from the "Syrians" in the surrounding villages who, in contrast to the Pterians, had done no wrong. It can thus be argued that the phraseology of Herodotus implies that the inhabitants of Pteria were not the same as the rural population, an implication that can easily be understood if the occupants of the city were Medes (and their allies): a foreign occupying power. The design and construction techniques of the defenses, the "palace" and the extra mural temple at Karabaş have no exact parallel known in Anatolia, and neither do the enclosures and other architectural features. If it is correct to assume that the elements of the city plan and the architecture were the culmination of a well established and long-standing tradition, an assumption that might be reinforced by the skill evident in the layout and execution, then Ecbatana with its seven city walls might be expected to have provided the model and inspiration. Some elements of the site, such as the "palace" terrace and the skillful regulation of the water supply might be further hints of an eastern tradition. All this is, of course, speculation and our knowledge of other sixth cOentury cities in Anatolia is currently so sparse that it may be unwise to place overmuch weight on negative evidence: although the arguments adduced above hardly amount to proof, they should not be ignored or dismissed for that reason alone.

One further aspect of the ancient city may, with special pleading, be suggestive of an eastern connection. The altitude, c. 1400m., is such that winters are both long and extremely cold and the site is very exposed (unlike modern Anatolian cities at similar altitudes such as the nearby provincial center of Yozgat). It is difficult to imagine the whole city population living through the winter from choice and, incidentally, it is easy to see why the site did not attract later

[9] Przeworski 1929.

urban dwellers. The idea of a seasonal city brings to mind the Achaemenid tradition of seasonal migration between summer and winter cities. If the population was indeed foreign, as has been argued above, it might be wondered where the winter residence was. Of this there is no evidence, but from Kerkenes frequent views of snow-capped Erciyes Dağ rising above the summer heat haze over the Cappadocian plain are a constant reminder of the relative proximity of Kayseri. Other possible candidates exist however, to the north or even to the south of the Taurus mountains. Seasonal occupation, if it could be demonstrated, would not amount to proof of an eastern origin and there is a danger of circularity of argument, but the point is worthy of serious consideration.

Although the arguments set out above do not amount to proof, they culminate in a strong case. If the identification of the city on Kerkenes Dağ as Pteria does not hold, the problem of who did build it remains. Further, the date would surely need to be revised, for it is most unlikely that Medes would have allowed such a position of strength to have been established during the period when they were fighting the Lydians. If it had been constructed by some local power attempting to assert independence, and destroyed rather than built by the Medes, the ambitiousness of the scheme is surprising and the failure of the Medes to take over rather than desert the site would need some explanation.

The location of a major center so far to the north deserves comment, particularly if the Persian Royal Road is further to the south, as suggested to us by David French. From the Median point of view they would have wanted to keep as far north of the Babylonian threat as possible and it can be thus surmised that their forces, and those of Cyrus the Great on his march to Pteria, would have crossed the Zagros by one of the more northerly passes and following the modern route rather than risking confrontation with Babylonian forces in northern Mesopotamia. The Persian Royal Road, on the other hand, post-dates the capture of Sardis and perhaps the incorporation of Babylonia into the Achaemenid Empire. It may also be that the foothills of the Pontic mountains were perceived as being more desirable than the hot dry plains of the plateau, and logistically easier in terms of water and supplies. Under the Achaemenids the cities of the southern Pontus became Iranianized to the extent that eastern cults remained strong until overtaken by Christianity. In the seventh century A.D. the Sassanian Persians showed interest in the same area and followed similar routes as far westwards as Ankara. It has been argued, admittedly on rather thin evidence, that the effect of these Persian raids was felt in the countryside around Kerkenes Dağ[10]. It is likely that the attractions of the northerly route were the same in the Sassanian period as they were some 1,300 years earlier.

[10] Foss 1975.

APPENDIX 3

LATER OCCUPATION AT KERKENES DAĞ

This appendix details the significant later monuments within the area of the Iron Age city on the Kerkenes Dağ that have been recognised to date, apart from the Kiremeitlik which has already been reported on [11]. Emphasis is here placed on description of the extant remains, discussion of the wider historical and geographical setting being left for the final publication[12]. Two areas are dealt with, the Kale (castle) and the small Christian complex just inside the south-east gate of the Iron Age city (Fig. 21).

THE KALE

The present name of the castle is Keykavus Kale and it is the most prominent part of the Kerkenes Dağ Fig. 1), although at a slightly lower altitude than the Göz Baba "tumulus" at the western end of the granitic mountain[13]. The Kale is on the eastern side of the mountain and, at an altitude of 1,458.5m.[14] dominates the region from every direction. It provides a magnificent vantage point, thus there is no difficulty in understanding the reason for its location. It seems to have originally comprised a granitic peak, or tor, with fingers of rock jutting skywards, its present form being the cumulative result of centuries of adaptation and use which has to some extent filled between and levelled the outcropping rock. Bedrock is extant in several places, the contours (Fig. 21) show that the interior of the Kale is far from level and only the southern end possesses a flat area of any size. The walled area is approximately 200 m. long at its greatest extent. Today there is no source of water and it seems unlikely that there was ever a spring within the lines of the defences. The site is very exposed and suffers long and bitterly cold winters, some years under snow for several months.

The survey[15] was done with the aid of the blimp photographs taken in 1993[16] in conjunction with the contour map drawn from photogrammetric stereo pairs[17] and field notes. The plan was drawn in AutoCAD from measurements taken with a Sokkia total station and an ink copy drawn by hand for publication (Fig. 21).

---

[11] For the Kiremitlik see Summers, Summers and Ahmet 1995: and references there cited. The later remains not covered by this report include tumuli and other graves, a number of structures on the lower slopes to the east of the Kale and just inside the Iron Age city wall to the north-east of the Kale as well as enclosures and terraces associated with herding and agriculture in various parts of the site.

[12] Dearth of inscriptions and the extremely rudimentary knowledge of historical geography in the region hampers interpretation. Further, the monuments require placement in a wider setting than that covered by the Kerkenes Dað Regional Survey and should be combined with the results of the survey conducted by Michael Ballance in 1961 and the large survey of the Kanak Su basin currently being conducted by R. L. Gorny (1995a).

[13] For Göz Baba see Summers and Summers 1994: 14, 20 Fig. 26 where a Byzantine date was suggested for the later remains. It is now thought likely that the tower and glacis, and perhaps the wall enclosing the spring, are Achaemenid in date, see below, page .

[14] According to the 1:25,000 map, the exact height differs from map to map by a few meters.

[15] The field work was undertaken by Koral Ahmet with the help of Hakan Kava, a student at METU.

[16] Summers and Summers 1994: 19 Fig. 24.

[17] We are most grateful to Tapu ve Kadastro Gn. Md. for making the photographs available, and to MNG Inc. for making the contour plan from those images.

THE HITTITE IDENTIFICATION

Professor O. R. Gurney and Dr. R. L. Gorny have, independently, identified Kerkenes Dağ with the Hittite sacred mountain, Mount Daha[18]. The Great King, then, would have proceeded in a vehicle from the city of Zippalanda (modern Küşaklı Höyük, Yozgat) to the mountain and thence south-eastwards to the city of Ankuwa (perhaps Alişar Höyük, but anyway to be located somewhere in the Kanak Su basin less than a single day's journey from Zippalanda). With this identification in mind, a search has been made for evidence that could confirm Hittite activity at Kerkenes but none has been observed. The extensive later occupation and defences on the Kale could well obscure Hittite remains[19]. It is difficult to see how any sort of vehicle[20] could have negotiated the steep climb to the peak of the Kale and it is likely that the Great King made the final ascent on foot. Any Hittite monument that may have existed on the Kale would have been situated either on the higher and apparently broader southern end, affording a magnificent view over Cappadocia, or at the northern end from which Küşaklı Höyük (Zippalanda) can be seen.

THE IRON AGE

The Period of the City

No evidence has been found for occupation on the Kale (or elsewhere at Kerkenes Dağ) between the fall of the Hittite Empire and the foundation of the city about the middle of the first millennium B.C.

Despite its dominating aspect, there is no evidence that the Kale played a role of key importance within the Iron age city, and there is no sign that the Kale was walled during the brief life-span of the city. Indeed, there is a significant indication to the contrary in that the major arteries of communication within the city run between the city gates and clearly skirt the base of the Kale. In addition, the position of the "public" buildings along the southern ridge within the city (Figs 3 and 6), the temple on the northern side of the city and that of the extra mural temple at Karabaş, leave no obvious role of importance for the high and exposed area of the Kale. It can be observed that, regardless of whether or not there was a ruinous Hittite monument, the area of the Kale would have presented the Iron Age city planner with a highly exposed and very uneven rocky peak that would have required considerable effort to adapt it sufficiently for a building of substance. The Kale would seem to provide a natural strong point within the city, but study of the military considerations embodied in the city plan shows that the emphasis was on rapid communication between gates on the one hand, and fast communication around the inside of the city defences on the other. Stationing a defensive force on the Kale would have removed its ability to provide rapid response to an attack concentrated against one or more portions of the lengthy city wall, the more so if, as it is reasonable to assume, chariots and cavalry played a pivotal tactical role in the military logistics. Given the obvious difficulty of defending seven kilometres of city wall against determined attack, the primary strategic response to an approaching force would have been set-piece warfare in the plain below, negating an important military role for the Kale.

[18] Gurney 1995; Gorny 1995b: n.3; 1995c.

[19] Schmidt (1929: 247) failed to discover evidence for the Hittite period in a test trench dug for that purpose on the west side of the Kale outside a later castle wall, But this negative evidence can hardly be taken as conclusive. There is no evidence to support the identification of a section of massive dry stone wall as Hittite (Cornelius 1967: Pl. V).

[20] Gorny (1995d: n.17).

The Late Iron Age Kale Wall and Glacis

Description

There are massive dry stone defences, constructed of large, uncut, granitic blocks, ringing the Kale. All of the walls outside and below the later (Byzantine) rubble and mortar wall with towers shown on Fig. 21 are here treated together. The remains that could be discerned on the ground and on the blimp photographs were of insufficient extent to enable a separate plan to be drawn. These dry stone walls, towers and glacis are all assumed to belong to a single system, but this is probably an over simplification. Excavation would doubtless reveal numerous alterations and modifications, and perhaps successive building periods. On the northern, western and southern sides the line of these defences is considerably lower than that of the later rubble and mortar wall and towers. The front faces of the Byzantine towers on the western side are flush with the front of an earlier wall on which they were founded, evidently at a lower level than the base of the mortared curtain wall to which they are bonded. On the eastern side, the late wall also partially reuses the earlier system. Thus the aspect of the Kale at the time when these late Iron Age dry stone defences were constructed was considerably different to that pertaining in the Byzantine period when the latest circuit wall was constructed. Part of a dry stone wall was uncovered by E. F. Schmidt[21], in his Test Trench 12, where it was found to be more than 3.75m. wide with an outer face some 4.5m. deep. No inner face was found and the wall does not seem to have been free standing at the level to which it was preserved. The outer face of the wall in Schmidt's Fig. 38 appears to have been constructed of uncut and uncoursed stone. The towers, as they appear on the ground, are of better construction with massive blocks used for the corners. It is possible that the stretch of wall revealed by Schmidt is of a different date to the towers, in which case the absence of the stone glacis in the test trench could be explained. Schmidt thought that the wall was Roman in date on the dubious evidence of pottery found in the soil against its outer face, although he recognised earlier artefacts from near the base of the wall.

The plan of the defensive system is impossible to reconstruct without excavation because it is obscured by the later mortared wall and towers and, especially on the west side, by an accumulation of soil and vegetation. Very little can be seen on the balloon photographs for these reasons. Some idea of the overall scheme can, however, be reconstructed from the disjointed evidence. The Kale was ringed by a strong wall and towers. The main entrance was from the east side where a broad track leads up from the direction of Şahmuratlı village. The track is lost on the upper slopes as it approaches the walls due to later terracing for vines and fruit trees. It is likely that there was also an entrance at the north end where access is fairly easy. There is no trace of a way up on the steep western side and the surviving glacis at the south end suggests that the present track up does not pre-date the single gate in the late mortared curtain wall.

Running up to the base of these defences is a sloping stone glacis. The relationship between the glacis and the tower on the south-west corner is clear. Built of smaller stones than the glacis which encases the earlier city defences, it is of considerably inferior workmanship. The base of the glacis runs around the lower slopes of the Kale and in places can be seen to rest on outcrops of bedrock. It once presented a formidable defence which any attacker would have found difficult to scale under fire from above.

Date

We are here concerned with the date of the defensive system of a dry stone defensive wall with massive towers and a stone glacis running up to the base of the wall. There is no firm and

[21] Schmidt 1929: 247-249, Figs 36-38.

precise evidence for the date at Kerkenes itself. There are, however, a number of smaller sites in the region with similar stone glacis, one of which, Tilkigedigi Tepe, has tentatively been dated to the late Achaemenid period on the basis of pottery found on the surface[22]. During a visit to this site in 1995, in addition to further pottery similar to that already reported, a few body sherds of so-called "Galatian Ware"[23] were found, but no later pottery. Thus it would seem plausible to suggest that the date of these walls, towers and glacis, together with that at other sites in the region with the same characteristics, is late Achaemenid. A less likely alternative would be early Hellenistic.

Function

The relatively large Late Iron Age site at Kerkenes represents a central, heavily defended stronghold with a number of related outlying high points which also have dry stone walls and towers with glacis. These include Tilkigediği Tepe, Göz Baba and Sumerin Sivri Hisar Another small and elevated site with some of the same characteristics is Çeska Kale, on a high and prominent peak just north of the city of Yozgat and visible from the Kale at Kerkenes. Regardless of the exact date, these sites represent a regional system of control and defence not hitherto identified. There was also contemporaneous Achaemenid and or Hellenistic period settlement on a number of small sites in the river valleys, at Alişar Höyük and on the high mound at Küşaklı Höyük (Yozgat), Kale Höyük (Küçük Kohne), Taşlık Höyük, Cemalı Höyük and, doubtless, other sites in the wider region[24]. It might be postulated that there was additionally, as in the nineteenth century A.D., a considerable pastrolist element on the landscape. This co-ordinated system, or element of a system, of command and control represents a new and different response to governing the locality at a time when Kerkenes was no longer an inter-regional centre but rather, as it was to remain, something of a backwater far from the seats of power.

HELLENISTIC AND ROMAN OCCUPATION ON THE KALE

Pottery collected from the surface and the finds from Schmidt's test excavations[25] provide secure testimony for continued (but not necessarily continuous) use of the Kale in the Hellenistic and Roman periods, a pattern repeated at the Kiremetlik[26]. The nature of occupation on the Kale in these periods is unclear. J.G.C. Anderson proposed to identify the site at Kerkenes with the Galatian stronghold of Mithradation[27], but he thought, not unreasonably given the paucity of knowledge when he wrote, that the whole of the ancient city was Galatian. There is, however, no supporting evidence for the identification. Roman period occupation would seem to have been restricted and of no great importance. Kerkenes may have lain beyond the eastern border of Galatia.

It is possible that there were additional structures below the Kale on the eastern side and the creation of a gateway through the earlier Iron Age city wall where it forms an elbow to the north-east of the Kale. Little can be made out on the surface.

---

[22] Summers, Summers and Ahmet 1995:
[23] Bittel 1974.
[24] The survey currently being undertaken in the Kanak Su basin by Dr. Gorny (1995a.) will provide a wider regional perspective.
[25] Schmidt 1929: 247-248, but note that Schmidt conflated the Roman and Byzantine throughout his report.
[26] Summers, Summers and Ahmet 1995.
[27] Anderson 1903: 26-28; Mitchell (1994: I. 33n.74) has no better suggestion.

THE LATER DEFENCES

Description

The latest defences on the Kale comprise a curtain wall with bonded towers and a single weak gate at the south end (Fig. 21). Much is founded on parts of earlier walling and towers. The whole appears to be of a single build and is well preserved below the present ground surface. No internal structures are visible apart from the reservoir (the construction of which is undated). One piece of small and abraded sculpted marble with representations of vine leaves, now deposited in the Yozgat Museum, was retrieved from Şahmuratlı Köy where it was said to have been found on the Kale. If correct, this sculpted fragment represents evidence for a building of some pretension, perhaps a church. Other fragments of marble are present on the site. Nothing has been found to substantiate Anderson's contention that much of the spolia, which include large columns, in the village of Mehmet Beyli were brought from Kerkenes.

Access was by means of a narrow path leading diagonally up the south east side of the Kale, apparently cut through the earlier stone glacis which in one place can be seen to have been retained by a crude stone revetment. The path would accommodate animals but was surely too steep and narrow for frequent use by carts. The path leads down to the complex with a small church (see below) and onwards via the old south-east gate (the Cappadocia Gate, H. H. von der Osten's Gate 1[28]) through the ruinous city wall.

The sole entrance to the Kale was by means of a small and surprisingly weak gate that comprises two flanking walls slightly angled towards the ascending pathway. There is some slight evidence for an additional (or earlier) mortared footing in the north-eastern angle (the front of which is represented as a single line on Fig. 21). It is clear that the gate structure is totally extant.

The curtain wall and towers are of the same build and can be traced or reconstructed for the entire circuit. The wall is 2m. thick and composed of uncut stone rubble with occasional pieces of broken tile. Facades are smeared with the same hard white mortar that bonds the core of the wall. Where it has been supported by towers the curtain wall stands some 2 m. above the present ground surface behind it and a considerable amount may be buried in places. Originally the wall would have stood to some height. The present wall top, being free of spiky weeds, is today used as a footpath around the edge of the Kale. The erosion of the white mortar, as a consequence of the action of feet, has given rise to the dramatic contrast seen in the blimp photographs[29]. The bases or footings of the towers are solid and seem to extend lower down the slope than the base of the curtain wall, often resting on the front edge of the earlier defences. One, at the west end of the south-western stretch of wall, has survived above the level of the foundations and is hollow. The south wall of this tower has recently been exposed, revealing that the upper part of the wall was 0.10m. narrower. It can be assumed that the other towers were similar, thus their function was primarily defensive rather than structural, although the deep solid bases would have buttressed the base of the curtain wall. The towers are rectangular and vary in size, most being in the order of 5 by 10m. It seems probable that all of the original towers are extant which makes their positioning highly uneven and, as with the weakness of the gate, difficult to understand. It is especially surprising that there are no towers on the long east wall.

[28] Von der Osten 1928: 87 Fig. 4.

[29] This relatively light use does not pose a serious threat to the preservation of the walls, but the competitive hurling of stones from the wall by many visitors to the site, usually combined with hunting or bloodletting in the leach filled At Göl, or both, gives some cause for concern.

Perhaps much of the earlier defensive system was still in use and towers added to its top only where there was evident weakness.

A large circular depression is a prominent feature of the Kale interior. This appears to have been constructed to hold water by creating a bank on the north-east side. The depression is certainly not natural and the circuit has been created by building up rather than digging down. The original depth is not known. A similar feature can be seen at Ceşka Kale. Wall fragments exposed along the western side might provide evidence for placing this feature late in the sequence of building on the Kale.

Date

A Byzantine date for Kale walls and towers is hinted at by the use of Roman tile fragments in the rubble of the wall, by pottery seen on the surface and the scant finds from Schmidt's test trench. No glazed sherds have been found. The mortar and rubble construction and the presence of Byzantine coins suggests a Byzantine date for the construction of the defences[30].

Function

The function of the Byzantine castle may have been both defensive and oppressive. The Kale both commanded the region and offered the population some protection and refuge. The position of the gate and the track leading past the church complex (see below) through the Iron Age city gate on the plain below demonstrates the direction of primary interest. There is no evident settlement in the plain at the base of the track and the contemporaneous settlement on the Kiremitlik, beneath part of Şahmuratlı Köy (to the east) and beyond does not appear to be directly connected to the Kale. There is nothing to suggest that the Kale was part of a wider or Imperial system. It has instead the characteristics of a local fiefdom nominally loyal to Byzantium while asserting as much independence as political and military fortunes allowed.

Keykavus

It is not known when the Kale was first called by this name which harks back to Seljuk times. Keykavus is the Seljuk version of the legendary Iranian name Cambyses. Nothing, however, can be read into this since the name has not uncommonly been given to such places in Anatolia (along with such names as Gavur Kale: Infidels Castle). The association of the name Keykavus as applied to the Kale on the Kerkenes Dağ with Keykavus in the Kitab al-Ta'alabi has given rise to misunderstanding and confusion of legends in the region today[31]. A number of Seljuk coins were purchased in Şarmuratlı Köy by H. H. von der Osten[32] but Seljuk pottery has not been recognised on the Kale.

[30] Foss and Winfield (1986: 25-27) have argued that the development of this mortar and rubble construction technique was developed because of a need to build rapidly in response to Arab raids in the seventh century A.D. For earlier Persian raids into our region see Foss (1975).

[31] For the Keykavus legend see Lewy (1949); for local folklore see Bittel 1960/61 and, less usefully, Doğan (1990: 197; 1995: 39). There is also a local story of a tunnel leading from Ceşka Kale to Kerkenes through which milk is supposed to have flowed.

[32] Newell (1932: 65 nos 74-77, 79; 69; 74 no. 13) these Seljuk coins were from the district about Kerkenes Dağ, the last being purchased in Şahmuratlı Köy.

THE SMALL CHURCH COMPLEX

During the later occupation on the Kale the middle Iron Age city wall still formed a considerable barrier. Access from the rolling plain below and to the south of Kerkenes Dağ to the base of the path that led up to the single gate in the latest phase of the Kale defences was via the earlier city gate (the Cappadocia Gate, von der Osten's Gate 1). The broad track that descends the hillside from this city gate continued in use during later periods and may owe its substance to occupiers of the Kale rather than to the city founders. It may be assumed that the older city was largely extant, the buildings slowly melting back into the landscape and providing a ready source of stone for building on the Kale, for the construction of rude shelters for animals and shepherds and for disposal of the dead in a variety of tomb types. The stone ruins made the area too stony to plough even where there might have been sufficient soil over the bedrock, but vines and fruit trees will grow if protected from foraging animals. Large empty spaces were few but there was a largish open space immediately inside the city gate where, amongst the dilapidation, a small church and attendant rooms were constructed (Fig. 22).

The Church

The church itself is a small, simple, rectangular structure with an apsidal end, a narthex, a porch at the south-west end with a door leading in from the east. It is orientated a little south of east. The total length is 8.5m and the width 3.5m. The walls of the nave and apse are only 0.30m thick, the west wall and the south wall of the porch are 0.80m thick. The walls are built of rubble bonded with white mortar and seem to be preserved up to or just above the base of a corbelled apse roof. Fragments of Roman wall tile with wavy finger marks may indicate a vaulted tile roof and/tile string courses. A few fragments of white marble slab evidence some embellishment.

The Other Buildings

Six meters to the west of the church, and joined to it by a right-angled wall, is a building complex. These are considerably more substantial than the church which could be fitted into each of the two largest rooms. The walls are of the same rubble and mortar construction, varying in width from 0.80m to 1.10m. The complex appears to form two connected units, that on the south comprising three rooms, that on the north three rectangular rooms of differing dimensions and a narrow corridor or stairway.

To the south of the church is a small rhomboidal structure 2.90 by 3.00m. It is possible that this does not belong to the complex at all and is of a different period. It could perhaps be a tomb, whether or not it is contemporaneous with the church[33].

Date

The evidence for dating is thin. If the fragments of large, thick, building tile were not reused from elsewhere and can be used as a guide the construction date might be late Roman. Surface finds are sparse but there are small fragments of glass which resemble Byzantine pieces from the Kiremitlik.

[33] Although the walls of the church and the other buildings were apparently mortared, indicated by lumps of mortar on the surface, the exposed wall tops are very weathered and no mortar is apparent in situ between the stones, a situation that also pertains to stretches of the Kale wall that have not been subject to recent erosion. It is possible that, apart from the narrow church walls, construction was dry stone, all of mortar deriving from vaulted roofs. From the surface remains it is not possible to tell if the walls of the small isolated structure were mortared.

THE CEMETERY

At the foot of the Kale on the eastern side, partially overlapping the huge stone circle[34], is a group of graves with rough head and foot stones and rubble heaps. The location, grave type and the orientation suggest this was the cemetery associated with Byzantine occupation on the Kale. It is locally known as the cemetery of the martyrs.

[34] Summers and Summers 1994: 8.

BIBLIOGRAPHY

Anderson, J.G.C. 1903, *A Journey of Exploration in Pontus*: 1-29. Brussels: Studia Pontica 1.

Bittel, K. 1960/61, "Legenden vom Kerkanes-Dað (Kappadokien)." *Oriens* XXIII-XXIV: 29-34.

1974, "Bemerkungen zur sogenannten galatischen Keramik". *Mansel'e Armaðan* I, Ankara: 227 ff.

Beaulieu, P.A. 1989, *The Reign of Nabonidus King of Babylon*. Yale University Press, New Haven.

Cornelius, F. 1964, "Zur hethitischen Landeskunde". *BibOr* 21: 11-15.

Doðan, D. 1990, *Bütün Yönleriyle Sorgun.* Sorgun: Sorgun Belediyesi Kültür Yayýmlarý Dizisi 1.

1995, *Sorgun 95*. Sorgun: Sorgun Kaymakamlýðý Kültür Yayýnlarý Dizisi 1.

Foss, C. 1975, "The Persians in Asia Minor at the End of Antiquity". *The English Historical Review* XC: 721-742. Reprinted 1990 in Foss, C. *History and Archaeology of Byzantine Asia Minor.* Variorum.

Gorny, R.L. 1995a, "The Aliþar Regional Project." *Anatolica XXI* (in press).

1995b, "Hittite Imperialism as Viewed From Aliþar Höyük." *BASOR* (in press).

1995c, "Zippalanda and Ankuwa, The Geography of Central Anatolia in the Second Millennium B.C." *JAOS* (in press).

1995d, "An Unpublished Relief Sherd from Aliþar Höyük." In the: *Doug Esse Memorial Volume*. Chicago (in press).

Grene, D. (trans) 1987, *Herodotus: The History*. Chicago University Press, Chcago.

Gurney, O.R. 1991, "The Hittite Name of Kerkenes Dað." *AS XLV*:

Huxley, G. 1965, A War between Astyages and Alyattes. *Greek, Roman and Byzantine Studies* 6: 201-206.

Lewy, H. 1949, "The Babylonian Background of the Kay Kâûs Legend". *Orientalia* XVII: 28-109.

Mitchell, S.M. 1993, *Anatolia: Land, Men and Gods in Asia Minor.* Oxford.

Newell, E.T. 1931, *The Kuchuk Köhne Hoard*. Numismatic Notes and Monographs No.46, New York.

1932, In Osten H.H. von der and Schmidt, E.F. 1932. *The Alishar Hüyük Season of 1927. Part II:* 51-74. Chicago OIP VII.

Osten, H.H.v.d. 1928, "An Unnoticed Ancient Metropolis of Asia Minor". *GeogRev* XXVIII: 83-92.

Pedley, J.G. 1972, *Ancient Literary Sources on Sardis*. Archaeological Exploration of Sardis 2, Harvard.

Przeworski, S. 1929, Die Lage von Pteria. *Archiv Orientali* I: 312-315.

Ratté, C. 1993, "Lydian Contributions to Archaic East Greek Architecture." In Courtils, J.de and Moretti, J.C. (eds) *Les grands ateliers d'architecturedans le monde Egeen du VI^e siecle av. J.-C.* Paris: de Boccard.

Schmidt, E.F. 1929, "Test Excavations in the City on Kerkenes Dagh." *American Journal of Semitic Languages and Literatures* XLV.4: 83-92

Summers, G.D. 1995, "Kerkenes Dağ 1993." XII. AST 1994: 567-582.
In press. "The Identification of the Iron Age City on the Kerkenes Dağ in Central Anatolia." JNES.

Summers, G.D. and Summers, M.E.F. 1994, "The Mountain Top City on Kerkenes Dağ (Yozgat) in Cappadocia: Kapadokya'da Kerkenes Dağý (Yozgat) Üzerinde Bir Tepe Tenti." Arkeologi ve Sanat LXII-LXIII: 2-20 and cover pictures.

Summers, G.D., Summers, M.E.F. and Ahmet, K. 1995, "The Regional Survey at Kerkenes Dağ: an Interim Report on the Seasons of 1993 and 1994." AS XLV: (in press).

Foss, C. and Winfield, D. 1986, Byzantine Fortifications. Pretoria: University of South Africa.