

Historiography of the restorations in Pompeii: from its discovery to the early nineteenth century. Digitization of the recent past to support the transmission of knowledge

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ABSTRACT

The current research activity, carried out within the PhD Architettura: Innovazione e Patrimonio, Consorzio Argonauti, aims to retrace the history of the restoration of the ancient city of Pompeii in a defined period, from the second half of the eighteenth century (after its discovery in 1748) to the first half of the nineteenth century. The objectives of the present research include two main points: arrange systematically the events related to the restoration, in order to fill the knowledge gap, and provide a case study of restorative techniques in the past that the historian and the restorer can use as a tool for understanding the archaeological buildings and sites as they are today. Although Pompeii has always been the object of restorative methods, there are currently no organized publications to refer to, while previous publications calls for a thorough examination and reorganization.

The methodology involves three main phases: literature search, archival research and field verification of the data collection. A mapping of the restoration works carried out in Pompeii in the period this research refers to is being conducted in order to provide the Superintendence with a practical, immediate and concise tool that experts can easily manage.

For this purpose, starting from the geo-referenced map data the Soprintendenza Speciale per i Beni archeologici di Pompei, Ercolano e Stabia has provided, I am defining a land information system (LIS) supported by GIS tools aiming at displaying a detailed data sheet, which contains restoration interventions relevant to the single building. The shape files processed during this study will be made available to the Siav (Sistema Informativo Archeologico Vesuviano) of the Superintendence in order to perform database queries created and any spatial analysis.

Keywords: Pompeii, restoration, the late eighteenth century - the first half of the nineteenth century, methodology, LIS (SIT)

INTRODUCTION

The research about the history of restorations of the ancient city of Pompei from 1748 to 1861 arises from the agreement signed in 2014 between the Ministry of Heritage and Culture - Special Superintendence for the Archaeological Heritage of Pompeii, Herculaneum and Stabiae, 'Sapienza' University of Rome - Department of Classical Studies, 'Seconda Università degli Studi di Napoli' - Department of Humanities and Cultural Heritage, 'Politecnico di Bari' - Department of Civil Engineering and Architecture and German Archaeological Institute in Rome. In particular, this project is being carried out within the doctoral training course in

Architecture: Innovation and Heritage under the guidance of the tutor, prof. G. Rocco, and co-tutors prof. M. Livadiotti and prof. E. Pallottino.

Three significant stages related to the political events in the Neapolitan territory have been identified in the considered period.

In the first period, marked by the presence of the Bourbon dynasty, which decayed in 1805 with the conquest of the Kingdom of Naples by Napoleon, the old factories were discovered and the first restoration works aimed to repair them. These works included masonry consolidation, integration of the plaster, conveying storm water through a network of drains, remaking the jambs of the entrance doors and lintels [1-2-3]. Two *fabbricatori* (masons) and a carpenter carried out these works every day. Their aim was to make safe and enjoyable the visit of *curious people*, as shown in the excavation journals. These journals allow to retrace the exact places where these works were executed. The comparison between the daily excavation journals and the reports of the director of the excavations, Francesco La Vega, addressed to the Secretary of State, Bernardo Tanucci, highlights the intent of these works, namely the desire to show the real prestige by discovering new monuments that, if laying in ruins, would have been fixed to show their original appearance. It did not exist a real desire to protect the patrimony, despite, in 1755, Charles of Bourbon had already enacted the first laws for the protection of the works of art and antiquities of the Kingdom [4-5]. The primary objective was to condemn the indiscriminate export perpetrated by foreign countries so that no other state could gain prestige with that property that was the prerogative of the king of Naples. The approach to the past, to the glory of the royal service, lacked in methodology. Therefore, the excavations, aimed to enrich the royal collections exhibited in the museums. The removal of paintings and mosaics became a widespread work. It was made using the technique *a massello* worked out by the sculptor Canart and that foresaw the removal of decorated plaster layers together with part of his support [6].

The first true methodology of restoration in Pompei dates back to the French period (1805-1815), when the theoretical formulation of the issues related to the restoration by Quatremère de Quincy began to influence the *modus operandi* of French architects and scholars. The French Academy in Rome played an important role in the process of returning to the ancient period. The Academy helped to stimulate the interest for the excavations in Ercolano and Pompei. In general, the new state administration gave greater prominence to the excavations in Pompei, using a larger number of workers and introducing a regulation that precisely defined the ways of intervention on ancient monuments. At the same time, the Superintendent Arditì, in its report to the Minister of the Interior, Giuseppe Zurlo, complained about the excessive use of *riattazioni* (renovations) and new elements that were added to the historical buildings. A commission, composed of three architects and three archaeologists, was therefore appointed to draw up a useful Regulation for a definition of the works to execute on ancient monuments. The theoretical content of these instructions was inspired to the criterion of minimum intervention and distinguishability of the new elements compared to the existing ones. The regulatory action of the Commission did not have a significant impact therefore and systematic restoration were carried out aiming to the reinforcement of the walls in ruins at the time of the excavation and to the addition of modern elements, which is essential to preserve the shape of the buildings [7-8]. In these years, the restoration of the amphitheatre was executed. It ended in 1827 due to the lack of funds that also prevented the restoration of the entire monument according to the original intent of Michele Arditì. After long debates, the affair ended with an intervention aiming to the re-construction concerning only one of the twenty cunei. The intervention also involved the consolidation of the ambulatory access through the implementation of *sottoarchi* (arches), encompassing the ambulatory, and imitating the Roman ones [9].

In the third period analysed, marked by the return of the Bourbons, the permanence of M. Arditì as Superintendent of the excavations and of A. Bonucci to the direction of the ruins of Pompei, gave continuity to both intent and practices with Murat period since they presented a restoration plan. The Commission introduced a distinction between restoration needed to ensure the solidity of the buildings and those required to give a new appearance to the building. The main requirements concerned the methods of excavation of the walls that were progressively uncovered on both sides, the detailed documentation of the monuments brought to light, also through drawings, the use of bronze clamps instead of iron clamps for the plaster, the use of excellent lime and arena for new plasters. In the area of the forum, the old pavement was cleaned, levelled and cleared by the many scattered architectural fragments. The shafts of the columns and the cornices were placed in their original buildings. The intention was to restore the dignity and splendour of the past. The baths of the forum were restored by reinforcing the arches of the ancient vaults that were still intact, by waterproofing the baths with a layer of asphalt, retaining the original furniture in the rooms and showing the structures used for the heating of rooms. Despite the presence of a more rigid legislation and the inevitable prior opinion and approval of the Commission before any restoration, heavily reconstructive interventions were authorized on one hand while, on the other, the most part of the site was badly preserved.

STATE OF CURRENT RESEARCHES AND METHODOLOGY

Despite the considerable interest the ancient city of Pompei has arose over the centuries, there are currently no systematic publications concerning the restorations in the period considered and the studies already published on this subject should be explored in more detail and reorganized, while constituting a useful reference point for further analysis.

This research involves an in-depth analysis and reorganization of the existing literature on this subject and a systematization of archival records such as excavation newspapers, decrees about regulations of archaeological excavations and protection, regulations issued by commissions aiming specifically to adjust the practice of restoration, reports concerning the restoration procedures drawn up by the managers of the excavations and addressed to the Royal Secretariat or the Ministry. The examination of these documents - conserved at the 'Archivio di Stato' of Naples and the historical archive of the Superintendence for Archaeological Heritage of Naples - has been integrated with the data contained in the excavation journals collected by Fiorelli in *Pompeianarum antiquitatum historia* [10], with his description of the ancient city of Pompei [11] when he was appointed as superintendent and with a series of drawings of ancient buildings.

In this period, it is primarily the work of scholars, writers and designers to restore the image of the ancient city. There are also several foreign architects, first Mazois [12], who used to stay in Pompei, and often collaborate with archaeologists. The interest of the discovery is no longer exclusively dedicated to the paintings and objects, but architecture and urbanism become major themes of observation. Compared to the recent past, the ancient city is represented not only through views but also through detailed surveys [13].

This study based on comparative analysis of different sources has allowed us to examine in-depth different aspects: to know precisely the places where the intervention took place, define the type of operations performed, and identify the approach and intention of people involved.

It has been possible to retrace in more detail the restorative practices related to some buildings such as the amphitheatre thanks to a large amount of documents that include the Superintendent reports to the Minister Ruffo and the correspondence between the Superintendent Arditì and the director of the excavation, architect Bonucci. Regarding the

House of the Faun, the same architects (A. Catalano, F. Travaglini, P.M. Veneri) presented to the 'Reale Accademia Ercolanense' a sort of memorandum about the project they carried out. The memorandum reveals their wish to give the building its original appearance by the elimination the superfluous elements, even those made before the eruption of 79 AD [14-15].

The study of restoration in Pompei is contextual to the bibliographic study about the protection of monuments and the cultural and political debate in the Kingdom of Naples, in the Italian pre-unification states and in France during the era of Napoleon Bonaparte. The succession of legislative measures, the progressive refinement of historical consciousness and the scientific and technical skills of those involved in conservation, the fervent controversy going on about the purposes and the archaeological restoration methods help to understand some methodological and theoretical choices and, in some cases, the contradictions between the proposed criteria and operational practices, especially in the first half of the Nineteenth century,

Surveys in Pompeii have been carried out together with the examination of bibliographic, archival and iconographic sources aiming to verify the data collected and making wall samples and photographic surveys. In order to facilitate the identification of masonry reinstatements, mortar samples were also taken from wall stratigraphic units identified as interventions made in the Bourbon period.

In collaboration with the Department of Chemistry of the University of Bari, optical microscopy analysis, fluorescence and diffraction of x-rays have been executed. They aimed to recognize the binder materials and the aggregate used and to verify the correlation between different masonry stratigraphic units.

OBJECTIVES AND DESCRIPTION OF THE DIGITALIZATION PROCESS

The current state of emergency at the archaeological site in Pompei, due to the precarious storage conditions of the ruins, requires urgent restoration works on the monuments to prevent the danger of collapse and the loss of floor coatings, stucco, mosaics and frescoes. Since the early findings dating to 1748, the ruins of the site have undergone many restoration works, which provoked discrepancy in the results depending on the cultural trends, the historical events and guidelines.

Especially in recent decades, the lack of a precise 'philosophy' of restoration has brought to an uncontrolled construction of protective structures, variously conceived, and to anastylosis or wall reinstatement that are inconsistent with the original features of the ancient structures. This results in a discontinuous and random approach to this domain, which does not consider the consequences those actions may have on the conservation of monuments.

A change in the approach is needed concerning both the non-intervention policy and improper and perfunctory restoration works operated by workers and using inadequate materials and techniques of construction. At the same time, it is necessary to determine a precise methodology and intervention criteria to apply systematically to a context with such specific features.

In order for these works to be effective as well as urgent and not only a prosaic safety measure, they cannot ignore the rightful and necessary reflections about archaeological restoration issues, especially in an area so highly heterogeneous as Pompei is, which has always been subject to a wide range of experimentation of restoration practices.

An in-depth knowledge of the history of restoration would provide for high potential applications for the conservation and enhancement of the archaeological site of Pompei. Besides considering stylistic aspects such as construction, structural and material problems of each monument, it would be possible to set up "innovative" solutions according to the values

and the original characteristics of the ancient structures and that protect and improve the use of the facilities.

The biggest problem the professionals (archaeologists, restorers, architects, employees of the Superintendence) face - during their daily work in Pompei - concerns precisely the location *in situ* of the additional elements and, at the same time, the identification of the date the modern restoration were executed. The protection of the site requires a deep knowledge, which is fundamental to describe the patrimony and to identify the intervention strategies useful for the preservation and the restoration.

In this perspective, the research aimed to the systematization of events related to the restoration of the ancient city of Pompei in order to:

- identify the necessary references required for an active conservation of the site in accordance with the "values" and the original features of the investigated structures,
- map the restoration work carried out in Pompeii between 1748 to the first half of the Nineteenth century,
- create a practical, immediate and concise tool that professionals can use in Pompei.

In particular, the purpose is to design an information system that would be able to store, elaborate, manage and process the collected data [16], [17]. For this reason, starting from geo-referenced maps provided by the Superintendence for Archaeological Heritage of Pompeii, Herculaneum and Stabiae, a geographic information system (GIS) is being developed via GIS tools whose aim is to display a detailed data sheet including the relevant restoration works concerning each building. The *shapefiles* processed in this study will be available for use to the Siav (Sistema Informativo Archeologico Vesuviano) of the Superintendence in order to *query* the database and execute any *spatial analysis* [18].

This project has to be considered as a work in progress. Even if it is not an innovative project, it accepts the challenge to comply with the most important management needs of an extremely complex archaeological site. The aims are to fill the informational gap by certain and complete data, to allow a synthesis between the different levels of information and increase disclosure effectiveness.

The Data Base of SIAV already contains a directory and files accompanied by images concerning artefacts, paintings, watercolours, and excavation logbooks accessible through a unique topographic reference. The data, concerning the restoration works that occurred in the considered period, integrate, through a topological overlay, the existing system and they generate a new information layer, which inherits all the previous characteristics. This new application will be accessible in a different way depending on the users.

Some information (date, type and brief description of the intervention, managers of building sites and selected archival documents) - more educational, simple and basic - will be accessible to all those people who are interested in studying the restoration practices in Pompei. The full set of data is addressed to the staff of the Superintendence in order to focus on more technical aspects that include processing techniques, the materials used, and the intervention criteria.

The GIS comprises three main types of data: vector, raster and alphanumeric data.

The alphanumeric data are composed of Excel tables containing all the information that result from the previous analysis and historical documents. They have geographic and geometric features are associated. In this way, it is possible to project, on the planimetry, the information concerning the different areas-of-interest to whom to send queries. Each building represents a discrete object, which associate their respective attributes and relationships to, in some cases, with other entities. A spatial database has been created. It combines different kinds of data and it allows to establish a connection between the different information thus exploiting the functions of a simple relational database.

The Excel table includes the following fields:

id: ID code of each building;
nome_edificio: name of the place (eg. the Temple of Jupiter, *macellum*, surgeon house, funerary seat of the priestess Mamia ...);
data_intervento: it may be more or less accurate, depending on the cases, or it can generically refer to the year of implementation of the works or to a day or more days that result from the excavation logbook;
responsabili_intervento: the most important people concerned with the operating decisions about the monuments were architects, supervisors, or members of the Restoration Commission. In the period under review, they are Francesco La Vega, architect; Pietro La Vega, engineer; Michele Arditi, superintendent; Antonio Bonucci, architect and director; Nicola d'Apuzzo, architect and director; Carlo Bonucci, architect and director; Pietro Bianchi, architect and director; Francesco Maria Avellino, superintendent; Giuseppe Settembre, architect and director; Sangiorgio Spinelli, architect, director and superintendent; Guglielmo Bechi, architect and director; Gaetano Genovese, architect and director;
tipologia_intervento: it specifies the kind of works made in each building. Different categories have been identified: integration of plasters, tile roofs to protect the wall decorations and wall structures, consolidation, masonry reinstatements, restoration of architectural and decorative elements, conveying rainwater, floor covering, repair of the gates, roof waterproofing ;
materiali_intervento: it indicates the materials used such as wood, stone, limestone of Sarno, travertine, mortars (explaining the composition when it is possible), *cocciopesto*;
tecniche_intervento: the construction technique is specified in the case of masonry reinstatements (*opus incertum*, *opus vittatum*, *testaceum opus*, *opus reticulatum*), while the different use of iron or copper clamps is specified in the case of plasters integration;
riferimenti_intervento: bibliography, archival and iconographic references regarding the data that have been collected and entered;
allegati: Master field where images concerning the references are uploaded;
descrizione: text field, where the previous items are explained in the discursive/form of text;
note: text field with annotations.
criteri_intervento: it specifies the principle that is at the basis of the works. This field is used as a characterized search key. A domain is then assigned to this data item. The domain comprises four values: minimal intervention, distinguishability, restoration of the image, philological reconstruction.

Once defined this database is defined with spatial and functional information and logical relationships, the user can ask queries necessary to analyse the different data.

At the same time, not all items can be queried and provide the same degree of information because the data concerning the period analysed result from an archival research and thus not all restoration works are documented. This represents only the first stage of the project that will be subject to continuous updating since the aim is to obtain a complete set of data concerning the restorations in Pompei from its discovery to nowadays.

CONCLUSION

The potential of a SIT about Pompei that takes into account the conservation history of each building allows to not only store and organize the data in an efficient way but it also offers the enormous advantage of simplifying the processes of knowledge and reduce the execution time in the management of the site. At the same time, since it is an integrated information system established on geographical basis, each user would be able to process the data with its own skills, without fragmentation and an easier way to make queries and get the results.

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