

**PRESERVING, MANAGING
AND ENHANCING THE
ARCHAEOLOGICAL SITES:
COMPARATIVE PERSPECTIVES
BETWEEN CHINA AND ITALY**

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COTTANELLO (RI) CASE STUDY: A MULTIDISCIPLINARY RESEARCH AND ENHANCEMENT PROJECT

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INTRODUCTION

Near the small town of Cottanello, in the Rieti province, in northern Lazio, a Roman villa is particularly important for the articulation of the plan and for the richness of its decoration.

Apart from the significant archaeological remains, the site also happens to be situated in a particularly evocative territorial context, rich in historical-cultural assets. For this reason, since 2013, the Institute for the Study on Ancient Mediterranean (ISMA) of the National Research Council of Italy (CNR) has set up a collaboration with several other organizations to study this territory. Other CNR Institutes, the local Superintendence, Universities, local authorities and citizens' associations they all form part of a collaborative working group. All the activities carried out so far (archaeological excavations and scientific research, conferences, publications, teaching and training activities, organization of seminars, informative meetings, workshops and guided tours), have enhanced our knowledge of the site.

THE SITE

The building excavated in the Collesecco area, adheres to the typology of the Roman urban-rustic villa, that is to say a structure which includes not only a residential zone for the owner's family, but also an agricultural and productive area. Excavation has so far been limited to the residential sector, while the productive and service areas are yet to be unearthed (Fig. 1).

Three main building phases have been identified from the 3rd century BC to the 6th century AD. In the main phase (1st century AD), the building is arranged around different courtyards, and includes an underground corridor (cryptoporticus) and a

bathing complex. The building has a rich decoration with mosaics, painted plaster, architectural terracottas and local stone columns. The ownership of the villa is attributed to the famous Roman family Aurelii Cottae, whose stamp MCOTTAE (Fig. 2) has been identified on the rims of two large jars (dolia).



Fig. 1 The entrance to the villa site.

Historically several key elements are known to us. Firstly, that the mother of Julius Caesar belonged to this family. Secondly, that the early 1st century AD construction of the villa in its main phase, may well have been carried out by Marcus Aurelius Cotta Maximus Messalinus, known to have been a dear friend of both the emperor Tiberius and the poet Ovid. We can also confirm the connection of the villa with the modern name of the city, a sign of the importance that this property must have had over the centuries.

The villa of Cottanello is located on the upper reaches of the Sabina Tiberina region, a territory that was well connected to Rome in ancient times by the Tiber River and the Salaria consular road (Sternini 2004). Although there were many Roman villas in this area, that of Cottanello is one of the few to have been systematically excavated and the only one that is open to the public. It was for this reason that our research team decided to study and promote it.



Fig. 2 a. A terracotta gutter tile; b. a rim of dolium with the stamp MCOTTAE.

EXCAVATIONS AND RESAERCHES

The villa was discovered in the late 1960's, when Fabio Mastrodicasa Rinaldi and other inhabitants of Cottanello identified the remains of ancient structures. Between 1969 and 1973, under the supervision of the Superintendence, and with the participation of local volunteers, more of the structure was brought to light. In 1973, the archaeological area received a metal fence and roof and in 1988 restoration work was carried out on both the floors and walls.

The first scientific analysis of the villa was published by Mara Sternini in 2000 (Sternini 2000), working under the aegis of the Superintendence for Archaeological Heritage of Lazio. The volume contains a prosopographic study of the Aurelii Cottae, a detailed plan of the site, an analysis of the structures and mosaics, studies on the materials, in particular ceramics and architectural terracottas, as well as a scientific and geophysical survey.

The Sapienza University of Rome, under the direction of Patrizio Pensabene, carried out new archaeological investigations in 2010-2012, concentrating on the thermal complex, the north-east corner, the underground corridor and the western sector. The work helped to refine our understanding of the building phases, the architecture of the site and materials used in its conception (Pensabene, Gasparini 2012; Pensabene, Gasparini et al. 2013).

THE CNR RESEARCH PROJECT

Since 2013 the ISMA Institute has been conducting archaeological investigations with a permit granted by the Ministry for Cultural Heritage and Tourism (Fig. 3), and the collaboration of Superintendence for Archaeological Heritage of Lazio, Sapienza University of Rome and Cottanello Municipality.



Fig. 3 The excavations (2014).

From the beginning the project included excavation and diagnostic surveys to accompany the study of the site and its finds. The work was carried out by researchers of the CNR Institutes for the Conservation and Valorisation of Cultural Heritage (ICVBC), for Technologies applied to Cultural Heritage (ITABC), Structure of Matter (ISM), Environmental Geology and Geo-engineering (IGAG), together with other researchers from different departments of various universities, including the Sapienza, Federico II and Suor Orsola Benincasa of Naples, and with the participation of independent scholars. The research group has developed a highly specialized scientific strategy that, thanks to the multidisciplinary skills of the individual researchers, is directed at three different lines of intervention: territorial study (topographic, geological and geophysical knowledge of the territory and geo-referencing of archaeological emergencies), historical, archaeological and archaeometric research (not only for the study of the villa of Cottanello, but also for the other villas in its territory),

socio-cultural and economic activities (supporting initiatives of the Municipality of Cottanello for the promotion of the villa, organization of events open to the public; educational and training activities).

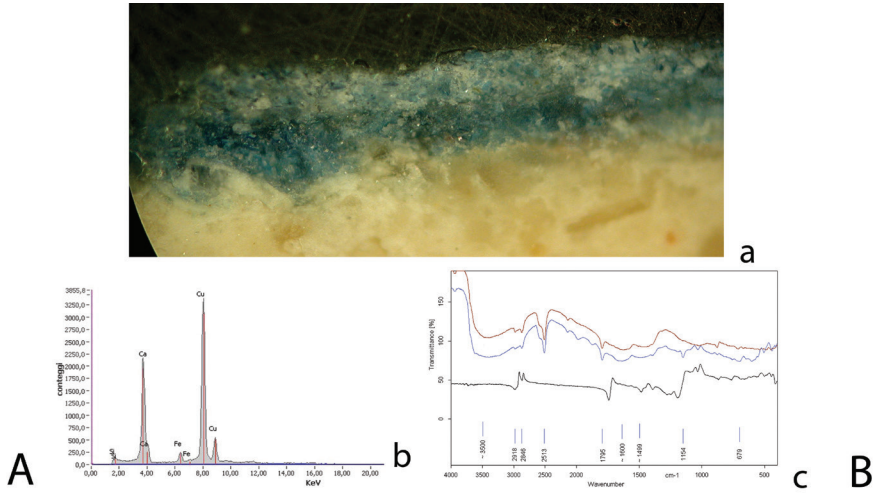


Fig. 4 a. Archaeometric analysis on a sample of plaster; b. The cleaning of a mosaic.

In short, our research project has fully adopted all the scientific methodology needed to adhere to the concept of modern “global” landscape archaeology. Indeed, the project stands out for its marked inter-disciplinarity and the close

collaboration between all those involved, whether it be research, teaching or site management. The main scientific and dissemination activities have been:

1. Excavations and historical and archaeological researches - ISMA has carried out three excavation campaigns (2013, 2014 and 2017), with important results for the history of the villa, thanks to stratigraphic analysis and typological and comparative studies of the archaeological finds.
2. Architectural studies and 3D reconstruction - The 3D reconstructions of individual elements and of the building as a whole are aimed at a more in-depth study of the villa architecture, as well as a more effective communication of the research results.
3. Archaeometric analyses - Finds have been analyzed using non destructive or micro-destructive spectroscopic techniques such as hyper spectral imaging (HSI) and X-ray micro fluorescence (mXRF), micro-Raman spectroscopy, infrared spectroscopy (FT-IR) as well as observing samples of ceramic and painted plaster in glossy and thin section by optical microscopy (MO) (Fig. 4 a). The same analyses are carried out, together with other micro destructive types, such as SEM and FT-IR, on micro specimens of paint film taken from the villa's plastered walls. Gas Chromatography coupled with Mass Spectrometry (GC-MS) has led to the identification of organic residues found within large storage containers (dolci).
4. Activities for the conservation of the archaeological structures and materials - Techniques for the conservation of the archaeological finds have been tested and developed, including the application of non-destructive investigation technologies. In particular, new bio products for the cleaning of mosaic surfaces have been tested (Fig. 4 b).
5. Topographic and geophysical survey - In the area around the building, geophysical (using integrated application of geo-radar and magneto metric techniques) and topographic surveys (using total station and GPS in kinematic mode for the realization of the Digital Terrain Model) have been carried out in order to ascertain the villa's perimeters, with an eye to future archaeological investigations.
6. Scientific research on the so-called Cottanello marble - Researchers of IGAG Institute analyzed the structural, petrographic and geochemical characters of a typical rose-colored stone, known as "Cottanello marble", which in geological terms can be termed a reddish or rosemary limestone belonging to the Red Shale Formation. The main quarry is located on Mont Sterpeto, about a mile from the town of Cottanello, and was active until the 1970s. This stone is renowned, since it was used by the baroque architects Bernini and Borromini to decorate many important churches in Rome (including St. Peter's, St. Agnese in Agone, St. Andrea al Quirinale).
7. Dissemination activities - The results of the ongoing research have been disseminated in two different ways: firstly through national and international

conferences (see for example, Sfameni et al. 2016 a e b) and secondly, through the organization of events and guided tours in Cottanello, involving schools and local communities (Fig. 5)



Fig. 5 A guided tour at the villa.

8. Educational and highly specialized training activities - Given the research input of many students from the Sapienza and other Italian and foreign Universities, the project has great value as a training dig. It's pedagogic potential also extends to students at the Cottanello primary school and to two secondary schools from Rome. The inclusion of the project within the activities of the multi-sector training program "Diplomazia: Science for Diplomacy", organized by CNR and the Ministry of Foreign Affairs and International Cooperation, aimed at training young graduates and officials from the North Africa, Middle East and the Balkan region countries, was also particularly important. Four young researchers from Tunisia, Egypt and Montenegro, took part in the 2014 excavation campaign. In addition, the archaeological site also represented the practical element of the training program for all the young scholars of various nationalities engaged in the Diplomazia project in 2014 and 2017.

SOME FINAL REMARKS

The first concrete product of this scientific collaboration is a volume, published in 2017, containing the results of the work conducted between 2010-2016 (Pensabene, Sfamini 2017). In the meantime, the CNR team's work is ongoing and is being carried out at several levels. Firstly, a digitized data base (DB) is being implemented for the synthesis of all the archaeological data. The DB information will then be processed on a Geographic Information System (GIS), currently under construction, which will be able to accompany educational and dissemination activities.

In a broader perspective, the CNR group aims to structure thematic itineraries throughout the territory of Cottanello, starting from the network of Roman villas in the Sabina Tiberina and linking them to many other historical-artistic sites. We have submitted a project to the Lazio Region, which, on the model of what has already been done for the excavation and management of the villa di Cottanello, promotes a program of technological transfer of our interdisciplinary skills to local Municipality, private enterprises and, on a broader territorial scale, the Consortium of provincial Municipalities for the Territorial Museum of the Agro Foronovano.

We are also preparing proposals for similar projects both locally and abroad. The planning of an integrated enhancement of the extraordinary heritage of this territory depends on a strategy of investments that must involve the municipalities of the area, the Superintendence and the Region. Nevertheless, the network that has been established between the different institutions could be the basis for projects to come.

The shared common interests of several large institutions – as well as Superintendence, CNR and Sapienza University amongst others, local authorities, including the Municipality of Cottanello, and local private institutions such as the Varrone Foundation of Rieti, which supports Cultural Heritage in the province of Rieti - should ensure the villa's ability to reinforce its role as a point of convergence and experimentation of research for Italian and foreign students and scholars. Moreover, thanks to our project the Cottanello villa could become the starting point for the socio-cultural development of the surrounding area.

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