XVI. ARAŞTIRMA SONUÇLARI TOPLANTISI
II.CİLT


THE KAHRAMANMARAŞ ARCHAEOLOGICAL
PROJECT SURVEY 1997

Elisabeth CARTER, Çiğdem EISSENSTAT,
Christopher HILL, Lynn SWARTZ

AYRIBASIM

ANKARA 1999
THE KAHRAMANMARAŞ ARCHAEOLOGICAL PROJECT SURVEYS--1997

Elisabeth CARTER*
Çiğdem EISSENSTAT
Christopher HILL
Lynn SWARTZ

The Kahramanmaraş Survey took place from June 10 to July 10, 1997. No new areas were covered in the survey, but specific problems and areas were targeted within the extensive areas covered in 1993-5 (Map: 1). The work included: 1. site catchment studies around Domuztepe itself and on the eastern side of the Kahramanmaraş plains (Çiğdem Eissenstat); 2. geoarchaeological work (Dr. Christopher Hill); and 3. An intensive survey of the corridor between the open cultivated plain (once partly a swamp) between Çöçelli (KM88) and Karahöyük (KM95) and the corridor-like valley running east-west from Karahöyük to Minehöyük (KM17) (Lynn Swartz).

1. Site Catchment Studies

During the course of surveys conducted in the 1997 season, we had the following goals in mind: 1) to gather information on the physical setting of the site of Domuztepe in the 5th millennium B.C.E. and 2) to identify resource localities in relation to Domuztepe and other sites of the late Neolithic and early Chalcolithic time range in the Kahramanmaraş region, and 3) to survey the hills, river courses and deep canal cuts around Domuztepe to identify the sources of the raw materials used in pottery manufacture (clays, tempering agents, dyes, etc.), stone bowls, seals and jewelry and lithic artifacts commonly found on the site. These surveys were complementary to the off-site work completed in 1995-6 (Carter et al. 1997).

Survey work was concentrated particularly on the hills west of Domuztepe including the Tut Mountain complex, extending from Aksu-river to the north, to the pass to Sakçagözü to the south. Each hill transect started around the edges of Domuztepe and extended to the top of each hill to the west (Maps: 2, 3). The surveys utilized the hydrogeology map prepared by the Wa-

* Prof. Dr. Elizabeth CARTER, Department of Eastern Languages and Cultures, 376 Kinsey Hall, UCLA, Los Angeles, CA 90036, ABD.
ter Department (DSI) intensively in the selection of survey routes. Areas likely to be rich in serpentine, basalt and chert (found in limestone) have been given primacy. Areas of likely habitation on hills such as look-outs and low spot extending into valleys were also visited during these surveys.

During these surveys, the sites KM 241, KM 246, KM 247, KM 248, KM 249 and KM 250 were recorded. Flints and chert collected during these surveys were sorted according to their color and packed for further analysis. These collections will be compared to the material coming out of excavations at Domuztepe in the following seasons.

Obsidian is also an important aspect of the Halaf assemblage. As is well known, the closest sources are to the northwest in Central Anatolia and to the northeast around Lake Van. The distribution of obsidian in the Kahramanmaras valley is thus an important element in the site-catchment studies since it provides clues to long-term changes in intra-regional interaction spheres in the context of local responses. Isolated finds of obsidian were also plotted in these walking surveys around the site.

In the second part of the raw materials survey collections of local clay were made at several locations in both the east and west basin. Clay sourcing will continue further in the following season in accordance with the geomorphological surveys. Former lake beds and river course changes are the places where good deposits of clay are found. Eventually the analysis of these clay samples combined with the analysis of ceramics from Domuztepe should yield information local and imported wares discovered in the excavations.

In addition to the geomorphological information, several river course transects provided a collection of possible raw materials in form of river gravels. The gravels proved to be an interesting research pursuit from the point of view of serpentine extraction and local Halaf stone bowl or seal production technologies. Serpentine river gravel were observed to be as chunky as 25-30 cm. in diameter with smooth, naturally polished surfaces in that a stone bowl maker doesn't need to deal with extra work of extracting the naturally occurring serpentine and consume time with polishing the surface.

Furthermore, once serpentine has been water-logged it provides a more easily workable consistency and hardness which make the river serpentine more attractive for a manufacturer. The fact that stone bowls in local Halaf assemblage are usually small objects (maximum about 25 cm. in diameter) also supports this view. However, the final word will have to wait for a half-worked artifact from the excavation that will give us a better understanding of the situation. Extending this view, one can also speculate about the use of river gravel in stamp-seal making following the same reasoning. River gravel are also observed to be a good source for flints and some comparisons and analysis are being conducted by E. Healy on the cortex of excavated lithic materials from Domuztepe.

2. Geomorphological Research

Geomorphological research in the Kahramanmaras valley suggests that buried gravels indicate that the Aksu River, has moved northward during the late Quaternary. The presence of sorted gravels, although variable, can be partly traced on the study of a canal cut just east of the river course of similar deposits on the west course of the river (Map 2). These kinds of collection and eventual dating will lead to a better understanding of the landscape and help us to establish a picture around Domuztepe since the 6th millennium BC.

To the west of Domuztepe (KM 43) containing Acheulian assemblages provides evidence of potential hominid occupation. This site, first investigated in 1998. Re-examination of the sample is essentially intact. The Acheulian could be Middle Pleistocene in age (about 300,000 years ago) and the hominid-taphonomic context is not unsuitable. The site thus represents an important early hominin landscape. Such a remnant of hominin population and climatic change in the region.

The site of Domuztepe is a very large basin. Late Mesozoic and Cenozoic rocks in the immediate vicinity of the basin. The Cenozoic sequence consists of various intrusive and extrusive intrusions. North of Domuztepe the basin westward through a small valley towards towards Kahramanmaras.

The western basin is filled with sediments, serpentine, and conglomerates. The stratigraphy identified a series of unconformities. These old shore lines can be studied over a long time period and are a result of climatic change. Mammoth fossils near the eastern basin (Gavur Göl) indicate that paleo-ecologic contexts and the presence of large carnivores available from the geochronologic evidence from the sites back into the Pleistocene.

The work in 1997 supported and strengthened the hypothesis that tectonic forces have resulted in significant palinspastic transgressive-regressive sequences. The 2. Climate change also provided evidence that the geomorphic landscape. Both these changes in ground water...
late Quaternary. The present channel of the Aksu is characterized by well-sorted gravels, although various other sedimentary facies existed. These channels can be partly traced on the SPOT satellite image. In 1997 a preliminary study of a canal cut just east of Domuztepe (KM 97) also confirmed the presence of similar deposits on the ground about 1 km. south of the present-day course of the river (Map: 2). Further study of the sections of this canal and the collection and eventual dating of samples of carbon and mollusks from the section will lead to a better understanding of the Halaf (5th millennium BCE) landscape and help us to estimate the amount of alluviation that has taken place around Domuztepe since the Halaf period.

To the west of Domuztepe (KM 97) and south of the present Aksu, a site (KM 43) containing Acheulian handaxes and other related lithic artifacts provides evidence of potential hominid presence in the region during the Middle Pleistocene. This site, first identified in 1993 (Carter 1994), needs further investigation in 1998. Re-examination of the locale in 1997 suggests that KM 43 is essentially intact. The Acheulian artifacts on its surface can be presumed to be Middle Pleistocene in age (older than 130,000 years ago, and possibly greater than 300,000 years ago) and may well occur essentially in the same sedimentologic-taphonomic context as they did when abandoned by Middle Pleistocene hominids. The site thus represents a remnant of the Middle Pleistocene paleo-landscape. Such a remnant can serve as a starting point for modeling both tectonic and climatic change in the region during the late Pleistocene.

The site of Domuztepe lies in the northeast part of the east structural basin. Late Mesozoic and Cenozoic bedrock surrounds the basin. The oldest rocks in the immediate vicinity are serpentine (Upper Cretaceous?), while the Cenozoic sequence consists of a series of limestones, conglomerates, and igneous intrusions. North of Domuztepe the Aksu River flows generally northwestward through a small valley between bedrock hills before flowing northward towards Kahramanmaraş.

The western basin is surrounded principally by metamorphosed limestones, serpentines, and conglomerates. In 1997 a preliminary study of basin stratigraphy identified a series of lacustrine transgressions and regressions. These old shore lines can be interpreted as reflecting primarily Quaternary climate change. Mammoth fossils, however, have been recovered from the western basin (Gavur Göl) indicating the potential presence of Pleistocene stratigraphic contexts and the possibility of extending the chronological framework available from the geoarchaeological record of the Holocene archaeological sites back into the Pleistocene and the earliest prehistory of the region.

The work in 1997 suggests that two geologic forces have interacted to form the geoarchaeological record within the Kahramanmaraş valley. 1. Tectonic forces have resulted in bedrock displacement and the formation of structural depressions. These movements appear to be the cause of some of the changes in fluvial drainage patterns, the location of natural springs, and apparent transgressive-regressive sediment sequences visible around the Gavur Göl. 2. Climate change also probably played a key role in forming the present-day geomorphic landscape. Both factors are especially relevant to interpreting fluctuations in ground water levels and spring activity through time, erosion of
the surrounding bedrock uplands and redeposition within tributaries to the east basin and the lakes on the western side of the valley.

Geomorphological research in the Kahramanmaras valley suggests that buried gravels indicate that the Aksu River has moved northward during the late Quaternary. The present channel of the Aksu is characterized by well-sorted gravels, although various other sedimentary facies were observed. Both the present-day and buried paleo-channels can be partly traced on the SPOT satellite image. In 1997 a preliminary study of a canal cut just east of Domuztepe (KM 97) confirmed the presence of similar fluviatile deposits overlain by silts about 1 km south of the present-day course of the river (Map: 2). Further study of the stratigraphic sequences exposed in this canal as well as the collection and eventual dating of samples of carbon and molluscs from the section will lead to a better understanding of the Halaf (5th millennium BCE) landscape and help us to estimate the amount of alluviation that has taken place around Domuztepe since the Halaf period.

The site of Domuztepe lies in the northeast part of the east structural basin. Late Mesozoic and Cenozoic bedrock surrounds the basin. The oldest rocks in the immediate vicinity are serpentinite (Upper Cretaceous?), while the Cenozoic sequence consists of a series of limestones, conglomerates, and igneous intrusions. North of Domuztepe the Aksu River flows generally northwestward through a small valley between bedrock hills before flowing northward towards Kahramanmaras. The western basin is surrounded principally by metamorphosed limestones, serpentinite, and conglomerates. In 1997 a preliminary study of basin stratigraphy identified a series of lacustrine transgressions and regressions. These old basin margin deposits can be interpreted as reflecting primarily Quaternary climate change. Mammoth fossils have been recovered from the western basin (Gavur Göl) indicating the potential presence of Pliocene stratigraphic contexts and the possibility of extending the chronological framework available from the geologic record of the Holocene archaeological sites into the Pliocene and the earliest (human) prehistory of the region.

The work in 1997 suggests that two geologic processes have interacted to form the geologic record within the Kahramanmaras valley. 1. tectonic forces have resulted in bedrock displacement and the formation of structural depressions. These movements appear to be the cause of some of the changes in fluvial drainage patterns, the location of natural springs, and may have contributed to the record of transgressive-regressive sediment sequences visible around the Gavur Göl. 2. Climate change also probably played a key role in forming the present-day geomorphic landscape and would appear also to be another explanation for the presence of transgressive-regressive sequences in the west basin. Both tectonic forces and climate change are especially relevant to interpreting fluctuations in ground water levels and spring activity through time, erosion of the surrounding bedrock uplands and redeposition within tributaries to the east basin and the lakes on the western side of the valley, (as well as sedimentary events within the basins).

3. Emirler valley survey

The valley between Kahramanmaras and the Aksu River has undergone intensive survey this year. It could provide a total area, approximately 5%, of the terrains which have been surveyed (see map). The conditions of the terrain have been chosen to meet the requirements for walking and visibility. The survey method is opportunistic based on current knowledge, rather than following a grid such that, across the valley, where the survey and all major sections of the valley, where the survey is transected by trained surveyors walked transects of the area. Significant features, including ceramics, lithics, and plant remains were also noted. Artifacts were removed from the site for study, survey, and left in the survey area for future use.

This survey was initiated in 1997 and continued in 1998.

1. Could an intensive survey identify all the known, visible mounds? This would allow us to investigate whether the Late Bronze Age sites, indicated by the 1992-6 excavations on the valley, would be confirmed in any of the sections of the valley.

2. Was it possible to extend this survey to the valley versus a non-site (so to a certain degree of certainty) of background noise off-site?

3. Because the Emirler valley is late Bronze Age sites (KM 17, Minehöyük) that were known to have been used intensively during the time of the Late Bronze Age, B.C.E. Could the intensive survey extend our understanding of the area, communication during the Late Bronze Age?

The survey yielded the following results:

1. The ratio of site to non-site was 1:1 per km².

2. Two previously unreported mounds were discovered in the valley. The density of the sites is increased in the valley.

(1) Although local residents do not care to consider the site within view of the field, we did observe the local residents, particularly with manure when it is removed from their houses.
3. Emirler valley survey

The valley between Karahöyük and Minehöyük was the target of an intensive survey this year. It covers an area of approximately 35 km² and, of this total area, approximately 5% was intensively explored within twenty transects (see map). The conditions of the fields and access roads militated against a random sample collection. Survey transects were established in both fields and on the foothill margins along the east-west axis of the valley in areas where conditions for walking and visibility were reasonably good. Areas were chosen opportunistically based on current crop coverage conditions but were selected in such a way that, across the valley, all geomorphological areas would be surveyed and all major sections of the valley corridor were sampled. Three to four trained surveyors walked transects across the fields, picking up all visible artifacts, including ceramics, lithic material, glass and shell. Modern artifacts were also noted. Artifacts were counted, recorded, marked as counted by this survey, and left in the survey area.

This survey was initiated with several research questions in mind:

1. Could an intensive survey identify additional sites, or types of archaeological sites, if a survey were systematically directed at the gaps between known, visible mounds? This question was formulated partially in order to investigate whether the Late Bronze-Early Iron Age proclivity for mounded sites, indicated by the 1992-6 extensive surveys of the entire Kahramanmaraş Valley, would be confirmed in an intensive survey.

2. Was it possible to determine the density of artifacts found on a site versus a non-site (so to a certain extent, was it possible to quantify the variability of background noise off-site across this valley)?

3. Because the Emirler Valley is already known to host two major Iron Age sites (KM 17, Minehöyük and KM 40, Emirler) we expected the corridor had been used intensively during the late second and early first millennia B.C.E. Could the intensive survey identify evidence of use for this avenue of communication during the Late Bronze and Early Iron Ages?

The survey yielded the following results:

1. The ratio of site to non-site artifact densities is between 41 and 62 to 1 per km².

2. Two previously unknown sites were definitely identified. One of these may represent field leveling carried out by villagers using material from KM40 (Emirler)¹. Two additional concentrations (primarily lithic) were noted in the Valley. The density of these is considerably less than the two sites just mentioned. The new sites may represent plowed out sites which once had con-

---

(1) Although local residents do not recall the removal of earth from the mounded archaeological site within view of the field, we did observe a substantial pile of manure accumulating adjacent to a house and stables. This pile sits directly atop archaeological deposit which might easily be mixed with manure when it is removed from that location.
considerable vertical height (site leveling is a common phenomenon occurring
today across the entire Kahramanmaraş Valley). If we were to extrapolate the results of this survey from the 35 km² area of the Emirler valley to the area of the entire Kahramanmaraş Valley survey, the discovery of two sites in the smaller Emirler valley might imply that, were an intensive survey carried out across the entire survey area, twenty additional sites could be located in the larger Kahramanmaraş Valley. (Over 250 sites have already been found). However, this was not a random sample survey, so this is a tenuous conclusion.

(3) Across the Emirler valley, the predominant type of ceramic material discovered in all transects was Roman and later. Very scant quantities of earlier ceramic material were noted. The material on the two newly discovered sites was predominantly Roman and later; one site contained Early Bronze material. Very few second millennium and no fourth millennium sherds were noted.

(4) A significant percentage of the ceramics found were small and worn, indicating that manure spreading may be one mechanism moving ceramics into the cultivable valley floor from any of the several sites located in the valley.

(5) Lithic materials were collected and submitted to Elizabeth Healey, project lithic specialist, for analysis. Although this brief report does not consider lithic material in a detailed chronological fashion, it is worth noting that only one area was found in which pre-Neolithic lithics possibly occurred. Otherwise, all lithic material was from the Neolithic or later. In all but one area where lithics were found, some ceramic material was also located. The occurrence of lithic and ceramic material varied independently from .25 ceramics per lithics/km² to 39 ceramics/lithics/km². However, in general, where a higher quantity of ceramics was found, a higher quantity of lithic material was also found. One lithic reduction site was also located off -transect in the hills behind Balikalan. The average number of ceramics per lithic found in the survey transects was 4.7 and the mean was 2.6 ceramics/lithic.

The results derived from the 1997 Emirler Valley Survey point to numerous variables affecting the entire survey region. Of these, modern human activity is damaging known archaeological sites of all sizes. New construction, land leveling for agricultural use, and excavations for earth are all taking their toll on the cultural heritage of the region.

The wealth of material from the mid first millennium BCE and later coincides with the results for the larger Kahramanmaraş Survey, which found a large increase in the number of sites from the Roman period, implying utilization of both mound sites and de novo valley floor and foothill sites in that period. The survey also suggests that fourth to second millennium sites were largely established in areas which are still visible to us as mounds or as plowed out mounds, and that the survey methodology employed in the larger Kahramanmaraş Survey from 1993-6 had a high chance of finding over ninety percent of the settlement sites across the survey region for these periods.

(2) Again, note that this survey was not a random sample survey and thus, extrapolations form its results should be read in light of this fact.
Fig. 1: Map of the Kahramanmaraş survey area showing the region of intensive foot surveys in 1997 in the Emirler Valley.

Resim 1: 1997'de Emirler Ovası'nda adım adım yapılan araştırmaların yer aldığı bölgeyi gösteren Kahramanmaraş araştırma alanı haritası.
Fig. 2. Detailed geological map showing areas of geoarchaeological research in 1997 and intensive foot survey.

Resim 2: 1997'deki joraleolojik araştırmaların yer alındığı ve adın adını alanların gösteren ayrıntılı harita.