

THE ARCHAEOLOGICAL SURVEY CAMPAIGN OF STRUCTURES OF THE IASOS'S BOUNDARY WALL IN CARIA

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Abstract

It's known that the defensive system of Iasos is connected to two magnificent works, different for chronology and history. The first one is the boundary wall, real expression of a highly developed concept of building. Even though it was built up quickly and was operating for a short time, it still represents one of the most significant (and debated) monuments of Iasos landscape. The second one is the older system of town walls, one of the original elements of the town plan. In 1889, this structure, which had for centuries represented the defense of the town, was destroyed for the building of the Bebek wharf of Instambul. On the purpose of dating the archaeological complex and listing all its structures, the Italian Archaeological Mission at Iasos site is still working on a multidisciplinary analysis of the ruins, supported by both excavation samples and restoration.

1 Introduction

The old town of Iasos is certainly an archaeological place with peculiar characteristics. It is placed on a strip of land projected on the sea by a narrow isthmus, dominated by a hard rocky promontory, covered by a typical Mediterranean vegetation insinuating between stones and ruins.

In fact a part of the place has been excavated and restaured during the last decades and some archaic, hellenistic, roman and byzantine structures had been taken to the light. These ruins, after interventions of consolidations and anastilosi, are today the archaeological park of Iasos.

The numerous stratifications and the continuous reuse of structures seem to be a constant characteristic of this town. This is why it is hard making a chronology especially where assays of appropriate excavations, constructive or decorative elements with well recognisable characteristic of style are missing.

Just for giving some historical and chronological information of installation, the town of Caria situated in the Gulf of Mandalya is traditionally considered a colony of Argo (Strabone, XIV, 658) rising from a promontory that was originally probably separated from the mainland and populated since the Bronze Age. Iasos was a blooming town since the period of the Peloponnesian War; it was occupied by the Spartans and was destroyed by Lisandro in the 405 b.C. (Diodoro Siculo, XII, 104, 7); in 387 b.C., after the Antalcida Peace, was dominated by Hekatomnos, later by Mausolo. Alessandro Magno freed the country after the many vicissitudes of his successors, and in 125 b.C. Iasos and all Caria were annexed in the Asia region of the Roman Empire. Iasos was a rich town until the early centuries of the Byzantine Empire and then it gradually declined*.

The boundary walls and their complexity, still visible today for the most part, show to the visitor numerous and different historical events of the town, even if despoliations of a lot of the worked stones were used between 1888 and 1889 to build moles for the new Istanbul port. In fact this is the only one monument that has followed all the phases of town history, of course because of his continued transformations due to defensives

reasons. As a matter of fact we can see a lot of restorations and adaptations changing with materials also coming from the pillage of the town monuments; it is clear that there are remaking and reusing of architectonics structures that are different for typology, age, material and constructive technologies, whose make evident also the probable planimetric tracing variations of fortress during time.

2 Methodologies

The study of such an articulated complex of structures offers some interesting cues for research and can contribute to show the history and the urbanistic characteristic of the site.

The search has the objective to document the evidences, at level of surface, analysing the visible structures with technological instrument for survey and for the statigraphical study of buildings.

The Planning Department of Architecture of University of Florence dedicates his plan of search to the study of relationship between wall's typology and stratifications, and to the used building techniques and the architectures typologies showed on the site. This plan of search started in 1997 with a survey campaign made by myself, Mr. Marco Bini, Mr. Mauro Giannini and the archaeologist Ms. Maddalena Andreussi; today this study presents the topography framing of boundary wall, the definition of altimeter outline of the mains structures and the survey of some structures made with the method of photogrammetrical survey**.

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* C.f.r. C. LAVIOSA C., pp. 76 – 85, e VICOGLIOSI A., pp. 85 – 88.

The first result of survey work is the realization of a topography framing of surviving structure of boundary wall and the realization of one general planimetry where are individuated a mesh of fixes points on the ground like reference for the next work. It was made with 6 polygonal structures and 69 stations, so in all 1566 surveyed points on the boundary of wall around the peninsula. The topographic reference was important for illustrating the main altimeters outlines of structures on the ground, on the seaside level, and on the top. Special attention was for the analysis of architectural structure connected with fortification, like supports or some functional interacting part; these ones have been object of operations of detail relief executed with methodologies integrated of directed, celerimetric and photogrammetric survey.

3 Description of the city walls

In the choice of the parts to inquire particular attention has been made to the relationship elapsing between these last ones and the city walls, to obtain along the existing perimeter an exhausting picture of the connected buildings.

The more complex part of the system, also for obvious implications of urbanism, is the one revolt towards the mainland at the North of the peninsula, watching over the strait earth border that guarantees the communication between city and its territory and combines the two ancient harbour basins to the East and to the West of the promontory.

This zone presents an high ground where we can see clear signs of structures of palaces and holy building; there is also an autonomous boundary wall connected to the town one: a sort of a secondary little acropolis or castle showing many works of reconstruction and adaptation and that follows the natural course of contour line with a complex planimetric course. Inside of the castle there is the *Castellum aquae*, between the numerous rests of building still not enough inquired; It is the building of the head of the roman aqueduct used for the collection and the successive redistribution of water resources inside the old town. This system present great vaulted rooms inside, communicating each other and covered by plaster and earthenware, used like passage for the management of waterworks, for system of separating and for regulating level of water. On the wall are visible thick coats of calcareous deposit revealing the long-lasting use of these structures. The West and the North cistern's walls are integrated into other walls and into a circular tower, and are one of the angular bastion of the castle. Close to that structure there is one of the ancient gates of the town, the North Gate, almost all underground today, with a big monolithic lintel outside, an arched lintel of a big arc inside walls and a thick plate marble lining, apparently seemed to be reused. On the north of boundary walls there are rests of a great polygonal tower with a regular octagonal plan, with a very good making marble face. The castle boundary wall let see very late phases and seems completely rehased in the late Middle Age, probably the last phase of Iasos urbanization.

The south castle walls are turned towards the contiguous level area where are greater monuments of the ancient town: the big *agorà* encircled of Imperial Age arcades covered by south walls of the same castle, the main temples and the Bouleuterion.

Iasos boundary wall follows the north-west perimeter of these last ones structures, often taking part of different aged buildings like the angular hellenistic tower of *agorà*, the lateral Bouleuterion wall where there is one of the deambulatory gate

under the cavea, and the monumental *Agorà Gate* placed after an outside staircase, with a face showing a lot of building phases; one of them presents various arcade lintel reusing that was around the inside place. In the North part of this zone there is another roman arch of a second gate.

A great building of central cruciform plant was object of a detailed survey. It is closed by a semicircular apses on the high level that were articulated on three of the four wings; it presents vaulted tiles rooms realized in roman late age. It was a thermal place probably: in fact there are water-pipes of bricks inside of the walls and passing between more levels.

However structure shows formers systems staying in places close to the East Gate, one of the most ancient gate of walls, and englobing a great part of urban's walls, covering the cymatium. Another great building of large vaulted rooms communicating each other and open toward external by slits was carefully surveyed. The presence of a strong plaster, signs of mineral deposits on the walls, an ingenious system of mill weirs, is supposed to be a cistern.

Singular buildings near the seaside were surveyed as well. They are covered by stony barrel-vault.

The not survey's parts of the first campaign are considering in this one, like some part of defensive structures of the "Byzantine castle" or like some portion of the boundary wall.

The direct survey either planimetric or of front view was made with traditional methodologies: making draft on the spot where to sign metrical values, making polygonal figure around architectural structures including topographic points just surveyed in 1997, for surveying through trilateral signs. The specific survey was made at different altimetrical levels, through cartesian coordinates, very good methodology for archaeology because of so irregular sections.

Survey of walls has a very important part for reading fronts and was made by using plane photogrammetry and the next image computer drafting.

4 Conclusions

Regarding to analysing walls was made a schedule for writing the U.S.M. (statigraphical units of walls) before; that's why is necessary to have an elastic instrument for cataloguing, adapting at the characteristics of studied objects. The use of portable PC consented a partial check on place of results. Sampling of U.S.M. more than description of instrument and study of geometric characteristics, made drawing of mortar samples that were sent to a laboratory to analyze their chemical-physical characteristics.

Mineralogical and petrographical analyses of mortar samples coming from different stratigraphic units of the walls, have been attempted. The importance of a deep knowledge of the amterials used as mortars in the works of masonry is due to the need of characterising their composition and quantifying the percentage of the different components, suche as aggregate and/or binder.

The comparison of the samples and the evaluation of data from both excavation samples and stratigraphical analyses of the walls could allow to define relative or absolute chronologies. These temporal data could be useful for the study of manufacts of the Iasos archaeological site. The large use of these methodologies in the survey could add useful information on both the technological processes and on the sites the studied materials come from. For this aim we need the sperimentation of G. I. S. sistems for the georeferentiation of the mass of the informations. The research will also represent an important documentation for a reliable chronological reconstruction of the different phases of development of the ancient urban site.

We have collected a lot of data and information till today, but is true that to get better a chronology or to suppose a periodization is necessary to wait the end of survey operations, according to

the help of literature and archaeology. In fact the interdisciplinary method is basically the master instrument of research in this zone, so charming but so insidious.

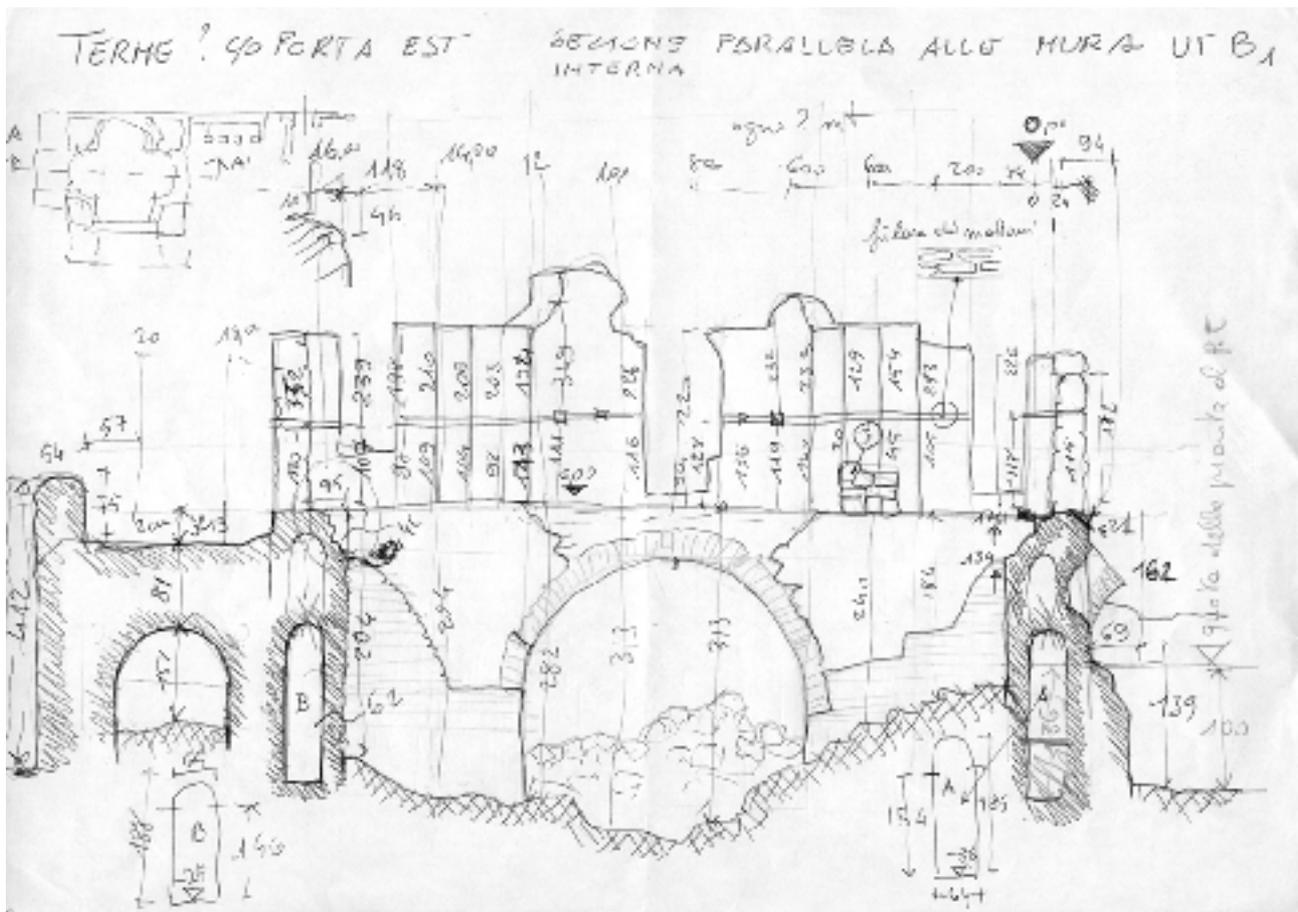
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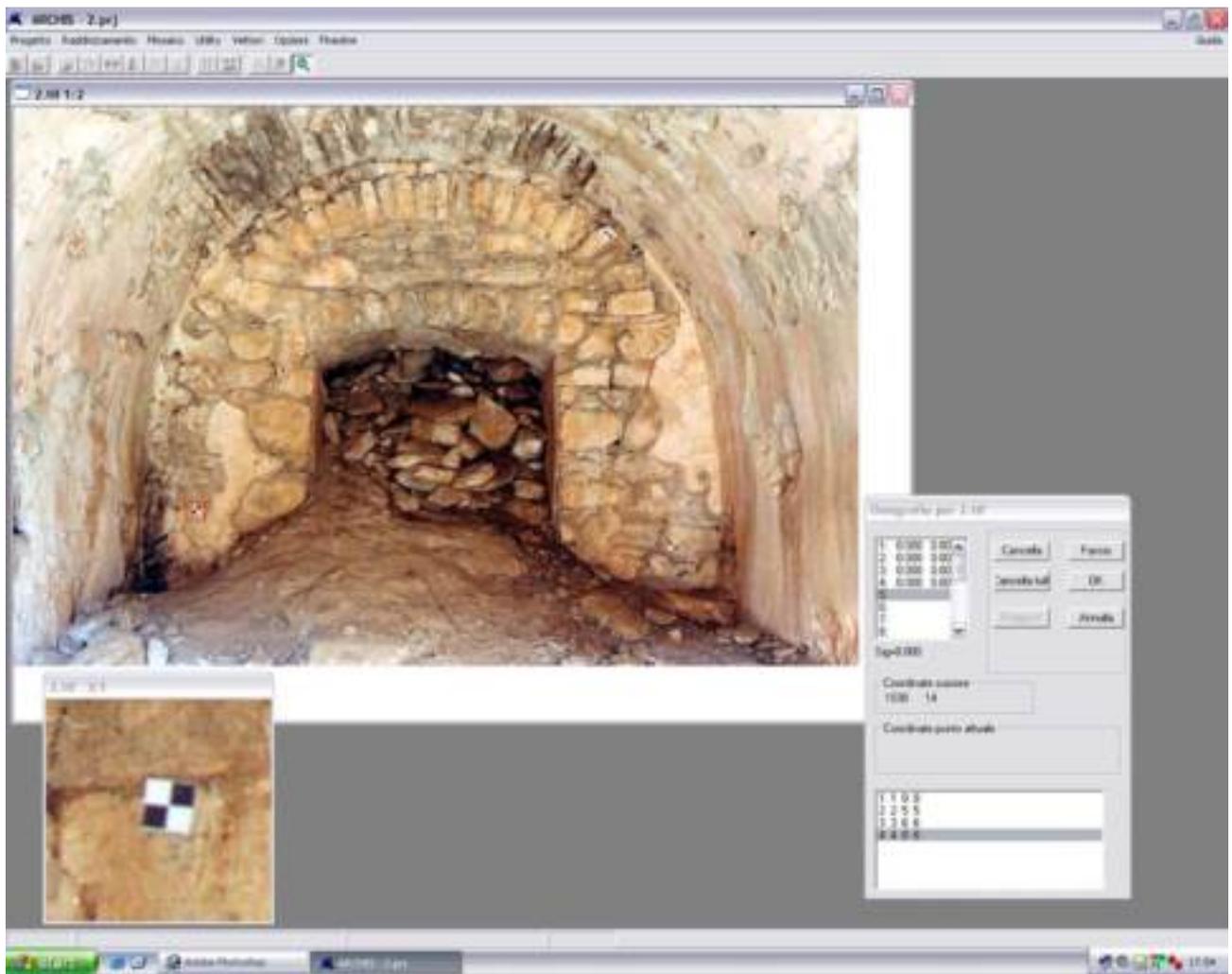
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One of the drawings with the data of the direct survey of the thermal building near the East Gate



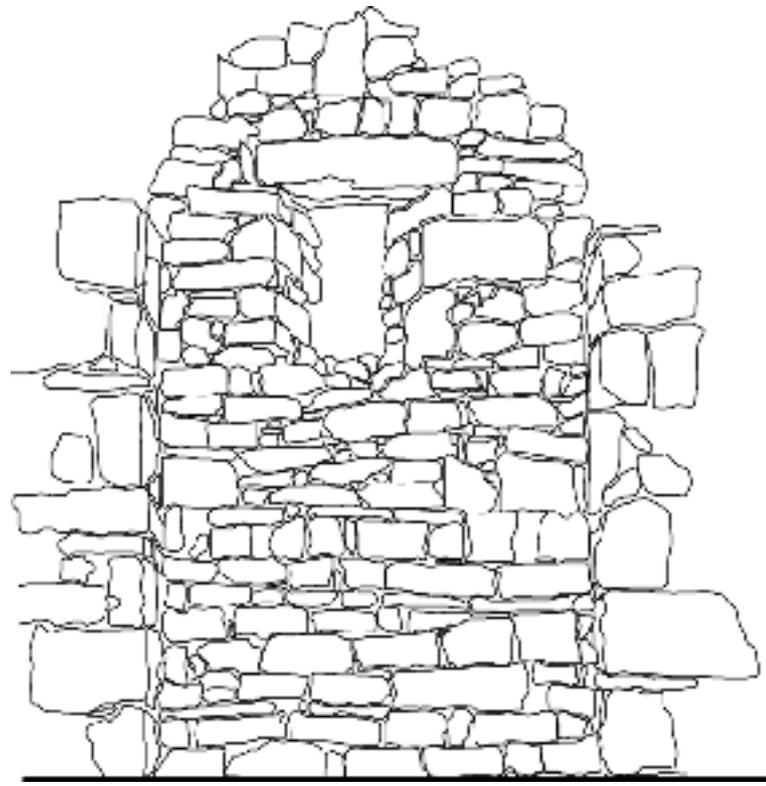
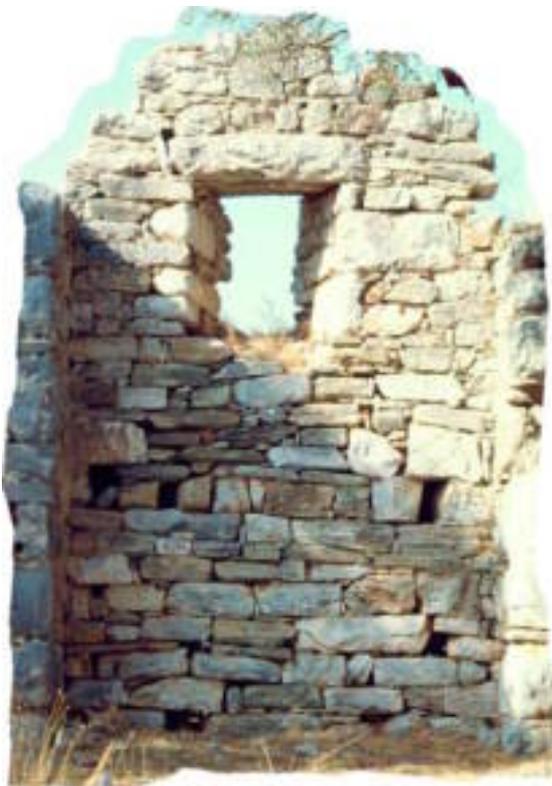
One example of the photogrammetric restitution of a wall.



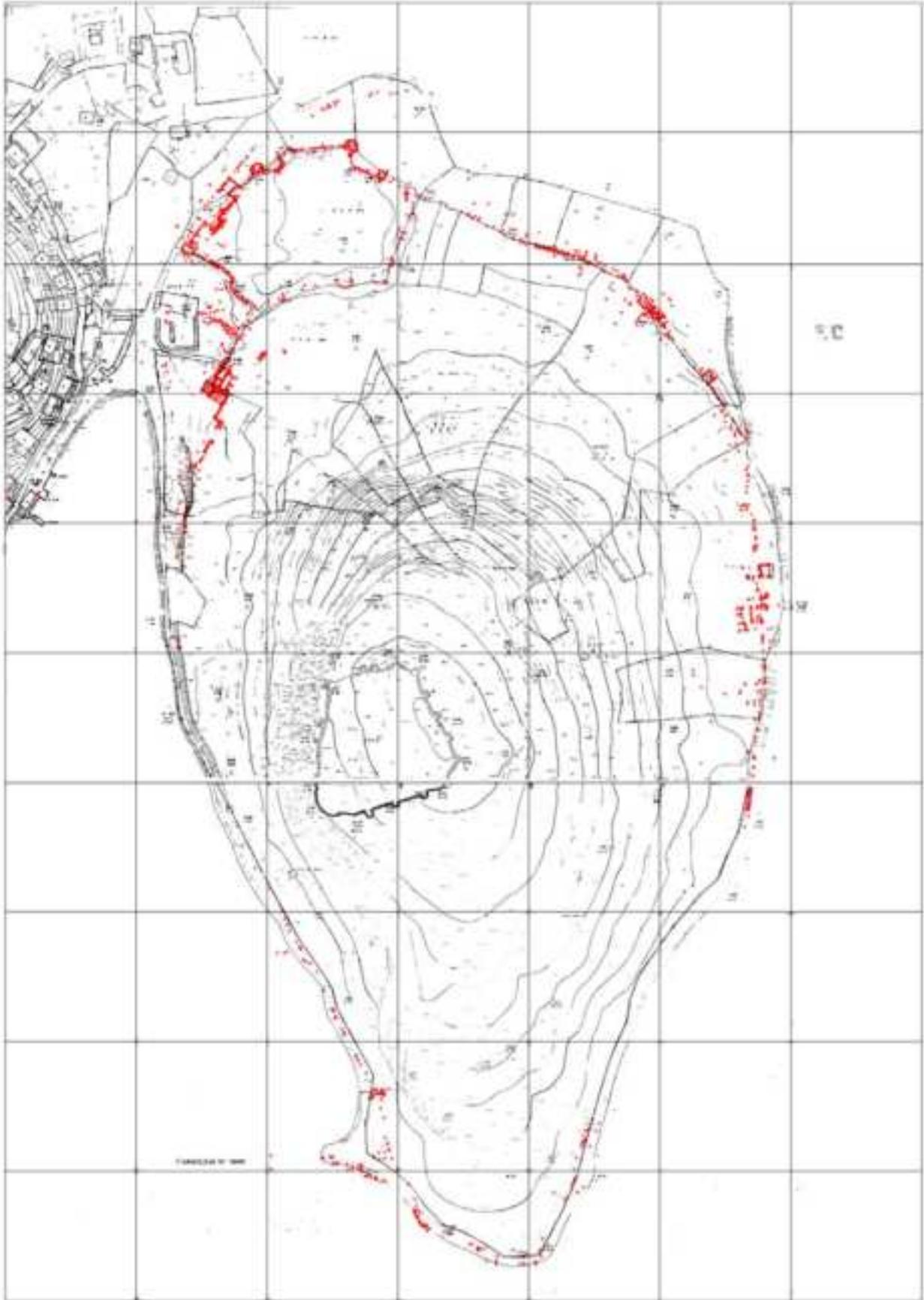
Iasos vewe from the harbour.



Fotopiano of one of the walls of the castle.



Fotopiano of one of the wall of the bizatyne church near the city wall.



The survey of the Iasos's boundary wall remains.