18. ARAŞTIRMA SONUÇLARI TOPLANTISI

2. CİLT

22-26 MAYIS 2000
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THIRD PRELIMINARY REPORT ON SURVEY AT ZİYARET TEPE (DİYARBAKIR PROVINCE): SUBSURFACE MAPPING, 1999

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ANKARA 2001
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Timothy MATNEY*

This report describes the third season of archaeological fieldwork undertaken at the Late Bronze and Iron Age (Middle and Neo-Assyrian) urban center of Ziyaret Tepe in the Diyarbakır Province of southeastern Turkey. Previous surface and subsurface exploration of the settlement in 1997 and 1998 generated a topographic plan of the site, a series of pottery distribution maps, a settlement history and preliminary subsurface magnetic field gradient survey maps for portions of the High Mound and Lower Town (see Matney 1998; Matney and Somers 1999; Matney 1999; Matney and Bauer in press). The long-term objectives of the Ziyaret Tepe archaeological project are: (1) to document the archaeological sequence of occupation in the region of the Upper Tigris to be flooded by the construction of the Ilısu Dam as part of the GAP development project in southeastern Turkey (Tuna and Öztürk 1999); (2) to study town planning during the urban phase of Ziyaret Tepe during the Late Bronze and Iron Ages focusing on both residential architecture and public buildings; (3) to reconstruct the regional distribution of natural and human resources, ancient land-use patterns and to examine the environmental impact of Assyrian urbanization.

As detailed below, the 1999 season of archaeological survey at Ziyaret Tepe consisted of a short two-week season collecting gradiometry data to further our subsurface mapping efforts initiated in 1998 (Matney and Somers 1999). In 1999, our team mapped a total of 5.12 hectares of the Lower Town (an area called Mag-E) adjacent to one of our previous subsurface mapping areas (Mag-D) where a segment of the city wall, as well as parts of several structures had been previously recorded in 1998. This area also represents a region of the site which is threatened by the encroachment of modern irrigated cotton production. The initiation of cotton farming in the southeast corner of the site prompted our decision to concentrate work in that region in order to document as much of the ancient city as possible prior to further expansion of the irrigation. Our team for this season consisted of the author and his student assistant, Andrew Bauer, and two specialists from Middle Eastern Technical University, Nahide Aydin and Ibrahim Karas, who were responsible for collecting the magnetic field data and data processing. Our work was greatly aided by the generous assistance of our government representative, Nevin Soyukaya of the Diyarbakir Museum, and by the Director of the Diyarbakir Museum, Necdet İnal. Funding for the 1998-1998 magnetometry project was generously provided by the American Research Institute in Turkey, the American Philosophical Society and the National Geographic Society.

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Site Description, Occupational Sequence and Historical Significance

Ziyaret Tepe is a large multi-period mounded site located on the south bank of the Tigris River, just east of the modern town of Tepe and twenty kilometers west of the confluence of the Tigris and Batman Rivers (Fig. 1). Ziyaret Tepe commands an impressive view of the countryside situated atop a broad, low terrace overlooking the wide Tigris floodplain. Previous archaeological survey completed in the late 1980s (Algaze et al. 1991) shows dozens of archaeological sites along the river terraces in the upper Tigris region emphasizing the importance of the river as a resource and communication line throughout antiquity. Similar, if less systematic results, were obtained by the joint Istanbul University and University of Chicago project in 1963, which demonstrated the density of upland sites and sites located along the smaller tributaries feeding the Tigris downstream from Diyarbakir (Benedict 1980).

The site of Ziyaret Tepe consists of two morphological units: a High Mound or acropolis and a surrounding Lower Town (Fig. 2). The High Mound is located at the northern edge of the site and rises twenty-two meters above the surrounding terrain and is approximately three hectares in extent. A significant depression in the northern edge of the High Mound marks the probable location of an important gate leading onto the citadel. Surrounding the High Mound is an extensive Lower Town, spreading out for almost thirty hectares to the west, south and east of the High Mound. The Lower Town is surrounded by a very low rise representing the line of the ancient city wall.

Surface survey in 1997 provided evidence for an occupational history spanning the late Neolithic/Early Chalcolithic through the early Islamic periods (c. 5500 BC - AD 800), with the heaviest concentration of the material being Late Bronze Age and Iron Age in date (Matney 1998: 17-18). The distribution of Late Neolithic/Early Chalcolithic sherds suggests that Ziyaret Tepe at this time was a small village. No remains of the Late Chalcolithic or Early Bronze Age were noted during the 1997 surface surveys. The site appears to have expanded considerably in the early part of the Middle Bronze Age, when the entire High Mound was occupied. In the second half of the 2nd millennium BC, with the expansion of the Middle Assyrian empire into the Upper Tigris basin (Kessler 1980) during the Late Bronze Age, the site underwent substantial change. Occupation expanded for the first time into large portions of the lower town creating a small urban center, approximately thirty-two hectares in extent. Occupation at the site retrenched during the Early Iron Age when only a few local Early Iron Age sherds are only found on the High Mound. The lower town appears abandoned during this period.

In contrast, the following Late Iron Age (Late or Neo-Assyrian period) appears to have been a time of rapid reurbanization at Ziyaret Tepe. Historical sources suggest that this reurbanization may have taken place in the second half of the 9th century BC (Liverani 1992). Late Assyrian style pottery was found across both the high mound and the full extent of the lower town. The Late Iron Age represents the apogee of occupation at Ziyaret Tepe. Presumably, this occupation terminated during or sometime after the collapse of the Late Assyrian empire in the late 7th century BC. There is no evidence of occupation again at Ziyaret Tepe until the Late Roman period. Only sporadic subsequent occupations of Late Roman, Sasanian and Early Islamic date were detected over limited portions of the lower town, perhaps representing isolated farmsteads sheltered under the impressive citadel mound of Ziyaret Tepe.

The lack of late 4th and 3rd millennium pottery is somewhat surprising given the prevalence of surface sherds of this date found by Öksse at Salat Tepe, approximately 14 km. downstream on the opposite side of the river. The burnished cooking pot wares and metallic wares from Salat Tepe (Öksse 1999: 347-348) are absent from the surface of Ziyaret Tepe. Ziyaret Tepe has material of Early Chalcolithic date, which is not found at Salat Tepe. Similarly, at Salat Tepe, only a single sherd of Late Bronze Age ware was found, again belonging to a type ("Nuzi Painted Ware") not represented in our systematic surface collections at Ziyaret Tepe (Öksse 1999: 348), while Ziyaret has produced large quantities of Late Bronze Age material from the surface. In short, the occupational sequences of these two sites are mirror images of one another. Understanding
the precise relationship between Ziyaret Tepe and Salat Tepe will only emerge as planned excavations take place at both sites.

In terms of historical geography, two previous seasons of exploration by the author established the likelihood that Ziyaret Tepe represents one of three important Assyrian border cities along the Tigris River between Diyarbakir and Batman, which formed the northern border of the Assyrian Empire (Kessler 1980; Zadok 1989). Assyrian textual sources suggest that garrison cities were placed along the Tigris river between Batman and Diyarbakir and a series of small forts were built to guard what was the northern peripheries of the Assyrian state (see Parker 1997b; 1998). Ziyaret Tepe has been identified as one of these Assyrian garrison cities, perhaps the regional capital of Tushan, based on the historical geography of the region (Parker 1997a: 233). Kessler (1980: 110-121) was the first to make the equation of Ziyaret Tepe with Tushan, although alternative locations for the site of Tushan have been proposed. Taylor (1865: 22-23), and more recently Sevin (1989; 1992), for example, have suggested that the nearby site of Üçtepe was the location of ancient Tushan. Our initial surface surveys strengthen this correlation of Ziyaret Tepe with one of the important Assyrian garrisons along the Tigris (Matney 1998). This is seen in the distribution and quantity of Assyrian-style ceramics, the fortified nature of the settlement at the time and its size. Only significant excavation, scheduled to begin at Ziyaret Tepe in July 2000, will allow for its secure identification and unambiguous placement within the historical geography of the late 2nd and 1st millennia BC in southeastern Turkey.

Previous Archaeological Work at Ziyaret Tepe

Apart from the preliminary surface surveys noted above, there was no systematic archaeological investigation at Ziyaret Tepe prior to 1997. In the autumn of 1997, the author undertook a topographic planning of the site as well as an intensive surface survey of ceramics (Matney 1998). Encouraged by the general lack of post-Iron Age material on the surface of the settlement, a second season of fieldwork was undertaken in the fall of 1998. The goal of this second season was to begin a subsurface magnetic field gradient survey (gradiometry) in order to map the basic morphological features of the site (Matney and Somers 1999). In 1998, four areas of the site, each between 4000 and 10000 square meters in extent, were selected for initial testing. The maps generated from the 1998 magnetic field gradient survey are discussed elsewhere (Matney and Somers 1999) and will be only briefly summarized here. As the 1999 work reported here is limited to the Lower Town, only those areas surveyed during 1998 in the Lower Town area (Mag-C and Mag-D) are discussed below.

The Mag-C survey area, recorded in 1998, was located on the eastern edge of the Lower Town, an area demarcated by a long, low north-south ridge marking the location of an external city wall. Furthermore, a small hillock at one point along the ridge was interpreted in 1997 as a possible gate structure. Our survey in this area covered 10 000 square meters (Matney and Somers 1999: Fig. 6). The northern area of the Mag-C survey area is dominated by a single square structure, approximately 15 m. on a side. In addition to the square structure, a weakly positive linear feature projects away from the structure in a southeasterly direction for approximately 45 m. Most likely, this represents the city wall and a tower or gate. Also of significance is a second faint linear feature which runs parallel to the first linear feature at a distance of approximately 30 m. to the east. This second feature is either a defensive ditch parallel to the city wall or part of the fortifications, or a road or path leading around the ancient city. These interpretations will be "ground truthed" by future excavation.

Promising results were also obtained in area Mag-D in 1998, located at the southern edge of the site near the southeastern corner where 8000 square meters were surveyed (Matney and Somers 1999: Fig. 7; reproduced in this report as Fig. 3). The most prominent feature here runs across the southernmost region surveyed and consists of a distinct linear magnetic feature, almost certainly the city wall. An adjoin-
ing large rectangular feature 20 m. by 15 m. in size aligns with the city wall and is interpreted as a tower abutting the city wall on its northern face. Like with the Mag-C sounding, it is possible to trace a number of walls or partial structures in the magnetic maps, mostly located in the northern portion of the survey area.

**Results from the 1999 Season**

Given the success of our magnetic field gradient survey mapping in 1998, our team returned to the field in August of 1999 to further explore the Lower Town. As noted above, since the previous field season considerable modern disturbance had taken place at Ziyaret Tepe. In particular, the planting of a new cotton field using pump-driven irrigation in the southeastern corner of the site significantly threatened the ancient settlement. Although at present only a small part of the site is under cultivation, there is, nevertheless, a certain element of urgency to our work at Ziyaret Tepe necessitated by the encroachment of heavily-irrigated cotton fields. As a result of these new developments, we decided to concentrate work in the area of the site immediately threatened by the cotton fields. In 1999 we surveyed an area of 5.12 hectares (Mag-E) which covered a large portion of the southern Lower Town. In order to tie in the Mag-D and Mag-E results, 400 square meters surveyed in 1998 were resurveyed in 1999, providing a check on our surveying and the veracity of the magnetic data. Identical magnetic features are clearly visible in both surveys. For example, a large magnetically positive circular feature — perhaps a kiln — located in 1998 (Fig. 3: N90E50) is clearly seen in the corresponding 1999 survey (Fig. 4: N840E910) when the area was resurveyed. Likewise, the city wall seen in 1998 (Fig. 3: N20E30) correlates closely with the 1999 results (Fig. 4: N750E930). Despite a loss in resolution in the 1999 dataset, it is clear that the essential morphology is confirmed in both survey samples.

Magnetic data was collected in the field using a FM-36 Fluxgate Gradiometer and a laptop computer running GeoPlot software for processing raw data. The basic collection unit for the surveys was a 20 m. x 20 m. grid. The grid area was aligned to the overall site grid established in 1997 and data was collected along north-south traverses set one meter apart west to east. Four data samples per meter were taken in the north-south direction providing a total of 1600 data samples for each 20 m. x 20 m. grid. The data were then interpolated into a 2 x 2 data sample per meter density and exported to Surfer, a commercial graphic software program used to generate the maps used in this report. The gradiometer was operated on a 0.1 nT sensitivity range. In 1998, we had collected data at a higher sample density (8 samples per meter) than in 1999, although experiments with a 4 sample per meter density done at the end of the 1998 season suggested that we would see a very limited loss of resolution by decreasing our sample density. In order to increase the speed of data collection, thereby covering a larger area, we decided to collect data at 4 samples per meter rather than 8 samples per meter in 1999.

The maps generated in 1999 were not as clear as those made in the previous year and the results are more difficult to interpret (compare Fig.s 3 and 4). Nevertheless, it is still possible to make a few important observations using the data generated by the 1999 survey, especially when considered in tandem with the previous magnetic survey. The most striking subsurface feature from the 1999 survey are a series of parallel heavy linear features which roughly follow the contours of the tell, that is they appear as concentric semicircles with the High Mound at the center. These linear features are roughly 25 m. apart and appear to represent moderately thick phenomena (several meters across). Several interpretations of these features are possible, to be tested by excavation.

First, these features may represent the lines of thick fortification walls, in which case there was a series of internal city walls which would have protected the innermost portion of the site. This would have been an unusual arrangement given the narrow distance between each linear feature. A second possibility is that these linear features are
terrace walls which were part of a highly organized construction of the city in which roughly 25 m. wide terraces radiated out from the High Mound. The function of these putative terraces is unclear. They could have served as agricultural terraces or, more likely, if part of an intensive urban construction, as terracing for domestic housing. This arrangement, however, is somewhat inconsistent with the prevailing topography which is quite flat across the southern portion of the Lower Town. A third possibility is that these linear features do not represent walls at all, but rather are the remains of field boundaries analogous to those still found in the region today. Modern fields are delineated by long parallel lines of stones seen as roughly north-south lines on the gradiometry maps. Like these subsurface features, the modern field boundaries are also spaced at regular intervals (closer to 35 m. apart) although their orientation is perpendicular to the subsurface examples surveyed via magnetometry during the 1999 season. If these linear features are the result of agricultural fieldwork, their dating is of great interest as they may represent later historical, possibly Roman, remains rather than those of the Late Bronze and Iron Ages when the city was presumably urban in character.

Also visible in the 1999 magnetic survey is the city wall, seen as a northwest-southeast black line in the southwestern part of the survey area (Fig. 4: N760 E900-940). This clearly confirms the 1998 results in Area Mag-D. It is clear that, as seen earlier in 1998, the area outside of the city wall has fewer constructions than that inside the city wall. A similar phenomenon can be seen in the southeastern corner of the Mag-E survey area, where the density of strongly bipolar data is considerably reduced and the city wall appears to form a sharp corner. The habitation of the Late Bronze and Iron Age city of Ziyaret Tepe appears, therefore, to have been largely confined to the interior of the city walls. Otherwise, it is possible to trace occasional linear features within the Mag-E 1999 survey area, but not to unambiguously reconstruct the complete plan of any rooms or buildings.

Conclusions and Future Directions

Through extensive surface survey and subsurface mapping completed in 1997-1999 we have a good understanding of the general history and morphology of Ziyaret Tepe. This work provides a solid foundation for continued explorations at Ziyaret Tepe. The site was clearly an important center during the Assyrian Period, when an urban expansion transformed a small village into a fortified center. Because of the morphology and settlement history of Ziyaret Tepe, the site is an ideal location at which to expand our understanding of the region. With the topographic plans, ceramic distribution maps and subsurface magnetic data in hand, we will begin excavation at Ziyaret Tepe in July of 2000.

These excavations are a long-term undertaking (the construction of the Ilisu Dam is scheduled in 2008) and the following overall excavation goals have been set for the project: (1) to record a complete stratigraphic sequence from the High Mound; (2) to conduct broad-scale excavations on the High Mound to explore the nature of Assyrian public architecture; (3) to test the preliminary reconstructions of the city's wall and gate system; (4) to excavate large areas of public housing in the Lower Town in order to better document the daily life of the inhabitants of the city. The immediate agenda for the 2000 excavation season includes: (1) starting exploration of the remains on the High Mound, testing the nature of the Assyrian public architecture which we expect to find dominating the citadel and (2) sampling large areas of the Lower Town to check our interpretations of the gradiometry surveys. The former will involve exploration of two areas: the large square building on the northwestern edge of the citadel noted in Mag-A (Matney and Sommers 1999) and remains of a baked brick construction uncovered by a robber's pit discovered on our initial site survey in 1997 at the eastern edge of the High Mound, adjacent to the modern cemetery (Matney 1998). The latter will involve small soundings of selected features seen in the gradiometry maps, including the enigmatic linear features in Mag-E and the possible kiln noted above. A
second part of the Lower Town excavations will involve excavation of probable gate areas seen in the magnetic data in the southwestern corner of the site (Mag-D) and on the eastern edge of the site (Mag-C). These excavations will provide the necessary confirmation or rejection of our initial interpretations and facilitate future subsurface magnetic field gradient survey, tentatively scheduled for summer of 2001.

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Fig. 1: Map showing the location of Ziyaret Tepe in the Upper Tigris region

Fig. 2: Topographic plan of Ziyaret Tepe. Limit of the site is shown in olive green. Areas of subsurface magnetic gradient field survey are shown in gray. Contour intervals are 3 m. Scale at axes is in meters
Fig. 3: 1998 Area Mag-D magnetic gradient survey map of Ziyaret Tepe. Black represents maximum positive data; white represent maximum negative data. Physical scale on plan is in meters. Image generated from clipped, unfiltered, bipolar data. Thick black lines on the right-hand image represent our interpretation of potential archaeological features.

Fig. 4: 1999 Area Mag-E magnetic gradient survey map of Ziyaret Tepe. Black represents maximum positive data; white represent maximum negative data. Physical scale on plan is in meters. Image generated from clipped, unfiltered, bipolar data. Thick black lines on the right-hand image represent our interpretation of potential archaeological features.