

AMPHITHEATRE OF AREZZO. PROPOSALS FOR INTERVENTION RESULTED FROM THE TEACHING COLLABORATION BETWEEN THE UPV AND UNIFI/

Luis Bosch Roig - *Universitat Politècnica de València, School of Architecture, Spain*

Alessandro Merlo - *Università degli Studi di Firenze, School of Architecture, Italy*

luibosro@arq.upv.es

Abstract. This article presents the results of the teaching collaboration between the 2nd level University Master's in Architectural Heritage Preservation of the UPV and the 2nd level University Master's in Enhancement of Cultural Heritage of UNIFI during the academic year 2023-24. The collaboration consisted of carrying out a conservation project for the Amphitheatre of Arezzo so that the UPV students could develop the intervention part, and the UNIFI students would be in charge of the valorisation part of the monument. The complex of the Roman Amphitheatre of Arezzo, whose elements are characterised by an Outstanding Universal Value [1], presents a series of circumstances that make it particularly interesting from different points of view: the conservation of the ruins, the relationship with the monastery built on its remains, or its concealment in a block of the urban fabric of the city, are some of the aspects that are proposed to be resolved in the projects developed. The results show a variety of solutions of great interest that nourish the potential of both institutions and highlight the value of this type of international teaching collaboration.

Introduction. This paper presents the results of a 2nd level University master's teaching collaboration between the Universitat Politècnica de València and the Università degli Studi di Firenze during the 23-24 academic year (in accordance with the Cultural and Scientific Cooperation Agreement between UPV and UNIFI, operating since 2015) within the framework of the intervention on architectural heritage. The main objective of this collaboration was to improve the student's learning experience and the quality of the results.

Teaching in the heritage intervention field reflects the complexity involved in carrying out an intervention project on a historic building. The current awareness of historical heritage values requires an exhaustive knowledge of the monument to be intervened on to offer a respectful response to the pre-existence. To do this, it is necessary to carry out an in-depth multidisciplinary study that covers the different values present in the building [2] [3]. This issue is very difficult to replicate in the teaching environment for many reasons, such as the tools available, the profile of the students and the limited time available. This reality requires a simplification that allows for decision-making in the classroom.

On the other hand, this awareness of historical values often means that the transformations that must necessarily be made when intervening in the

existing situation are not easy for some actors involved in the process to assimilate. However, in the teaching field, reducing these actors allows for greater freedom in decision-making, which in turn translates into a greater capacity for transformation.

The present teaching collaboration seeks to qualify these two factors: knowledge of the property and freedom of transformation, to make students aware of the complexity involved in any intervention on heritage and, simultaneously, to obtain results closer to reality.

First, the case study chosen is that of the Amphitheatre of Arezzo, a subject on which there is already some historical and graphic information. The students can take this information as background studies to work on for the elaboration of the project. Moreover, the chosen theme has characteristics that make it particularly attractive for the project, such as its various transformations over time and the need to enhance its value and connection with the city.

Secondly, the collaboration between the two universities is not casual; rather, they seek to complement each other's knowledge. On the one hand, the UPV works on the project from the point of view of architectural intervention, and on the other hand, UNIFI works on the project from the point of view of monument management. On the other hand, the different approaches to heritage action in each country - more proactive in Spain and more conservationist in Italy - enrich the reflection by having different points of view of the teachers involved.

Methodology. The methodology employed seeks to generate interaction between the courses at both universities to take advantage of the values in the abovementioned complementary characteristics. To this end, it was decided, on the one hand, to establish mixed working groups with students from Valencia and Florence and, on the other hand, to hold a series of periodic face-to-face and virtual meetings. Although the times of the two master's degrees are different, both in terms of time and duration, the calendar is coordinated to facilitate the interactions mentioned above. This means that the meetings are adapted to the days Florence has available, and the calendar is organised in phases to facilitate coordination.

The course is therefore organised into four distinct phases, each lasting around one month: analysis, ideation, preliminary project and project. There are three meetings: a first online meeting (8th March 2024) to introduce both universities and students, a second face-to-face meeting (23rd-25th March 2024) to get to know the place of work and hold a workshop to share the analysis and reflection of possible proposals in each of the groups, and a third online meeting to present the results (28th June 2024). It should be noted that UNIFI's extensive calendar means that its students are still in the process of defining their management proposals at the time of publication of this contribution. In addition to these meetings, several other meetings were held between the teachers to define the details of the different aspects of the collaboration.

The Case Study: The Amphitheatre of Arezzo. The amphitheatre of Arezzo was built in the second century AD, between 117 and 138 AD, as can be deduced from an analysis of the materiality of the existing ruins [4], in the South-West area of the city, beyond the Castro creek. The amphitheatre

measured 121.40 per 92 meters, of which the arena occupied 71.90 per 42.70 meters, dimensions slightly smaller than those of the Colosseum in Rome. 22 meters high, it consisted of two orders served by two ambulatory and a third ring delimiting the arena, with a total thickness of 24.7 meters.

After the fall of the Roman Empire, the complex was abandoned and became a quarry for the construction of other buildings in the city. In the 14th century, it was decided to build an Olivetan monastery (the Olivetan order was established in 1319 in Arezzo under the rule of San Benedetto) on the ruins of the southern hemicycle of the amphitheatre, which would be completed over several centuries [5]. The monastery has two floors and is characterised by a seventeenth-century double loggia overlooking the amphitheatre arena. The ambulatory on which the structure is grafted is almost completely unchanged. Active for around four centuries (until the 19th), the monastery suffered extensive damage following the bombings of the Second World War.

At the beginning of the 20th century, it was decided to convert the monastery into a national archaeological museum to house the elements in the area around Arezzo.

From at least the first half of the 14th century, when it became the property of the Olivetans, a fruitful relationship with the vegetal component is documented; they used the arena area as a vegetable garden, a use that lasted until the excavations of the early twentieth century [4]. With the opening of the Museum, the area between via Margheritone, via Crispi and the amphitheatre was used as an archaeological garden, whose features recalled those of the well-known archaeological parks of the capital of Italy. Over time, the garden was transformed into a public park and separated from the amphitheatre; unfortunately, the lack of careful maintenance of the tree species, as well as the herbaceous ones, has compromised its appearance. The installation of gates and railings for safety reasons has also affected its relationship with the ruin.

The objectives proposed in the course seek to cover the different needs detected in the case study. Firstly, it is proposed to conserve and enhance the ruins of the amphitheatre, as well as the National Museum 'Gaio Cilnio Mecenate' (former monastery of San Bernardo) and other elements of interest present in the complex. Secondly, a proposal is requested for activities associated with the monumental complex for its revitalisation, considering concepts of compatibility with the values of the monument. Among the new uses, it is proposed to contemplate the creation of an interpretation centre for the amphitheatre. Thirdly, the design of internal routes and connections between the ruins and the museum is requested, as well as external connections between the urban environment and the amphitheatre, resolving the appropriate accessibility for the proposed new uses. Fourthly and finally, it is requested that the urban and landscape value be analysed to recover the amphitheatre and the park as a space for the city.

Analysis and Ideation.

The analysis phase is carried out independently in both institutions. At the UPV, it was decided to organise the analysis into four different aspects: firstly, an analysis of the urban environment, taking into account its historical evolution, its current state and the different routes; secondly, an anal-

ysis of the plot under study, taking into account the different construction phases of the amphitheatre and the convent, the evolution of the uses of the monument, representation of the geometry of the elements, as well as their material configuration and state of conservation; thirdly, an analysis of the landscape, social and valuation of the monument; and fourthly and lastly, the construction of a scale model was requested, which will allow us to understand the volumetric ensemble and at the same time serve as working material during the project process.

To carry out this analysis, a series of expert groups are set up, with one member from each group, so that at the end of this phase, all the groups have participated in all the topics analysed.

On the other hand, it is worth mentioning that this analysis has been carried out based on material provided by UNIFI consisting of maps in CAD format, plans from the Tuscan cadastre, CAD surveys of the ruins of the amphitheatre and the museum, aerial photos from 1954 and 2024, the results of research into the restoration of the monument, as well as various books on the history and composition of the complex. Among the latter, the book *L'Anfiteatro d'Arezzo* by the Istituto Tecnico Statale per Geometria of Arezzo [6], in which, with the collaboration of students from the '84 to '87 courses, they carried out very interesting surveys of the remains of the monument, as well as a reconstructive hypothesis which has served as the basis for many of the works carried out.

Following the documentation analysis, a visit to the site (made possible thanks to the availability of the director of the National Archaeological Museum Gaio Cilnio Mecenate, Dr. Maria Gatto) and a joint workshop between the two universities were made to set up the mixed working groups and reflect on the conclusions obtained. Issues such as the lack of visibility of the amphitheatre from the city, the connection of the ruins with the museum, and the lack of a proposal for the enhancement of the monument or the treatment of the adjoining park emerged as issues to be worked on in the project.

In the ideation phase, these questions were considered when elaborating on each group's proposals. In this way, each group reflected on the aspects that seemed most important to them. Thus, for example, Group 1 emphasised the route around the ruins; Group 2 analysed the different strategies to follow according to the different circumstances; Group 3 worked on social and urban interaction; Group 4 suggested the building of a new interpretation centre; Group 5 focused on understanding the geometry of the amphitheatre; and Group 6 proposed the idea of turning the complex into a garden open to the public.

The masterplan. The observations that have emerged in the masterplan are the result of a multidisciplinary study aimed at drafting a conscious and responsible project. In fact, if awareness is determined by the knowledge of the cultural asset, the responsible dimension, which is specific to the project, is instead realised in the ability to systematise the different components (by era, function, language, etc.) of the asset itself. This consists in recalibrating the relationship between the parts and triggering a continuous dialogue between what has been and what is. In a responsible project, the "text" that comes from the past must be preserved and enhanced by

contemporary interventions, while it's important to improve the reading of the past's tracks [7].

The idea behind the masterplan is to transform the current archaeological complex (amphitheatre and museum) into an accessible cultural centre integrated into the city.

The open areas of the monumental complex (garden and amphitheatre) will, in fact, be accessible during the day; a choice that will involve, first of all, the reconfiguration of the accesses to the arena from via Margaritone and via Crispi and the removal of the gate that separates the amphitheatre from the current park. In this new spatial configuration, the arena will fulfil the role of a public square, from which the new entrance to the museum can be reached. The latter can also be reached from a third gate that will be opened on via Guadagnoli, allowing a more direct connection with the Medici bastion and the Sandro Pertini park.

The new entrance to the museum will be housed inside a newly built building; the museum tours will be organised inside it, and they will be divided between permanent and temporary exhibitions (newly created). The permanent exhibition will begin inside the ambulatories, which will be integrated into the museum itinerary and transformed into exhibition spaces. Once the visit to the ambulatories is complete, a new vertical connecting volume will lead visitors to the second floor of the monastery, from where they can continue the exhibition itinerary.

The new museographic reconfiguration will also include a room dedicated to the monastery of San Bernardo, in which the history of the building and the life that was led inside will be told.

On the first floor, visitors will be able to access the renovated bookshop and the new spaces for educational workshops.

The museum itinerary will end in the "brand new cloister", rebuilt in its original proportions and architectural layout based on historical plans.

Proposals. Once the main lines of action had been established, each group proceeded to the detailed development of the different intervention proposals, trying to respond to the needs raised in the analysis. Of the six groups, it should be noted that there were two (group 1 and group 5) that were unable to attend the site visit and, therefore, did not form a group with the UNIFI students. This is, to some extent, reflected in the results obtained.

Group 1: Walking through the ruins. Group 1 focuses on walking around the ruins to allow visits and facilitate accessibility and connection with the city. To this end, it was proposed to build a wooden walkway that follows the route of the amphitheatre's ambulatory, to a certain extent recomposing the original path and, at the same time, allowing a connection with the first level of the museum and providing a view of the complex from an elevated point that allows a better understanding of the ruins. Along this walkway, a series of vertical connecting elements, rooms and pavilions appear, giving the route functional content.

On the one hand, the project focuses on touring the ruins, connecting with the museum and generating a small reception space; however, issues such as the reorganisation of the museum, the re-functionalisation of the

existing ruins spaces or the configuration of the exterior spaces are left unresolved, perhaps due to the lack of collaboration with the UNIFI students. On the other hand, the designed elements are formalised so that they take on excessive prominence, detracting from the importance of the remains of the amphitheatre.

Group 2: Reconstructing a Fragment. Group 2 focuses on the idea of the restoration of fragments of ceramic elements as a concept to be transferred to the field of architecture and make the amphitheatre visible again. To this end, they propose recomposing a fragment of the amphitheatre through a new light and reversible architecture related to the pre-existing one through brick to establish a material connection. On the other hand, they carried out an in-depth study of the different activities that the complex should house to give it a new life. In this way, the new element seeks to restore the presence of the amphitheatre in the city and, at the same time, serve as an access, reception and activity centre for the interpretation of the amphitheatre and the museum.

The proposal is proactive, seeking solutions to reactivate the archaeological site, resolving its needs and restoring its place in the city. A critical point is the possible impact the structure could have on the ruins and the transformation of the ruinous image of part of the pre-existing element.

Group 3: Fragments. In the Arena of History. Group 3 focuses on proposing a modular system capable of being combined to generate different elements to resolve the various needs present in the project. These include, on the one hand, the design of furniture and signage elements in the urban environment to bring the presence of the amphitheatre closer to the rest of the city and, on the other hand, the configuration of a recreation of a fragment of the amphitheatre, evoking the scale and geometry of the disappeared monument. Also noteworthy is the work carried out with the zoning of the architectural program in the spaces of the museum and the Roman remains.

As in the previous exercise, the work to restore the monument's presence in the city is valued, in this case, materialised with a lightweight system that seeks to enhance the evocation in a successful balance between the materialised and the suggested. The critical point in this case is the reduced functionality obtained, as they are open spaces apart from the obvious interaction with the ruins.

Group 4: Interpretation Centre. Group 4 focuses its efforts on creating an interpretation centre for the amphitheatre, which would provide a better understanding of the monument's history and serve as an access element to the museum. To this end, building a semi-buried volume on the slope in the southern part of the amphitheatre is proposed, creating a connection with Via Antonio Guadagnoli. The aim is to minimise the intervention on the ruin, which only includes a walkway in front of the new intervention, to contemplate the complex from a certain height, leaving the rest as an archaeological park. The criticism of the proposal focuses on connecting the new element with the pre-existing museum via a staircase that is not well integrated into the complex.

Group 5: Reclaiming public space. Group 5's proposal seeks an overall solution for the complex, placing the historic remains at the centre of the project. To this end, the first proposal is to lower the interior level of the block to the level of the amphitheatre, creating a large square with a loggia to house commercial and cultural activities, as well as a cafeteria. Secondly, an ephemeral system is designed over the ruins to allow the protection and visitation of the remains. Thirdly, an in-depth study of the horizontal and vertical routes was carried out to connect the different levels of the amphitheatre and the museum, defining the uses of each of the spaces. The result is excellent work that can deal with each and every one of the aspects present in the project in a logical and totally feasible manner.

Group 6: Archaeological Park. The proposal of Group 6 presents the complex as an archaeological park open to the city. To this end, it is proposed, on the one hand, to respect the vegetation and the character of the existing landscaped park as much as possible, and on the other hand, to create an outer ring parallel to the amphitheatre, as an element capable of resolving the circulation, accesses and spaces of use necessary to house the amphitheatre's interpretation centre. This proposal shows great sensitivity towards the pre-existence and manages to resolve all the needs clearly and respectfully with the amphitheatre ruins.

Conclusions. This paper shows the interesting results of the collaboration between the UPV and UNIFI. We consider that the collaboration has been very fruitful for both teachers and students, as it has allowed us to broaden our perspective, covering issues of both intervention and heritage management, as well as combining innovative and conservative criteria. As aspects for improvement, there is a need to reinforce interaction in future collaborations, trying to carry out more joint classes.

To this end, for the 2024-2025 academic year, it has been planned to experiment with a different formula, which involves the creation of two intensive and in-person workshops, lasting 5 days each one, to be held one in Spain and one in Italy.

As regards UNIFI, the workshop will focus on the early medieval fortified settlement of Monsummano Alto (Pistoia), will be aimed at preparing guidelines for the refunctionalisation and revitalisation of the castle, which is currently in a state of abandonment. This topic is of crucial importance for Italy, given the huge number of minor historical settlements present in the rural territory of the peninsula and the risk of depopulation due to the never-ending phenomenon of urbanisation.

Regarding the workshop in UPV, it will focus on the Islamic castle of Corbera, aimed at the refunctionalisation and revitalisation of the monument, that has started to be protected. Therefore, both study cases are closely connected, and we foresee that the results will be fruitful for both courses.

According to the coordinators of the two universities, the workshop formula, which will allow students to earn an equivalent number of university credits (ECTS) at both institutions, should facilitate the adjustment of the calendars of both institutions, making them coincide in time in order to make collaboration between professors and students easier.

In conclusion, we can deduce from the results presented in this paper that

this type of international collaboration greatly enriches student learning and opens the door to future interdisciplinary and international collaborations.

Notes. The UNIFI 2nd level University master's started on 10th January 2024 and ends on 30th April 2025, the 8 hours of lessons are concentrated on Fridays, while the UPV 2nd level University master's started on 13th February 2024 and ended on 28th June 2024

References.

1. Unesco, Operational Guidelines for the Implementation of the World Heritage Convention. Paris: Unesco; 2023. p. 49-53.
2. Manacorda D. Il sito archeologico: fra ricerca e valorizzazione. Roma: Carocci editore; 2007.
3. Settis S. Il futuro del classico. Torino: Giulio Einaudi editore; 2004.
4. Tavanti U. Arezzo – Scavi eseguiti nell'area dell'Anfiteatro Romano dal novembre 1914 all'aprile 1915. In: NSc, Serie V, 12. p. 316-321.
4. Pincelli A. Monasteri e conventi del territorio aretino. Firenze: Alinea editrice; 2000.
5. Cecconi E, Cencini G. L'anfiteatro di Arezzo. Rilievi, notizie storiche ed ipotesi di ricostruzione come esperienza didattica. Cortona: Editrice Grafica l'Etruria; 1988.
6. Matteini T, Ugolini A. Il bisbiglio dei ricordi indefiniti. progetto paesaggistico e conservazione attiva dei luoghi archeologici. Padova: Il poligrafo; 2024.

Figures.

FIGURE 1 – Pictures of the visit to the amphitheatre and the workshop in Florence.

FIGURE 2 – Left: picture of the amphitheatre in the 19th century. Right: picture of the amphitheatre today.

FIGURE 3. A. The amphitheatre with the landscaping of the ruins and the functional proposals for the central space of the arena; B. The reconfiguration of the connection margin between the amphitheatre and the city; C. The "Bastione Santo Spirito" Park as an access threshold (credits Sara Contino).

FIGURE 4 - Images of the project carried out by Group 1, made up of UPV students: Mónica Alejandra Pombo Santos, Sergio Andrés Puentes Ordoñez, Víctor Pérez Aldea and María Camila Rivera Morales.

FIGURE 5 - Images of the project carried out by group 2, comprised of UPV students: Andrea Chávez, Milena Foretich, Arturo Cevallos and Mike Hincapié. With the collaboration of UNIFI students: Chiara Secchi and Giorgia Cameddia.

FIGURE 6 - Images of the project carried out by group 3, comprised of UPV students: Angela Anchante Bautista, María Patricia Martínez Romero, Daniel Eduardo Reyes Visbal, Ana Gabriela Serranos and Fan Ye. With the collaboration of UNIFI students: María Garofalo, Caterina Rossi and Monica Viti.

FIGURE 7 - Images of the project carried out by group 4, comprised of UPV students: Allan Vinicius Souza, Angi Ramirez, Estefanie Rojas and Mayara Dutra. With the collaboration of UNIFI students: Elisa Roatta and Francesca Giuntini.

FIGURE 8 - Images of the project carried out by group 5, formed by the student Lluís Candel Galán.

FIGURE 9 - Images of the project carried out by group 6, formed by student Patricio Aravena Escobar. With the collaboration of UNIFI students: Viola Avossa, Sara Contino and Valentina De Giorgi.

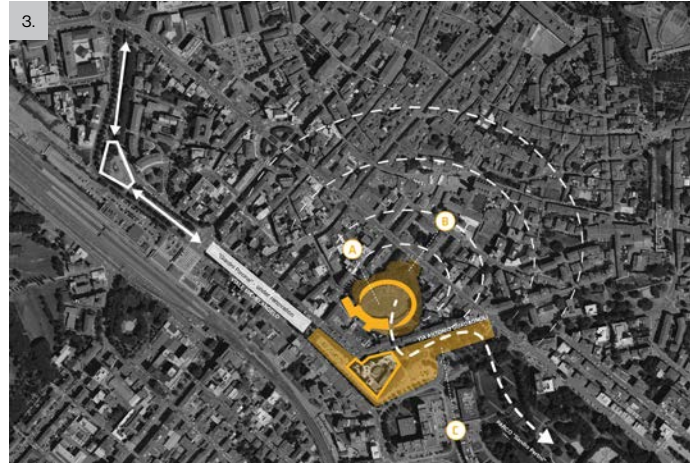
1.



2.



3.



4.



5.



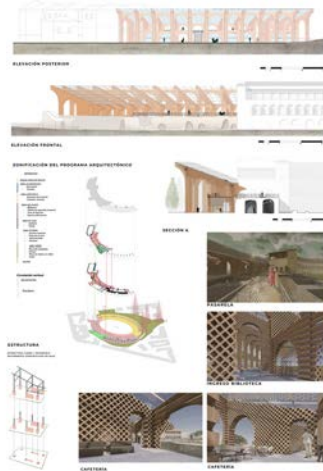
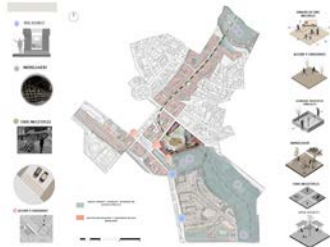
6.

FRAGMENTO

EN LA ARENA DE LA HISTORIA

FRAGMENTO

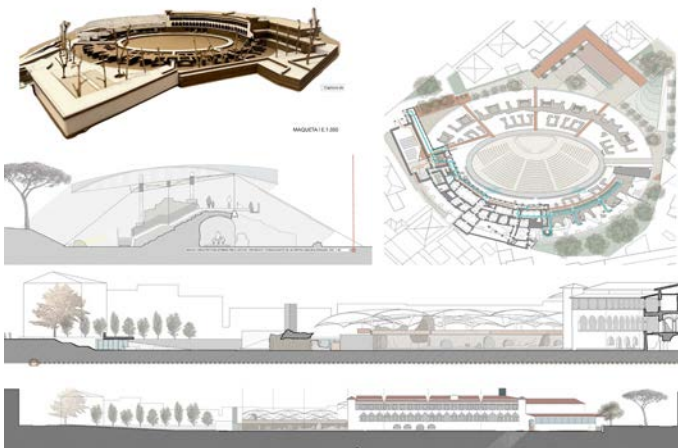
NUEVOS USOS



7.



8.



9.

