

# Archaeological Surveys at Hacituğrul Höyük in Central Anatolia

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## 1. BACKGROUND OF THE RESEARCH

Hacituğrul Höyük is one of the largest archaeological sites in Central Anatolia, situated approximately 60 km southwest of Ankara, the capital city of the Republic of Turkey. The site is approximately 650 m in diameter and 30 m tall. In the 1970s, test excavation conducted by a Turkish team revealed evidence of a huge fortress city belonging to the Kingdom of Phrygia, which flourished in the Iron Age in Central Anatolia. Hacituğrul Höyük is situated in the center of the Phrygian Kingdom, in western Central Anatolia. It is only 30 km from the Phrygian capital, Gordion, and is much larger than Gordion. Due to the potential importance of this site to the advancement of Phrygian studies, a program of research was organized.

In studies of the Iron Age of Central Anatolia, the excavation of Gordion conducted by the University of Pennsylvania since the 1950s has played a dominant role in our understanding of this period. Therefore, any analysis of Phrygian culture tends to be discussed based on the research at Gordion. In particular, for the stratigraphy and phases of Phrygian culture, the framework that has been established through the research at Gordion has long been accepted as the only reference.

Since the 1990s, as excavation research at archaeological sites in the eastern part of Central Anatolia has progressed (particularly, campaigns at Kaman-Kalehöyük conducted by the Japanese Institute of Anatolian Archaeology, Middle Eastern Culture Center in Japan and at Boğazköy conducted by the German Archaeological Institute), the Iron Age culture of the eastern part of the Kingdom of Phrygia has been revealed. These research programs

indicate that the generally accepted framework of the development of Phrygian culture that has been established at Gordion does not necessarily apply to the development of the culture in these areas in the east. Also, when comparing the stratigraphy of Phrygian culture at Gordion and at Kaman-Kalehöyük, there are clear differences.

Excavation at archaeological sites in eastern Phrygia, represented particularly by the one at Kaman-Kalehöyük, has questioned our understanding of Phrygian culture and stratigraphy based only on the research from Gordion. Consequently, in recent Phrygian studies, there is a new movement addressing such issues. Researchers are now attempting to reconstruct the Phrygian culture multidimensionally and comprehensively based on research at multiple archaeological sites. Excavation research at a site of similar scale and importance to Gordion, and in the same region as Gordion, would make it possible to understand the Phrygian culture more fully, and is considered a priority.

The Japanese Institute of Anatolian Archaeology, Middle Eastern Culture Center in Japan (JIAA · MECCJ) has contributed greatly to studies of Phrygian culture in eastern Central Anatolia through the excavation research at Kaman-Kalehöyük. Considering the recent issues in Phrygian studies, we embarked on a program to study Phrygian culture in western Central Anatolia, and proposed Hacituğrul Höyük as an excavation research site. The site had been abandoned since the test excavation despite its importance in central Phrygia. We established a plan of research that included investigating the remains of the large Iron Age fortress city and the group of tombs (tumuli) around the site.

## 2. OBJECTIVES OF THE RESEARCH

An excavation program at a large archaeological site like Hacituğrul Höyük requires thorough preliminary research and a comprehensive excavation plan. JIAA·MECCJ began an archaeological preliminary survey in 2007 to identify the overall characteristics and age of the site. In the same year, with support from the Faculty of Culture and Information Science at Doshisha University, we conducted a topographical survey of the site.

Following the preliminary research at Hacituğrul Höyük in 2007, a research project was conducted in 2008 to 2010 with the following objectives:

1. Complete an accurate topographical map of the site and the surrounding area as a continuation of the topographical survey started in 2007.
2. Identify the surface architectural remains at the site and related remains in the surrounding area by taking photographs from the air.
3. Understand the plan of the subsurface architectural remains by conducting a magnetic survey of the whole site, and also of the surrounding area to ascertain the position and the plan of tombs, roads, and other features thought to be related to the fortress city.
4. Estimate the dates of occupation of the site by collecting artifacts from the surface and performing comparative studies of these objects.

## 3. METHODS

In this archaeological preliminary research at Hacituğrul Höyük, the main purpose was to obtain as much information as possible about the site and the architectural remains, for planning future excavation research. It was determined that the combination of an archaeological survey, to include surface collection of artifacts, and geo-informatics, for instance topographic and magnetic surveys, would provide the best results. This preliminary research was carried out as a collaboration between JIAA·MECCJ and the Spatiotemporal Informatics Behaviormetrics Laboratory, Faculty of Culture and

Information Science at Doshisha University, which has successfully achieved positive results in the field of geographic information surveys.

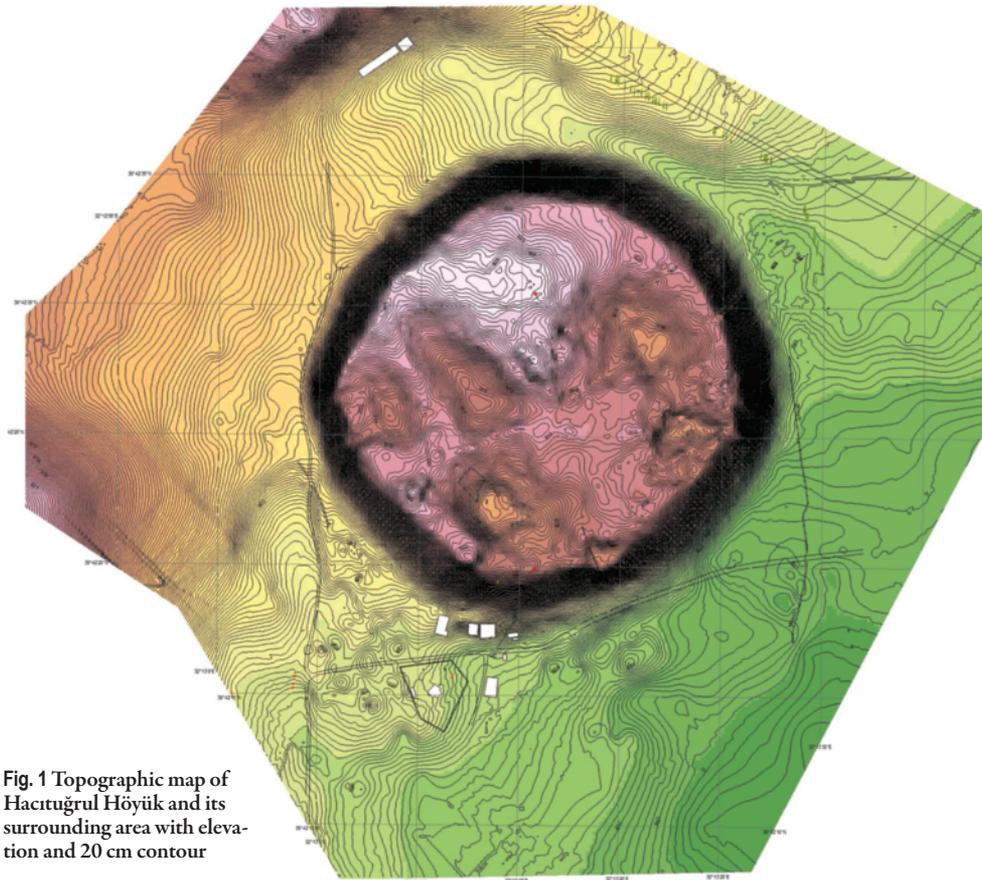
Our goals were achieved by the following methods:

1. A topographic survey was carried out at 20,000 points at the site and surrounding areas using GPS and a laser distance measure, and the survey results were made into 2D and 3D maps via CG analysis. These site maps were completed by Hiro'omi Tsumura, a research team member and lecturer at the Faculty of Culture and Information Science at Doshisha University.
2. The whole site was photographed from a balloon at 300 m and 500 m altitude by the project's principal researcher, Mamoru Yamashita.
3. Magnetic and radar surveys were planned by Tsumura at grids set in the area with CG analysis. However, due to the restricted permission issued by the General Directorate for Cultural Heritage and Museums at the Republic of Turkey Ministry of Culture and Tourism, it became difficult to conduct the magnetic survey in the whole of the planned area. Therefore, the magnetic survey was carried out only on the flat area at the top of the site and the southern part of the site. Under these circumstances, instead of the magnetic survey, a group of stone walls that are partially exposed on the surface of the eastern part of the mound were measured with GPS and laser distance measure in order to understand the plan of the architectural remains.
4. To estimate the date of the architectural remains at the site, artifacts were systematically collected from each grid set in the flat area on the mound, and were characterized and dated by Yamashita through comparative analysis with artifacts excavated from other sites.

## 4. RESULTS

### Topographic maps

Various topographic maps were produced based on the CG analyzed topographic survey results done by GPS and laser distance measure. The maps include topographic maps with 20 cm and 50 cm contours,



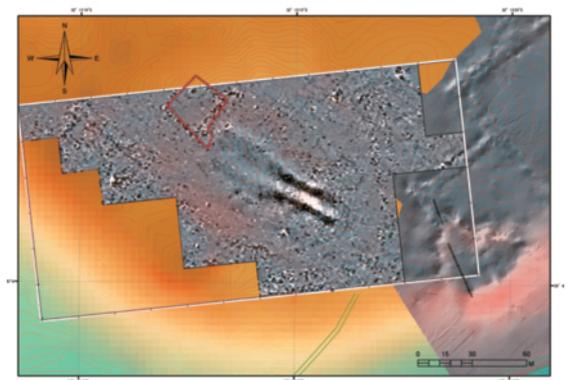
**Fig. 1** Topographic map of Hacituğrul Höyük and its surrounding area with elevation and 20 cm contour

one with elevation and 20 cm contours and one with hillshade (*Fig. 1*).

From these maps, some characteristics of the site are clear: (1) viewed from above, the site is not a perfect circle, but is square at the east; (2) the top of the site is not flat, but has complex topography with hills and valleys; and (3) as the valley at the eastern edge of the top of the mound slopes steeply down toward the square area at the east, it is conjectured that there is a large city gate in this square area.

### Magnetic survey

Due to the limited permission issued by the Turkish Ministry of Culture and Tourism, the magnetic survey was conducted only in the southern area of the top of the mound. Through this magnetic survey, a series of rectangular architectural remains were identified along the southern edge of the site. These remains are thought to be structurally related to the large city wall surrounding the site, and it appears that the site had a complex city wall system. In addition, although its plan is not yet revealed, part of a large structure thought to be a public building was identified in the deep depression at the south side of the mound.



**Fig. 2** Magnetic survey conducted in the southern area of the mound of Hacituğrul Höyük

Several stone walls were measured with GPS and laser distance measure in the eastern area of the mound, as an alternative to the magnetic survey could be conducted only in the limited area of the site (*Fig. 2*).

This topographic survey has revealed the structure of the large city wall partially exposed along the eastern edge of the top of the site. The city wall of Hacituğrul Höyük has characteristics typical of the Phrygian stone wall construction seen at Gordion: ashlar veneer blocks with a gravel core.

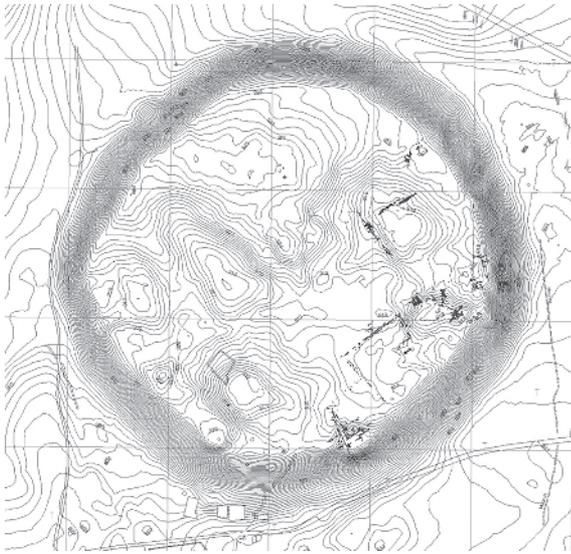


Fig. 3 Stone walls exposed on the ground surface in the eastern area of Hacituğrul Höyük

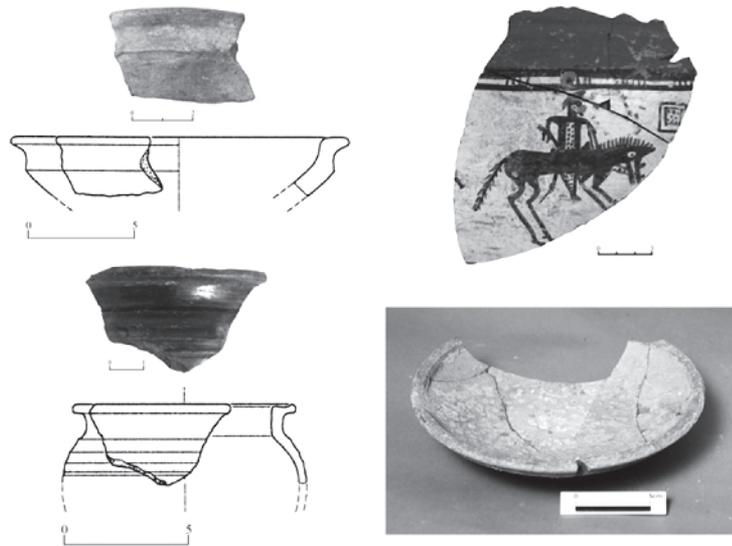


Fig. 4 Gray, black polished, painted and red potteries belonging to the Middle and Late Phrygian Periods from Hacituğrul Höyük

In the eastern part of the flat area on the mound, a series of large rectangular architectural structures was also identified, oriented northwest-southeast for a length of more than 100 m. These structures are immediately beneath the ground surface, with some areas exposed on the surface. The remains all appear to have been built in the same period, as they are oriented in the same direction and are constructed in the same manner. It is possible that this was a large public architectural complex (Fig. 3).

Summing up these results of the magnetic, aerial, and topographic surveys, it is clear that Hacituğrul Höyük is the site of a large city surrounded by a huge city wall of typical Phrygian construction, and with large public architectural complexes consisting of many rectangular rooms in at least the southern and eastern areas of the mound.

#### Surface Collection

To estimate how long the city at Hacituğrul Höyük was occupied, pottery shards systematically collected from the surface of the site were categorized according to their shapes and compared to those excavated from other archaeological sites. These studies revealed the following points.

(1) Most of the pottery shards collected from the top of Hacituğrul Höyük were black polished pottery, gray pottery or painted pottery, all of which are peculiar to the Phrygian culture in the Iron Age.

The largest percentage of shards collected are those belonging to the Late Phrygian Period (6<sup>th</sup> to 4<sup>th</sup> centuries B.C.). The shapes are very similar to

those excavated from the YHSS4 layer of Gordion and IIa5-3 layers of Kaman-Kalehöyük.

Although fewer in number than those from the Late Phrygian Period, there are many shards from the Middle Phrygian Period (8<sup>th</sup> to 7<sup>th</sup> centuries B.C.), with shapes similar to those found in the YHSS5 layer at Gordion and IIb/IIa7-6 layers at Kaman-Kalehöyük (Fig. 4).

The Phrygian pottery collected from the surface of the site also includes a small number of gray and painted shards identical to those from the YHSS6 layer at Gordion, which belongs to the Early Phrygian Period (9<sup>th</sup> century B.C.) (Fig. 5).

These pottery finds indicate that there were inhabitants at Hacituğrul Höyük through the whole of the Phrygian Period, and that the size of the city became larger as time went by.

(2) Among the pottery shards found at Hacituğrul Höyük are a few handmade black polished shards. If it is possible to relate them to the black polished pottery excavated from the YHSS7B layer at Gordion, which belongs to the Early Iron Age (11<sup>th</sup> to 10<sup>th</sup> centuries B.C.), it indicates that there were inhabitants at Hacituğrul Höyük already in the Early Iron Age, preceding the Phrygian Period (Fig. 6).

(3) Representing post-Iron Age periods are only a few shards of red pottery identical to Early Hellenistic pottery from the YHSS3B layer at Gordion and IIa1-2 layers at Kaman-Kalehöyük. This may mean that the site was no longer inhabited after the beginning of the Hellenistic Period.

Summarizing the studies on the collected

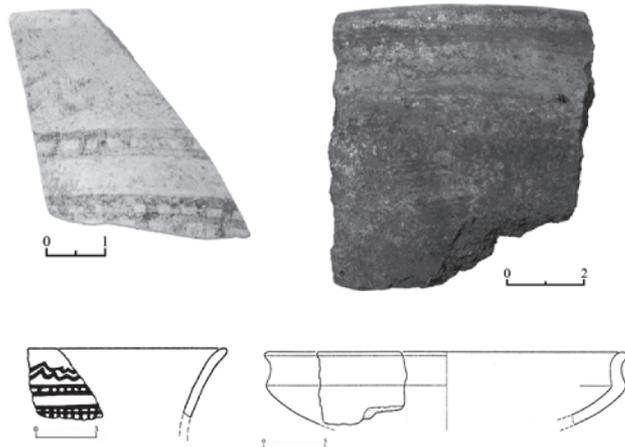


Fig. 5 Painted and gray pottery shards belonging to the Early Phrygian Period from Hacituğrul Höyük

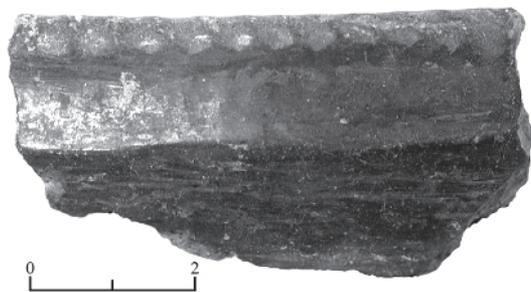


Fig. 6 Handmade black polished pottery belonging to the Early Iron Age from Hacituğrul Höyük

	Kaman-Kalehöyük	Gordion	Hacituğrul Höyük		
1200 B.C.					1200 B.C.
1100 B.C.		YHSS 7B		Early Iron Age	1100 B.C.
1000 B.C.	▲     	YHSS 7A			1000 B.C.
900 B.C.	II d1-3	YHSS 6B		Early Phrygian	900 B.C.
800 B.C.	II c2-3	YHSS 6A			800 B.C.
700 B.C.	II c1	YHSS 5		Middle Phrygian	700 B.C.
600 B.C.	II b / II a7				600 B.C.
500 B.C.	II a6			Late Phrygian	500 B.C.
400 B.C.	II a3-5	YHSS 4			400 B.C.
300 B.C.		YHSS 3B		Early Hellenistic	300 B.C.
200 B.C.	II a1-2	YHSS 3A		Late	200 B.C.
100 B.C.	↓   			100 B.C.	

Fig. 7 Tentative Chronology of Iron Age Hacituğrul Höyük

shards, Hacituğrul Höyük was inhabited in the Early Iron Age (11<sup>th</sup> to 10<sup>th</sup> centuries B.C.), Early Phrygian Period (9<sup>th</sup> century B.C.), Middle Phrygian Period (8<sup>th</sup> to 7<sup>th</sup> centuries B.C.), and Late Phrygian Period (6<sup>th</sup> to 4<sup>th</sup> centuries B.C.); and during these periods, the city scale grew over time. Also, the shards indicate that after the beginning of the Hellenistic Period, following the Late Phrygian Period, Hacituğrul Höyük was abandoned (Fig. 7).

### 5. SUMMARY

The archaeological preliminary research at Hacituğrul Höyük reveals that this site was a Phrygian city as important as Gordion, or perhaps more important. Since Hacituğrul Höyük was only 30 km from the Phrygian capital city, it is considered that Hacituğrul Höyük was not a political center of the kingdom, like Gordion, but had a different function, such as a religious function. It suggests that further systematic excavation research at this site will

shed light on new aspects of Phrygian culture which have not been identified from the Gordion excavation, and it will open the door to a multidimensional understanding of the culture. Moreover, it is promising that the new knowledge of Phrygian history, society and culture will modify the image of Phrygia, which to date has been formed only through the results of excavation research at Gordion, and will contribute greatly to the development and innovation of Phrygian studies.

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