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a cura di
STEFANO BERTOCCI
FEDERICO CIOLI

Franciscan Landscapes

*Conservation, Protection and Use
of Religious Cultural Heritage
in the Digital Era*

vol. 2



La serie di pubblicazioni scientifiche della **Collana Bianca** ha l'obiettivo di diffondere i risultati delle ricerche e dei progetti realizzati dal Dipartimento di Architettura DIDA dell'Università degli Studi di Firenze in ambito nazionale e internazionale.

Ogni volume è soggetto a una procedura di accettazione e valutazione qualitativa basata sul giudizio tra pari gestita dal Comitato Scientifico della Collana Ricerche. Architettura, Pianificazione, Paesaggio, Design del Dipartimento di Architettura con Firenze University Press. Tutte le pubblicazioni sono inoltre *open access* sul Web (didapress.it), per favorire non solo la diffusione ma anche una valutazione aperta a tutta la comunità scientifica internazionale.

Il Dipartimento di Architettura dell'Università di Firenze promuove e sostiene questa collana per offrire un contributo alla ricerca internazionale sul progetto, sia sul piano teorico-critico che operativo.

The Collana Bianca series of scientific publications has the purpose of disseminating the results of national and international research and project carried out by the Department of Architecture of the University of Florence (DIDA).

The volumes are subject to a qualitative process of acceptance and evaluation based on peer review, which is entrusted to the Scientific Publications Committee of the Department of Architecture with Florence University Press. Furthermore, all publications are available on an open-access basis on the Internet (didapress.it), which not only favors their diffusion, but also fosters an effective evaluation from the entire international scientific community.

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edited by
STEFANO BERTOCCI
FEDERICO CIOLI

Franciscan Landscapes

*Conservation, Protection and Use
of Religious Cultural Heritage
in the Digital Era*

vol. 2





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DIPARTIMENTO DI
ARCHITETTURA

This volume collects the papers presented at the concluding conference of the European project 'F-ATLAS: Franciscan Landscapes: The Observance between Italy, Portugal and Spain' that took place in Assisi, May 11-13, 2023.

The publication underwent a peer-review-based acceptance and qualitative evaluation procedure entrusted to the conference's Scientific Committee using the double peer-blind review system.

F-ATLAS CONFERENCE – Franciscan Observance Landscapes, Assisi, May 11-13, 2023.

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'F-ATLAS – Franciscan Landscapes: the Observance between Italy, Portugal and Spain' project was funded in 2020 by the JPICH 2019 Conservation, Protection and Use Call.

Project Leader: Università degli Studi di Firenze.

Principal Investigators: ISCTE Instituto Universitário de Lisboa, Universitat de Barcelona, Universidade Católica Portuguesa.

Associate Partners: ICOMOS Portugal, Sisma srl, Regione Umbria, Direção Regional de Cultura do Centro, Provença Serafica di San Francesco d'Assisi dei Frati Minori.

in copertina

Façade of the Basilica di Santa Maria degli Angeli, Assisi (Italy). Drawing by Stefano Bertocci.

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Exhibition Catalogue
F-ATLAS – Digital Documentation of
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5x SCHERMI 65"

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24 TELE

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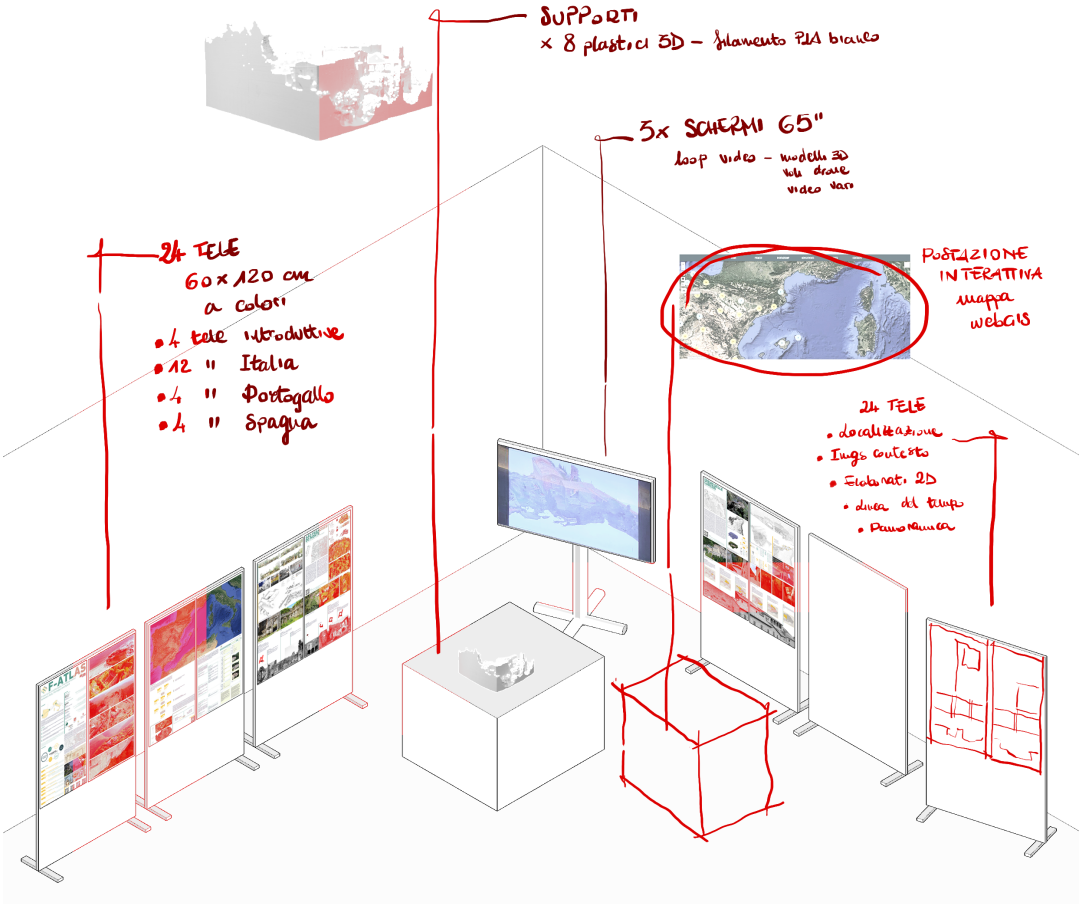
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POSIZIONE
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24 TELE

- localizzazione
- Ingo contesto
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DIGITAL DOCUMENTATION OF FRANCISCAN LANDSCAPES IN ITALY, PORTUGAL AND SPAIN

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F-ATLAS Conference featured an Exhibition, illustrating the culmination of the Project's research. Complementing the scholarly discussions and presentations, the Exhibition provided a tangible experience, allowing conference participants to delve into the project's findings in a visually captivating manner, through a series of graphic panels, immersive videos and 3D-printed models.

The exhibition dedicated to the final results of the European project F-ATLAS, titled Digital Documentation of Franciscan Landscapes in Italy, Portugal, and Spain was presented for the first time during the F-ATLAS Conference — Franciscan Observance Landscapes, which took place within the premises of the Domus Pacis of Santa Maria degli Angeli, Assisi (PG). Specifically, the exhibition was displayed in the Perfetta Letizia room of the conference center and was designed to be easily transported and set up in different environments. In the forthcoming months the exhibition will travel to Portugal, coinciding with the 4th International Conference on Architectures of the Soul, and subsequently to Spain, to be displayed in the University of Barcelona — in the Faculty of Geography and History.



Fig. 1
Project of the
exhibition
panels.



Exhibited materials

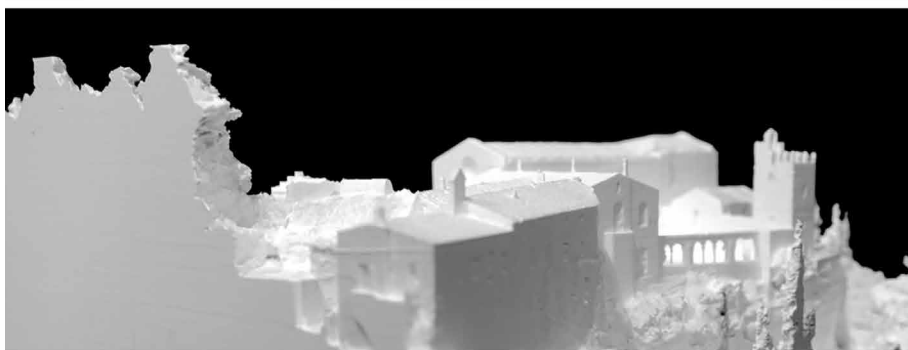
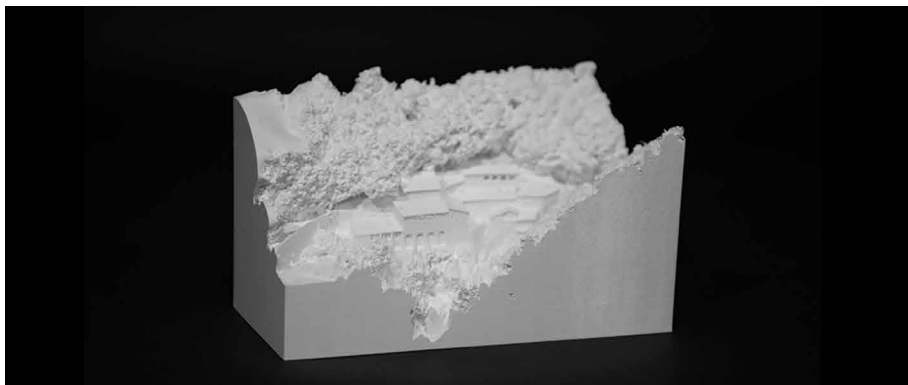
The exhibition encompasses a collection of twenty-four colour-printed canvases, eight detailed scale models, and several interactive digital products.

The canvases are divided into various thematic groups, with pairs and trios strategically positioned to offer a coherent visual narrative. Starting from the two couples of introductory panels, the tour continues with twelve panels dedicated to several Italian landmarks: Porziuncola of Santa Maria degli Angeli, Romita di Cesi, Eremo delle Carceri, Speco di Narni, San Bartolomeo convent, San Vivaldo convent. They are followed by two couples of canvas about São Francisco do Monte and Santa Maria da Ínsua, two emblematic Portuguese conventual complexes. The last four panels concern two peculiar Spanish convents, Convento de Los Franciscanos of Chelva and Sant Miquel d'Escornalbou.

Furthermore, the exhibition includes scale models crafted with white PLA filament. These models provide viewers with a tangible connection to the architectural complexes depicted, allowing for a closer examination of their details and scale, and their relationship with the surrounding contexts.

The digital dimension of the exhibition adds a dynamic layer to the experience. Three captivating videos, one for each of the participating countries, offer an immersive journey into the essence of these sacred spaces. Additionally, a dedicated website page equipped with a Geographic Information System (GIS) of the case studies allows visitors to explore the exhibition's context in depth. Finally, a virtual tour of the Eremo delle Carceri in Assisi offers an interactive exploration of this remarkable site.

opposite page
Fig. 2
Photos of the
3D models, from
above: Eremo
delle Carceri,
Monestir de
Sant Miquel
d'Escornalbou,
Santa Maria da
Ínsua (photo
credits: Andrea
Pasquali).



F-ATLAS

Franciscan Landscapes: the Observance between Italy, Portugal and Spain



THE PROJECT



The project aims to study the Italian-Portuguese-Spanish Franciscan Observance network. To define an Atlas of documentation and knowledge for conservation, protection and promotion of the worldwide Cultural Heritage.

Franciscan Observance is a 14th century reformed branch of the mendicant order of St. Francis of Assisi. Franciscan Observance is a 14th century reformed branch of the mendicant order of St. Francis of Assisi. Franciscan Observance is a 14th century reformed branch of the mendicant order of St. Francis of Assisi.

THE GOALS

- 1 To develop methodologies, protocols and tools for the management and assessment of Cultural Heritage in digital era
- 2 To use integrated digital and traditional survey methodologies in order to develop Cultural Heritage management and promotional tools
- 3 To strengthen the cognitive framework on the heritage of the final legacy of St. Francis of Assisi and its connection with the territory
- 4 To define a methodology of documentation and knowledge for conservation, protection, reuse and promotion which take into account tangible, intangible and digital heritage

THE STRATEGY



THE WORK PACKAGES

- WP1** PRELIMINARY FIELD AND SCENE SURVEYING: PRELIMINARY SURVEY AND ANALYSIS OF THE SCENES, IDENTIFICATION OF HERITAGE AND RESEARCH IDENTIFICATION
- WP2** HISTORICAL DOCUMENTATION, SCENES AND ANALYSIS: RESEARCH OF THE HISTORICAL AND ARCHITECTURAL DOCUMENTATION, IDENTIFICATION OF THE SCENES, RESEARCH OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE
- WP3** DIGITAL SURVEY METHODOLOGICAL PROTOCOLS: DEVELOPMENT OF DIGITAL SURVEY METHODOLOGICAL PROTOCOLS FOR THE IDENTIFICATION AND DIGITAL SURVEY OF THE SCENES AND ANALYSIS OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE
- WP4** ARCHITECTURAL, STRUCTURAL AND ENVIRONMENTAL ANALYSIS: ANALYSIS OF THE ARCHITECTURE AND ENVIRONMENTAL ANALYSIS OF THE SCENES, IDENTIFICATION OF THE SCENES, RESEARCH OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE
- WP5** DEVELOPMENT AND MANAGEMENT OF A GIS: DEVELOPMENT AND MANAGEMENT OF A GIS FOR THE IDENTIFICATION AND DIGITAL SURVEY OF THE SCENES AND ANALYSIS OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE
- WP6** DEVELOPMENT OF A VISUAL WEBSITE AND APP: DEVELOPMENT OF A VISUAL WEBSITE AND APP FOR THE IDENTIFICATION AND DIGITAL SURVEY OF THE SCENES AND ANALYSIS OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE
- WP7** DIGITAL PROMOTIONAL PROTOCOLS: DEVELOPMENT OF DIGITAL PROMOTIONAL PROTOCOLS FOR THE IDENTIFICATION AND DIGITAL SURVEY OF THE SCENES AND ANALYSIS OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE
- WP8** DESIGN PROPOSAL OF THE FINAL RESULTS: DESIGN PROPOSAL OF THE FINAL RESULTS FOR THE IDENTIFICATION AND DIGITAL SURVEY OF THE SCENES AND ANALYSIS OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE
- WP9** DOCUMENTATION & COMMUNICATION: DOCUMENTATION AND COMMUNICATION FOR THE IDENTIFICATION AND DIGITAL SURVEY OF THE SCENES AND ANALYSIS OF THE ARCHITECTURE OF THE FRANCISCAN OBSERVANCE

THE TEAM

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REGIONAL GOVERNMENT
 Regione Umbria
 Regione Umbria

F-ATLAS aims at combining traditional and innovative techniques in to develop risk assessment methodologies, protocols and tools and to create open digital platforms for the management and the enhancement of Cultural Heritage. The purpose is to increase the quality of management and monitoring of intangible heritage, which has been largely forgotten in the past. The focus is specifically on the Cultural Heritage that is located in peripheral and remote areas and needs particular attention to protect and enhance historical, artistic and other ethno-archaeological features, which are an integral part of the European culture.

The development of a network of cultural and scientific tourism, through the reuse, will connect the dispersed heritage, as per UNESCO CH guidelines, can provide awareness and pass on traditions. The collaboration between researchers from different countries and fields of research contributes to the development of a multidisciplinary approach, a common language and methodology necessary to implement conservation and replication protocols.



EXHIBITION CREDITS

Panels layout: A. Cottini

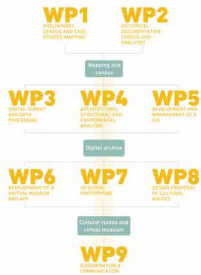
Panels credits:
 Eremo delle Carceri: C. Assirelli
 Romita di Cesì: A. Cottini
 San Bartolomeo: M. Cabiddu, A. Saletti
 Speco di Narni: A. Loponte
 Porziuncola: C. Cerbai

San Vivaldo: G. Pancani, A. Pampana-Biancheri, M. Pastore, S. Pedagna, F. Staderini, Y. Stella Tang, A. Vanzì, B. Vongher, A. Zanarini
 São Francisco do Monte: G. Mugnaini
 Sant Miquel de Escornalbou: J. Dallapozza, G. Amaducci, S. Alinari
 Convento de los Franciscanos: A. Cottini



THE WORK PLAN

Accurate digital surveying operations represent the fundamental basis for critical documentation of architectural elements, urban fabric and morphological data and information about their conditions. The methodology combines traditional and innovative approaches to document present state of the European Franciscan Observance Cultural Heritage, and to develop management and conservation.

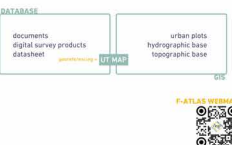


- To create, update and share knowledge: Historical & archival research
- To safeguard Cultural Heritage resources: Digital documentation
- To connect people with Heritage: Data representation and multimedia development

The innovative aspect of the project lies in the development of an operational protocol that synthesizes both analogical and digital documentation systems. In particular, it aims to underline the importance of the architecture as a driver of socio-anthropological and natural heritage as an inseparable concern to be protected in all its aspects in order to develop adequate and integrated management and planning strategies. The result is a methodological approach that acts as a link between documentation experiences and those of digital and virtual practices in its primary importance in order to guarantee the use of the acquired data and a scientific comprehension of the modern systems of Cultural Heritage dissemination.



THE GIS (GEOGRAPHIC INFORMATION SYSTEM)



THE DATASHEET CENSUS

The cataloguing form has been formulated in such a way as to adapt to the general characteristics of the case studies considered. It is divided into general items or categories, which in turn may provide additional sub-categories of detail. The categories and sub-categories of the structures are defined in such a way that can be filled through field or geographic data, including the or more pictures from a present set of routing diagrams or photographs. The data are collected through an online database, which is managed through a GIS and geo-intelligence.

3D Models

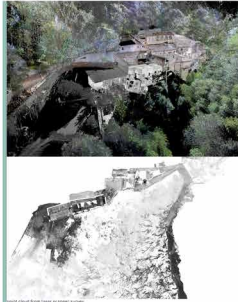
Coordination in the preparation of models: F. Brandão
Print of the models: J.P. Sousa
Collaborator: J. Jacinto

EREMO DELLE CARCERI

Assisi, Umbria, Italy



The Eremo delle Carceri is located on Mount Subasio, a sacred site used, under Pope Sixtus IV, to build a new and existing chapel dedicated to the Holy Mary in the thirteenth century. Under the papacy of the canon Nicolaus IV, Francesco de' Carceri, along with all its sites, completed the construction that still survives with varying degrees of integrity and in different states. The main architectural interventions of a convent are by the Italian architect, particularly in the well of blessed Francesco and the church of St. Bernardino and the church of St. Bernardino. Between the thirteenth and the fifteenth century, the well of blessed Francesco and the church of St. Bernardino and the church of St. Bernardino were constructed on the ground floor, and the church of St. Bernardino was built on a hillside on the south side of the hill. In the sixteenth century, the church of St. Bernardino was built on the hillside on the south side of the hill. In the sixteenth century, the church of St. Bernardino was built on the hillside on the south side of the hill. In the sixteenth century, the church of St. Bernardino was built on the hillside on the south side of the hill.



CREDITS
 Conceptual digital tool: Franco Bertocci, Marco Bercigli, Federico Cioli, Alessandro Cottini, Paolo De Ferrari, Marco Medici
 Architectural drawings and project: Stefania Bertocci



XIII CENTURY
 The beginning of the 13th century the hermitage of the Holy Mary in the Eremo delle Carceri was built by the canon Nicolaus IV. The first buildings were added around the well, in order to provide a space for contemplation.



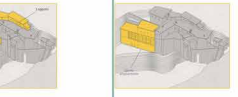
XIV-XV CENTURY
 The first expansion of the complex took place in this period, with the church of St. Bernardino (between 1320 and 1325). The church of St. Bernardino was built on the hillside on the south side of the hill. In the sixteenth century, the church of St. Bernardino was built on the hillside on the south side of the hill.



XVI CENTURY
 The convent was increased and stone steps were built across the hillside. The stone steps were built across the hillside. The stone steps were built across the hillside. The stone steps were built across the hillside.



XVII CENTURY
 The convent was increased and stone steps were built across the hillside. The stone steps were built across the hillside. The stone steps were built across the hillside. The stone steps were built across the hillside.



Credits

Laser Scanner Survey: M. Bercigli, F. Cioli
 Close-Range Photogrammetric Survey: A. Cottini
 Drone Photogrammetric Survey: F. Ferrari, M. Medici

Thesis title: **Progetto di una piattaforma digitale per la valorizzazione e la fruibilità dell'Eremo delle Carceri ad Assisi**

Student: C. Assirelli
 Tutor: S. Bertocci
 Co-Tutor: A. Cottini

ROMITA DI CESI

Terni, Umbria, Italy



La Romita is located on a slope of Monte Torre Maggiore, along the route that connects the archaeological site of Cerveteri to Spoleto, near Terni. St. Francis first settled there in the conventual complex, founded in 1213. The presence of a Benedictine hermitage just above the south-west entrance is attested in a letter of the SS. Viceroy and Provost, sent in 1676 by the Francis had made a shelter with wood and clay, the site built a church dedicated to St. Agostino, with the same programme as the Porziuncola in Assisi. The Benedictine de Cesi created here a hermitage and hospital for the leprosy, which in 1517/18, Romita passed into the hands of the Holy Order of St. Francis. In 1563 it was left to the Royal Family of Cesi. It was abandoned until 1964, then built as a hotel and until 1995, when the SS. Bernardino obtained the concession of the owner to begin the restoration.



Aerial photograph of the conventual complex



Exterior of the conventual complex



Section of the conventual complex



Floor plan of the conventual complex



RESULTS
 3D point cloud, Point Cloud, Structural Model
 Technical drawings, Drone Survey, Laser Scanning, Agisoft Photoscan, Terra Station, Scan Station, Leica CloudWorx



Aerial photograph of the conventual complex



Aerial photograph of the conventual complex

XIII CENTURES
 Proposed of Benedictine hermitage in honour of St. Valeriano and Procolo



1213-1220
 St. Francis settled here and built a church dedicated to St. Bernardino, with the same programme as the Porziuncola in Assisi. In 1230, the first convent was founded here by the Order of St. Francis.

XVI-XIX CENTURES
 In the 16th St. Romita was donated to Pasticcio Pistoia to "use the city of the Rule". St. Bernardino de Cesi settled here in 1621 and expanded the existing buildings.



1620
 The complex passed to the Holy Order of St. Francis.

1847-1864
 The conventual complex was left by the Papal State and the grand-duke. Several the Friars to abandon the place. It was bought by the Duke of Cesi and inhabited until 1964.



1964-1971
 The complex entered together with 1971, when the Benedictines from the convent of Montecassino in Italy obtained the concession of the owner to begin the restoration works.



Credits

Laser Scanner Survey: P. Becherini, A. Cottini
 Close-Range Photogrammetric Survey: A. Cottini
 Drone Photogrammetric Survey: P. Becherini

Technical Drawings: G. Batnini, G. Battaglieri,
 A. Bellagamba, E. Bertelli, M. Bonechi, L. Carosi

CONVENTO DI SAN BARTOLOMEO

Foligno, Umbria, Italy



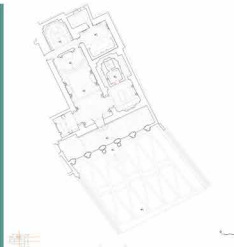
Located along the road that leads to the Benedictine Abbey of Casoleone, the convent of San Bartolomeo rises in an elevated position. The three Franciscan churches and Palazzo were built in 1428 by Ugolino Trossi and completed in 1435 by his son Niccolò. To house the "fratelli" of the original Franciscan community, the project of the convent was followed by the urban program, continuing with the construction of the main settlement in Central Italy in 1516, which also affected this area, marking the change of ownership and the start of the convent's new chapter.



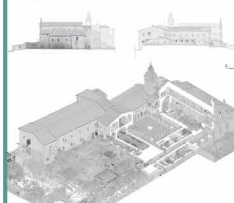
PROJECTS
 Integrated digital survey: Photo: Roberto Fabbri/Corbis, Anselmo De Santis; Historic drawings, engravings and plans: Marco Cappelletti, Alfonso Santini



THE ARCHITECTURE AND PREVIOUS REVISIONS



TECHNICAL DRAWINGS, plan, cross sections and axonometric views of the church



TECHNICAL DRAWINGS, plan, cross sections and axonometric views of the convent complex



Aerial photograph of the convent complex



Chapel



Courtyard



Church



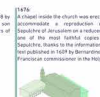
Reproduction of the Holy Sepulchre



Library



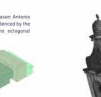
1428
 The convent of Santa Maria was built in 1428 by Ugolino Trossi and completed in 1435 by his son Niccolò, as a place to accommodate the friars of the Observance, founded by Prothonotario Trossi



1476
 The chapel inside the church was erected in 1476 by Niccolò Trossi as a representation of the Holy Sepulchre, thanks to the information provided by a friar returned in 1461 by Bernardino da Salsola, a Franciscan commissioner in the Holy Land



1716
 The chapter was built by master mason Antonio Pini, between 1712 and 1716, accompanying the plan 1712 engraved on one of the original plans that support the archive



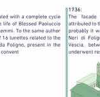
1716
 The chapter was decorated with a complete cycle of 24 frescoes about the life of Blessed Francesco Trossi by four artists known to the archive, attributed to Carlo di Salsola, resident in the entrance corridor of the convent



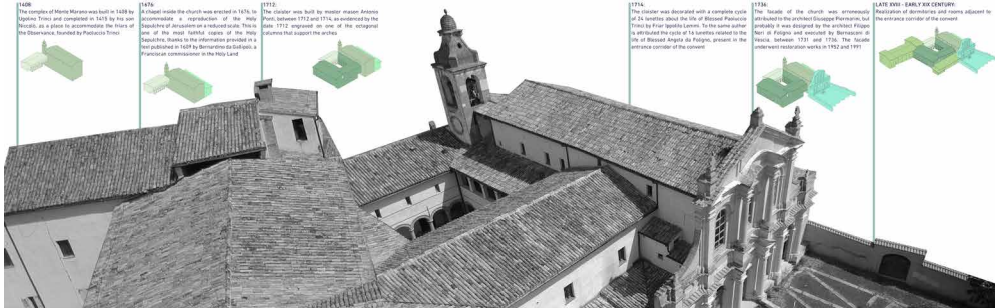
1736
 The facade of the church was, essentially, attributed to the architect Giuseppe Perugini, but possibly it was designed by the architect Francesco Bartolomeo and decorated by Bernardino di Salsola, between 1731 and 1736. The facade underwent restoration works in 1992 and 1993



LATE XVII - EARLY XIX CENTURY
 Restoration of the entrance and rooms adjacent to the entrance corridor of the convent



LATE XVII - EARLY XIX CENTURY
 Restoration of the entrance and rooms adjacent to the entrance corridor of the convent



Credits

Laser Scanner Survey: P. Becherini, A. Cottini, F. Cioli, F. Ferrari, M. Medici
 Close-Range Photogrammetric Survey: R. Ferretti
 Drone Photogrammetric Survey: M. Medici

Thesis title: **Un programma di documentazione e valorizzazione per la chiesa del Convento di san Bartolomeo a Foligno**

Student: A. Saletti
 Tutor: S. Bertocci
 Co-Tutor: F. Cioli



Thesis title: **Il Convento di san Bartolomeo a Foligno: rilievo e documentazione per la conservazione del complesso**

Student: M. Cabiddu

Tutor: S. Bertocci

Co-Tutor: G. Minutoli, F. Cioli

SPECO DI NARNI

Terni, Umbria, Italy



The Speco di Narni is one of the most important landmarks of Franciscan culture. Located 100 metres above sea level near Narni, it was built near the cave where St. Francis composed in prayer. The Speco is a stack of the rock, sixty metres long, which dominates around the whole site. Particularly important, on the left side, is the Chapel of San Sisto, which was built in 1213. St. Francis came to the Speco in the year 1200. It included the chapel of San Sisto, which was built in 1213. St. Francis came to the Speco in the year 1200. It included the chapel of San Sisto, which was built in 1213. St. Francis came to the Speco in the year 1200. It included the chapel of San Sisto, which was built in 1213.



CREDITS
 - 3D model digital survey: Eugenio Bertocci, Sara Brizi, Federico Ciolli, Francesco Cotroneo, Federico Cotroneo, Francesco Bertocci, Francesco Cotroneo
 - Technical drawings and project: Andrea Loponte



Chapel of San Sisto



Chapel



Speco and summary of Conventio



Aerial photograph of the conventual complex



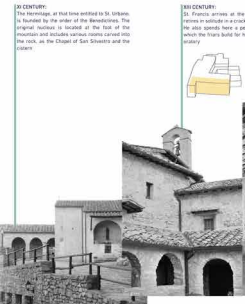
Speco



Chapel



Speco and summary of Conventio



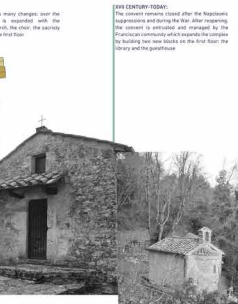
Speco



Chapel



Speco and summary of Conventio



Speco and summary of Conventio

Credits

Laser Scanner Survey: F. Ciolli, A. Lumini
 Close-Range Photogrammetric Survey: E. Bordini
 Drone Photogrammetric Survey: A. Lumini

Thesis title: **Il sacro speco di san Francesco a Narni: rilievo digitale integrato per la valorizzazione del patrimonio culturale**

Student: A. Loponte
 Tutor: S. Bertocci
 Co-Tutor: A. Cottini

CONVENTO DI SAN VIVALDO

Montaione, Florence, Italy

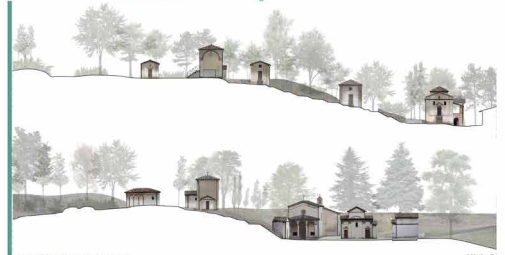


The Complex of the Sacred House of San Vivaldo is located in the Comune of Montaione (FI) in Tuscany, on the extreme south-western outskirts of the Florence province, in a point of historical and landscape importance, comprised in the geographical triangle formed by the cities of Florence, Pisa and Siena in 1588. The Monument of National Monument and today represents the most important and relevant artistic emergency of the municipal territory of Montaione. The first evidence that we find in the area under the name of the church of Santa Maria in Campagna in the Bacco (1051-1052) is a language in the Church of Vivaldo, granted by Pope Urban II to the Order of the Order of San Vivaldo, a congregation already active in the area of the north-eastern part of the hills since the end of the twelfth century, which is reported to a group of hermits. Between 1280 and 1370, the church was built, a possible extension of the original one, and this last led to a great religious fervor led by the various hermits who succeeded each other in the custody of the place.

In 1477, however, the traces and sources of the hermitic group present until then in the place were lost, as the church and surrounding were progressively abandoned until 1497 when the Franciscans were expelled from the site. In 1627, the fabrica of the complex was again, restoring the place to the Observant Franciscans. From the history of Piu Martini, the Convent was erected under the direction of Fra Bernardino Ciano from Florence, and the construction of the convent began in 1498 and ended around 1522, with Fra Tommaso da Fiesole, the second quarter of the convent, built, already in 1506, in Gothic and Renaissance style. In the last part of the Franciscans, the convent suffered the most of consequences of their expulsions, which also included the destruction of the Sacred House of San Vivaldo. In 1627, the Convent was restored, and the construction of the Sacred House of San Vivaldo, in 1627, was authorized by the Holy Office. The project was executed in 1627, marking the Franciscan system as orientation and made, with the attention of the place.



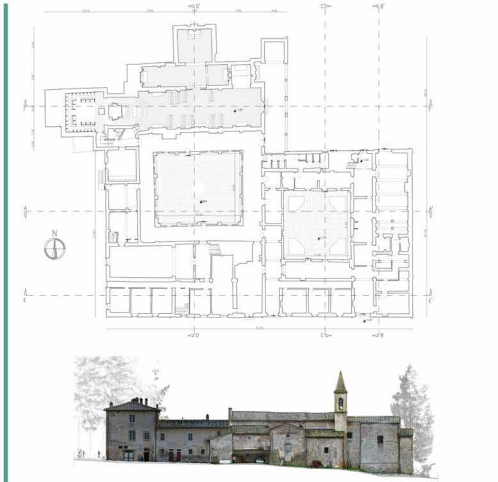
CREDITS
 Integrated Digital Survey: Giovanni Papani, Lorenzo Matteoli, Michela Bigagli, Massimo De Biase, Tiziana Frassoni, Luca Saffa, Technical Drawings: Aida Pampana-Biancheri, Mikiya Pastore, Simona Pedagna, Mikiya Pastore, Y. Stella Tang, A. Zarinani, Francesco Esposito, Tiziana Stella Tang, Arianna Vanni, Maria Vongher, Arianna Esposito.



Credits

Integrated Digital Survey: G. Pancani, L. Matteoli, M. Bigagli, H.d. Kouidhi, V. Frassoni, G. Safina

Technical Drawings: A. Pampana-Biancheri, M. Pastore, S. Pedagna, F. Staderini, Y. Stella Tang, A. Vanzi, B. Vongher, A. Zarinani



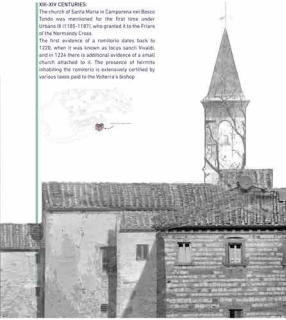
TECHNICAL DRAWING, plan and elevation of the conventual complex



TECHNICAL DRAWING, cross sections of the conventual complex



DATA ACQUISITION AND RECONSTRUCTION METHODS



XIX-XX CENTURIES

The church of Santa Maria in Campagna and the convent were mentioned for the first time under Constantine II (1081-1101) when granted to the monks of the Normandy Order.
The first evidence of a courtyard dates back to 1225, when it was known as locus subter trabas, and in 1248 there is additional evidence of a chapel, church attached to it. The presence of terraces overlooking the complex is extensively certified by various times past the Victoria's Workshop.



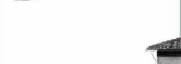
1300-1487
In the early 16th century we have evidence of the presence in this area of an armed convent (likely, probably constructed in the Renaissance style). The entire complex, considering the assistance could be raised after fire.
In 1526, many decades after his death, a small church was built in this manner in the place where the head and died, traditionally known to be a convent site. Today the church has become a chapel named after Santa Caterina, located on the north side of the church's parking.
San Trovato was destroyed only in 1918, although the remains have not been dated from any other source.



1500-1848
The construction of San Trovato's complex date since between 1500 and 1515, but it was in 1516 that a major work occurred. Leone II granted the indulgence to any Christian who granted for transport and for the Prince Church in the three squares for the Pope mention 30 different soil, making the first and last view of the most important documents for the historical and architectural reconstruction of San Trovato's complex. Studies have shown that the 36 lost mentioned by Leone II were actually gathered together in only 25 chapters, 23 included in the walls and one can never placed inside the church. In this part the convent and the church were built.



1850-1848
During these years the convent was adapted through the intervention. Another roof was added to the main building, part of the structure, and their logs were stacked with masonry walls, and a whole new volume was built in the west side of the complex.



1950-PRESENT
From the 1950s the complex started to lose its general state of neglect, partially saved by the fact that the last process decided to close the project.
Today we can see only 18 of the total 24 chapters, only 12 of which actually date back to the original construction. The convent is still inhabited by monks from the Capuchin order.



SANTA MARIA DA INSUA

Moledo, Caminha, Portugal



In 1592, the fortresses of Santa Maria da Insua were founded by a group of Franciscan Observants, along with the Spanish friars, in response to the various threats at that time by the Diego Azeite, a type of sugar cane pest previously eradicated. It is a continuous expansion of the convent, which, as from the 17th century, was the residence of a fortress. Franciscans were forced to leave the convent in 1824, during the Portuguese liberation of the religious orders. The work was managed by the Marquis of the Real, in the last decade of that century, when it passed to the Marquis. Despite the fortresses and the convent have been classified as National Monuments in 1982, the restoration project was not carried out until the 1980s. The main walls are on the first floor, along the perimeter of the building's complex and the fortification. Since 2000, access to the interior of the fort has been prohibited.



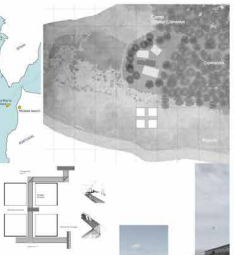
DATA ACQUISITION AND PROCESSING METHODOLOGIES



TECHNICAL DRAWING, cross sections of the conventual complex and the fortresses



TECHNICAL DRAWING, ground floor plan of the conventual complex and the fortresses



PROJECT, a path consisting of four spatial nodes, to create a path that takes users about the history of Santa Maria da Insua and provides observation about the fortresses' history that connects to the other spaces of the island



PROJECT, a path consisting of four spatial nodes, to create a path that takes users about the history of Santa Maria da Insua and provides observation about the fortresses' history that connects to the other spaces of the island

180075 Integrated digital survey: Point Cloud, Mesh, Texturing, Animation, Data Acquisition and project: Luigi Favaro



In fortresses and convent of Santa Maria da Insua, the main of the work, is a small island (part of the river Minho, about 300 meters from the peninsula coast), that extends over 1000 square meters. In any way to get to the island is making a bridge "sea-hut", which starts from nearby Moledo (Caminha) beaches.



Originally there was only a Franciscan convent on the island. But as a result of wars and invasions, the religious orders were extinguished and a fortification was built. However, the remains of the convent and its characteristic stone are still clearly visible today, but also the traces of the fortresses, with their walls and the powder magazine.



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<p>1392 Diego Azeite founds the convent</p>	<p>1581 Redaction of Turkish paintings</p>	<p>1647 Construction of the fortification ordered by St. Diego de Acuña</p>	<p>1717 Reconstruction of the church</p>	<p>2023 Recent's construction works start</p>
<p>1617 First restoration work (1801)</p>	<p>1671 1st RENOVATION</p>	<p>1681 Attacks and looting by English pirates</p>	<p>1676 Construction of the second floor of the cloister, commissioned by King João de Portugal</p>	<p>1797 2nd RENOVATION</p>
<p>1807 The fortress is occupied by Spanish troops during the First French invasion</p>	<p>1824 Suppression of religious orders</p>	<p>1991-2001 Restoration and reconstruction works of the complex</p>		

Credits

Laser Scanner Survey: P. Becherini, A. Cottini
 Close-Range Photogrammetric Survey: A. Cottini
 Drone Photogrammetric Survey: P. Becherini

Thesis title: **Nel segno di un ricordo. il rilievo digitale integrato per la valorizzazione del Convento di santa Maria da Insua**

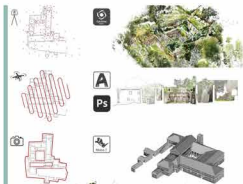
Student: I. Perrotta
 Tutor: S. Bertocci
 Co-Tutor: A. Cottini

SÃO FRANCISCO DO MONTE

Viana do Castelo, Norte, Portugal

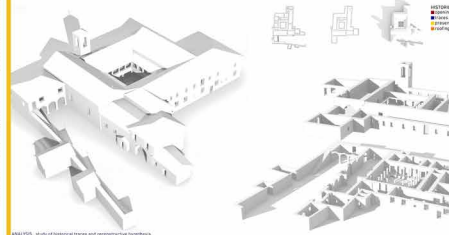
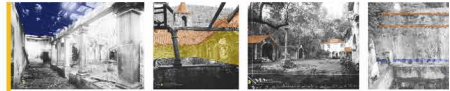


The Convent of São Francisco do Monte, located on the municipality of Viana do Castelo in Portugal, dates back to the end of the fourteenth century and was one of the convents of the São Francisco Movement in the country. The foundation dates back to 1393 with the construction of a primitive convent near a source of water. The complex was increased in several extensions until 1622 when the floors were transferred to the more central Convent of Santa Helena dos Capuchos in Viana do Castelo, thus reducing the site to its original function as an oratory. However, in 1709 the construction of twenty dormitory cells, a library, and an annex was completed, and on 23 December 1715 the building took the form of the present one. In 1820, it was abandoned with the abolition of religious orders and definitively abandoned in 1764. Despite the interest in this colonialist complex, which led to some structural consolidation and safety measures in 2001, the building is nowadays in a state of neglect.



000001
 - Integrated digital survey: Polaris Club, Roberto Wilsson, Aristoteles Galois, Rodrigo Pereira.
 - Technical drawings and analysis: Giza Magnum

DATA ACQUISITION AND PROCESSING METHODOLOGIES



ANALYSIS, study of historical facts and restoration hypotheses



Aerial photograph of the convent complex



Interior view of the church



Interior view of the church



Church

XV CENTURY
 1392 - Foundation of a primitive oratory by the will of four Franciscan monks, near a spring of water immediately after was built a larger building with a single-nave cross-vault.

XV CENTURY
 1554 - First reconstruction of which only a few parts and the structure of the cloister remain.

XVI CENTURY
 1560 - The complex is included in the Capuchin Province of Sant'Antonio, becoming a convent.

XVI CENTURY
 1564 - Beginning of the construction of a new wing of the convent, consisting of a cloister and a dormitory.

XVI CENTURY
 1580 - Installation of the side chapel of the Epistle, dedicated to Saint Gerardo.

XVII CENTURY
 1709 - New reconstruction of the church.

XVIII CENTURY
 1709 - The works are interrupted with the construction of forty cells in the dormitory, a library and an inn.

XVIII CENTURY
 1764 - The property is bought by Infante-Infanta.

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 1764 - The property is bought by Infante-Infanta.



Credits

Laser Scanner Survey: F. Cioli
 Close-Range Photogrammetric Survey: R. Ferretti
 Drone Photogrammetric Survey: A. Cottini

Thesis title: **Il Convento di São Francisco do Monte in Portogallo: lettura e comprensione del complesso religioso attraverso il rilievo**

Student: G. Mugnaini
 Tutor: S. Bertocci
 Co-Tutor: F. Cioli

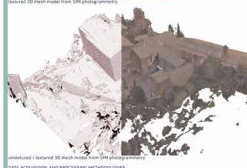
SANT MIQUEL D'ESCORNALBOU

Riudecanyes, Tarragona, Spain



The mosaic complex of Sant Miquel is located within the municipality of Riudecanyes and on the mountain of Escornalbou, situated in the eastern part of Serra de l'Escornalbou. Its construction is related to the donation made by King Alfonso of Castile in the years close to Sant Dip of the Aragonese origin castle located in this place in 1170. Since the 16th century, the complex underwent a long period of turbulence, which affected both the maintenance of the building and the configuration of an increasingly small community, which in 1826 had just one resident. Thus, at the end of the 19th and the beginning of the 20th century, the houses of the place were abandoned. The houses of Riudecanyes, 100 and Sant Miquel d'Escornalbou is due to the damage and the earthquake of 1864. Today, 10000 people, have needed a part of his fortune in buying this place.

From the original mosaic building, only a few elements have been well preserved: the Renaissance church of Sant Miquel and a part of the cloister, as well as the chapter house, located in the east wing of the cloister and the sacristy, adjacent to the west side of the church. The characteristic red stone used in all the buildings shows a continuity only that was made since between the late 16th century and the beginning of the 18th century. The mosaic complex has a set of lanes and terraces connected through the path known as the 'rank of the house', which allows the whole with a physical and spatial unity, whose lanes allowed them to develop an efficient circulation and control. Riudecanyes is not easy to distinguish between medieval and modern stages, including today's restoration, reconstructions and transformation of the mosaic by the residence.



CREDITS
 Integrated digital survey: Paolo Becherini, Federico Cioli, Stefano Bertocci, Roberto Ferretti, Roberto Ferretti
 Technical drawings, analysis and reports: Simone Soler Sala, Giovanni Brizzini, Ann Battalozza

Rendered / textured 3D model by: Ann Battalozza
 DATA ACQUISITION AND PROCESSING METHODOLOGIES



Aerial photograph of the mosaic complex



Credits

Laser Scanner Survey: P. Becherini, F. Cioli, R. Ferretti
 Close-Range Photogrammetric Survey: S. Alinari, G. Amaducci, J. Ancona, B.S. Cardelli, A. Coli, J. Dallapozza, N. Donatiello
 Drone Photogrammetric Survey: P. Becherini
 Ir Thermography Survey: S. Brizzi

Thesis title: Tecniche integrate di rilievo architettonico: il caso del Castell Monestir de sant Miquel d'Escornalbou

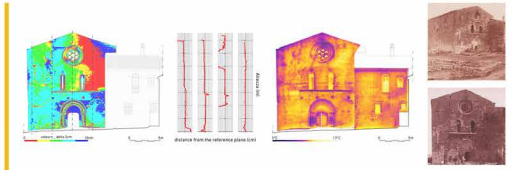
Student: J. Dallapozza
 Tutor: S. Bertocci
 Co-Tutor: M. Soler Sala, F. Cioli



SCHEMATA, FABBRICAZIONE, sezione e sezione del complesso monumentale

Chapter house

Cloister



ANALYSIS, analysis of wall profiles through elevation maps and thermography



PROJECT, design proposal for the restoration of the monastic complex

17th CENTURY: First Baroque settlement of the area after the last Gothic phase. Initial. The structural and iconographic characteristics of the project of Escorialismo allowed the construction of the religious buildings of the Escorial complex in the area of the traditional site of San Isidro. Thanks to its urban plan, Terragoma guaranteed a safe maritime trade network, and the strengthening and expansion of the territory and the surrounding coast.

1711: After the death of Melchior, in 1711, the project of reconstruction of Spain began, ordered by Charles III and in 1712 with the Battle of Pavia. During the Islamic occupation of the Catalan territory, Roman fortifications were reused, including Mount Escorial, for the creation of a triple line of defense and border: Douglas, Audein and Pucic.

1770: King Alfonso I of Aragon and Abbot of Castelló entrusted to the master of Terragoma, José de Santalla, the control of Mount Escorial, so that he could restore and reorganize the place. The community of Augustinian monks built a fortress, with a chapel dedicated to St. Paul and a church dedicated to Saint Michael. Thus, the monumental complex changed its architectural structure, from military fortification to spiritual center with the Augustinian monks.

1820: Year of construction of the church of the Augustinian monastery by the architect of Terragoma, Pere Ripoll. At the end of the construction works, the complex included the chapter house, the refectory, the cloister, the tower and eight cells.

1880: At the beginning of the 19th century, the monastery was transferred to the knowledge of Terragoma in 1874, within the monumental complex of Escorial, there was the first Augustinian monk. For this reason, in 1880, the monastery began to be transferred to the area where followed the 1870 rules of Saint Francis. They entered the construction of the library.

1983: In 1983, the monastery was used by Franciscan missionary fathers as a center of formation for religious missionaries, so that they could go to America and spread Catholic religiosity in the conquered colonies. Over time, the interest in the former disappeared abruptly, so the area of becoming an unutilized place for the next eight years.

1983: Edward Tubb bought the ruins of the monastery of Escorial and decided to create a large part of his ancestral heritage for his reconstruction, following the principles of the Catalan Renaissance to recover the culture and tradition of the territory. In this way he transformed it into a residence with a strongly noble and sumptuous character, a place of spiritual reflection dominated by outstanding religious architecture.

Thesis title: Sedimentazione inversa: il nuovo capitolo di Escornalbou rinasce dalle radici

**Student: G. Amaducci
Tutor: S. Bertocci
Co-Tutor: F. Fabbrizzi, F. Cioli**

Thesis title: Indagini conoscitive funzionali alla conservazione del Castello Monastero saint Miquel d'Escornalbou (Tarragona, Spain)

**Student: S. Alinari
Tutor: S. Bertocci
Co-Tutor: F. Cioli, S. Brizzi**



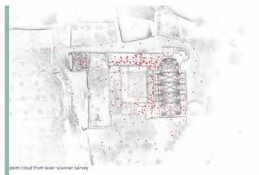
CONVENTO DE LOS FRANCISCANOS

Chelva, Valencia, Spain



Not far from the established centre, along the path of the Real del Agua, which directly unites the historic centre and along the course of the Chelva river, in the convent of San Francisco, founded in 1388 at the behest of the first viceroy of Chelva Pedro Ladrón de Guebara, already 16th century, before the foundation of the convent in 1573 three religious from the Franciscan convent of Zaragoza had settled in the lower part of the river on a hill overlooking the current present course of the river. However, due to the arid climate, the site was not considered to serve as a temporary retreat for many religious people in their early and subsequent periods. This convent of Chelva, the first Franciscan Franciscan settlement in Spain, is part of an agricultural area characterized by terraced gardens and complex systems of conservation of rain water. The works for the construction of the church of San Francisco, which has a late Gothic style and a Renaissance facade, began in 1583 at the request of Don Francisco Ladrón, youngest of Chelva, and his wife, Doña María Martínez.

The building, like the rest of the convent, fell into ruin following the explosion of the tower in 1926 and was rebuilt again starting in 1932, based on a project by the master builder and the Franciscan Fray Mateo Company, inaugurating the church in November 1934, and October 30, 1935. The complex suffered further damage during the Spanish Civil War of 1936-39 work is today strongly affected from an architectural point of view. After the abandonment of the last monks, the complex, a place strongly hit by the climate of Chelva, was used as a farm and is still used for religious meetings held inside the quadrangle, equipped with tables and chairs. The convent is surrounded by a fence with walls, which indicates and marks the division between the rural environment and the sacred space. The entire convent is characterized by the Renaissance facade of the church of San Francisco, with the long and narrow gable flanked by two small columns that support a tympanum.



Rebuilt 3D mesh made from DSM photogrammetry
<https://www.researchgate.net/publication/352166830>



PROJECT
 Close-Range Survey: Pietro Becherini, Federico Cioli, Alessandro Cottini, Roberto Ferretti, Torino Gil Ponsano, Paolo Fortington (owner)
 Drone surveying: Davide Carli



Aerial photography of the conventual complex



Aerial photography of the church

1373
 Three religious from the Franciscan convent of Zaragoza had settled in the lower part of the river on a hill overlooking the current convent. Some of these structures are still well preserved today as they continued to serve as a temporary retreat for religious people in these years and subsequent periods.

1388
 Foundation of the convent of San-Francisco at the behest of the first viceroy of Chelva, Pedro Ladrón de Guebara.

1583
 Beginning of the construction works of the church of San Francisco at the request of Don Francisco Ladrón, youngest of Chelva, and his wife, Doña María Martínez.

1926
 The building, like the rest of the convent, fell into ruin following the explosion of the tower.

1930-1932
 Rebuilding of the convent, based on a project by the master builder and the Franciscan Fray Mateo Company.

1934 today
 The complex suffered further damage during the Spanish Civil War and is today strongly affected from an architectural point of view. After the abandonment of the last monks, the complex, a place strongly hit by the climate of Chelva, was used as a farm and is still used for religious meetings held inside the quadrangle.



Credits

Laser Scanner Survey: F. Cioli

Close-Range Photogrammetric Survey: A. Cottini, R. Ferretti

Drone Photogrammetric Survey: P. Becherini

