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ROME TRANSFORMED: STRUCTURAL SURVEY AND ENVIRONMENTAL ANALYSIS IN SOUTHEAST ROME

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According to its original timetable ROMETRANS, ‘Rome Transformed: interdisciplinary analysis of political, military, and religious regenerations of the city’s forgotten quarter C1–C8 CE’ (<https://cordis.europa.eu/project/id/835271>), aimed to complete field data capture by May 2022. Managing the long-term impact of COVID on project schedules, resurveying especially challenging areas and capitalizing upon the opportunities arising from earlier investigations, however, meant that ROMETRANS team members were still actively involved in fieldwork into 2023.

In previous reports, we have summarized the project’s extensive programme of geophysical survey led by Stephen Kay (BSR), Salvatore Piro (CNR) and Gianfranco Morelli (Geostudi Astier). Evaluation of the voluminous data recovered in that programme continues, but no new geophysics fieldwork was undertaken during this reporting period, and accordingly we do not discuss it further here. The borehole programme that supports our environmental analysis work and feeds our RT3D system for topographic modelling did, however, continue in the field during this time. Phyllida Bailey and Francesca Carboni oversaw drilling by Luca Rodriguez of TecnoGeo at a further six locations (Fig. 1). The cores extracted were subjected to geomorphological analysis by Carlo Rosa of TecnoGeo, before having their archaeological content and organic materials assessed by Francesca and Phyllida. Key deposits were then subjected to radiocarbon dating; a majority of samples recovered dated from the mid-Republican to early Imperial period. In the months to come,

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Fig. 1. Borehole analysis locations (Phyllida Bailey 2022 for Rome Transformed, Google Earth underlay). EA1.4 — AREA DI S. GIOVANNI IN LATERANO, EA1.5 — AREA DI S. GIOVANNI IN LATERANO, EA2.1 — AREA AZIENDA OSPEDALIERA SAN GIOVANNI — ADDOLORATA, EA2.2 — AREA AZIENDA OSPEDALIERA SAN GIOVANNI — ADDOLORATA, EA7.1 — AREA PARCHEGGIO ANTONIANUM, EA7.2 — AREA VILLA GIUSTINIANI.

Margherita Azzari and Vincenzo Bologna, colleagues who led the development of RT3D, will continue to upload data from these surveys, and related cartographical, geographical and archaeological sources, to build new Digital Surface Models.

For ease of reference the other fieldwork undertaken is summarized below from west to east across the project's research area.

Under the Lateran Baptistery, Thea Ravasi carried out further structural analysis of the bath complex which preceded the baptistery. The work is illuminating changes to the building made from the second half of the third to the early fourth centuries AD, an important stage in the development of the complex, that preceded the development of the monumental octagonal structure that is visible today. Preliminary results of this research were presented at the Frontinus Conference in Budapest (Ravasi and Santucci, 2022). Detailed analysis of the transformation of the hydraulic system under the baptistery was undertaken by Elettra Santucci. As part of this work, Elettra also took samples of calcareous sediments; we hope that the processing of these samples will yield information about the system's evolution and its connection with the *Arcus NeronianilCaelemontani*.

Above ground, Gianluca Foschi and Thea Ravasi also completed the laser scanning of the structures of the Lateran Baptistery. The integration of this data with earlier scans generated by the Lateran Project team produced the first-ever comprehensive point cloud of all the surviving structures of the baptistery from subsurface to ceiling.

To the north, Elettra Santucci led a detailed inspection of ancient and late antique drains, channels and conduits in the grounds of the Ospedale San Giovanni (project Area 2). This work covered the sites at the Corsia Folchi, Corsia Mazzoni, the *horti* of Domitia Lucilla and the especially challenging complex preserved beneath the Ospedale delle Infermiere. Much of this research required access to confined narrow spaces underground, and for safety reasons was carried out with the assistance of our specialist colleagues of Roma Sotterranea. In the archaeological area of Corsia Folchi, a new hydraulic channel was identified, documented and surveyed, while in the archaeological area of Corsia Mazzoni, the so-called *Domus Anniorum*, detailed analysis reviewed crucial but previously unobserved detail, such as the identification of a brick stamp on the *cappuccina* vault.

A development of the research carried out in the *horti* of Domitia Lucilla in Area 2 has been the sampling of fabric from *dolia* assemblages in imperial properties for comparative analysis, led by Thea Ravasi, with Luciana Randazzo, Maureen Carroll, Valentina Pescari and Giuliana Galli. The project has included recording stamps and sampling fabric from the *doliaria* of the *horti* of Domitia Lucilla and of the villa of the Quintilii along the Via Appia, to investigate the origin and distribution of *dolia* in imperial properties.

Major ongoing work by Francesca Carboni and Marianna Franco on the Aurelian Wall (project Area 9) and its phasing also benefited from a programme of works to clean out the historical excavations beneath the *Porta Asinaria* and generate a new Structure from Motion (SfM) model of the exposed brickwork and masonry. Elettra Santucci greatly assisted in the organization of this complex task, which required the cleaning of surfaces by pressurized water jet undertaken under the supervision of a specialist restorer.

To the east of the project area, in the Archaeological Area of Santa Croce (project Area 3), work led by Gianluca Foschi expanded laser-scanning coverage of the structures of the *Circus Varianus*, of the *Basilica Civile* and the southeastern side of the Basilica of Santa Croce, an achievement which allows for the development of an updated plan of the *Circus Varianus* by Gianluca Foschi and Francesca Carboni.

Area 3 was also the focus of a major effort by Elettra Santucci to sample hydraulic structures within and beyond the research area. This is part of a programme undertaken in collaboration with Duncan Keenan-Jones, and it focuses on the collection of two types of samples: calcium carbonate deposits and hydraulic mortars.

The aqueducts sampled in this initiative are the *Aqua Claudia* and the *Anio Novus*. They have been sampled in two locations: in the Santa Croce area, at the northeast edge of the project area, and in the Polo Tuscolano, property of the Bank of Italy, where they are particularly well preserved. On both occasions an elevated platform / cherry picker was used to reach the elevated channels of the aqueducts (Fig. 2). In the Santa Croce area, other hydraulic structures — basins, fountains, and the *castellum* connected to the aqueducts — were sampled. Further north, calcium carbonate samples have been also taken from the tufa elements of the underground aqueduct of Via Statilia (project Area 8) and from a channel in the Vigna Barberini area, on the Palatine.

Integral to the project's fieldwork is the development of 'provocations', visualizations that are developed and presented to advance analysis and debate about the form of spaces and structures. It was fitting therefore that the reporting period culminated in the Rome Transformed Provocation Colloquium held at the BSR on 22–24 March 2023. Thanks to the excellent work of our project visualizer, Iwan Peverett, and the generous insights of delegates, the colloquium, which presented sixteen different structures and spaces for discussion and debate, proved to be an extremely fertile environment for



Fig. 2. Elettra Santucci undertaking sampling activity at Santa Croce (photo: Elettra Santucci 2023 for Rome Transformed).

reappraising and advancing our interpretative work to date. The visualizations are available for viewing and feedback on the Rome Transformed SCIODOC platform (<https://rometrans.ncl.ac.uk/rtsciodoc>).

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