Brickwork Architecture and Ornament in Ostia and Isola Sacra: Production, Display, and Identity

Research Report (October 2019 – January 2020)

This pilot-project aimed to start a study of Roman public, private, and funerary buildings with brick-decorated façades, located at the sites of Ostia Antica and the necropolis of Portus at the Isola Sacra (second and third centuries AD). The research was carried out over four months, from October 2019 to January 2020, after having been issued the required permits from the Archaeological Park of Ostia Antica (permit no. PA-OANT/4444). The work involved bibliographic, archival, and field research. The following buildings were selected in the context of this study:

- **Ostia Antica**: Baths of Neptune; House of the *Vigiles*; Theatre; Domus of the Well; Small Market; Porticoes of Pius IX; House of the Wheat Measurers; House of the *Lararium*; *Horrea Epagathiana et Epaphroditiana*; *Horrea* along Via degli Aurighi; Garden Houses; isolated architectural elements on the Via Ostiensis (from the Pianabella necropolis).

- **Isola Sacra**: Tomb no. 29; Tomb no. 56; Tomb no. 100; Tomb of the Harvesting.

The first part of the project was dedicated to the analysis of archival materials, held in the collections of the park’s Photographic Archive. Historical photographs of the 1920-30s show the state of the buildings at the moment of their excavation, as well as the extent of the restorations. This part of the work was of crucial importance also from an ethnoarchaeological perspective, to understand the steps of production of brick architectural elements. For instance, archive photographs taken during the reconstruction of the cavea of the theatre in 1939 clearly show that the mouldings of the Attic pilaster bases were executed only after the bricks had been assembled together (Fig. 1). This same procedure was often employed in antiquity, as shown by the traces visible on pilaster and half-column bases.
recorded in various buildings at Ostia. Additional information was recovered from the Giornali di Scavo (1910s through to 1930s) and the architectural drawings housed in the Drawings Archive.

The field research involved the recording of selected, in-situ architectural elements (Fig. 2), which were measured and photographed, and detailed recording sheets were filled out. This was a major step in view of the creation of a complete typological classification during a subsequent phase of the project. Alongside this traditional recording, it was decided to undertake a photogrammetric survey of some of these architectural elements and buildings. This part of the work was carried out with the invaluable support of Dr Rossella Pansini (University of Siena), who was employed as a Research Assistant. The 3D photogrammetric survey led to the production of textured and scaled 3D digital models (Fig. 3). The photographs were taken from different heights and angles, with a succession of shots that ensured that each image included at least 60% of the surface visible in the previous shot. The processing of these data and the creation of the 3D photogrammetric models were carried out through the software Agisoft Metashape Professional.

The main outputs of this pilot-project can be thus summarized:

1) Assessment of the archival evidence to better understand the post-excision history of these buildings, especially when modern restorations are not immediately recognizable due to the reuse of ancient materials during the 1920-30s works.
2) Detailed recording of significant architectural elements, in order to understand the production steps and the features of the bricks used for their construction.
3) Creation of 3D photogrammetric models of individual architectural elements and buildings, which can be used for a remote analysis and to set up a 3D-GIS platform.
4) Collection of data in the field to plan a subsequent development of the project, which would involve an expanded, collaborative study of these edifices, to reconstruct their building phases and decorative features through a comprehensive architectural survey.

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Niccolò Mugnai
Fig. 1. Ostia, theatre. Left: Works in progress during the reconstruction of the cavea exterior in 1939 (Ostia Antica Photographic Archive, photo negative no. B2885). Right: Modern Attic pilaster base with finished mouldings, after assemblage of the bricks (photo Niccolò Mugnai, October 2019).

Fig. 2. Ostia, brickwork architectural elements. A: Theatre, lower order of the cavea exterior, entablature featuring architrave, frieze, and upper cornice. B: Via Ostiensis, tomb from the necropolis of Pianabella, upper portion of entablature. C: Baths of Neptune, entrance along the decumanus maximus, Attic half-column base. D: Domus of the Well, entrance, Attic engaged column base (photos Niccolò Mugnai, October-November 2019).
**Fig. 3.** Digital photogrammetric models. A: Ostia, tomb from the necropolis of Pianabella, portion of entablature with architrave and frieze. B: Ostia, tomb from the necropolis of Pianabella, Attic pilaster base and composite engaged column base. C: Isola Sacra, Tomb of the Harvesting, façade with *opus spicatum* brickwork. D: Isola Sacra, Tomb no. 56, aedicula. E: Isola Sacra, Tomb no. 29, façade of the precinct with Corinthianizing pilasters. F: Isola Sacra, Tomb no. 100, view of brickwork façade and side with *opus reticulatum* (© Rossella Pansini, 2020).