KERKENES DAĞ

A REPORT ON THE 1994 SEASON

FRANÇOISE AND GEOFFREY SUMMERS

Kerkenes Dağ from the northwest with some of the team in the foreground. The north point is on the left in the middle distance, the high area is the Byzantine Kale and, further to the right, the visible ruins at the center of the ridge on the skyline is the palace area. The whole of the western side and part of the northeastern side of the city wall can be seen, the eastern and southern sides lie beyond the horizon.

NOT FOR PUBLICATION

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Françoise and Geoffrey SUMMERS

The second season of archaeological survey at Kerkenes Dağ took place over eight weeks in the summer of 1994. Two more seasons are planned in this, the first, phase of the project. The overall aims of the project are twofold: firstly to make plans of the entire Iron Age city in order to be able to study the urban geography and, secondly, to place the city in a wider geographical, historical and archaeological context.

The specific aims of the 1994 season were:

(1) to complete the photographic coverage of the site using a camera suspended from a helium filled blimp,
(2) to enlarge the area of the city covered by the cadastral map begun in 1993,
(3) further geophysical survey (postponed for logistical reasons until 1995),
(4) photographic coverage of other sites within the survey area using the blimp,
(5) taking blimp photographs of selected sites within a wider region in conjunction with other archaeological projects,
(6) further intensive archaeological survey of the territory immediately surrounding Kerkenes Dağ itself.

The season was most successful and some of the results surpassed our expectations both in terms of the information recovered and the visual impact of the photographs that were taken. The first part of the report that follows is divided into sections devoted to the setting, the historical background, the survey methods, the defensive system and the urban space. The other parts deal with the extramural temple, a small Byzantine village on the highest part of the city, the archaeological survey and blimp photography of sites in the immediate area and, lastly, the photographic coverage of selected sites in the region. Finally, a number of specific issues are addressed, the current state of knowledge discussed and a program of research over the next two seasons is outlined. A gazetteer of sites that have been recorded to date is appended.

Funding for the 1994 season was generously provided by the National Geographic Society, the British Academy and the BIAA (British Institute of Archaeology at Ankara). Yibitaş-Lafarge Ltd. greatly increased the comfort and efficiency of the expedition by building new bedrooms and washrooms and a stone wall around the compound. The success of the 1994 season was again largely due to the active participation of Mr. Kazım Mertek of Konya Museum, the government representative for the second time. As last year, our work was greatly facilitated by Mr. Ertuğrul

Ersoy the Governor of Yozgat province, Mr. Necmi Kurt the District Governor of Sorgun and Mr. Musa Özcan the Director of Yozgat Museum. The team comprised Geoffrey Summers, Françoise Summers, Stephen Lumsden, Mete Lumsden, Koral Ahmet, Ömür Harmanşah and Levent Topaktaş together with the able assistance of students from METU (Middle East Technical University) and Bilkent University, Nahide Aydin, Nilüfer Baturayoğlu, Menekşe Bekaroğlu, Derya Çavuş, Sermin Ersöz and Zeynep Korkmaz. Two visitors, Elspeth McIntosh and Stevan Beverly, made valuable contributions to the discussions. In Ankara, the films were developed and printed by Tuğrul Çakar and the digitisation of the photos is being carried out by Levent Topaktaş, Ersan Ocak and Murat Özgümüş at METU.

The work was carried out using the balloon and associated equipment that was presented to the BIAA by the Foreign and Commonwealth Office in 1990. It was very pleasing to be able to comply with the condition attached to that gift, namely to use the equipment on behalf of some of our Turkish colleagues.

Fig. 2 *The blimp going up in ideal, still conditions with the camera in its sling hanging vertically beneath. In these conditions it is possible to fly at high altitudes on a light string. Once a breeze begins a stronger and heavier rope is needed which limits lift. If there is more than a light breeze the blimp is difficult to control, especially when brought close to the ground to change film, and damage may be inflicted on the blimp in a strong wind.*

THE SITE

The Setting

The site is situated on a granitic mountain (alt. *c.* 1,400m.) at the northwestern edge of the Cappadocian plain (Fig. 1). It dominates the east - west trunk road that today links Iran with Europe and is close to one of the natural routes linking the Black sea with the Mediterranean; it thus lies on a natural cross roads close to the center of modern Turkey. The city wall was skillfully set out around the rim of the eroded granitic dome in such a way as to take optimal advantage of the terrain (Front Cover). The dimensions of the city are approximately 2.5 by 1.5 km. and the length of the city wall is some 7 km., making it the largest known pre-Hellenistic site in Anatolia so far discovered. Most remarkably, the whole of the interior of the city would seem to have been utilized for buildings of various sorts with only the steepest slopes apparently avoided. This intensity of building is the more surprising since it is clear that the life of the city was very short, perhaps less than a generation, and that large parts, including the very massive defensive system, were never completed. The sheer size and urban complexity, however, is not necessarily indicative of a huge, permanent, urban population, and the understanding of these problems remain central goals to the project. A further area of intense study, and one that cannot be divorced from the urban structure and the internal functioning of the city, is the economic base that supported, or was intended to support, the city population; and in order to address these problems intense study of the immediate environs and consideration of the wider historical and geographic setting is necessary.

The Historical Background

The date of the site is clearly somewhere in the late pre-Hellenistic Iron Age, the period that goes under the obscure archaeological name of Alişar V (a term derived from the fifth level up from the bottom of the near-by site of Alişar Höyük that was excavated by E.F. Schmidt and H.H. von der Osten in the 1920's and 30's). It is now clear, both on the basis of the pottery that was recovered by Schmidt from a number of the small test trenches that he dug within the site in 1928 (Schmidt 1929) and for wider reasons of historical geography and architectural history, that the site in fact pre-dates the western extension of the Persian or Achaemenid Empire, ultimately as far as the Aegean, by Cyrus the great in or a few years after 547 B.C. Further, the ceramics are not of the (earlier) Alişar IV period which is presumably to be dated to the eighth century B.C. By a process of elimination, therefore, the city on the Kerkenes Dağ has to have been constructed and deserted in the seventh or sixth centuries B.C. In view of the magnitude and strength of the site it might be considered legitimate to assume that somewhere in the scant records of the ancients some reference to the city might be found. If this line of reasoning is accepted and followed, there is only one candidate, the city of Pteria mentioned by the "Father of History", the Greek historian Herodotus.

The background is fascinating. After the destruction of the Assyrian Empire by the Babylonians and Medes, acting in uneasy alliance, a territorial division of interests was agreed upon. The Babylonians got Mesopotamia and the Medes got the area to the north, including of course Anatolia. The nature of the early Median state, indeed the very existence of a Median "Empire" has been vigorously questioned (e.g. Sancisi-Weerdenburg 1988; Brown 1990) but there is written testimony (indisputably correct, whatever the problems that lie concealed in the scanty details and the reconciliation of western and eastern sources) that the Medes fought a war for five (or six) years with the Lydians and that this war, or perhaps more properly a series of annual campaigns, took place in Central Anatolia. The war came to an end on the afternoon of May 28, 585 B.C., a date known to both ancient Greeks and modern astronomers since it was an eclipse of the sun that frightened both sides to the extent that peace was declared and a peace treaty between the two protagonists brokered by the King of Cilicia and (or on behalf of) the King of Babylon (see Huxley 1965 for evidence that there may have been subsequent hostilities). The treaty fixed the ancient Halys River (mod. Kızılırmak) as the border between the warring parties and the treaty was sealed by the marriage of the Median King Astyages to the Lydian princess Aryenes, daughter of Alyattes and sister of Croesus. There is thus a high probability that the city on the Kerkenes Dağ was constructed shortly after the conclusion of this peace treaty as the western Royal City of the newly expanded Median Empire. Indeed, it is not impossible to imagine that the palace was designed for the newly wed royal couple. The references to Pteria in the Histories of Herodotus (I.76) describe later events. Astyages is overthrown in a palace revolt at the heart of the Iranian Empire and Cyrus the Great becomes the first the Achaemenid kings. Croesus, by now King of Lydia and gaining fame as the richest man in the world, sought to flex his imperial muscles on the grounds, doubtless convenient, that Cyrus had been responsible for the murder of his brother-in-law Astyages. Envoys were sent to the most reliable oracles of the time and, in due course, the answer came back: if Croesus were to cross the Halys River an empire would be destroyed. It was, naturally, just what Croesus wanted to hear and after the crops had been harvested he led his army northeastwards, crossed the river and sacked Pteria. According to Herodotus, Pteria lay on a line south of Sinop and was the strongest place in that part of Cappadocia, a geographical description that fits exceptionally well with the remains on Kerkenes Dağ. Croesus, Herodotus goes on to relate, enslaved the population of Pteria and chased away the inhabitants of the surrounding villages. Cyrus the Great rose to the threat and marched rapidly from the east. The two empires fought an inconclusive battle on the plain outside Pteria as a result of which Croesus withdrew to his capital at Sardis to await additional forces from his international allies before, as he naturally thought, the renewal of hostilities in the spring. Cyrus, however, was a man of action and rather than return home or winter on the Anatolian Plateau he led his forces speedily against Sardis with the inevitable result. The traditional date is 547 B.C., although there is some evidence that it may have been a few years later (Beaulieu 1989: 80-82; Burstein 1984; Cargill 1977). But whatever the exact year, the historical picture fits the observed evidence at Kerkenes so closely that it falls little short of proof: the geographical location, the strength of the fortifications, the Imperial nature of the newly founded city, perhaps (a subject of ongoing study) eastern influences in the domestic architecture and in the plans of the temple and palace, the short period of occupation followed by total abandonment and the date of the pottery are consistent with the identification. Moreover, there is no alternative historical context that we know of in which the site might fall (although other suggestions have been posited from time to time).

Methods of survey

The 1994 season was largely devoted to finishing all essential balloon photography. As before, grid crosses and control points were marked on the ground with white lime and plotted with a total station. In some areas data was also collected for the production of contour plans and digital terrain models. Levent Topaktaş and his team in METU have the results in LandCAD and AutoCAD and are combining them with plans digitized from photographs over the winter. The overall grid was subdivided into blocks each defined by a coordinate (e.g. A.2). Each block is then enlarged and the positions of the photographs and the digitized plans produced from them are plotted. Figures 5 and 6 are working examples and some corresponding photographs are presented in Figures 3, 4 and 5.

***Fig** 3 A photograph of the city defenses which has been plotted and digitized (see Figs 6 and 7 bottom right) The wall runs diagonally across the center of the picture and one of the external towers is clearly seen. Most of the wall face and glacis is obscured by rubble but a part of the glacis can be seen as a straight line in the upper third of the picture and a later breach made by shepherds appears at the top. Inside the wall rock outcrops occupy the middle field and building complexes can be seen below. The nylon scale is l0m. long, the white spots on the wall and on the ground either side are control points marked with white lime and surveyed onto a master plan with a total station. The blimp tether rope can be seen center left.*

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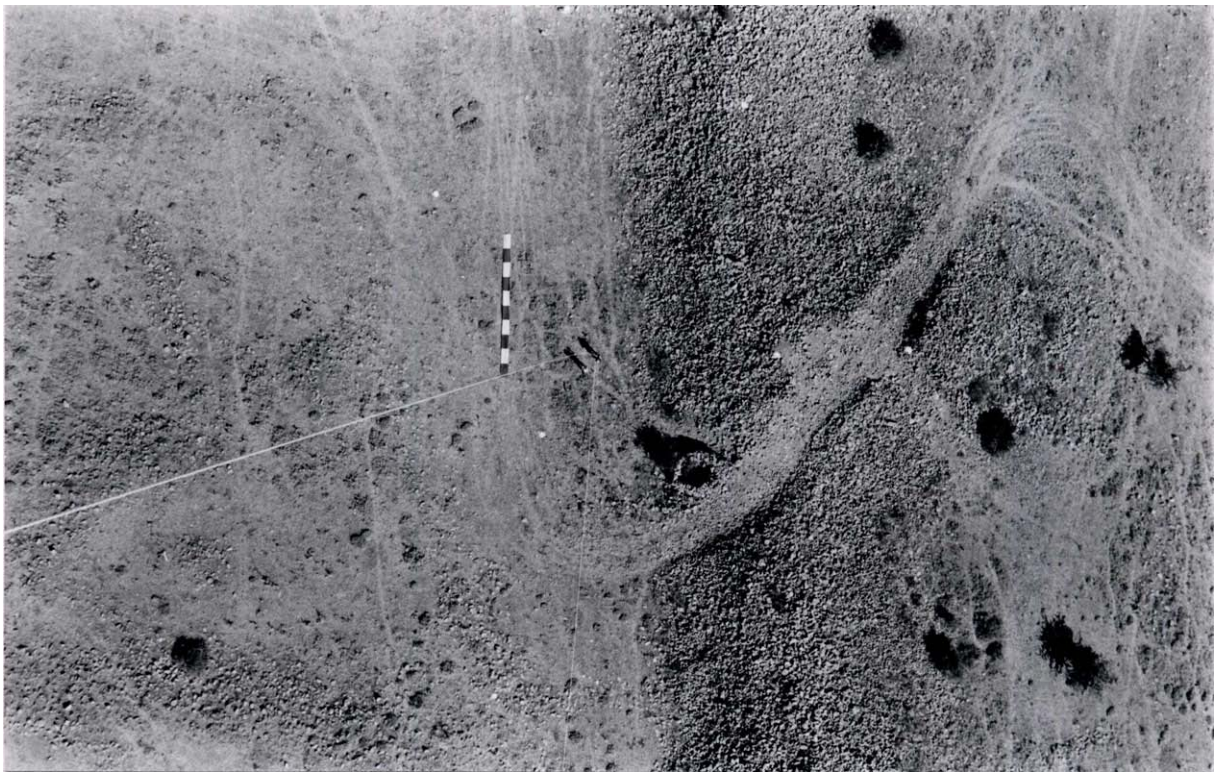

Fig. 4 A closer detail of the wall and a tower crossed by a modern tractor track. The small structure atop the inner edge of the wall protects a vine from foraging goats and provides a shepherd with shade and protection from wind.

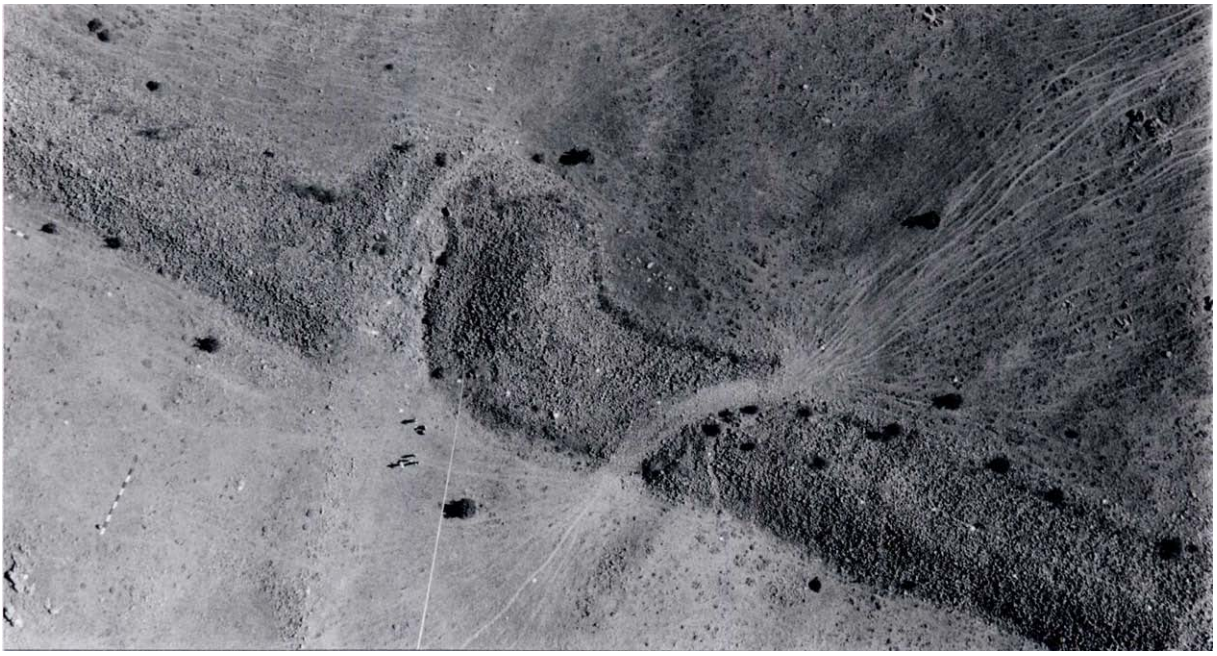

Fig. 5 Another section of the defenses with breeches of clearly different periods, that on the right still being heavily used.

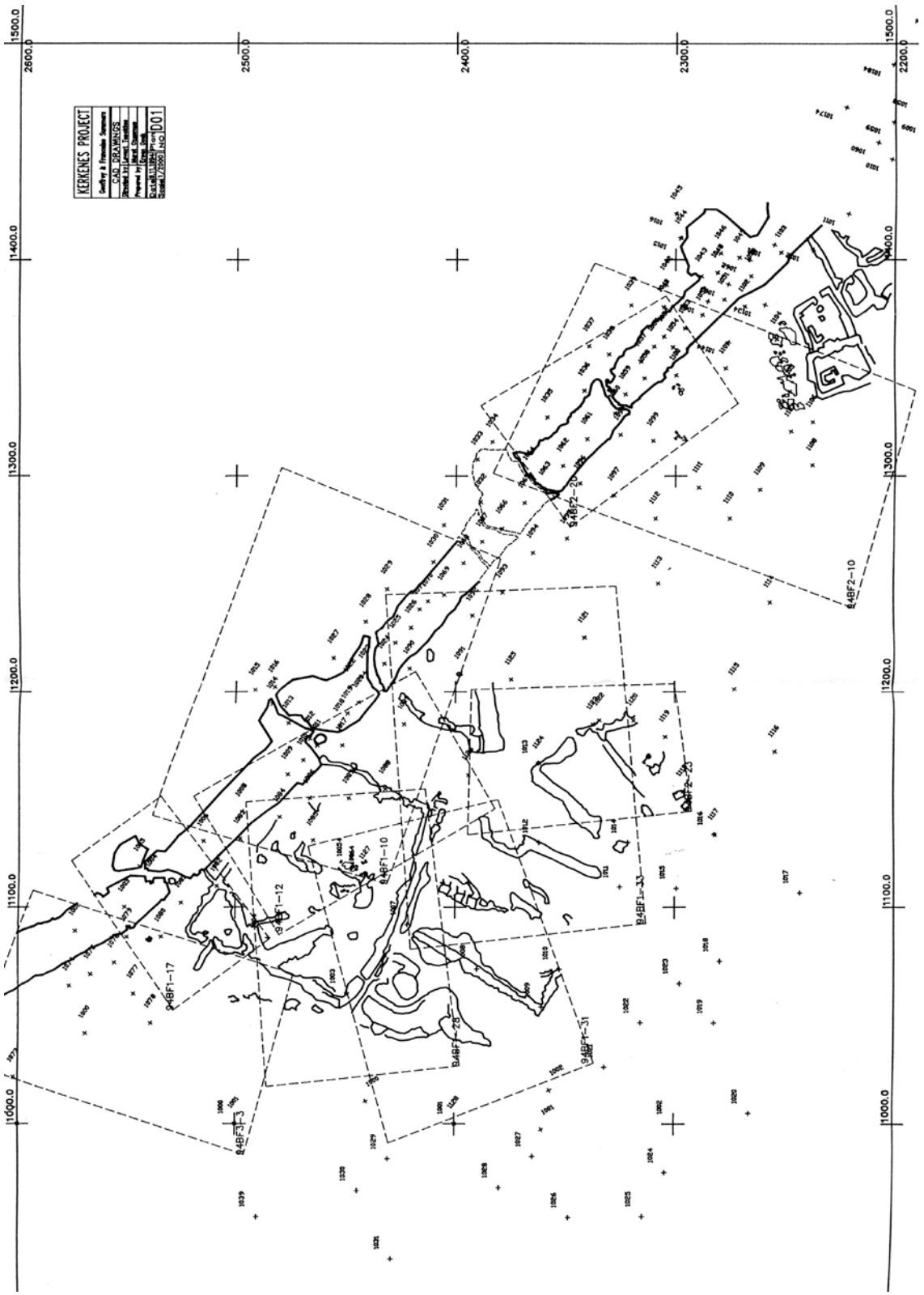

Fig. 6 *A sample block of the grid showing the position of some of the photographs, each with its archive number, control points and crosses on the grid lines.*

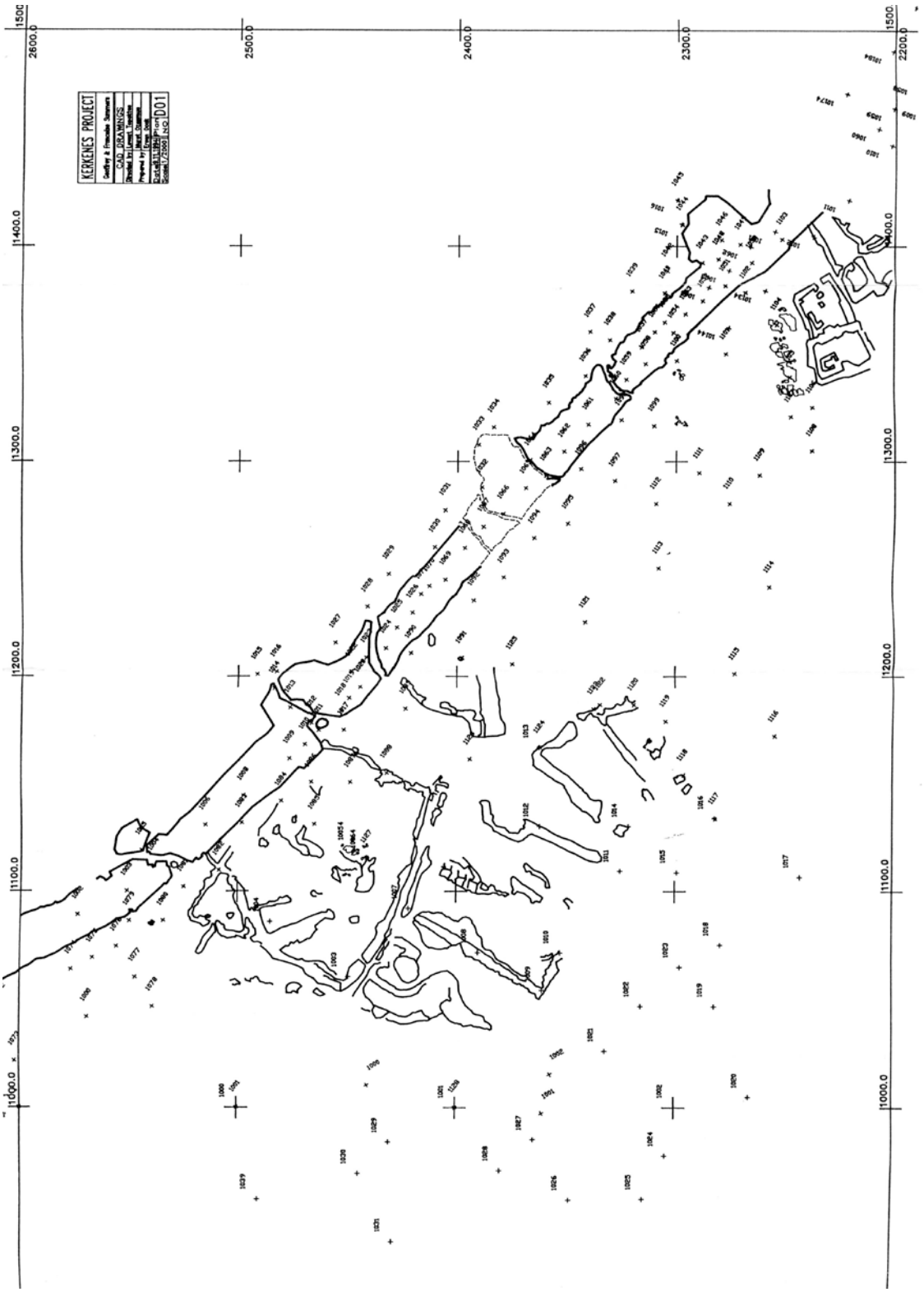

Fig. 7 *The same block showing the archaeological features as plotted from the photographs together with the control points and grid crosses.*

The Defensive System

The defensive system is constructed from uncut granitic bedrock. The nature of the stone is such that it often gives the superficial impression of having been shaped because the stone has a tendency to cleave along flat planes. The wall itself is some 4.5 to Sm. wide at the top. Built against the outer face of the wall, at places where the lie of the ground made additional protection desirable, have been added rectangular towers, buttresses and, in at least two places, larger and more amorphous additions. The whole has then been encased in a stone glacis that slopes at an angle of around 60 0 and runs up so that it is flush with the top of the wall (not to the base). Despite the great width of the wall, the number and size of the towers, the skill of the military architect and the labor involved in construction, the outer sloping face does not provide much of a deterrent to a determined aggressor since many stretches are little more than two meters in height. it is therefore thought that the original scheme envisaged a huge mud-brick wall (as is usual at Near Eastern sites), but that only the stone base or footing was ever built.

Fig 8 *A section of the wall less buried by rubble The sloping glacis built against the outer face can be easily seen on the right side towards the top of the picture and more difficult to discern is a stretch of the vertical inner face of the wall itself (just inside the line of the glacis) The inner vertical wall face is also clear The width of the wall top is c. 4. 65m. and it was intended to provide a solid base for a massive mud-brick superstructure, but this was never built.*

The original city gates can be seen and seven have so far been identified with certainty; perhaps the original total since the wall can be clearly seen for most of its length, although later breeches (Figs 3-7) may obscure small gates or openings. Each gate was individually planned so that it provided the strongest possible defense in its particular situation (in contrast, e.g. to Hittite gates which seem always to follow a standard plan). Special and complex provisions against attack were made where the stream flows through the west wall: perhaps the Persian entrance of Babylon by means of the river outlet was an old Iranian trick?

It is specially noteworthy that there is no inner system of defenses, nothing to separate off a royal quarter, no citadel or acropolis; and that there was never any intention of constructing internal barriers is clear from the layout of the city as a whole (see below). It is thus evident that no strife was expected within the city itself, a conclusion that has important implications relating to the loyalties, civil and political cohesion and ethnicity of the inhabitants. This apparent unity is reinforced by the striking conceptual conformity of the enclosures and buildings within the city (described below).

No outworks or extramural defenses have been recognized, perhaps not surprisingly given the unfinished state of the city wall. It is quite possible, however, that watchtowers lie obscured beneath later remains on surrounding hilltops.

Fig. 9 *Modern sheep pens, used for seasonal grazing in the spring and early summer. The outer wall face and part of the glacis are separated by the rubble core of the sloping glacis which has lost its upper facing stones. The white cross center left is a control point on our site grid. The 10m. scale and white subsidiary control points are also seen.*

The Urban Space

The use of space and the structure of the urban fabric are becoming clearer as work progresses, both in the field and with the photographs taken from the blimp in 1993 and 1994. This photographic coverage is now complete and comprises vertical or near vertical shots from a range of altitudes between 60 and l,000m., both black and white and colour and all with considerable overlaps and numerous ground control points. In 1994 a new innovation for the project was oblique photography from the blimp; this was done by adjusting the camera sling so that the camera itself was at an angle of 45° (Fig. 10).

Fig. 10 *An oblique blimp photograph looking southwards. In the center is the artificial Büyük Göl (big pond) which retained water from the small perennial streams. The angled view highlights the enclosures and buildings of the Iron Age city and gives a more vivid image than the verticals but it is less useful for mapping because of the difficulties of rectifying the image.*

Fig. 11a *A near vertical view of the same area of the city taken from the Kapadokya Lodge hot air balloon in 1993. The evening light causes shadow which brings out some of the relief but obscures structures. Pictures taken earlier in the day appear very flat but all the features are visible. Ideally coverage under different lighting conditions is desirable.*

Fig. 11b *A contour plan of the Büyük Göl and surrounds. We hope to start combining such plans with digitized images during the winter of 1994/5.*

Different areas of the city can now be discerned and clues as to function are becoming apparent. It is also clear from simple observation that certain complexes were located in particular places for very specific reasons or, in other words, there was an overall city plan and the planner(s) had good reasons for the placing of any particular complex. It is not perhaps overstating the case to suggest that what we are able to see is a colonial, Imperial foundation, built as a visible symbol of the new Imperial power, as a sign not only of wealth and strength but also of domination. Thus, in a sense, the site is an "ideal city". The concepts that lay behind the planning are thus of the greatest interest, both in themselves and for any influence that there might (or might not) have been on later Achaemenid and Hellenistic ideas on cities. The problem of where the influences might have come from, fascinating and intriguing as it is, must await renewed research to the east of Turkey since it is already obvious that the city on Kerkenes Dağ owes nothing to Hittite or to Neo-Hittite tradition, nor to any civilization that was native to the Anatolian Plateau.

Since the difficult task of producing a plan of the entire city is not going to be achieved for at least another twelve months from the time of writing, it is perhaps premature to try and describe the whole city. What follows, therefore, are a selection of rather disjointed observations that are deliberately intended to display, on the one hand, some of what we already know, and on the other, to emphasize the potential that the project still has to offer.

To begin, as it were, from the outside, the position and the functions of the city gates are a logical starting point. Not only (as above) is each gate designed to maximize the defensive potential of its own particular position, but each gate leads to and from specific places and the places from which they provide entry to the city is reflected by the type and function of the urban areas and individual building in proximity to each gate. Perhaps the most important of the gates is the southern one. The plan of the gateway itself reflects the importance, having an internal passage and chamber with towers at the innermost limit. The position affords a magnificent view southwards over the northern part of Cappadocia and snow capped peak of Erciyes Dağ (Fig. 1) can be seen rising above the haze on a clear morning. A broad and gentle road winds gently up from the plain and passes through the gate to the most important area of the city. Immediately inside the cities most important streets cross. One major main branch of the road makes its way downwards along the steep side of the "kale" and joins the northeast gate, another important street runs from the east gate towards the great stone facade of the palace. Opposite the south gate is an area of large terraces and long narrow structures the function of which is currently enigmatic, it seems likely that they were only built to foundation level (unless they were robbed in Byzantine times) and it is possible that this was a complex of storage magazines situated, as might be expected, just inside the "Cappadocian Gate" through which the agricultural products of the plain and caravans coming from the Mediterranean would have passed. Opposite the gate, just a little to the left, is the At Göl or Sülük Göl, the latter name being derived from its population of medicinal leeches which have given it some local notoriety and which attract the sick from considerable distances. Today a frog filled pond, it was an artificial, stone lined reservoir or settling pool at the head of an elaborate and centrally organized system of water control and distribution.

To the left (west) gate is a large enclosed space which extends from the east-west street to the city wall and stretches from the gate to the corner of the palace. The western limit of this enclosure, dictated by a sharp drop in the level of the bedrock, comprises a long narrow ***(c.*** 3 **in.),** corridor like building. The function is unknown but stables, storage or barracks are possibilities and we expect the geophysical survey might provide an answer. On a raised outcrop of rock that physically

pervades the enclosed area is a major building and between it and the city wall a rectangular reservoir. One other rectangular building is clearly visible but otherwise the area was empty, an observation confirmed by geophysical survey in 1993. The whole of this enclosed complex, immediately inside the gate and flanking the approach to the palace had some very special and important function that has yet to be determined: it is possible that it was the military headquarters, perhaps with barracks and/or stables for the Median cavalry, exercise yards and parade grounds, but this intriguing possibility has yet to demonstrated.

Turning left inside the south gate, joining the street from the east gate and passing between the enclosure and the Sülük Göl just described, would take the visitor (ancient and modem) to the imposing monumental entrance to the Palace (Front Cover). The situation is ideal because the roof would have provided a view over much of the city and there was sufficient flat terrain for construction on a scale commensurate with the importance of the building. Few alternatives were available to the planners, it would have been possible to build it further to the west but this area was prescribed for different purposes and, in any case, would have neither afforded the view over the city nor, of greater importance, have provided a setting which maximized the imposing grandeur that was the symbolic function of the palace. Today the most imposing area of the city is that Kale (castle), known as Keykavus Kale after a Seljuk sultan of that name, which dominates the mountain from the modem trunk road to the north and which overshadows many areas of the city (Front Cover, Fig 1). From Hellenistic times (if not Persian) this small rocky outcrop was fortified and occupied. There is no evidence of the role it played within the Iron Age city but the general layout of the city tends the skirt the rocky outcrop on all sides and there is no hint that later Kale was of any significance in earlier times. Indeed it is clear that the secular and religious monuments of the Iron Age city lay elsewhere and the bare granite fingers had not yet been adapted for occupation. In 1993 it was ascertained the palace was destroyed by fire.

The east gate leads up from the village of Şahmuratlı, where the expedition has its base, by most gentle route. Modern tracks carved out with bulldozers have obliterated parts of the original route and changed the aspect of the eastern approach. Travelers from the east would have approached this way and have followed the street past the south gate to the palatial area described above or have turned northwards at the crossroads inside the south gate and made their way down town. In moments of high fancy this gate is nicknamed the “Hamadan” or “Ectabana” Gate.

The gate on the northeastern side would have received traffic from the north and west which doubtless came via the large mound at Kuşaklı (described later in this report). It also gave access to and from the extramural temple at Karabaş (also described in a separate section below). This gate gave direct access to the main residential area of the city and the main thoroughfare ran, as described above, to the southern gate.

A small gate in the western wall led to pasturage and to the groups of artificial reservoirs in the valleys to the west that were discovered in 1994 and are described below. Further to the south is a heavily fortified gateway with complex outworks, much altered by later tumuli and shepherds shelters (Fig. 13), through which the road to the prominent “tumulus” at Gözbaba, the highest part of the Kerkenes Dağ, clearly led. This gate, in spite of the strength of the fortifications, does not obviously connect with major routes from further afield, courtyards or open areas and small pools to collect rain water. Some of these structures appear not to have risen above foundation level, an observation that geophysical survey should be able to confirm. These large compounds, it is surmised, were or were intended to be aristocratic residences. To the south a grid like system of streets gives access to a second row of similar enclosures and structure before the ground falls steeply away to the south. The street to the south of the palace has a slight kink, associated with a pool for the collection of water.

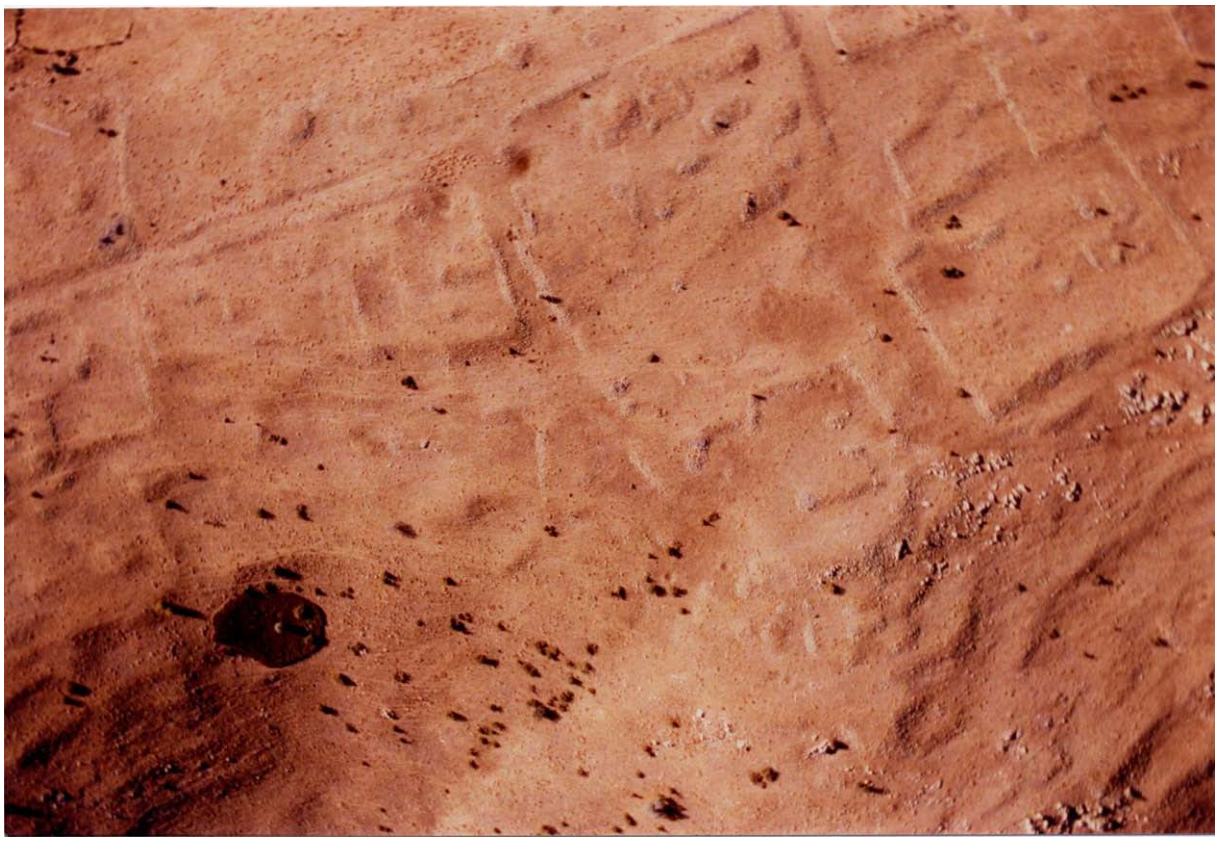

Fig 12 *The street running westwards from the north side of the palace makes a slight dogs-leg before evolving into a wide processional way (diagonally top left of photograph) . On the fairly level ground to the north is a grid like system of streets with rectangular enclosures each containing buildings. Circular heaps of stone are later tumuli (burial mounds) which have utilized the ruins. The enclosures are squashed and misshapen to maximize use of the level ground In the bottom left, enclosures can be seen descending the very steep slope. The dark patch is differential vegetation, the cause of which has yet to be explained*

Turning again to the major areas of the city, the palace is flanked by narrow streets with large enclosures on either side (Fig. 12). Each enclosure contains a major structure or structures with then broadens out to a width of some 18m. At this point it is aligned east-west and at the western end opens into a square or plaza with a large rectangular building on the western side built just inside the line of the city wall. Contrary to expectations, the gate is not at the end of this street but a little to the north. It is, in fact, the gate that leads to Gözbaba. It is tempting to interpret this wide street as having had some ceremonial function because of its obvious alignment with the rising and setting sun, and with the palace and the "tumulus" at Gözbaba. In 1993 it was established that there was extensive and intense burning associated with structures at the end of the wide street. Later tumuli, constructed on the ruins of the Iron Age buildings, have superficially changed the appearance of the complex relationship between the street, gate, buildings and enclosures, but the blimp photographs (Figs 12 and 13) taken in 1994 clearly show the unity and the overall layout of these features. Further geophysical prospection in this area of the city is a priority for 1995.

The task of planning and understanding the rest of the city plan is in hand and description here would be premature. One preliminary observation that can be made relates to architecture:
there is no known parallel for any of the architectural features observed, not the city walls, the palace, the "ceremonial" street or the enclosures with their spacious buildings, and there is nothing that appears to belong to an Anatolian tradition (although it has to be admitted that we know almost nothing of the Anatolian tradition in the late seventh and sixth centuries B.C. on the Plateau). Many of the enclosures and buildings can be easily seen on the photographs and surface observation has shown that many buildings, perhaps all of those that were finished and roofed, were destroyed by fire and that there was considerable use of mud-brick for internal (but not external ?) walls. There is, therefore, great potential for high resolution magnetic survey of these structures which will greatly aid interpretation.

There are a number of outstanding problems which future study will address: the nature and function of the different type of enclosures and buildings; the extent to which open areas within the enclosures were used, if at all, for flocks and herds and what other activities did the populace engage in (industrial, agricultural, domestic etc.). It will be possible, when the city plan is complete, to estimate the area of roofed residential structures and to use this estimate to calculate the likely population of the city. It is already apparent, however, that space was plentiful and that although there are no large areas that were not utilized the density of population may have been far less than in other ancient cities of similar size. Understanding of the urban framework is dependent on a number of difficult questions of a general nature. It is imperative to discover whether or not the city was fully inhabited all the year round or whether it was in some sense a summer city, perhaps the base for annual military campaigns, the collection of tribute or tax, control of seasonal international caravan trade and so forth. An Iranian tradition of annual migration and seasonal campaign could be postulated and it should be possible to prove or disprove the hypothesis by determining the function of the various areas of the city through a combination of geophysical prospection, coring and, perhaps in 1996, a very limited number of carefully placed test trenches. The function of the city crucial to an understanding, and the impression gained so far is that of an imperial foundation that was intended as a strategic military and administrative base rather than as a self-sustaining city economically dependent on the productivity of the surrounding countryside. This attractive suggestion also needs to be clearly demonstrated and a program of research is being initiated to examine the agricultural potential of the surrounding area and to attempt to reconstruct, as far as is possible, the ancient landscape

(forest cover, pasture, arable land and gardens). Modem mechanized farming has lead to the tilling of much marginal land so that superficial impressions of agricultural production must be discounted.

Fig. 13 *The complex at the end of the ceremonial street is partially obscured and modified by later tumuli. The tumuli themselves comprise circular heaps of stone with stone cist graves in the top, all have been robbed in antiquity. The gate leading to Gözbaba is some meters lower than the building which is built on a natural platform, it can be seen the top of the picture and has had a more recent animal enclosure built into it. The tower at bottom left has a tumulus built directly on top, evidence that there was never a mud-brick superstructure to the wall. Inside the wall at bottom left is a small, square building with tumuli on three of the corners. Traces of post-Iron Age animal and field enclosures can also be seen.*

ASSOCIATED EXTRAMURAL SITES

1. The Monumental Temple at Karabaş

Extramural temples and shrines have a long and widespread ancestry in the ancient Near East. Close to home is the great Imperial shrine of Yazilıkaya at the Hittite capital of Hattusa and numerous references in second millennium llittite texts to festivals and shrines in the countryside. Closer in time, in Mesopotamia, is the famous New Year Festival Temple at Babylon and the less well know extra mural temple at the Assyrian ceremonial capital Assur. Nearer still are the out-door shrines (but not temples) of Urartu. In ancient Persia too religious monuments are found beyond the walls. It is thus no surprise to find a monumental stone temple outside the city at Kerkenes Dağ. Its monumentality and good state of preservation, however, is a welcome bonus.

The survey of Karabaş began in 1993 with balloon photographs, photography of the standing remains and brief notes. Further photographs were taken in 1994 (Figs 14 and 15). The full significance and character of the structure only became fully apparent dining the detailed investigations carried out in 1994. The remains comprise two structures of apparently different dates. This report focuses on the monumental Iron Age building, full description of the later complex being left for the final publication when it will be possible to place it in a wider context.

Methodology
Weeds, but not perennial shrubs, were cleared at the start of the 1994 investigations. The final plan will be drawn from a combination of ground survey using a total station and blimp photographs (Figs 15 and 16). Profiles were measured with the total station. Well preserved wall faces were drawn at a scale of 1:20.

Position
The monument is situated on a slight natural rise some 680rn. due north of the northernmost corner of the ancient city on the Kerkenes Dağ adjacent to a poor spring (dry in late July 1994), close to the confluence of Kale Dere and seasonal stream flowing from the east. The monument stands on or close to the road from the north to the gate in the north-east city wall and immediately west of the modern track from Babalı to Gözbaba Köy. It does not have a commanding view and therefore is unlikely to have served a defensive or military function. There are much better places to build a military tower a little further to the north or on the surrounding hills.

Date
The monument is contemporaneous with the Iron Age city for the following reasons. Firstly is its striking position in relation to the northernmost point of the city, locally known as Burch (meaning tower). There is no discernible reason to have chosen the particular location other than the relationship to the northern tip of the city because the prospect is poor in every direction and the spring, even if more copious in the past than today, is meager in comparison to many others in the vicinity. Secondly, the building techniques are the same as those used in the city walls in two important respects, the use of large, uncut granite blocks with smaller stones filling gaps and the strange way in which the outer buttressed skin of the building is built against the outer face of the

building echoes the abutment of the towers against the outer face of the city wall.

Function

Temple for the following reasons:

(1) the position, outside city, is a traditional Near Eastern position for seasonal festivals;
(2) massive construction is indicative of an important public building;
(3) walls are aligned to the cardinal points;
(4) a military function can be discounted because of(a) the location, (b) the small size which would have been insufficient for a garrison of any numerical strength and (c) the architectural concept.

If it is a Median temple it would presumably have been a fire temple. Other possibilities are few: were it to have been dedicated to local gods it would imply that the location had some long-standing cultic importance for which there is not a shred of evidence. From what we know of Median religious practice at Harran, which may not apply here of course, there is no precedent for their respect of local cults. An alternative might be a royal tomb or at least a temple associated with royal burial.

Description

The building is monumental in concept and execution with wall faces aligned with the cardinal points of the compass (Fig 16). It appears to have been a freestanding tower built entirely of stone. The plan is approximately a square with corner buttresses and some internal division. There are two parts to the structure, an inner building and an outer skin with buttresses constructed against the outer face of the inner building. Details of the plan and elevations are problematic and both the position and the nature of the entrance is unknown. it is possible that the structure was originally within an enclosure or teminos or that there were associated terraces on one or more sides. Later adaptation and disturbance has, however, obscured the original setting.

Construction Techniques

All walls are built from blocks of uncut granite with small stones tucked into the larger interstices (Figs 14 and 15). The inner building was presumably erected first since it would otherwise have been necessary to move stones into the existing rectangle of the outer skin. It is possible that the two parts of the building were constructed together with the outer skin built up in stages to facilitate raising stone to the upper parts of the inner wall, but in this case it is difficult to explain why there were two separate walls. it is more probable that the outer skin was added to enhance aesthetically rather than support the inner structure. There is no reason to assume that the inner core was in physical need of support because the construction technique used for the city defenses displays the same features of abutment and addition, although the necessity for structural support remains a possibility. The buttresses on the corners of the outer wall or skin are bonded with it. All visible wall junctions in the inner building are bonded.

Fig. 14 *The northeast corner of the Karabaş temple. The scale is 2m.*

Fig. 15 *Detailed blimp photograph of the northwest corner: the buttress and outer wall faces can be seen as can the double thickness of the north wall (lower left). The chamber, partially exposed by recent treasure seekers, appears as a dark rectangle. The semi-circular addition to the west wall is later*

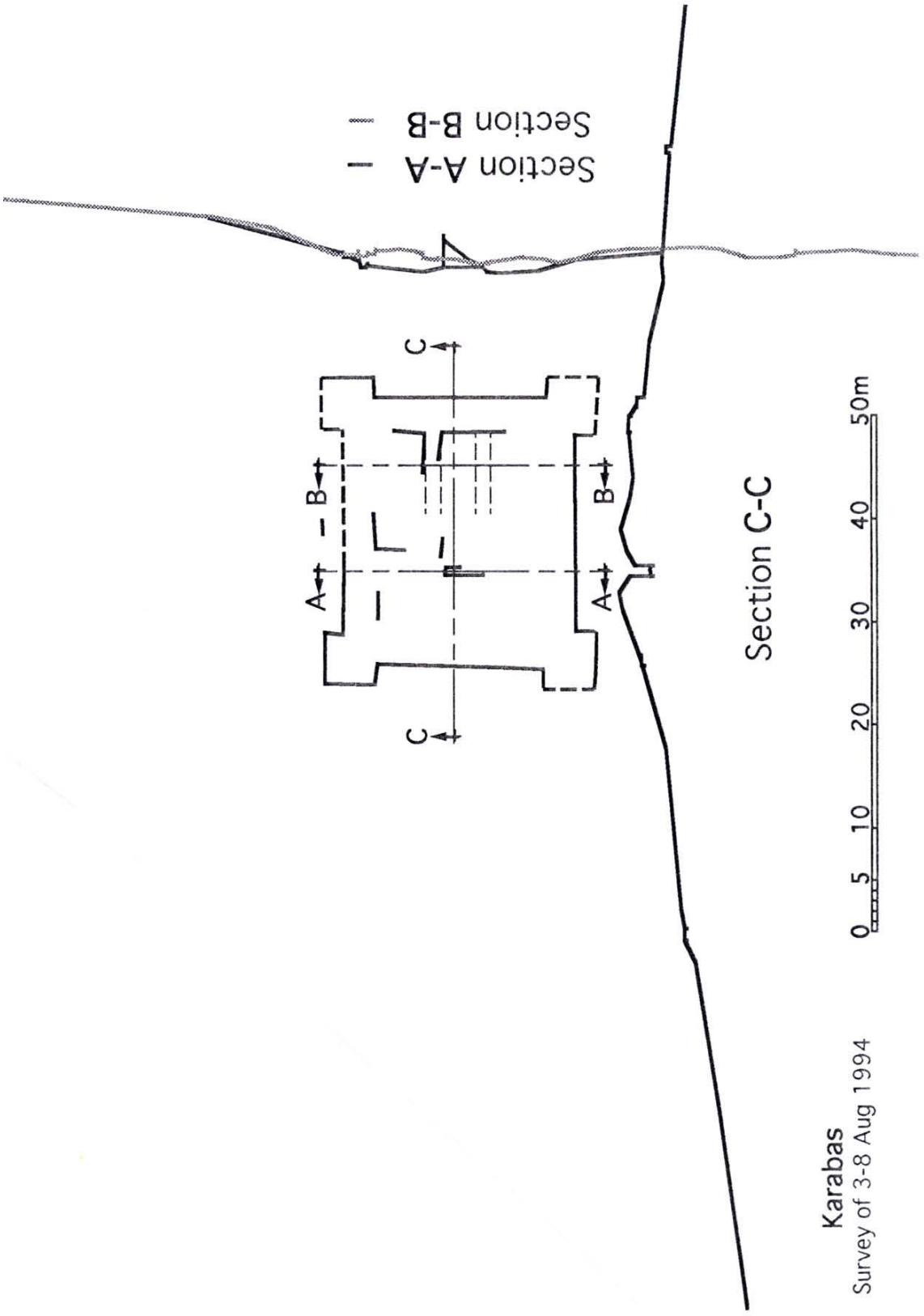

Fig. 16 *Plan of the Karabaş temple.*

Plan

The plan is approximately square with corner buttresses (Fig 16). All the walls appear to have a standard width of *c.* 1.75m. Since the external walls were built faces to face the total thickness is *c.* 3.50m. The internal plan is impossible to determine and there are various ways of reconstructing it from the extant remains, none of which are without problems. The difficulties stem in part from later reuse and more recent disturbance from treasure seekers.

The Entrance

The position of the original entrance is no longer discernible (without excavation). If there was a door at ground level it would seem that the only possible position was at the south side where the walls are ruinous. If entry was by way of a stairway that was integral with the outer skin it might have been on the south or the north side, and if on the latter may still be extant beneath the present talus. An external stairway butted against the outer face could be reconstructed in any position.

The Chamber

The stone chamber confuses rather than clarifies any reconstruction of the building. It would seem certainly to have been part of the original structure because the two visible corners, at the north end, are bonded. The possibilities are:

(1) a casemate or foundation for a high and solid platform which would have been above the highest part of the structure that has survived, in this instance other casemates would have been at 90 degrees, as evidenced by the exposed inner face of the north wall;
(2) a grave within a funerary temple of grandiose tomb (or just possible belonging to a later tumulus) in which case it appears to be awkwardly long, thin and deep;
(3) a hollow shaft within the core of a platform for drainage or ritual;
(4) an internal stairway or passage.

If it was a passage or long narrow room it is difficult to see how the western side of the building functioned without windows and it seems more probable that this side of the structure was a platform. The key question is whether the floor level is below the base of the chamber or was above the existing remains.

The East Side of the Structure

The eastern side of the structure appears to comprise four units, two rectangular chambers to either side with two roughly square compartments, narrower than the flanking chambers, in the center. The chambers measure *c.* 5.00 by 11m. so that it would have needed timber beams in excess of 5.25m. to have roofed them; substantial but not impossibly so. On the other hand, they might possibly have been voids and the axial square compartments the base of a raised area or support for stairs from the east. If the building faced east the eastern most central compartment may have been the focus or the foundation of the focal room.

2. Gözbaba

Reference has been made above to the monuments at Gözbaba on the highest part of the Kerkenes Dag. The monuments were recorded in 1993, but the apparent association with the "ceremonial" street and direct access from the northernmost of the two western city gates give cause for further comment. The monument was recorded by E.F. Schmidt and H.H. von der Osten. There are five visible elements:

(1) a large tumulus like heap which resembles other large tumuli in the vicinity;
(2) a stone pavement covering the slopes of the tumulus like monument;
(3) stone foundations of a tower like structure on top of the monument and apparently, but not absolutely certainly, associated with the building on top;
(4) a cold perennial, if weak, spring just below and to the south of the monument;
(5) a massive, low, very crude, dry-stone enclosure wall that embraces the spring and adjoins the sides of the main monument.

On the basis of scant surface sherds it was suggested at the end of the 1993 season that the mound was a tumulus (following the original publication, and that the other features were of Byzantine date. The possibility exists, however, that the nature and date of the various elements needs to be re-evaluated and that the mound either is or encases a religious or ceremonial monument contemporaneous with the Iron Age city. It will be suggested below that the stone pavement and perhaps the tower might belong to the Persian period, in which case they would have been constructed on an earlier, Iron Age monument whatever its exact nature. We hope that geophysical survey will again provide an answer to this enigmatic problem.

3. Water Reservoirs

Water at Kerkenes Dag in 1994

There was very little winter snow and spring rain on the Anatolian plateau in 1993-94. There was a week of rain just before Kurban Bayramı and it was then dry until a couple of exceptional half days in late July and early August. When we arrived the Büyük Göl was dry and the Sülük Göl a muddy puddle. On the 4th of August the Sülük Göl dried leaving a mass of tadpoles and leeches to their fate in the sun. Only at the west edge where the source flows in is there some little water. The main çeşmeler on the site have some water, that by the SE corner and the one at Karabaş are dry. The main stream that flows through the west wall is no longer running although the pools at the wall contain water. In Şalimuratlı there is less water than usual in the çeşme by the mosque, other çeşmeler are as good as dry.

Water Catchment

<u>The west wall and cistern.</u>

Where the stream flows through the west wall there is an elaborate series of stone lined cistern both inside and outside the wail and the wall itself displays unique feature&

<u>City Wall</u>

There is no gate at this point and the continuous line of the city wall is clearly evident. The outer side of the city wall has large rectangular towers either side of the stream. Neither the towers nor the outer *face* of the stretch of wall between them appears to have had a glacis. This is the only section of the city wall without the glacis so far discovered. The inner face of the wall, however, has a glacis along the equivalent section. Where the wall crosses the stream the outer face stones

are particularly large. The stream itself presumably flowed through an outlet built into the wall. The exceptional construction of the wall at this point was presumably a response to the weakness created by the exit of the stream which made the wall vulnerable to sapping at this point where it would have been impossible to satisfactorily carry the glacis over the stream. By building a glacis on the inside some added protection was provided. it is not surprising that there was not a gate at this point because the weakness created by a combination of stream and gate would have been considerable.

Inner Cistern

The inner cistern is stone built and appears to have had a corbelled roof that has since collapsed. The mechanism by which the flow of excess water through the wall was controlled is no longer extant.

Outer cistern

Immediately outside the wall the stream has been modified into a large, rectangular, stone lined, open cistern. This cistern might have afforded extra protection as well as retaining water for animals grazing outside the city wall.

NE Reservoir

Outside the city wall at the NE corner, at the head of the valley that runs down towards Sahmuratlı, where there is now a group of çeşme and immediately north of the road, a semicircular dam with a central sluice can be seen.

Reservoirs to the West of the city

In the side valleys that run into the Kale Dere from the bills to the west there is a group of reservoirs the largest of which has a dam constructed of parallel stone walls with a clay fills. It is possible that the sides were stone lined, but nothing is now visible. These, and others in adjacent valleys, should be visible on the hot air balloon photographs taken in 1993; some can be seen as green patches on the cover photograph. There is a further group of three reservoirs above Karapınar (Gözbaba) which have largely silted up. There are surely more in the intervening valley, which has yet to be visited.

4. Tumuli

It has become apparent that the hundreds of tumuli in the region span several periods and are of several different types. There are a large number within the city which were constructed on the ruins of the deserted city, on the remains of both buildings and defenses and which therefore postdate the desertion of the city. None of the tumuli in the region appear to belong to the traditions of Phrygia, i.e. they do not have timber burial chambers. The tumuli in the region will be the subject of a special study for an international Conference on Phrygian and Thracian relations.

THE BYZANTINE VILLAGE ON THE KIREMITLIK

The Kiremitlik, the place where there is pottery, is situated at the southernmost area of the Iron Age city on the Kerkenes Dağ which is also the highest part of that ancient site (c. 1,472m. above sea level according to the 1:25,000 map). It affords a magnificent view over the undulating plain to the south and southwest. It is presumed, on the basis of the recent pattern of land use and older remains, that at the period we are most concerned with here, the Late Roman and Byzantine, the inhabitants of this small site exploited the area of the ancient city and the slopes outside for orchards and vineyards as well as grazing sheep, cattle and horses. Some of the field and animal enclosures in the vicinity were contemporary with the periods of settlement, in particular the east facing slopes below the Kiremitlik and inside the line of the earlier city wall. Occupation was probably seasonal because the winters on this high and exposed position are long and bitterly cold. The later periods of settlement on the Kiremitlik smother the Iron Age city wall.

History of Exploration

In 1927 Erich Schmidt sank two of his fourteen test trenches on the Kerkenes Dağ in the Kiremitlik (Schmidt 1928: site 1 and 2, and *passim)* in order to obtain a sequence of occupation. The trenches were designed to reveal the earliest occupation in this area of the site and to ascertain the date of the city wall. In 1993 photographs of the area were taken using a helium filled blimp. It is these photographs, together with observation and measurement on the ground that form the basis for the present report.

The Sequence of Occupation

The sequence of occupation was established by Schmidt and the present authors have seen nothing amongst the prolific quantity of pottery sherds on the surface to modify Schmidt's conclusion that occupation extended from at least as early as the Hellenistic (Schmidt's "Greek") period until early Byzantine times. The Earlier city wall was apparently constructed in the mid-first millennium B.C. Settlement may not have been continuous from the Late Hellenistic period until final abandonment but only further excavation could establish the detailed sequence. The periods of occupation are approximately the same as those on the Kale but the exact nature of the relationship between these two sites has not been established. The area has subsequently been used, as it still is today, for seasonal grazing and shelters for both animals and shepherds obscure some of the more substantial earlier remains here as elsewhere within the Iron Age city.

Location

The site commands a fine view to south and southwest and would have given the residents ample warning of danger from these directions, e.g. of Arab raids across the Cappadocian Plain, and its relative isolation would in itself have given protection. The site was well chosen for multi-resource seasonal occupation, grazing, gardens and perhaps hay-making. Being on the highest and most exposed part of the earlier site it is subject to the strong winds that blow almost every day in the summer. There is water available from springs, although these are not bountiful today, and wells. The granitic bed-rock that comprises the whole of the Kerkenes Dag protrudes from the modem ground surface at almost the highest point on the Kiremitlik, demonstrating the obvious point that the topography of the site, with sudden and marked differences in level, reflects the underlying geology.

Aims and Methods

The aim of this part of the Kerkenes Dag project is to record and interpret the remains visible on the ground at the Kiremitlik. The focus is on the latest Byzantine settlement which can be seen almost in its entirety and thus affords an excellent opportunity to examine a small rural and probably seasonal settlement of the Early Byzantine period in Northern Cappadocia. From the photographs and observations on the ground it has also been possible to discern something of the development of the site from a rectilinear settlement into a less regular group of complexes that, nevertheless, display some unity and general conformity. Neither the precise dates nor the span of time involved in this development of the site can be documented from the surface remains although the prolific surface pottery is no later than Early Byzantine. The blimp photographs display a palimpsest of remains.

The drawing is an interpretation of the latest phase of settlement. No attempt has been made to correct for photographic distortion because a combination of observation on the ground and the level of guess work involved in drawing the exact position of the walls suggests that rectification would impose a false level of accuracy on the end result.

Description

The site straddles and obscures the Iron Age city wall although both of the vertical faces of have been utilized in places and can still be seen (Fig. 17) It appears from the distribution of surface sherds that occupation extended beyond the city wail in the Hellenistic period. What is more certain is that the Byzantine settlement was undefended as can clearly be seen on the western and southern sides. There are two types of building plan visible on the surface, regular rectilinear complexes of Early Byzantine date (solid black on Fig. 17) and later curvilinear structures (hatched on Fig. 17) which often modify the earlier buildings. There is an ancient track to the site from the south which, according to Schmidt's observations, was once paved. There are further tracks to the northeast and north that are still used today. The track to the west, leading towards Gozbaba with branches off the southern plain and northern slopes, and which can clearly be seen breaching the walls, is a relatively recent drove road which is still in use.

From the remains still visible in Schmidt's Site 2 and from his published description it is clear the buildings of early Byzantine date (Schmidt's Roman) were, like most of the recently built houses in the villages on the plain below, built entirely of stone with, to judge from the almost total absence of roof tile, timber and earth roofs. An abundance of building stone and the lack of silt or clay on the Kerkenes Dağ and the very sandy nature of the soil in the plains below explains the preference for stone over mud-brick. All the visible structures are built of dry stone walling, in contrast to the Byzantine defenses on the Kale which are constructed of rubble and lime mortar. Since there is no calcareous stone in the vicinity the absence of mortar is not surprising but it does demonstrate that roofs were not vaulted. All the stone is local granite, there is no cut stone on the site. Nevertheless, walls were well and neatly constructed with the face stones carefully fitted together, in contrast with later and temporary shelters in the immediate area. Generally the walls comprise two faces with a few stones placed in gaps between. They are approximately a consistent O.80m. in width. The buildings have been divided into complexes. What is visible represents the final stage of a lengthy period of settlement during which the site expanded and underwent some modifications. The growth and alterations are, for the most part, obscure.

Conclusions

The Early Byzantine site on the Kiremitlik represents a village, perhaps seasonally occupied in the spring and summer with the main settlement somewhere in the plain to the south. There are no defenses. In its final form it represents the modification of a similar Late Roman or Byzantine village. The nature of earlier Roman and Hellenistic occupation beneath the extant remains has not been elucidated. The single story buildings were constructed entirely of dry stone with traditional timber and mud roofs. The plan displays some recognizable order with groups of rooms around courtyards or open areas. The economy was presumably based on grazing with some viticulture and orchards and, in the fields below, cereals. There is evidence of pottery manufacture on the site. Although the site is fairly small, the quality and quantity of fine red slipped pottery and glass suggests some degree of wealth, considerable above the level of subsistence.

Fig. 17 *Plan of the Kiremitlik as interpreted from balloon photographs.*

SURVEY OF SITES IN THE IMMEDIATE VICINITY

A gazetteer of all sites known within the survey region is appended to the end of this report and will be updated as the survey progresses. The survey area is restricted to the area immediately surrounding the Kerkenes Dağ for two reasons:

(1) so as not to distract from the main focus of the project which is the site itself,

(2) so as not to duplicate the much wider survey that has been initiated by Dr. Ron Gorny in conjunction with his restudy of and new excavations at A1işar Höyük and his associated rescue excavations at Çadır Höyük, the latter being only some 8 km. from Kerkenes.

It is indeed fortunate that we are able to collaborate closely on many aspects of the surveys. The primary aim of the Kerkenes Project survey is to try and locate contemporaneous settlement, and particularly sites which might fit the testimony of Herodotus who tells us that Croesus enslaved the inhabitants of Pteria and chased away the inhabitants of the surrounding villages. A secondary aim is the examine the occupation and land use of the region through time, both because it is an interesting and worthwhile study in itself and because we hope to be able to answer questions relating to traditional land use and deforestation. The survey is intense and involves walking much of the area as well as obtaining local information in the villages. Only a small area remains to be walked in 1995, preferably after autumn ploughing.

General Observations

Sorgun was formerly Büyük Köhne and sometime Yeşilova. The Egriöz Su was sometime the Yeşilova Su. The mounds to the west of Sorgun are all on the south bank of the Eşriöz Su and receive fresh water flowing northwards from the granitic massif of Kerkenes Dağ or coming from the numerous perennial springs in the area. There is no such regular fresh water on the northern side of the river. The proximity of mounds to one another in this region, in sharp contrast to areas east and west, presumably reflects the water bearing granitic bed rock. It may be assumed that water was more abundant before the deforestation of Kerkenes Dağ. The date of the deforestation is an outstanding problem.

Sites with Glacis

Three such sites have been visited, Keykavus Kale, Gözbaba Tumulus and Tilkigedigi Tepe. A fourth is known at Sümerin Sivrihisar. There are two, related, problems: the date and the function. Based on the 1993 observations it was thought that the glacis at Keykavus Kale ran up to, and was therefore contemporaneous with, the mortared castle wall. Evidence recovered from Tilkigediği Tepe (Fig. 18) and Tilkigedigi Tepe Tower in 1994 suggests that the glacis is Iron Age and the mortared Byzantine tower was without any such additional defensive device.

The site of Tilkigedigi Tepe appears, from the evidence provided by recent digging for treasure which has exposed the stratigraphy, to be of a single period. The pottery (Figs 19-22) is of Achaemenid (Persian Empire) date. This throws open the date and function of Gözbaba Tumulus, if it was ever a tumulus, and the date of the glacis on Keykavus Kale. There is clearly a system of watch towers and beacons and it may be that this is Iron Age in origin although the pottery shows that it is later than the Iron Age city on the Kerkenes Dağ. It must then, by a process of elimination, belong to some part of the period of the Achaemenid Empire.

Fig. 18. *Tilkigediğii Tepe.*

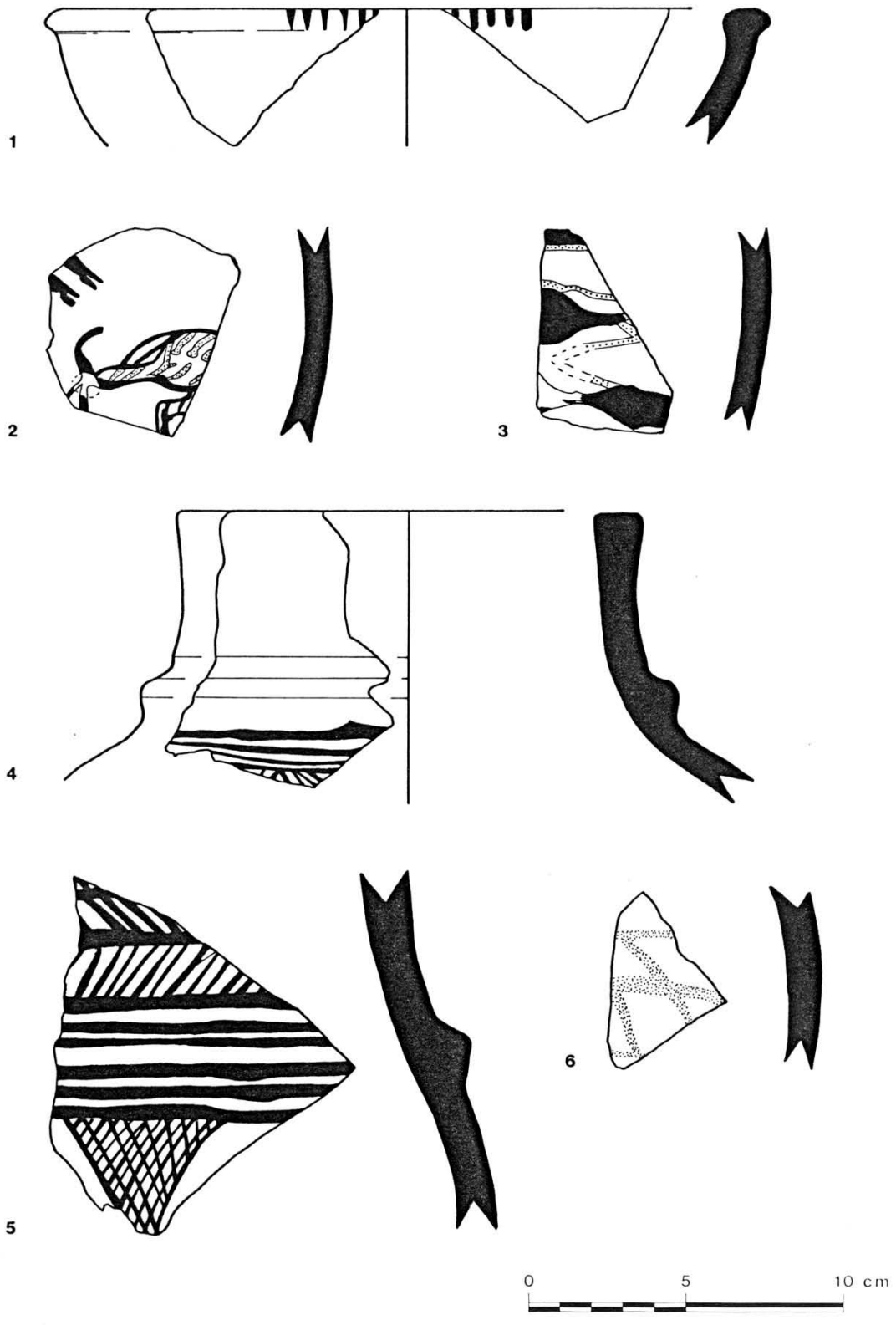

Fig.19 *Pottety from Tilkigedigi Tepe.*

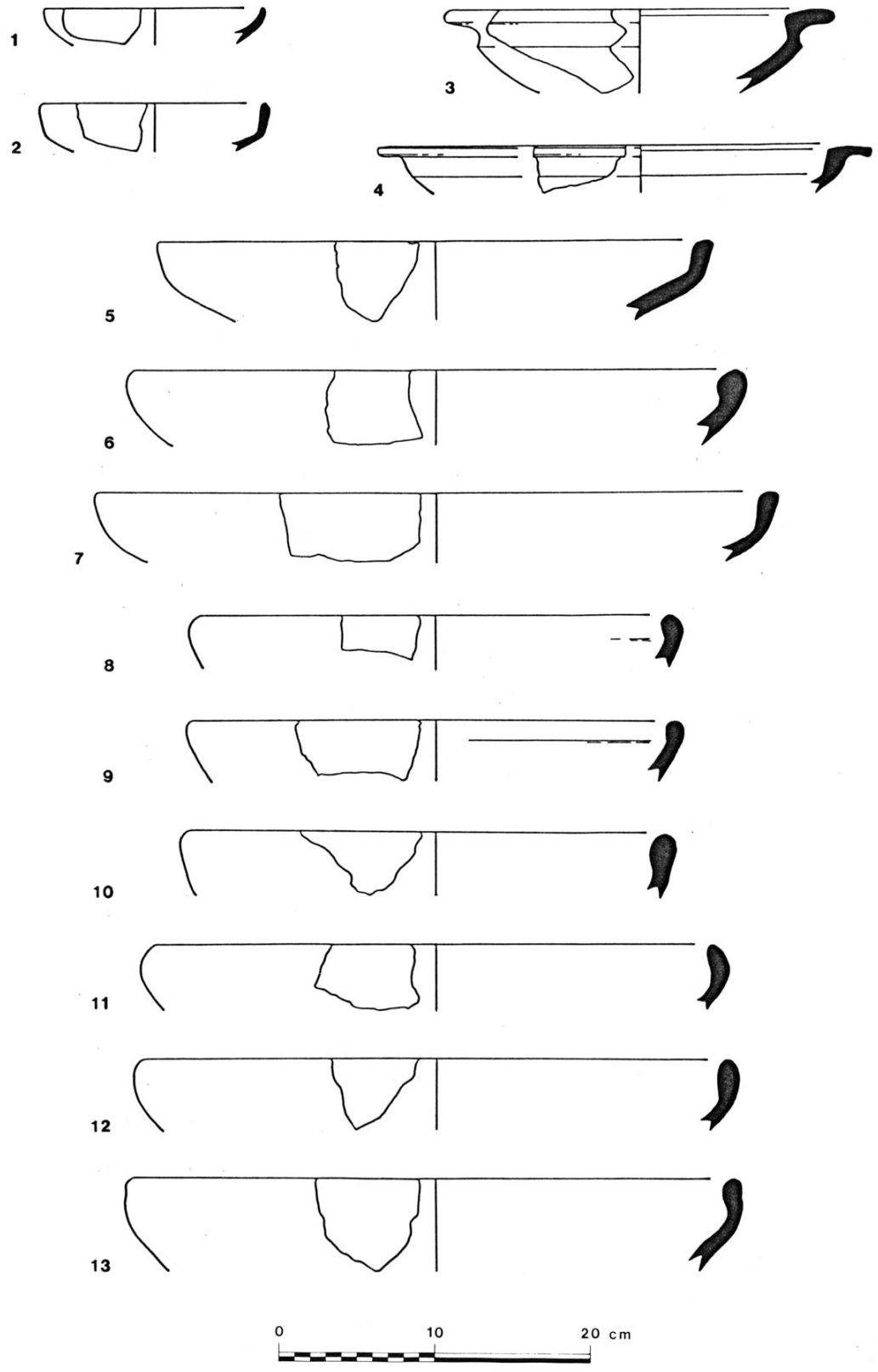

Fig.20 *Pottey from Tilkigedigi Tepe.*

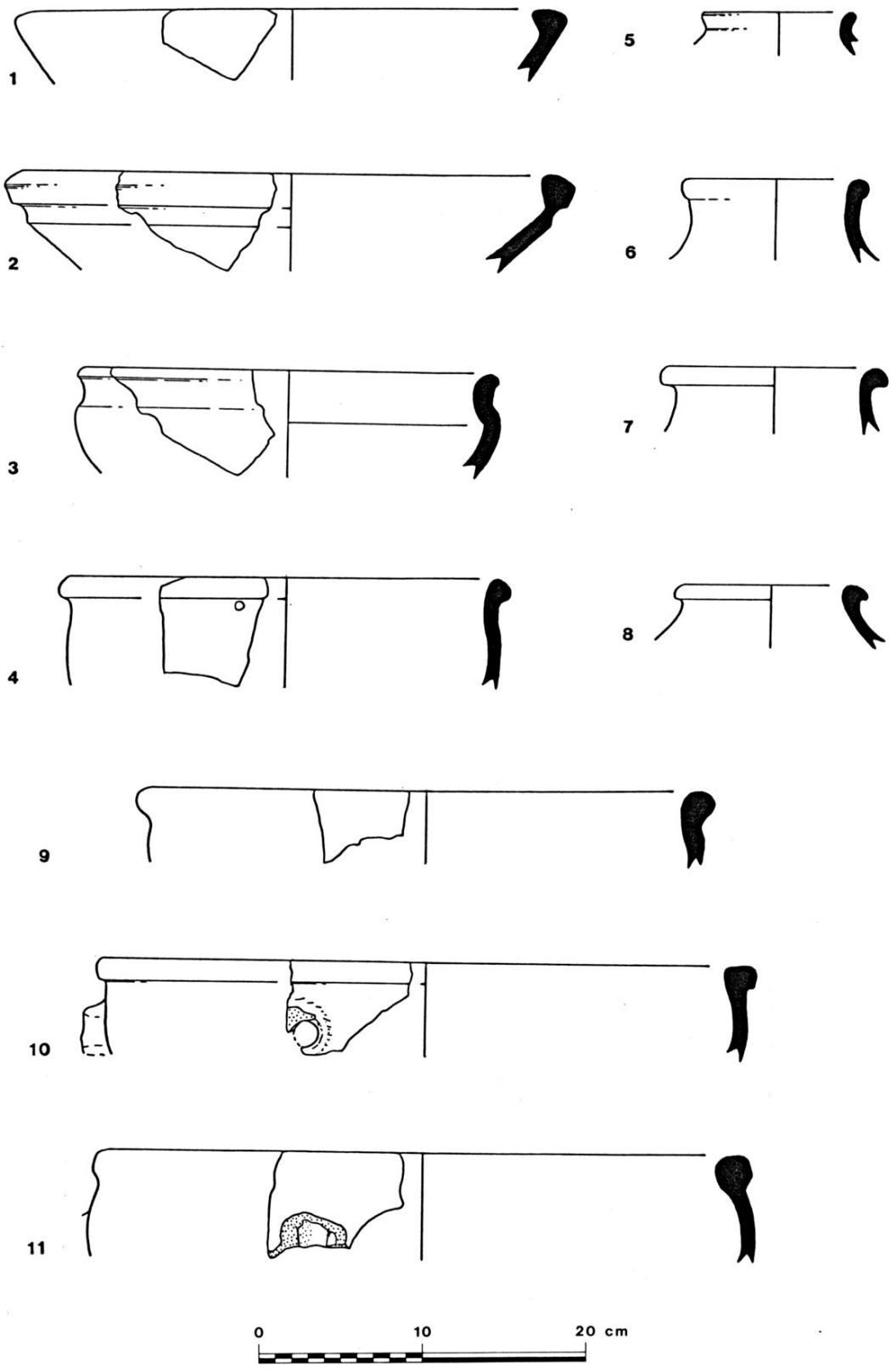

Fig.21 *Pottety from Tilkigedigi Tepe.*

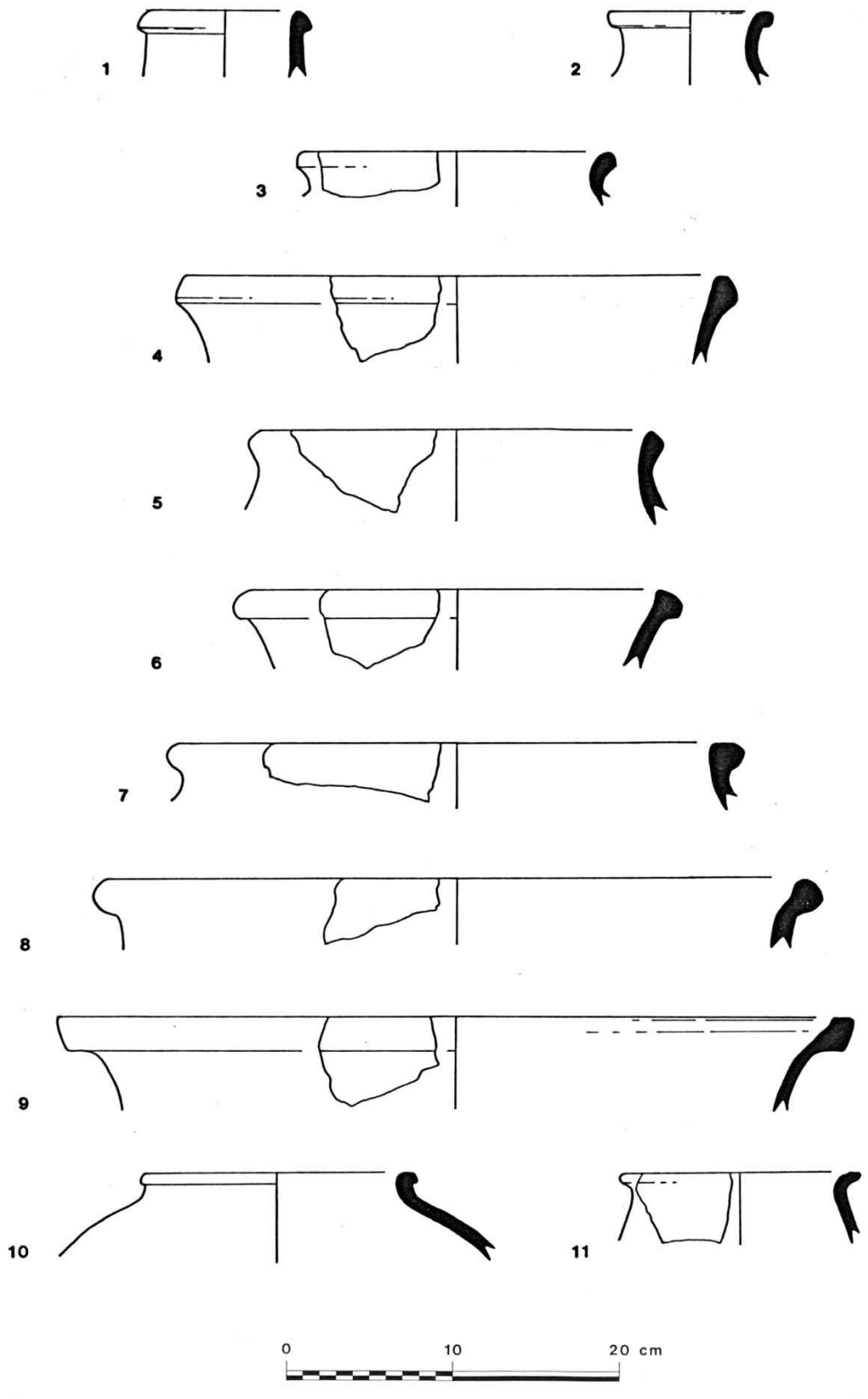

Fig.22 *Pottety from Tilkigedigi Tepe.*

Fig. 23 *The site of Kuşaklı taken from the blimp.*

The Hittite Empire Period

Due north of Kerkenes Dağ and visible from it, at the confluence of the Egriöz Su and the Kötü Dere, is the large multi-period site of Kuşaklı. It has long been known that this was a major urban site in the period of the Hittite Empire (second half of the Second Millennium B.C.) and that it was also of considerable importance in earlier and later periods. The site is also of general interest because its position in a shallow, broad and well watered valley bottom parallels the position of Alişar Höyük (compare Figs 23 and 29). The blimp photographs clearly show the different elements of the site and its setting. The high central mound is uncultivated because of the steepness of the slopes and appears brown from the dead vegetation at the end of the summer. The more or less oval lower town is seen in the field boundaries; it has been clipped by the modem village road at one end and stone-work belonging top a Hittite city gate can be seen on the curve of the wall just above the balloon tether rope. The pottery (Figs 24-2 5) came from a trench dug for the planting of saplings along the line of the wall exactly where the tether rope crosses it in the photograph. It was also clear that the wall was destroyed by fire from the mass of highly burnt mud-brick in the farmers trench. In the Roman period the site was more extensive but this does not show well, perhaps photographs taken in the spring, with differential crop growth, would provide additional information, but the line of the late mortared wall (? Roman) around the top of the central mound stands out at this time of year. The meandering pattern of the Kötü Dere, lined by trees, suggests that, as at A1işar, the earliest levels of occupation at Kuşaklı lied buried beneath many meters of silt and alluvium.

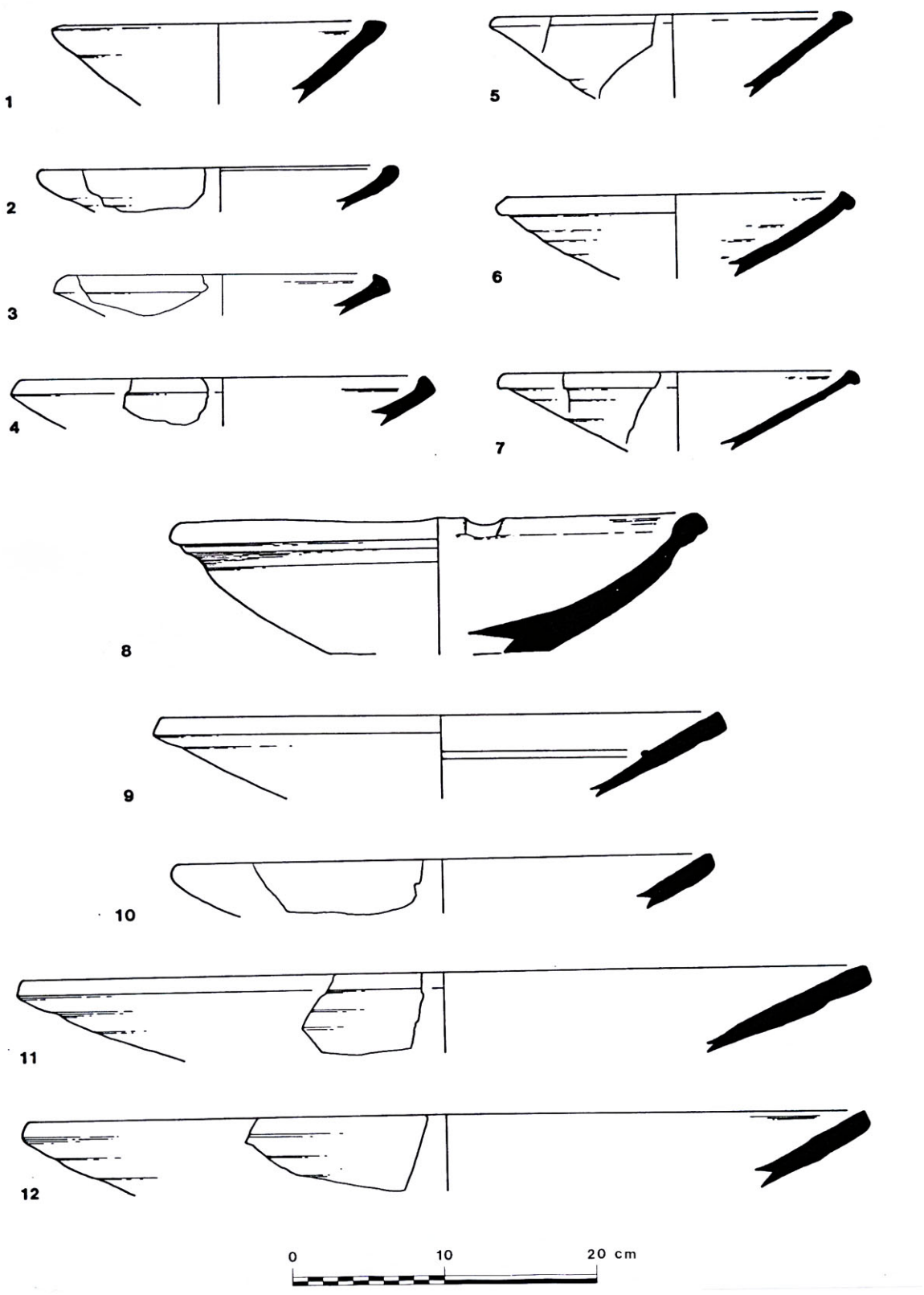

Fig. 24 *The pottery from Kuşaklı.*

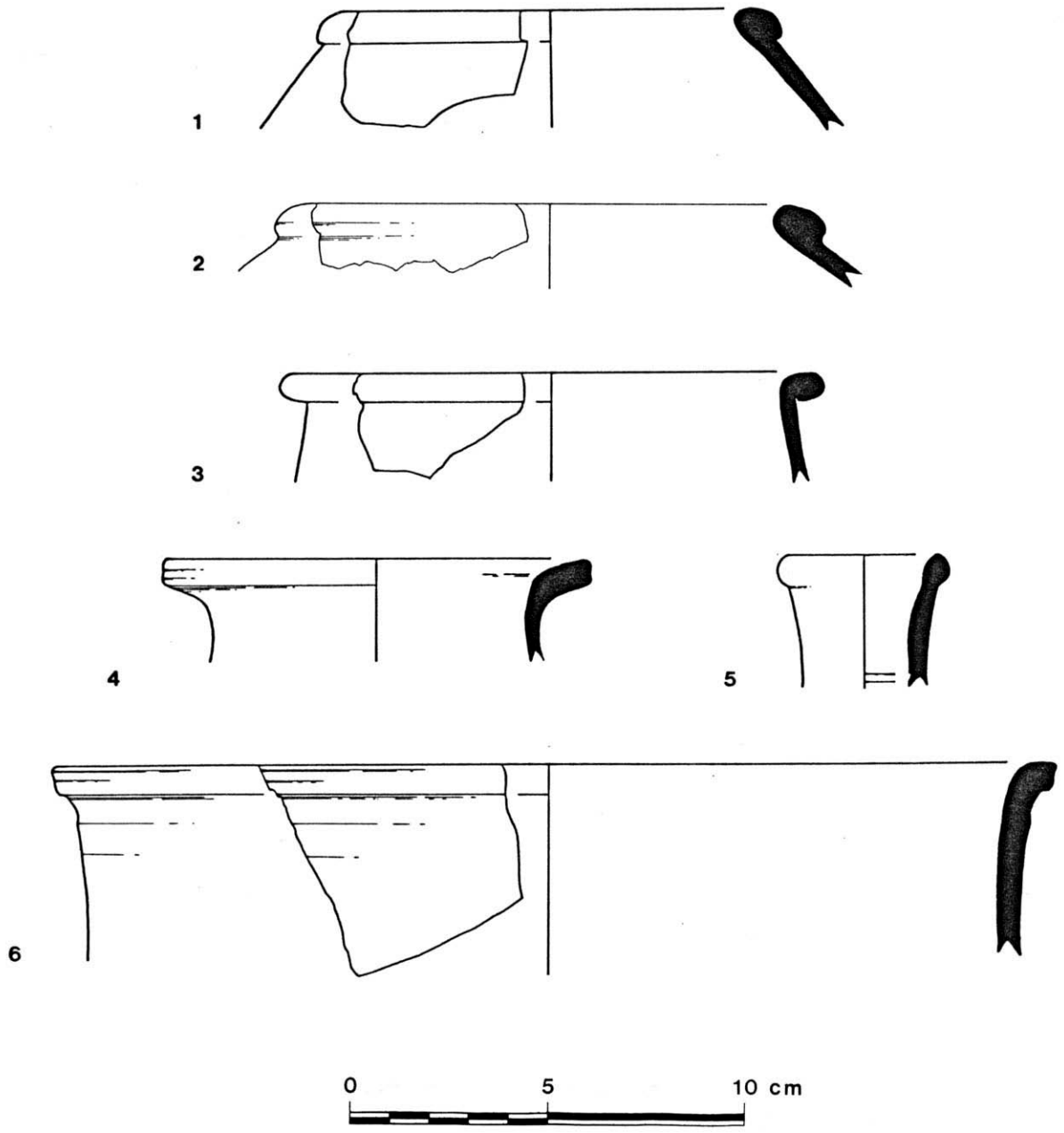

Fig. 25 *The pottery from Kuşaklı.*

Other Sites in the Kerkenes Dağ Survey Area

The other sites are listed and briefly described in the gazetteer (Appendix 1). The aims of the survey are set out elsewhere in this report and some of the preliminary results are discussed under the relevant sections. The ambition is to document the pattern of land use and settlement in all periods as efficiently as possible. The quantity of material collected is kept to the minimum necessary to determine the dates of occupation (as far as is possible) at any given site. The two sites described above are exceptional in that recent exposure provided rare opportunities to gather groups of material that clearly came from a single context and are thus worthy of publication in their own right. On the other hand, precise written records are kept of the areas covered by the survey, the modern land use, ground cover at the time of the visit and so forth; and notes on all pottery seen on the surface are made at the site before a small representative selected as evidence or for further study. The survey covers all periods and Figs 26 and 27 show evidence of high and late Byzantine spolia recorded in two villages.

Fig. 26 *A carved stone from the village of Küçük Köhne.*

Fig. 27 *A carved arch from the village of Gözbaba.*

BLIMP PHOTOGRAPHY OF OTHER SITES IN THE PROVINCE

A number of sites within the province of Yozgat were photographed by the Kerkenes Dağ survey for other projects. We were very pleased to be able to photograph the EBA site at Mercimek Tepe, in the suburbs of Yozgat itself; for the Director of Yozgat Museum, Mr. Musa Özcan, who has been excavating this important and interesting settlement for several years. We were also able to photograph the famous site of Alişar Höyük for Dr. Ron Gorny and his team who have begun a series of new campaigns at the site in an attempt to answer many of the outstanding problems that are central to an understanding of the archaeology of the Anatolian Plateau.

Fig. 28 *Alişar Höyük. The photograph show the high central mound in the center of the picture, the outer town and the line of the wall, the old excavation trenches of Schmidt and von der Osten (including details of the "mansion" towards the bottom right), the broad shallow valley in which the site grew and the springs on the north side. The white cross marks Dr. Gorny's grid and our lorry and Landrover can be seen on the site. The dark scar in the center is von der Osten's deep sounding which went 11m. below the present valley floor.*

Dr. Gorny and his team began work at a new site, Çadır Höyük, in 1994, in advance of a new man-made lake, and we were also able to take most excellent photographs of that site both as a permanent record and as an aid to the new research.

For one site it was almost too late. The site of Cemalı Höyük (Figs 30 and 31) is already partly submerged and will disappear altogether this winter. In order to take detailed photographs of the excavations carried out by the Yozgat Museum it was necessary to engage in water sports. Although the water was still shallow the soft soil of the mound turned into soft fine mud so that our attempts to paddle with the blimp were thwarted. An inflatable dingy provided a damp but more comfortable means of access. The high part of the mound or citadel is surrounded by water and the excavation trenches can be seen in the center. Part of the outer town is still above water at the bottom of the picture and extends a little below the line of the modern road.

Fig. 29 *The site of Cemalı partly submerged by the new lake.*

Fig. 31 *The blimb was transported in a lorry.*

Fig. 32 *The site of Cemalı was photographed from a small inflatable dingy.*

Ortaköy

Professor and Dr. Süel (Ankara University and the General Directorate of Antiquities) are excavating a very important Imperial Hittite center at Ortaköy, in the province of Çorum some little way to the north of us. We were delighted to be able answer their request to take blimp photographs of the excavations and, from greater altitude, the whole of the site. The photographs will be of great help to this exciting and very important excavation which has produced more than 2,000 clay tablets (written texts) and will figure prominently in the published account.

Interest generated by the project in the region.

Awareness of Turkey's cultural heritage is increasing in the Yozgat region, not least because of perceived tourist potential. It is essential that any development of Kerkenes Dağ as a tourist attraction is completely sympathetic to setting and beauty of the site and that mistakes made at other places in Turkey are avoided. On the other hand, an increase in the awareness of the importance of the site is perhaps the only way in which it can be protected from mechanized stone robbing for new buildings in nearby villages and the growing town of Sorgun, and from the depravations of treasure seekers. The Provincial and District Governors have shown continuous interest and provided valuable support to all aspects of the project.

Fig 33 *An extended visit by the Provincial Governor and a large party of officials was reported on the local television station.*

GENERAL TOPICS OF ONGOING AND FUTURE RESEARCH

The Date of Deforestation

One of the general questions that is being addressed by the Kerkenes Dağ archaeological survey is the history of the landscape and the impact of human exploitation and settlement on the flora and fauna. Several inter-related questions are under investigation:

(1) patterns of seasonal and permanent settlement both over the area as a whole and on the uplands of the Kerkenes Dağ in particular,
(2) gathering, grazing, cereal crop cultivation, orchards and vineyards;
(3) human induced changes to the landscape, particularly deforestation.

There are different and complimentary way of approaching these complex questions; geology, geomorphology, panyology and archaeology.

Geology

The background geology of the Kerkenes Dağ is granitic. The soils are therefore acidic, well drained and fairly rich in minerals. More influential, perhaps, is the water bearing and retaining properties of the granite and its sand filled fissures.

Geomorphology

The Kerkenes Dağ is naturally eroding through the agencies of wind, water and ice and displays all the characteristics of an eroded granitic landscape. The natural drainage is to the north and a number of perennial streams drain in this direction. There are springs in many places, ranging from a few meters below the highest peak to the lower valley sides. In normal years the majority of these springs are perennial but in a dry year, as occurred m 1994 when there was almost no snow during the winter, many but by no means all are reduced to the smallest trickle or dry up altogether. The modern habit of making springs into *çeşmeler* lowered the water table to some degree. It is clear that ancient settlement, both seasonal and permanent, is related to the presence of water; hence, there is a much greater density of occupation on the northern side of the Kerkenes Dağ than on the southern slopes and foothills. There is no evidence to suggest that mans activity has drastically reduced soil cover as it so obviously has in other area of the eastern Mediterranean.

Pollen Analysis and Coring

It had been hoped that a program of eroding would have provided pollen profiles from which the pattern of floral change might be reconstructed. Cores made in the artificial reservoirs within the ancient city on the Kerkenes Dağ revealed that there was no more than one meter of silt above virgin sand and rock. Further, it is known that these reservoirs dry out and exhibit wide cracks by

the end of the summer in many years, perhaps most, and that scoops and holes are frequently dug within the reservoirs in order to collect water as the level recedes. Another problem, and one of wider proportions, would be the interpretation of any pollen evidence as it related to the immediate region in view of the proximity of the Pontic forests to the north, the southern edge of which is visible from Kerkenes and which begins just a few kilometers to the north. Very encouraging, however, is the new campaign of excavations which Dr. Ronald Gorny is conducting at the multi-period mound sites of Alişar Höyük and Çadır Höyük. These are only 20 and 5km. away respectively. Pollen and, perhaps more usefully, charcoal analysis from these site ought to provide the floral background to settlement on the Kerkenes Dağ.

Archaeology

There is a considerable, and growing, body of evidence from our survey of archaeological sites on the Kerkenes Dağ and in the immediate vicinity that indirectly but firmly casts light on the problem of deforestation. There are many tumuli (burial mounds) on the hilltops and ridges and it is obvious enough that these exposed locations were devoid of forest when the tumuli were constructed. A further piece of circumstantial evidence in this respect is the practice of placing the deceased in stone lined cists within the tumuli, in marked contrast to the Phrygian tradition, the center of which lies some 250km. to the west, where timber burial chambers beneath tumuli are the norm. The date of the tumuli in the Kerkenes region remains slightly problematic but it is certain that the earliest were constructed in the Iron Age and that the tradition continued after the desertion of the city on the mountain-top. it is, therefore, clear that some of the hilltops and ridges were deforested in or before the Iron Age.

There is also evidence for the seasonal exploitation of the region in the form of seasonal huts which are approximately dated to the late Iron Age - Roman period and which are clearly distributed in the landscape in such a way as to indicate that they were related to seasonal grazing.

More intriguing is evidence from the Early Bronze Age (EBA - Third Millennium B.C.). A number of small sites with a scatter of distinctive pottery sherds and evidently shallow occupation are located in exposed positions which may be taken as indicative of seasonal occupation. This despite the presence of stone wall footings and large storage vessels. The small number of chipped stone (sickle) blades might be cautiously used to suggest that these people were grazing rather than farming. If this evidence of seasonal grazing on the Kerkenes Dağ in the EBA can be substantiated it follows that the process of deforestation was well under way by this time. On the other hand, these might have been small permanent settlements with a mixed economy: pig, a few cattle, some hunting, some agriculture and fruit farming and gathering of, e.g., acorns. if this were the case the absence of later settlement (EB III and Second Millennium) might be seen as the result of deforestation and resultant erosion.

The new excavations at Çadır Höyük should throw much light on this problem.

Appendix 1

GAZETTEER OF SITES WITHIN THE SURVEY AREA

The following gazetteer represents the current state of the Kerkenes Dağ regional Survey. The data base is constantly updated as new information is gathered. New evidence comes from a variety of sources, *e.g.* field survey, discussion in museums and universities, collaboration with the Alişar team, library resources. Map references are mostly to the 1:20, 000 series made in 1947 because this is the only series that is widely available and not subject to restrictions. Sites are located according to Province (all Yozgat), district and, where known, Village in that order. When the survey is complete the gazetteer will be arraigned according to the villages in whose territory the sites lie or, if on state land, which they are closest to. There will be a subsidiary listing sites by period and full cross referencing. For the moment, because the survey is still in progress and because information concerning village land boundaries and the names of sites is incomplete the order in which sites appear in the list is haphazard.

Not all sites in the gazetteer have yet been visited and some fall outside the Kerkenes survey area (and are being investigated by Gorny's team): The latter sites are included because they may have relevance for Kerkenes.

Name: Topak Mezar *Map:* Yozgat 78-v
Yozgat, Sorgun, Şahmuratlı

Survey: GDS 15/9/1993

Description. a small mound *c. 500rn.* east of the village on the Temrezli road, on the left of the track just before the newer cemeteries, with fairly recent graves on top. Oval in shape, perhaps 40 by 20 by 4rn. There is a canalized stream at the foot. Balloon photographs were taken in 1993. Examination of the stream banks and the surrounding ploughed fields does not suggest that much lies below the present ground surface, but this could be checked with the corer.

Date: EBA, IA

Name: Karabaş *Map:* Yozgat 78-v
Yozgat, Sorgun, Babalı

Survey: GDS 20/8/93 and subsequent visits

Description: building complex *c.* 500m., north of the northern tip of Kerkenes Dağ city, above the confluence of two streams. Cut by the track from Babalı to Gözbaba. There is a çeşme at the site. Many tumuli in the vicinity, all robbed, some very recently.

The complex is extensive, extending east-south-eastwards on the north and probably on the south of the subsidiary stream. The main structure is well preserved, standing some 3m. Dry stone construction of large stones poorly fitted together: stones at interior corner standing 2.00m. large stone centre right (photo) 1.30 by 0.60 by l00m.; outside corner standing 2.40m. (photo) third stone from base 1.40 by 1.50 by 0.55m. Walls are very wide and some are double. The back wall (west) has corner buttresses. Chamber

in main part of structure recently partly cleared, extant depth (= lit. of walls) 2.70, width 0.80, length in excess of 3.00m.

An Iron Age temple with later (?Seljuk) additions and reuse, perhaps as a caravansaray.

Date: very little pottery, one chip of green glaze does not by itself provide a date. Painted sherds: two, are paralleled at Kongurlu, suggesting occupation might be contemporaneous with the main site. Construction techniques suggest that the temple belongs to the IA city.

Bibliography:
Meriggi, P. 1971, *OrAnt* 10: 65, P1. XV.4.

Name: **Kale Dere Harabesi** *Map:* Yozgat 78-v
Yozgat, Sorgun, Babah.

Survey: GDS 1994 (balloon photography)

Description: on the slight ridge to the east of the Kale Dere by a reasonable perennial spring (?name). A large single complex which appears to comprise three rows of rooms. The walls are apparently of dry stone. The appearance is that of a way station or caravansary like building rather than a *konut.* It should be possible to draw a plan from the balloon photographs.

Pottery: few red wheel-made sherds and some small tile frags were observed (but not kept). The general feel is Late Roman or Byzantine if the surface fragments belong with the occupation and are not later.

Date: Late Roman or Byzantine, on the basis of the sherds. The extant nature of the ruins may indicate that it is not earlier.

Name: **No Name** *Map:* Yozgat 78-v
Yozgat, Sorgun, Babali

Survey: GDS 18/8/93

Description: a small site on a low bluff between two streamlets, east of the Kerkenes city north-east gate (by von der Osten's points 108-109). Stone walls of several rooms/buildings can be seen. Sherding poor.

Date: EBA, Hell, some or all of the extant walls could be EBA, but by no means certain.

Name: **Çadır Höyük** *Map:* Yozgat 78-y
Yozgat, Sorgun, Peyniryemez

Survey: von der Osten, Meriggi 1970, GDS 21.8.93, Gomy 1994, GDS 9.9.94 (balloon photography)

Excavation: Gorny 1994

Description: large (for the region) mound in the form of a steep sided, truncated cone. *C.* 1.5km. South-southeast of Peyniryemez, on the east side of a perennial stream in rolling crop land. Founded on an outcrop of conglomerate. Heavily overgrown with thistles dominant, some recent digging, especially on top. Perhaps 12m. of occupation.

The lower part is to be flooded by the Esenli Baraj in 1994.

Date: Chalco./EB I, EB II, EB/MB, Hittite, IA, Hell., Rom., Byz.

Bibliography:
Osten, H.H. von der 1928, *GeogRev* 18: 86.
1937, *Alishar III:* Map III.
Meriggi, P. 1971 *OrAnt* 10: 65, Pl.XVI.2

*Name:***Sumerin Sivri Kale** *Map:* Yozgat 79-z
Yozgat, Sorgun, Sivri

Survey: von der Osten 1927, Gorny 1994

Description: kale and tumulus on a natural and very prominent hill. C. 20km. south-east of Kerkenes and c. 4km. west-south-west of Alişar. H.H. von der Osten describes the mined walls as similar to those on Kerkenes Dağ (presumably the Kale, although von der Osten may not have been certain that the glacis on Keykavus Kale was substantially later than the city wall). 1.5-2m. wide, constructed on a paved embankment. 76 by 76m. with large towers on each corner. Several buildings can be recognized inside. The tumulus chamber is of limestone which has been brought from elsewhere.
Small vaulted Byz. building on spur mentioned by von der Osten is probably the tumulus.

Date: Tumulus: Hell.IRom.; Kale: Byz.

Bibliography.
Osten, H.H. von der 1929, *01C6:* 16, 18, 22, 30, Figs 7,8,14.
Osten, H.H. von der 1937, *Alishar III:* Map III (Sumuk Sivrisi).

*Name:***Karaburun Höyük** *Map:* Yozgat 78-v
Yozgat, Sorgun, Karaburun

Survey: von der Osten, GDS *25.8.93*

Description. a small site on a low, stony tepe behind the school. A good view of Kerkenes and Gözbaba. There are tumuli in the vicinity. *C.* 50 by 2-3m.; a single building. Not ploughed, few sherds.

Date. IA (?Persian)

Bibliography:
Osten, H.H. von der 1937, *Alishar III:* Map III

Name. **Aslihan Höyük** *Map:* Yozgat 78-y
Yozgat, Sorgun, Emirhan

Survey: GDS 25.8.1993

Description: a small roughly square ruin in level fields between Emirhan and (Çakırhacılı, as the Roman site on von der Osten's Map (Alishar III). *C.* 50 by 50 by 2-3m.; much small stone; a single building.

Date. Roman, one sherd of J]BB (?EB I) but nothing in the fields.

Bibliography:
Osten H.H. von der 1937, *Alishar III:* Map III.

*Name:***Cemali Höyük** *Map:* Yozgat 78-z
Yozgat, Sorgun, Esenli

Survey: GDS 10.9.94 (balloon photography), Gomy 1994

Excavation. M. Ozcan, Yozgat Museum

Description:a mound on the north-east bank of the Kanak Su a little above the confluence with the Eğriöz Su. Shown as *a* Tumulus on the *Alishar III* map. Partially flooded by the Esenli darn in 1994, due to be completely submerged in 1995.

Date: EB, ?Second Mill., IA, Rom., Byz.

Bibliography:
Osten, H.H. von der 1929a, *OIP 5:* 83 map.

Name: **Orta Höyük** *Map:* Yozgat 79-z
Yozgat, Sorgun, Büyük Ören

Survey: von der Osten

Excavation. Chantre

Description. a mound.

*Name:***Babalı Höyük** *Map.* Yozgat 78-v
Yozgat, Sorgun, Babalı

Survey: von der Osten, GDS failed to locate the site in 1994 (unless it is the previous site)

Description:a mound *c.* 2km. east of Babalı Köy. There is confusion since the "large mound near Babalı" of von der Osten is evidently Kuşaklı.

Date.?

Bibliography:
Osten, H.H. von der 1937, *Alishar III:* Map III

Name: **Taşlık Höyük** *Map:* Yozgat 77-u*
Yozgat, Sorgun, Taşlik

Survey. von der Osten, GDS 9.9.94 (balloon photography)

*Description:*a mound *c.* 2km. west of Kuşaklı Höyük, *c.* 1km. north of Küçük Taşlık. A prominent conical mound on a rocky spur between Büyük and Küçük Taşlık, just clipped by the modem track. Occupation is restricted to the conical mound, elsewhere bed-rock is everywhere visible.

Date. ?Chalco., EBA, Second Mill., IA, Hell./Rom.

Bibliography.
Osten, H.H. von der *1937,Alishar III:* Map III.
Cornelius, F. 1964, *BibOr* XXI: 12 n.4.

Alp, S. 1979, *VIII 7TKong: 65.*

Name. **Kuşaklı Höyük** *Map:* Yozgat 78-u*
Yozgat, Sorgun, Taşlık

Survey: von der Osten 1928, Forrer 1926, Gomy 1993, GDS 9.9.94 (balloon photography)

Description: Also known as Kuchuk Köhne Höyük and Uşaklı Höyük. A largish mound with a skirt *c.* 2km. north-east of Taş1ık Höyük, *c.* 3km. north-west of Babalı Höyük on the south side of the Eğiröz Su and east of the confluence with the Kötü Dere. According to von der Osten the mound is similar to Alişar Höyük and part of a town wall and gate are visible on the lower terrace.

Observations made in 1994: late Hittite pottery from a trench dug to plant poplar saplings, just to the west of the "gate", burnt mud brick is apparent along much of the edge of the skirt (?date) which clearly marks one or more walls, a Hittite worked block of excellent workmanship has been uncovered where the road to Taşlık clips the western edge and has been dumped on the small promontory. The mound is situated at the confluence of the Kötü Deresi and the Eğriöz Su and sits in the wide valley bottom thus, like Alişar, it is probable that a considerable amount of early occupation lies below the present level of the fields. The settlement extends for a considerable distance beyond the skirt towards Taşlık, the fields being littered with tile and sherds. There is a late mortared wall around the top.

A hoard of Hellenistic silver coins in a pot was found in 1930 (Newell 1931).
The location as given by von der Osten and by Newell is confusing, but von der Osten 1928 Figs 31, 32 and 1930: 171 makes clear the identification.

Date: ?Chalco, EBA, Second Mill., IA, Hell., Rom., Byz.

Bibliography:

Forrer, E. 1927, *MDOG* LXV: 33.
Osten, H.H. von der l929a, *OIP 5:* 20, 83 map
Osten, H.H. von der 1929b, *01C6:* 37, Figs 31, 32.
Osten,H.H.vonder *1930,OJC'8:* 171.
Newell, E.T. 1931, *The Kuchuk Köhne Hoard.*
Osten, H.H. von der 1937, *Alishar III:* Map III.

Name: **Kale Höyük** *Map:* Yozgat 78~u*/v
Yozgat, Sorgun, Küçük Köhne

Survey: von derOsten 1928, GDS 16.9.94

Visit: GDS 19.5.1994, photos
Description: Not the site of Küçük Köhne Höyük which is evidently at Kuşak1ı (von der Osten 1930: 171). A mound *c.* 2.5km. east of Ayrıdam and *c.* 2km. north-east of Kücük Köhne Köy, just south west of the confluence of the Eğiröz Dere with the stream flowing from Küçük Köhne Köy. There are said to be springs in the area. The site is on a low outcrop of granitic rock, on the edge of a lush flood plain with reasonable arable land on the terrace behind. A smallish, high, conical mound, very like Çadır Höyük. To the east of the stream there is an extension of the Hell, occupation and a cemetery with some large stones. The remains here are very shallow.

The site can easily be seen from the main highway, from the southern edge of the automotive workshops on the west side of Sorgun and from the road to Mehmetbeyli just before the turning to the Küçük Köhne Köy. It is most easily reached from the north-east by way of a good field track.

Pottery. as well as the sherds that were collected there are trays, early plain Cappadocian bowls and HBB. No Hittite sherds were seen.

Date. Chalco./EBA, MBA, Late IA-Hell.

Bibliography:
Osten, H.H. von der 1937, *Alishar III:* Map III.
Name: Tilkigediği Tepe *Map:* Yozgat 78-v
Yozgat, Sorgun, ? Küçük Köhne

Survey: Osten, von der, GDS 3 1.8.1994

Visit: GDS 20.5.1994, photos

Description. a small, prominent, conical site on the western side only of a low ton at the end of a granitic ridge. Just to the west or the road where **it** splits between Şahmuratlı and Mehmetbeyli. The site overlooks the valley on the west (rather than the road on the east). There appears to be a poor spring at the base of the tepe on the west side. Perhaps 30m. in diameter, it is difficult to gauge the depth of occupation which clearly spreads down the slopes which are covered by a stone glacis resembling those on Gözbaba Tumulus and Keykavus Kale. There is a major wall, perhaps a tower, still visible. There has been some recent digging.

The initial appearance is that of a largish tumulus that has had a trench dug Through it, but this is illusive or only a part of the story.

The site was visited by von der Osten and appears on his unpublished map as Tavsun Tepe (check sp.). Information from R. Gomy.

Half of a stone quern top stone, with square central hole and slots for wooden handle, at house.

Date. ?EBA, IA (Achaemenid)

Name: **Tilkigediği Tepe Tower** *Map:* Yozgat 78-v
Yozgat, Sorgun, ? Küçük Kohne

Survey: GDS 3 1.8.1994, 14.9.94

Description: On the northernmost peak of the Tilkigedigi Tepe.
A tower-like structure constructed of white mortared uncut granite wall utilizing the natural fingers of rock. There are good views to Göz Baba, Keykavus Kale and to the north. The site clearly replaces and serves the same function as Tilkigedigi Tepe

There are ashy deposits but few sherds. Mortar samples were collected.

The site has been much dug into in recent weeks.

At the base to the west and on the saddle immediately to the south are circular and rectangular stone huts, some with porches, of some antiquity. There are chips of wheel-made red wares (which could, of course, post date the construction).

There is a poor spring at the base on the west side and traces of seasonal water on the saddle.

Date: Byz.

Name. **Tavşangediği Dere Tepe** *Map.* Yozgat 78-v
Yozgat, Sorgun, Ayrıdam

Survey: GDS 3 1.8.1994, 14.9.94

Description: occupation on the slope of a low, circular, prominent ton, revealed by the grey ashy soil from a very recent trench. Depth of deposit is 1.50m. plus but seems to be between outcrops of granite. Other stone walls are visible on the surface with sherds in the same areas, but it is possible that the walls are later boundaries. Burnt mud-brick is evident from recent disturbance on the south side below the rock outcrop. There are also circular stone huts of, presumably, later date. Occupation seems to be restricted to the north and west sides.

Pottery. plain monochrome, dark with one lighter face. Simple rims, fragments of fruit stands. Few red wares. Vegetal and grit temper. One very fine sherd that has been later shaped by grinding.

Chipped stone. flint blade and broken point.

Date: EBA, Later

Name. **No Name** *Map:* 78-v
Yozgat, Sorgun, ? Küçük Köhne

Survey. GDS 1.9.94

Description: small mound site on a bluff to the east of a poor stream. South of the coal tip, west of Tilkigediği Tepe Tower. *C.* 20m., l.5m. max. depth. There is still a little water by the site although the stream is not flowing.

It is possible that the mound has been quarried for mud-brick manufacture and was the source of the EB sherd and obsidian chip found on Tilkigediği Tepe

Photographed.

Pottery: includes monochrome burnished ware with fluted decoration and one painted fragment. IA sherds resemble those from Tilkigediği Tepe

Date: Chalco./EBA, IA

Name: No Name *Map:* Yozgat 78-v
Yozgat, Sorgun, ?Ayrıdam
Description. slope site at the southeastern corner of the coal tip, facing south. *c.* 260m. north-north-east of the last site, immediately east of the same stream, *c.* 250rn. north-north-west of Tilkigediği Tepe Tower. a shallow site distinguished by dark plough soil. Approx. 50 by 50m. No tile or mortar. Typical sherds kept, incl.. handle.

About l00m. to the east, on a west facing slope, another patch of dark plough soil with a thin scatter of similar sherds and some tile fragments. Immediately above is a small unploughed area with large stones, presumably a building. Immediately above again is sterile plough soil.

Pottery. as at the Kiremetlik on Kerkenes Dağ

Date: Byz.

Name: **Akoluk Höyük** *Map:* Yozgat 79-v
Yozgat, Sorgun, Akoluk
Survey: von der Osten

Description: mound *c.* 1km. north of Akoluk village.

Date.

Bibliography:
Osten, H.H. von der 1937,*Alishar III:* Map III
*Name:***Eğri Öz** Höyük *Map:* Yozgat 79-v
Yozgat, Sorgun,??

Survey: von der Osten

Description. mound (name not known) on the east side of the Eğri Öz, just below the "E' on the Alishar III map. *C. 4.25km.* west-north-west of Sarıhamazalı and *c.* 2.5km. east south-east of Akoluk.

Date:

Bibliography.
Osten, H.H. von der 1937, *Alishar III:* Map III

Name: **Gözbaba Höyük** *Map:* Yozgat 78-v
Yozgat, Sorgun, Gozbaba

Survey: GDS *15.9.94*

Description. a mound immediately north of the village, recently bulldozed away to make a football pitch. Few sherds remain.

The höyük shown on a tepe *c.* 0.5km. north-east of Gözbaba, shown on the 1:25,000 map, is only an outcrop of rock.

Pottery: Büyük Güllücek type sherd and plain burnished sherds. Also some late pieces.

Date: Chalco./EBA, Late

*Name:***Gözbaba Köy Site** *Map:* Yozgat 77-v
Yozgat, Sorgun, Gözbaba

*Survey:*GDS *15.9.94*

Description: An extensive flat site 1km. north-west of the village on the south-east facing slopes to the west of the İsteyen Dere and probably extending to the east of the stream. A scatter of sherds but little or no tile, it appears that stone wall footings are being ploughed up.

A stone relief with a horse is said to have been found and given to the Germans (presumably von der Osten) about 70 years ago. There is a Byzantine stone built into a house wall (photographed) in the village.

Date: Late Roman/ Byz.

Name: **Karapınar** *Map:* Yozgat 78-v
Yozgat, Sorgun, Gozbaba
Survey. GDS 15.9.94

Description. a flat site on east facing slopes. There are springs in the vicinity and the site is under crops. About mid-way between Pürçüklü Hüyük (tumulus) and the Kerkenes Dağ city wall. Cut by the tractor track. Much stone and a good scatter of sherds with some tile.

There is a series of, probably, three Iron Age dams above the site.

Information from Gözbaba Köy: coins are in the village and a helmet was found some years ago and sold for seven TL.

Photos taken.

Date: Roman

Name: **Pürçüklü Höyük** *Map:* Yozgat 78-v
Yozgat, Sorgun, Gözbaba

*Survey:*von der Osten, Schmidt 1928, GDS 4.8.1994

Description: a tumulus on the high ground *c.* 1.5km. west of the Kerkenes city west gate on a bluff overlooking the confluence of the Pürçüklü Deresi and the stream flowing from Kerkenes. Altitude 1379 (1:25,000 map). The largest and most prominent of a large group of tumuli, apparently the greatest group of such burials in the region.

A large, shallow hole recently dug into the top reveals nothing. There are good views of the Göz Baba tumulus and enclosure, the eastern edge of Göz Baba village, The city on Kerkenes Dağ and the surrounding tumuli. There is no indication of later reuse despite the prominence (e.g. as a Byzantine tower). No sherds. Photographs taken 3.8.94

Bibliography:
Osten, H.H. von der 1937, *Alishar III:* Map LII.

Name: **Gözbaba** *Map:* Yozgat 77-v
Yozgat, Sorgun, Gözbaba

Survey: v.d. Osten, GDS 26.8.93

Description: a site on the peak of Kerkenes Dağ at an altitude of *c.* 1524m. (1:200,000 map). A large and prominently situated site that dominates the skyline. Presumed to be a substantial tumulus with a later tower on top and paved scarp that is clearly contemporary with the tower. A very substantial wall of crude dry stone, *C.* 400m.. wide, encloses the mound on three sides and extends down the slope to the north to embrace a spring. Still a trickle of cold water in late August. This is presumably the Göz of Gözbaba; i.e. the Father of the Springs. The pottery is late Rom./Byz. There are some traces of internal structures, perhaps secondary. Other tombs exist in the area.

This is the Kale on von der Osten's *Map:* it may well have been a beacon. The views south, south-west and south-east are very impressive as is the view of Keykavus Kale, but the rest of the city is partly obscured by the intervening hills. There are obvious parallels with Tilkigedigi Tepe and the glacis at Keykavus Kale so von der Osten was perhaps correct. The site also lines up with the wide street on Kerkenes and was surely significant.

Bibliography:
Osten, H.H. von der 1928, *GeogRev* 18: 86, Fig.l.
Schmidt, E.F. 1929, *AJSL 45:* 225, Fig.5.
OstenH.H. yonder *1937,Alishar III:* Map III.
Bittel, K. 1942, *Kleinasiatische Studien* 46: n.43, *54.*

Name. **Mekkime Höyük** *Map.* Yozgat 77-v
Yozgat, Sorgun, Gözbaba

Survey: GDS 15.9.94

Description. on Güllü Tepe opposite Dutluk. A small conical tepe with enough soil to be ploughed on top. *C.* 30 by 15 by 2m. A small hilltop mound.

Pottery. mostly HBB with a few finer pieces; grit tempered.

Date: Chalco./EBA

Name: **Dedik Höyük** *Map:* Yozgat 78-z
Yozgat, Sorgun, Esenli (formerly Dedik)

Survey. von der Osten

Excavation. 1990 Özcan (Yozgat Museum)

Description. a mound south-east of the village. Partially submerged by the Esenli dam in 1994, will completely go in 1995.

Date. EB, Hittite, IA

Bibliography:
Osten, H.H. von der l937,*Alishar III:* Map III.
Name: **Gelingulu Höyük** *Map.* Yozgat 78-z
Yozgat, Yozgat, Osmanpaşa, Gelingulu

Survey: von der Osten

Excavation: Yozgat Museum, M. Özcan

Description: a large mound.

Date: IA, Hell., Rom., Byz.

Bibliography:
Osten, H.H. von der 1937, *Alishar III:* Map III.

Name: **Karga** *Map:* Yozgat 77-y
Yozgat, Yozgat, Osmanpaşa. Karga

Survey: Blackburn 1928

Description. hieroglyphic inscription from village. *C.* 1km. to the east is a shallow mound of Roman and Byzantine date, 1.8km. west is a large kale overlooking Yenice and 3km. east **a** large mound with EB - Byz.

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Osten, H.H. von der1	929, *01C6:* 139, Fig.160.
Gelb, I.	1939, *HHMNo.37:* 33-34, Pl.LV.

Name: **Yayla Sira Tepe** *Map:* Yozgat 78-v
Yozgat, Sorgim, Sorgun, Babali.

Survey: **GDS 21.8.1994**

Description. a small conical tepe with shallow occupation. *C.* 1.20km. south-east of Babalı Köy, bearing on Tilkigediği 120 degrees. Immediately north of the track from Babalı Köy to the garage (on the Şahmuratlı road, on the west of the valley of the Kale Dere. Just below the B of Babalı. on the 1: 200,000 map. There is a spring, now a çeşme, close to the base.

Max. dia. 20m., 2m. depth, there is a recent plough scar down one side which clearly showed the greyish soil of occupation (rather than burials).

Pottery: all plain, the majority is dark on one or both sides. The examples of wares kept over emphasizes the proportion of red.

Photo: Nikon frame 15

Date. Chalco.-EB?

Appendix 2

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