

## NOTION ARCHAEOLOGICAL SURVEY, 2014

### A. Introduction

The first season of the Notion Archaeological Survey began on 1 June 2014 and ended on 16 June 2014. The team consisted of C. Ratté, Director (University of Michigan), F. Rojas, Assistant Director (Brown University), Ö. Dalgıç, Byzantinist (Yale University), A. Commito, Archaeologist (University of Michigan), G. Thün and K. Velikov, Conservation Architects (University of Michigan), and four archaeology students (two from the University of Michigan, two from Brown University). Thün and Velikov departed on June 12. The remainder of the staff stayed for the entire 15-day season. The Representative of the Ministry of Culture was Emin Torunlar, for whose collegiality and helpfulness we are very grateful.

### B. Current Work

Work this season had the following emphases:

- 1) Geophysical prospection
- 2) Study of the Agora and city plan
- 3) Study of the fortification walls
- 4) Preliminary documentation of cisterns and other evidence for the urban water supply
- 5) Preliminary documentation of Early Christian and Byzantine remains
- 6) Photogrammetric mapping
- 7) Initial preparation of conservation management plan.

- 1) Geophysical prospection

Notion is a coastal site approximately 35 ha in area, surrounded by 3 km long fortification walls (see fig. 1). It occupies a ridge running east-west and parallel with the coast, framed by two promontories projecting southward into the Aegean Sea (see fig. 2). The center of the city is situated on the crown of the ridge between the two promontories. Here lies the Agora, a broad level terrace, substantially carved out of the native rock (at 59 m asl.). Limited excavation has been undertaken at Notion on several previous occasions, revealing parts of the Bouleuterion at the northeast corner of the Agora, as well as a Theater, a possible Heroon, and a Temple of Athena. The geophysical survey focused on the agora and the steeply sloping area to the south, apparently a residential district.

It is clear from the visible remains and from satellite imagery (fig. 3) that Notion is a grid-planned city, oriented according to the cardinal directions. For the purposes of the geophysical survey, we laid out a separate grid of 30 by 30 m squares oriented 30 degrees west of north. The grid was laid out with a Total Station, and a total of 38 full and 17 partial 30 X 30 m grid squares were then surveyed with a Bartington Grad 601-2 fluxgate gradiometer (fig. 4). The geophysical survey was directed by G. Tucker, a doctoral student in archaeology at the University of Michigan. The results of the survey are shown

in fig. 5. Of great interest are two features: an east-west linear anomaly running through the center of the Agora, possibly a subterranean drain or water line; and a number of north-south and east-west oriented streets, not visible on the surface.

## 2) Study of the Agora and city plan

The geophysical survey, study of satellite imagery and aerial photographs, and examination of visible remains have clarified essential aspects of the organization of the Agora and city grid. The Agora is an oblong area enclosed by stoas on all four sides. On the south is a split-level double colonnaded stoa. The upper level apparently opens on to the Agora; the lower level on to an east-west street running south of the Agora at an elevation ca. 2.5 m below the level of the agora. On the west is a double colonnaded stoa; on the north a single colonnaded stoa opening onto a row of shops; on the east a single colonnaded stoa. Behind the east stoa at the northeast corner of the Agora lies the Bouleuterion, a square structure opening on to the east. The exterior dimensions of the Agora are 129.7 m X 96.9 m, the interior dimensions 114.3 m X 71.8 m.

As noted above, the south side of the Agora is bordered by an east-west street, which seems to run the full width of the city (see fig. 1). The Agora is also bisected along its east-west axis by the line of a street. A third east west street lies down the slope to the south; this southernmost street is intersected by the trace of the south wall of the city in two places. The distance between the centerlines of the streets seems to be 64.0-64.8 m.

In addition to these east-west streets, a number of north-south streets are also visible in the geophysical survey data. These are more closely spaced than the east-west streets, at 33.35 m between centerlines. The proportions of the blocks are thus close to 1:2, or 110 X 220 Ionic feet (0.295 m). We have not yet begun thorough study of the houses that occupied these blocks, but it is worth noting that we have recorded both here and elsewhere across the city 47 in situ threshold blocks (see fig. 6), which record the original ground levels wherever they are found, and provide good entry points, literally and figuratively, to the study of the domestic architecture of the site.

## 3) Study of the fortification walls

The fortifications of Notion are the most conspicuous ancient monument of the ancient city, providing evidence for Notion's former prosperity to observers inspecting its remains from either land or sea. Work in 2014 involved pedestrian reconnaissance of the entire circuit as well as the production of detailed architectural documentation (plans and elevations) using a combination of digital photogrammetry and hand-drawing (figs. 7 to 10).

The general trace of the fortifications has been known since 1923, when the French archaeologist Demangel produced a schematic map of the city (the only comprehensive city plan made until now). Inspection of the fortifications has confirmed the correct identification and relative positioning of most of the towers and gates identified by Demangel; additionally, pedestrian reconnaissance and aerial photography have allowed

us to recognize that the trace of the city-walls, especially on their north and south stretches, follows an indented “saw-tooth” pattern similar to those of the walls of Kolophon and Priene (fig. 1). We have also realized that on the south side of the east and west promontories the fortification encloses relatively flat areas that have been extensively quarried, but do not appear to have been inhabited.

More detailed inspection of the fabric of the fortifications has also enabled us to detect several phases of construction and repair:

The earliest phase identified so far (especially noticeable in the E stretch of wall) involved a dry-stone construction using primarily freshly quarried limestone cut into trapezoidal ashlar blocks; towers associated with this phase have drafted corners (fig. 7-8). These masonry details suggest a late classical or early Hellenistic date.

Major repairs to the fortifications are conspicuous especially in the western portion of the circuit wall (figs. 9-10). In addition to the trapezoidal limestone ashlar blocks and similarly cut blocks of local conglomerate bedrock, spolia of different sorts (including finely cut marble and other blocks with monumental architectural decoration) were also re-used in this phase; a hard coarse mortar with ceramic inclusions was employed as a fastening agent. The appearance of the fabric of this second phase is consistent with a Roman date.

A third phase of interventions is detectable in the northeast corner of the circuit, where the limestone ashlar blocks of the original fortifications were reused to make terraces or massive cross-walls between two towers; presumably this modification is post-classical, as are also more modest structures that have been built next to the fortifications.

#### 4) Preliminary documentation of cisterns and other evidence for the urban water supply

A total of 17 water features were documented this season. These included 9 cisterns (plus 2 probable cisterns), 5 stone pipe blocks, and 1 routing tank. The cisterns are located throughout the site, in what seem to be a full range of public and private spaces: around the temple and heroon, in and around the agora, and on the southern slopes of the site in what appear to have been residential areas. Four can be studied in detail. They are cut directly into the bedrock and extend to a depth of 5-6 m below ground level and expand out into a bell or flask shape in section. The 5 identified stone pipe blocks are carved from the various types of local bedrock and are located throughout the site (fig. 11). Since most are found individually, and since the remains of mortar and terracotta pipes can be found in some of them, these stone blocks were probably used as junction blocks for terracotta pipelines, rather than forming a solid stone pipeline. The hole in 4 of the 5 pipe blocks have a diameter matching that of two terracotta pipe segments found in-situ in what seems to be a circular routing tank and/or settling basin (located in the saddle south of the theater). Based on the evidence of satellite and aerial photography, geophysical prospection, and autopsy of existing remains, it is possible that a monumental fountain was located in the east-central area of the agora, adjacent to where a major east-west street would have traversed this central public space. Given the size of

the site and the size and density of the residential areas, it is unlikely that residents relied on rainwater alone; instead, the identified cisterns and probable fountains located throughout the city were likely supplied by water brought into the city via at least one aqueduct from a water source located farther inland.

#### 5) Preliminary documentation of Early Christian and Byzantine remains

**Prior Research:** From Theodore Macridy's early twentieth-century investigations and accompanying publications, we know that Notion was continuously inhabited throughout the Early Christian and Byzantine periods. "At around 500 m north northwest of the defensive wall," Macridy recorded a three-aisled basilica of approximate dimensions 35 X 14 m. The church had a tripartite bema (sanctuary) and likely a narthex. A staircase attached to the main apse and a possible tower north of the narthex suggests there were galleries over the side aisles. Macridy recovered numerous sculptural pieces, including fragments of an Early Christian ambo with a dedicatory inscription that mentions an anonymous bishop, and an architrave (likely from a templon screen) that bears another inscription that names another bishop (Euthymios or Eugenios?) and bears the date 1060. The latter inscription also shows that the basilica was dedicated to the Mother of God. Macridy also uncovered a mosaic floor at 0,75m underneath the church's later, likely medieval floor. All this evidence indicates that the church had at least two phases, one Early Christian, the second Middle Byzantine. Because both inscriptions name a bishop, the church was likely episcopal and therefore attached to a yet undiscovered Byzantine settlement in the vicinity. Local informants told us that a ruined building known as "kilise" was located on a flat terrace approximately 500 meters north of the part of the city walls that borders the cavea of the theatre. The ruins were destroyed in 1985 during road construction.

**Current Research:** Several churches or possible churches were documented within the city walls in 2014. These include the remains of a church in the western part of the city, about 50 meters northwest of the structure known as the Heroon (Fig. 12). Only the north end of the church is visible, with a thick cluster of bushes, trees, and rubble covering the rest. Three apses are inscribed inside a wall, 14 meters long. Only the side apses are clearly visible. The northwest apse has a partly preserved inner wall, whereas the northeast apse is well enough preserved enough to reveal its circular form. The central apse appears to be completely destroyed. The walls are constructed in mortared rubble faced with stone. Partial remains indicate that the building rested on a platform. As noted above, the structure occupies the northern edge of the western hill. The remains of other structures in similar construction technique were observed on the slopes between the church and the city walls.

Two more apsidal structures within the city walls were recorded. The first building, of which only the south wing is visible, is located approximately 20 meters southeast of the southeast corner of the main Agora. At its west end is an apse five meters wide. The second apsidal structure is located on a terrace east of the Agora. It has a south-facing apse whose inner diameter is 11 meters. The east and west walls can be traced for about 8

meters. In the aerial photographs the structure appears to be a three-aisled basilica. The continuing geophysical investigation of the site will clarify its plan. The functions of these structures remain unknown at this point, although they are likely churches.

Despite the lack of visible late antique and Byzantine pottery at the surface, the two churches, the one excavated by Macridy (500 meters north of theatre) and the one we discovered near Heroon show that settlement continued at Notion during the early Christian and Byzantine periods. The considerable distance between the two churches either indicates two separate clusters of settlement or continuity of settlement through out the ancient city (with the two other apsidal buildings in between also being possible churches).

#### 6) Photogrammetric mapping

Aerial photographs were made of the entire site; these photos were then used to construct a digital elevation model, which have in turn been used to generate ortho-rectified images to aid in mapping the architectural remains of the site, as well as detailed contour maps.

#### 7) Site management plan

Architects Kathy Velikov and Geoff Thün produced a preliminary site management plan aimed at the preservation, development, and management of Notion. The primary goals of their plan are to secure and enhance Notion's vast archaeological, ecological, and touristic potential while catering to different constituents; current stakeholders include the local population of Ahmetbeyli and the greater Menderes region, as well as local and foreign tourists interested in this spectacular, but relatively unknown ancient city and the associated archaeological sites of Klaros and Kolophon on the valley of the Hales River (Avcı Çayı). Velikov and Thün propose a series of concrete measures that can be summarized under three headings: security, visitation, and enhancement.

Their plan (fig. 13) calls for formal security measures (including Jandarma patrols, permanent guards, and eventually buffers in the form of vegetation or fences) to protect the archaeological remains and the landscape, as well as to control access to the site and its beautiful natural coves. It also highlights the need for a well-marked and easily accessible entrance (or entrances), which could be built taking advantage of existing infrastructure and informal access points from the coastal highway in the N and from Ahmetbeyli in the W.

Their plan also recommends making different pathways that would enable visitors to enjoy the site's archaeological as well as ecological riches; some of these paths would involve nearly flat promenades across the main archaeological site and its monuments (e.g. Theater, Bouleuterion, and Temple), while others would involve more challenging hikes through sloping terrain both within and outside the ancient walls. A new signage system would provide visitors with relevant historical and archaeological as well as ecological information. In the medium term (3-5 years), Velikov and Thün also propose

minimal car parking and visitation facilities including ticket booths, trash bins, and toilets.

A final aspect of their plan calls for the conservation and improvement of the Ahmetbeyli beach and the Avcı Çayı, which is currently polluted with the run off from agricultural fields north of Notion. The approach to the beach consists of a combination of private and public property, the former developed in a haphazard fashion with a variety of semi-permanent structures. It remains relatively unspoilt, and would benefit from carefully controlled zoning and development.

### **C. Conservation Needs**

In addition to these research emphases, the survey team noted evidence for illegal excavation in several places, and potentially damaging plant growth in a number of excavated or partially excavated monuments.

#### **1) Illegal excavation**

Robber's trenches were recorded in three locations: one in the southwest corner of the Bouleuterion (GPS coordinates 0517387 E / 4205068 N; fig. 14);, and two in the vicinity of a deep cistern cut in the bedrock southeast of the Agora (GPS coordinates 0517387 E / 4204988 N, figs. 15-16). The trench in the Bouleuterion should be filled in, to prevent deterioration of the building. The trench near the cistern southeast of the Agora should also be filled in, to prevent visitors of livestock from falling in. A fence should be built around the deep cistern nearby for the same reasons.

#### **2) Damaging plant growth**

Limited excavation has been undertaken at Notion on several previous occasions, revealing parts of the Theater, the Bouleuterion, and two temples. Plant growth should be cleared in all areas, to prevent damage to the monuments. Especially pressing is the condition of the Theater, where a number of pine trees growing up between seats threaten to dislodge the seats (fig. 17). These trees should be cut and herbicides applied to prevent regrowth. In addition, all plant growth including a number of small trees should be cut in the vicinity of both temples.

### **D. Conclusion**

It has been a great privilege to begin work at Notion. In future years, we hope to continue the geophysical survey, architectural documentation, and conservation planning that have formed the main emphases of this season's work. We also hope to expand our work to include the cemeteries of ancient Notion, which have occasionally been subject to looting, as well as the surrounding region. We are very grateful to the Ministry of Culture of the Republic of Turkey for permission to study and document the remains of this remarkable archaeological site.

## Illustrations

- Fig. 1 Schematic plan of site
- Fig. 2: Aerial view of site, from southwest looking northeast, with southwest promontory in foreground
- Fig. 3: Satellite view of site
- Fig. 4: Geophysical survey in progress
- Fig. 5: Results of geophysical survey
- Fig. 6: Threshold block
- Fig. 7: View of fortifications of east promontory
- Fig. 8: Elevation of fortifications of east promontory
- Fig. 9: View of west fortification wall
- Fig. 10: Elevation of west fortification wall
- Fig. 11: Stone pipe block
- Fig. 12: View of Church near Heroon
- Fig. 13: Preliminary site management plan
- Fig. 14: Robber's trench in Bouleuterion
- Fig. 15: Illegal excavation of cistern southeast of Agora
- Fig. 16: Robber's trench near cistern southeast of Agora
- Fig. 17: Pine trees in Theater

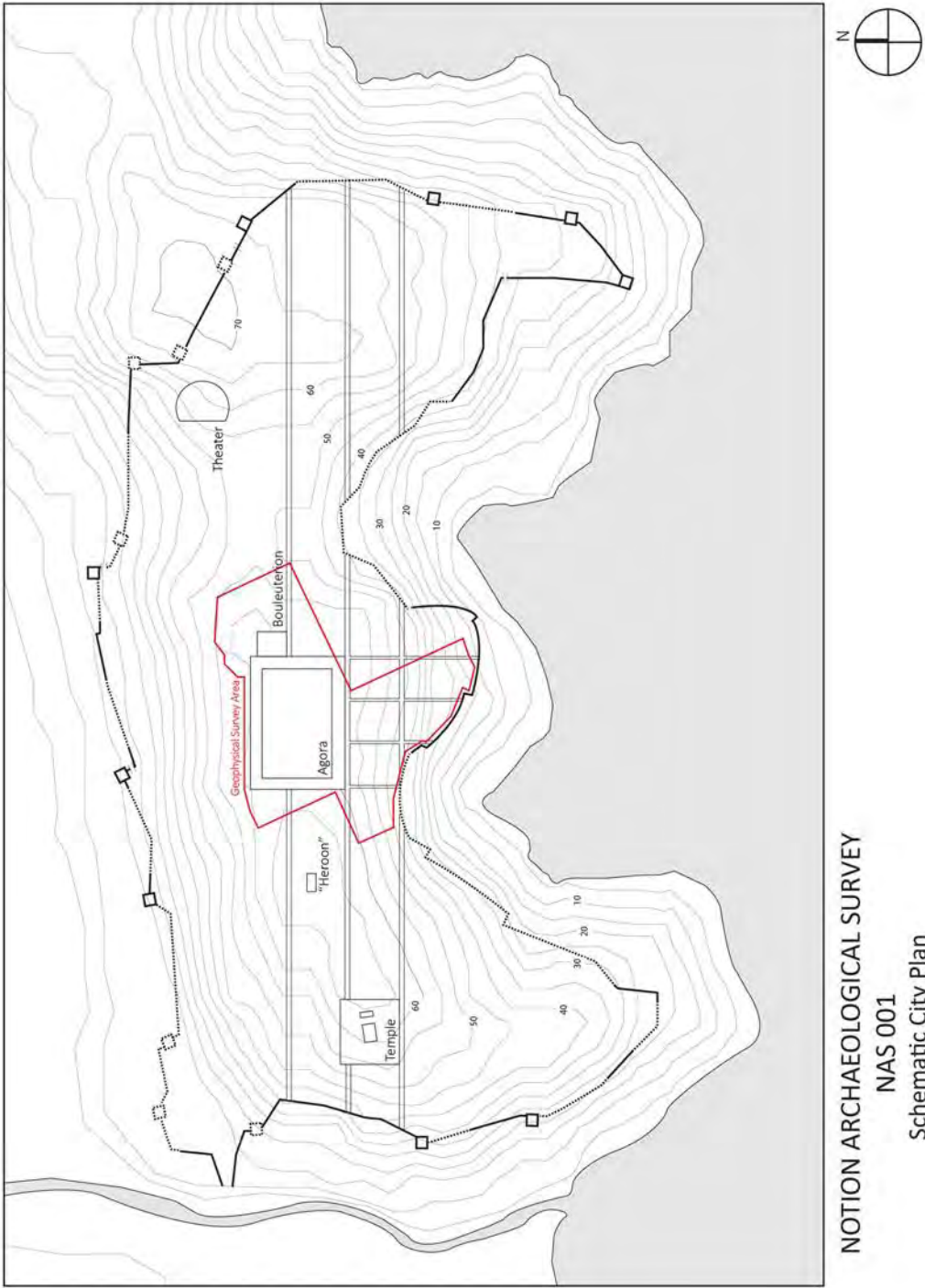


Fig. 1





Fig. 2



Fig. 3



Fig. 4





Fig. 5



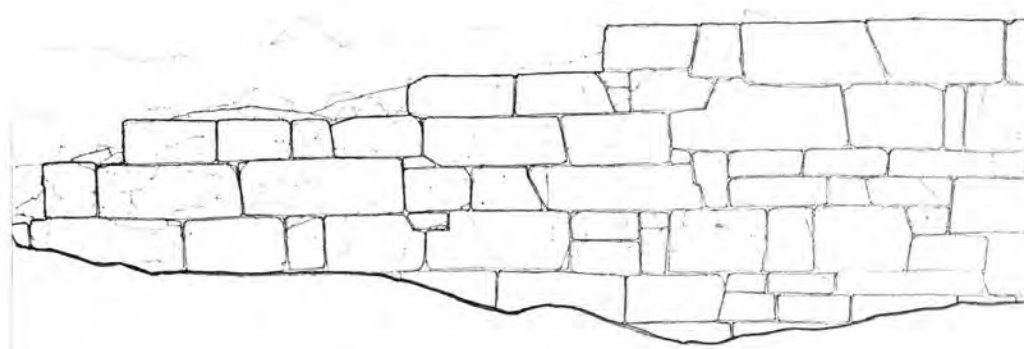


Fig. 6



Fig. 7





**NOTION ARCHAEOLOGICAL SURVEY**  
**NAS 003**  
FORTIFICATION WALL ELEVATION

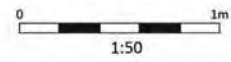
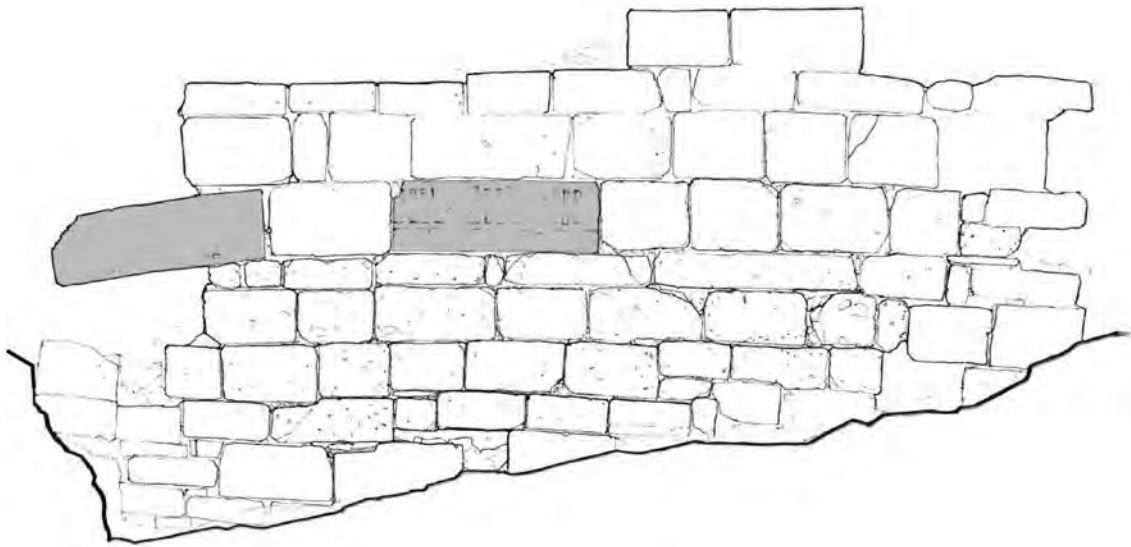


Fig. 8



Fig. 9



**NOTION ARCHAEOLOGICAL SURVEY**  
**NAS 002**  
FORTIFICATION WALL ELEVATION  
(shading indicates architectural spolia)



Fig. 10



Fig. 11





Fig. 12





Notion Site Management Masterplan  
 Preliminary Draft  
 June 14, 2014  
 NTS

Prepared by: Kathy Vellikov & Geoffrey Thun  
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Fig. 13





Fig. 14



Fig. 15





Fig. 16





Fig. 17