

Archeologia e Calcolatori
28.2, 2017, 353-360

NEW METHODOLOGIES TO ANALYZE AND STUDY THE HELLENISTIC-ROMAN QUARTER IN AGRIGENTO

The Agrigento: *insula* III Project began in 2016 thanks to a convention between Parco Archeologico e Paesaggistico Valle dei Templi in Agrigento and the DiSCi of Bologna University. In three years' time, this project shall aim to complete the documentation of an entire sector of the so-called Hellenistic-Roman quarter, a large inhabited area in the center of the colonial settlement.

The intention of the team is to start a new systematic study of house building procedures in the Archaic and Late Archaic Age, and at the same time to give a new critique of urban planning in a sector of the city still lacking in modern archaeological and topographical documentation.

ALL THE AUTHORS

The starting point was the archive research (Soprintendenza BB.CC.AA., Museo Archeologico Regionale, Parco Valle dei Templi): a GIS with the known data positioning was set up, with particular attention given to the problem of the living floors in relation to different chronological phases.

As a matter of fact, *insula* III came to light in the 1950s (DE MIRO 2009): only some plans were preserved in the Parco archives from those investigations, while there has been little in the form of published material. Over the following years, in the *insula* and in the adjacent areas several pits were examined and all documentation was recovered. We had to proceed with a careful comparative examination for all the documentation, in which the same areas were named differently across different times. We shall combine the data from the old maps and documents with the new map that we are gathering in the GIS of the *insula* (Fig. 1).

This first phase of the research allowed us to properly locate all the old test pits and – consequently – to contextualize all the findings from previous investigations again. From a preliminary analysis of such plentiful materials now preserved in the Museum and in the deposits of the Parco Valle dei Templi, it was possible to obtain a comprehensive chronological time frame from the Archaic Age to the Late Antiquity, at least from the beginning of the Greek colonial settlement to the latest period of its occupation (6th century BC-6th century AD). The combined study of the findings and the documentation will allow us to acquire many useful data to reconsider the investigated areas and their functions.

V.B.

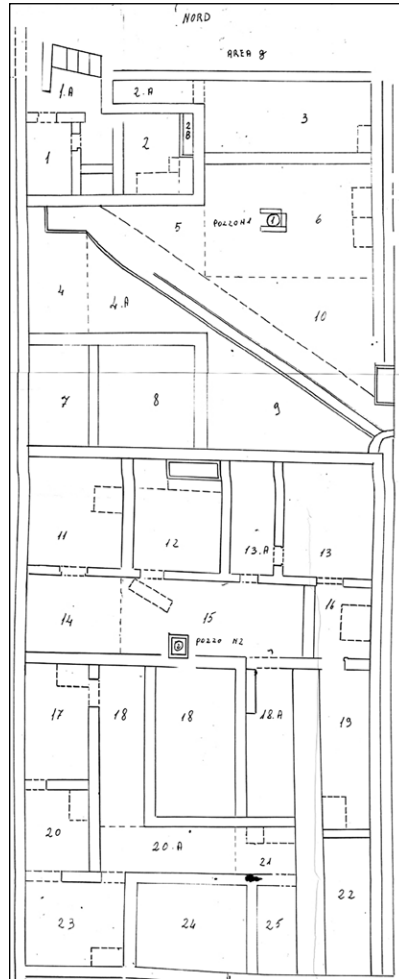


Fig. 1 – Map of the 1950s excavation in the *insula III* (particular). Archivio Parco Archeologico e Paesaggistico “Valle dei Templi”, Agrigento.

The second step of the research was the survey of the structure, using a new stratigraphic analysis as a means to examine the deterioration of the antique walls.

The survey was referred to – from a topographical perspective – a framework of networks prepared by the technicians of the Parco Valle dei Templi (BELVEDERE, BURGIO 2012).

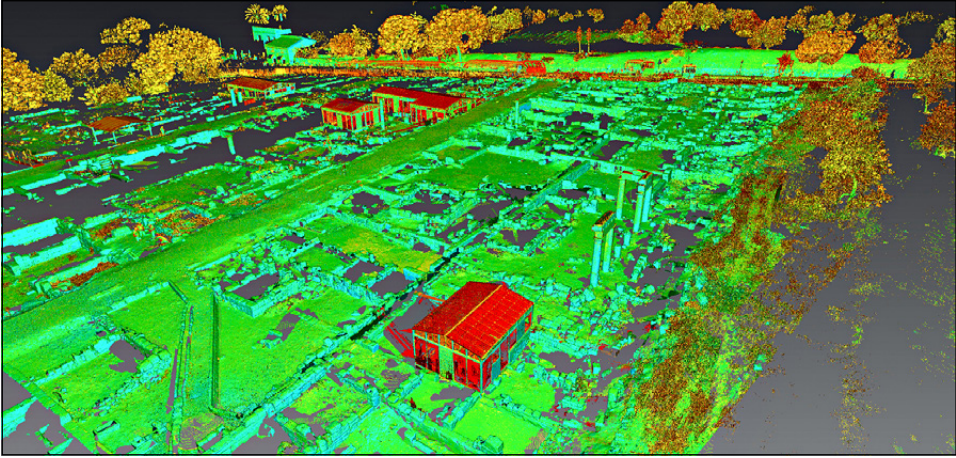


Fig. 2 – Laser-scanning of the *insula* III.

The documentation system was modeled on the 2015 experience in participation with the *Piano della Conoscenza* in Pompeii (SILANI *et al.* in this volume).

We therefore decided to proceed with a relief Laser Scanner Leica P30 with a dual-axis compensator and angular accuracy for single measurement of 8 inches. Scans were acquired with a density point of 6 mm and they were processed during pre-alignment through the target or natural point recognition. Afterwards we proceeded with the registration of point clouds with the ICP algorithm. The software used was Leica Cyclone 9.1.4.

Point texturization was obtained through the inside camera of the Laser Scanner (Leica P30) or in association with the NcTech ISTAR 360 panoramic camera. The entire cloud we obtained was 50% decimated and exported for further modeling. We therefore advanced with cloud cleansing, and currently the creation for Digital Surface Model (DSM) is in progress through the 3D Reshaper software, that is always texturized starting from the images obtained through the laser scanner's internal camera. Moreover, the laser scanner data processing is still being carried out: it will allow us to draw a new updated map, in addition to perspective drawing, axonometric projection, and orthophotos of the surveyed context. The final objective is to obtain new documentation drawn to a 1:50 scale including: a georeferenced plan, an integrated longitudinal section along the central axes of the block, integrated transverse sections in correspondence with different habitations, orthophotos of all the wall views and of the more significant floor surfaces (Fig. 2).

These drawings will be the base for proceeding further with an understanding of the elevations, with the acknowledgement of the techniques and the building materials used, according to the archaeology of architecture criteria, and with the interpretation of degrade mapping and static risk. This information will be catalogued in a database to be shared amongst colleagues and Parco technicians and is intended for study purposes.

E.G.

Before the beginning of the new archaeological excavations, planned for the October 2017, we have carried out a systematic campaign of geophysical surveys. Even the use of integrated non-invasive methods was aimed at a better understanding of the *insula* III in the Hellenistic-Roman quarter, with particular attention to its genetic phases and its evolution.

As such, a high-resolution Ground Penetrating Radar (GPR) mapping all the accessible spaces inside the standing buildings in the *insula* is in progress, in order to attempt the analysis and the 3D description of those not yet excavated underground spaces.

Simultaneously, through a geomagnetic survey, we undertook the exploration of the now open fields, starting from the eastern area of the quarter, to acquire new data on the extension and the articulation of the residential area, in those partially known or unknown sectors. On the whole, we believe that this work can be potentially useful for the reconstruction of the cityscape and of the urban planning. The collected data is being processed and interpreted, on the basis of integration with all the available sources of information. In particular, we are working with feedbacks between the stratigraphic information from previous excavations and that which was obtained through GPR slice-maps related to specific depths (see on this CONYERS, GOODMAN 1997; CONYERS 2004; BOSCHI 2009). We shall preliminarily point out that, in many of the surveyed spaces within the *insula*, we can observe the detection of levels of frequentation and traces of walls-foundations quite regularly, attested between 0.30 and 1.50 m in depth, which are potentially referable to living phases earlier than those that are currently visible (Fig. 3).

F.B.

In conclusion, it is possible to make some archaeological considerations. The internal articulation of living buildings, as it seems today, is datable to a building phase of the early/middle Roman Imperial period during which some more or less incisive changes in Late Antiquity were laid out, in most cases intended to re-functionalize the living areas for artisanal and commercial purposes (PARELLO *et al.* 2016). Numerous test pits carried out under the houses in *insulae* I and II showed different structures referring to the

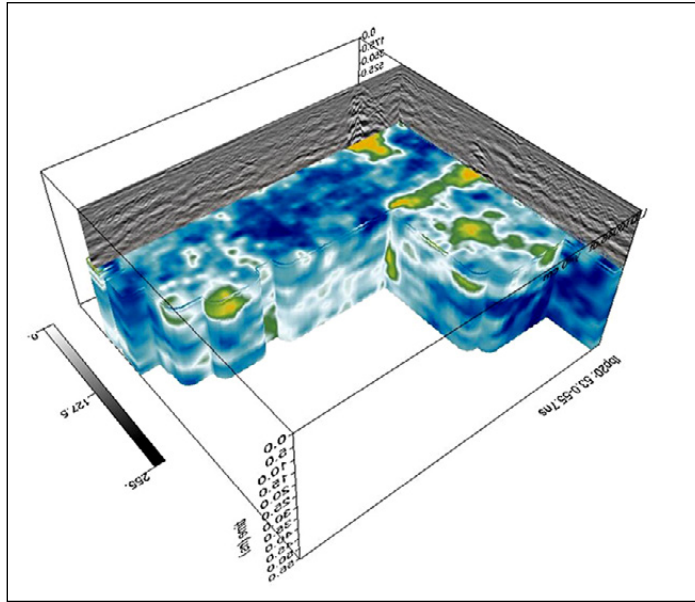


Fig. 3 – 3D slice-map of the *pastas* of the House III A (*insula* III).

occupation of the Hellenistic-Roman quarter during the Archaic Age; their depth is variable when compared to the Hellenistic-Roman surface area, due to the geomorphological features of the area, being marked by a gradient both in the NS and the EW (DE MIRO 2009; PARELLO, RIZZO 2015). It is not yet clear what kind of building they refer to, although the new examination allowed us to emphasize the positioning of outside walls (set exactly on the block half) and the presence of a small diagonal *ambitus* tract. Nothing is yet known about the most ancient phases of *insula* III, where the investigation has never gone further than the Hellenistic ones. However, it is interesting to note that in one of the studies, carried out under the mosaic of the House III H (so-called *Casa delle Pelte*), a terracing wall set in NS direction was detected and is datable, according to excavators, to between 3rd and 2nd century BC, its function probably being to allow an enlargement of the terrace where houses were eventually built (DE MIRO 2009, 369-370).

The present division of lots inside the block, according to what E. De Miro claims, should reflect an unequal distribution realized in late Hellenistic period (end of the 2nd century BC-Augustan Age), when a great part of the diagonal and longitudinal *ambitus* were knocked down to create big houses of the Greek-Hellenistic type (perystile), which would occupy the entire width of the block.

Such transformations are less clear inside *insula* III, where the longitudinal *ambitus* is preserved entirely (probably because the function of the terraced wall), even if it is unbalanced towards the W for 50 cm along the northern edge of the block. Here, houses maintain a more conservative planimetric aspect and their articulation inside the *insula*, characterized by the succession of squared and rectangular lots (today only partially visible due to successive modifications), seems to refer to those visible ones in the inhabited areas in “Porta II” in Agrigento or the acropolis of “Molino a Vento” in Gela (DE ORSOLA 1991; DE MIRO 1996). This suggestion, however, would be confirmed, or otherwise disproved, only after new stratigraphic studies alongside a more accurate reading on the emerging matters of “Porta II”.

The *pastas* house is the most common shape inside the *insula* III, recognized even after important structural transformations made during imperial period. This shape is linked to a building technique in which isodomic dry stone blocks are all set at uniform sizes (1.36 m in length, 0.45/0.50 in height, 0.55 in width), of which have not been used in successive developments. At the present state of research, it is not possible to establish which chronological phase or phases the *pastas* house refers to. Nevertheless, the preliminary analysis of architectural elements and decorative devices lead to a following phase, when the *pastades* colonnade was taken advantage of in order to create the peristyle: it is possible to roughly place the *terminus ante quem*, to the second half of the 2nd century BC.

G.L.

The presence of cement floors with decorated clay bases, Sicilian-Ionic capitals, Sicilian-Corinthian capitals and Doric capitals with a compacted echinus inserted inside houses that have small or long porches with four columns, allow us to consider the Hellenistic-Roman quarter inside an artistic and architectural *koine* well documented during the Hellenistic phase of public and private architecture in the prosperous cities of the Tyrrhenian coast (such as Segesta, Soluntum, Panormus, Thermae, Halaesa, etc.), which, according to almost unanimous opinion among scholars in the last decade, would have developed starting from the second half of the 2nd century BC, in particular during the final quarter (CAMPAGNA 2006; PORTALE 2015). Such an assumption contrasts with previously held beliefs, which considered the age of Timoleon to be the last season for the flourishing of insular Hellenism, to be extended to the 3rd century BC only within the boundaries of the Siracuse’s reign (BELVEDERE, TERMINE 2005; MONTE in press).

However, as evident as it might be that the development of Hellenic-matrix artistic culture does not wear out after the Roman conquest, on the contrary, it would have received new drives and motivations from it, thanks to connections created with the Hellenistic West. It is relevant to note the

apparent restrictiveness in compressing all the findings into such a short chronological phase, especially when we consider that, in most cases, this chronology is exclusively based on the stylistic analysis of decorative sets.

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ABSTRACT

The Agrigento: *insula III* Project began in 2016 thanks to an agreement between the Parco Archeologico e Paesaggistico Valle dei Templi di Agrigento and DiSCi - Bologna University; it aims to document an entire sector of the Hellenistic-Roman quarter, in a three-year period. The main goal is to start a systematic study of private housing from the Archaic period to Late Antiquity and, at the same time, provide a critical understanding of the town planning scheme in this part of the town, which still lacks a modern archaeological and topographical documentation. The interpretation of the previous documentation is the starting point, along with new mapping with laser scanning and a systematic campaign of geophysical investigations to obtain a BIM. As the Bologna University tradition teaches, modern technologies can answer precise historical and archaeological questions: what are the primary phases of the town map? Which one is the starting module of each lot and what are the changes in different ages? Is it possible to reconstruct the original architecture of Hellenistic houses? What is the relationship between this quarter and the rest of the town? The integration of traditional investigational techniques with more recent ones is the methodological assumption of the project, in order to solve the analysis of the complex stratigraphy of the setting, which was inhabited for at least a millennium, from the Archaic to the Middle Ages.