IUL School of Technology and Architecture (ISTA)

Department of Architecture and Urbanism

# Architecture of the Soul. Legacy of the Eremitical Congregation of São Paulo da Serra de Ossa (Portugal)

Rolando Volzone

Thesis specially presented in fulfillment of the requirements for the degree of Doctor in Architecture and Urbanism

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Universidade de Évora

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*Alla mia famiglia…*

*quella d'origine e quella che ho scelto.*

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**Abstract**

This work analyses the legacy of the Portuguese eremitical congregation of São Paulo da Serra de Ossa – its architectural and landscape features – with the aim of complementing previous researches, contributing to the knowledge dissemination regarding this congregation's network, and to the creation of protective policies in relation to this cultural heritage, since all these monasteries have lost their original function and values.

First, a preliminary genealogy of the *eremos* was traced, and the evolution of its physical and spiritual values in space and time (3rd-14th centuries) was examined, mainly supported by national and international bibliography, archival documentation and on-site surveys. The subsequent study of medieval documentary sources enabled the definition of the eremitical landscape and its reconstitution in terms of ecological and cultural components (1366-1578). After the settlement's identification, a census of the existing physical structures – sometimes just evidences – was carried out through a literature review, an archival dataset and on-site morphological and spatial analysis, allowing a critical interpretation of the monastic landscapes (1578-1834). Lastly, the work delves deeper into the development after the religious orders secularisation (1834-nowadays).

Santa Margarida do Aivado monastery constitutes the pilot case in producing digital documentation, thanks to non-intrusiveness and reality-based methodologies. The creation of a multilevel database lays the basis for heritage valorisation. This can be achieved through the knowledge and use of cultural heritage, for example – with cultural heritage routes and virtual reality tours that can ensure access for all.

This research intends to outline a multidisciplinary methodology, crossing the fields of History, Archaeology, Architecture and Heritage. Being quite ambitious, in terms of geographical and chronological range, it intends to trace new paths and possibilities for future studies, which could establish comparisons between this and other religious orders.

The findings of the analysis highlight a continuity in the communities' choices of location, strategy of occupation, architectural function and spatial organisation.

**Key-words:** Cultural heritage valorisation; Digital documentation; Eremitical congregation of São Paulo da Serra de Ossa; Morphological and spatial analysis; Portugal

**Resumo**

O legado da congregação eremítica portuguesa de São Paulo da Serra de Ossa – as suas caraterísticas arquitetónicas e paisagísticas – é analisado com o objetivo de complementar investigações anteriores, contribuindo para a difusão de conhecimento em torno desta rede congregacional, e criar políticas de proteção em relação a este património cultural, uma vez que todos os seus mosteiros perderam as funções e valores originais.

Traçada uma genealogia preliminar do *eremos*, principalmente suportada por bibliografia nacional e internacional, documentação de arquivo e trabalhos de campo, são examinados os seus valores físicos e espirituais e a sua evolução no espaço e no tempo (séculos III-XIV). O estudo subsequente de fontes documentais medievais permite a definição e reconstituição da paisagem eremítica, a partir das suas componentes ecológicas e culturais (1366-1578). Após a identificação das implantações, um censo do legado – por vezes, apenas evidências – é realizado através de uma revisão da literatura, da análise de um conjunto de dados de arquivo e das caraterísticas morfológicas e espaciais no local, possibilitando uma interpretação crítica das paisagens monásticas (1578-1834). Finalmente, é aprofundado o percurso destes edifícios após a secularização das ordens religiosas (de 1834 à atualidade).

O mosteiro de Santa Margarida do Aivado constitui um caso-piloto na produção de documentação digital, obtida através de metodologias *reality-based* não intrusivas. A produção de uma base de dados multinível estabelece as bases para a valorização do património, primeiramente, através do seu conhecimento e, em seguida, mediante uma série de *outputs* analisados, assegurando o acesso de todos ao património: itinerários culturais e patrimoniais, visitas virtuais, entre outros.

A investigação pretende delinear uma metodologia multidisciplinar, cruzando diversas áreas: História, Arqueologia, Arquitetura e Património. Sendo algo ambiciosa, considerando a sua abrangência geográfica e cronológica, pretende traçar novas linhas de investigação que permitam estabelecer comparações entre esta e outras ordens religiosas.

Verifica-se uma continuidade na seleção da localização das comunidades, na estratégia de ocupação, e na organização espacio-funcional da arquitetura.

**Palavras-chave:** Análise morfológica e espacial; Congregação eremitica de São Paulo da Serra de Ossa; Documentação digital; Portugal; Valorização do património cultural

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## List of general abbreviations

**cap. / caps.** – capítulo / capítulos (chapter / chapters)

**Cód.** – Códice (Codex)

**Col.** – Coleção (Collection)

**col. / cols.** – coluna / colunas (column / columns)

**coord.** – coordination

**cx.** – caixa (box)

**doc. / docs.** – documento / documentos (document / documents)

**ed. / Ed.** – edição, editado por / Edições, Editora, Editorial (edition, edited by, Editions, Publisher, Editorial)

**fasc.** – fascículo (fascicle)

**fl./fls.** – fólio / fólios (folio / folios)

**lv.** – livro (book)

**mç.** – maço (pack)

**nº** – número (number)

**org.** – organisation (organising)

**p. / pp.** – página / páginas (page / pages)

**publ.** – publicado (published)

**s.d.** – sem data (no date)

**s.e.** – sem edição (no edition)

**s.l.** – sem local (no place)

**s.n.** – sem editor (no editor)

**séc. / sécs.** – século / séculos (century / centuries)

**sep.** – separate

**t.** – tomo (tome)

**vol. / vols.** – volume / volumes (volume / volumes)

**List of acronyms**

**ADB** – Arquivo Distrital de Beja (Beja District Archive)

**ADE** – Arquivo Distrital de Évora (Évora District Archive)

**ADPTG** – Arquivo Distrital de Portalegre (Portalegre District Archive)

**BGUC** – Biblioteca Geral da Universidade de Coimbra (University of Coimbra General Library)

**BNP** – Biblioteca Nacional de Portugal (National Library of Portugal)

**BPE** – Biblioteca Pública de Évora (Public Library of Évora)

**CEHR** – Centro de Estudos de História Religiosa (Centre of Religious History Studies)

**CHAIA** – Centro de História da Arte e Investigação Artística (Centre for Art History and Artistic Research)

**CIMAC** – Comunidade Intermunicipal do Alentejo Central (Intermunicipal Community of Central Alentejo)

**CMÉ** – Câmara Municipal de Évora (Évora Municipality)

**CMP –** Câmara Municipal de Palmela (Palmela Municipality)

**DGEMN** – Direção-Geral dos Edifícios e Monumentos Nacionais (Authority of National Buildings and Monuments)

**DGPC** – Direção-Geral do Património Cultural (General Directorate of Cultural Heritage)

**DINÂMIA-CET** – Centro de Estudos sobre a Mudança Socioeconómica e o Território (Centre for Socioeconomic and Territorial Studies)

**DIP** – Dizionario degli Istituti di Perfezione (Istituti di Perfezione Dictionary)

**DRCA** – Direção Regional de Cultura do Alentejo (Regional Direction of Culture of Alentejo)

**FCSH** – Faculdade de Ciências Sociais e Humanas (Faculty of Social and Human Sciences)

**FCT** – Fundação para a Ciência e a Tecnologia (Foundation for Science and Technology)

**FLUL** – Faculdade de Letras da Universidade de Lisboa (School of Arts and Humanities, University of Lisbon)

**ICOMOS** – International Council of Monuments and Sites

**IEM** – Instituto de Estudos Medievais (Institute for Medieval Studies)

**LS3D** – Least Squares 3D Matching

**MNAA** – Museu Nacional de Arte Antiga (National museum of Ancient Art)

**MNARQ** – Museu Nacional de Arqueologia (National Museum of Archeology)

**SfM** – Structure from Motion

**TLS** – Terrestrial Laser Scanning

**TT** – Arquivo Nacional da Torre do Tombo (Torre do Tombo National Archive)

**UAb** – Universidade Aberta (Portuguese Open University)

**UAV** – Unmanned Aerial Vehicles

**UB** – Universitat de Barcelona (University of Barcelona)

**UCP** – Universidade Católica Portuguesa (Catholic University of Portugal)

**UÉ** – Universidade de Évora (University of Évora)

**UNESCO** – United Nations Educational, Scientific and Cultural Organization

**UNIFI** – Università degli Studi di Firenze (Florence University)

**UNL** – Universidade Nova de Lisboa (Nova University of Lisbon)

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# Introduction

## 1. Architectures of the soul: their meanings

Body, soul and divine are three different entities.

The soul, according to the philosopher Plato[1], holds a divine aura. It occupies an intermediate place between the divine and the body, positioned higher and lower, respectively. By connecting these two entities – physically and ontologically – the soul triggers a movement from bottom to top and vice versa.

Three dimensions, three floors of the same building are defined by the combination of material and immaterial characteristics.

Therefore, the soul needs a space – physical or not – to develop this upward movement towards the divine.

In this research, architectures of the soul are defined as those which concretise this dialectic between materiality and immateriality. Architectures of silence, introspection, meditation or solitude represent different facets of the same concept, aiming at the *fuga mundi* – the escape from the world – in which men (and women) are separated from all and united to all. These architectures accompany the cultural development from East to West, and are associated to eremitical, monastic or conventual experiences, influencing both the evolution of urban and suburban landscapes. The term architectures of the soul is applied to the Portuguese eremitical congregation of São Paulo da Serra de Ossa, but can be extended to other experiences with similar features.

When talking about architectures of the soul, it is not possible to leave aside the surrounding landscape dimension. Natural landscapes – deserts, mountains, rivers, forests, caves – represent the privileged background of hierophanic events, and men attribute an elective relationship with the invisible. In these places, processes of space and time sacralisation occur through the interaction of the geographical and chronological dimensions.

The spiritual experience multiplies the creation of appropriate places for the relation with the divine, until this is internalised. As a consequence, architectures of the soul can be physical places but also spiritual inner spaces.

[1] In: Plato, *Laws*, book 5, v. 726a-729a. Edited, among others, in: Plato, *Twelve Volumes*, vols. 10 & 11 translated by R.G. Bury. Cambridge, MA, Harvard University Press; London, William Heinemann Ltd. 1967 & 1968.

## 2. Research Aims, Objectives and Questions

The thesis intends to analyse the network formed by the Portuguese eremitical congregation of São Paulo da Serra de Ossa, developing an interdisciplinary methodology in order to obtain a more comprehensive understanding of this movement since its genesis.

The research seeks to create a support tool based on systematised data from historical archives, literature reviews, architectural and photographic surveys, owners' interviews, that serves as a starting point for: i) the understanding of the historical and current value of the congregation's settlements through a diachronic and comparative study, with a focus on their architectural materiality and landscape spatiality; ii) the establishment of a dialogue with the existing studies and the creation of a basis for future research; iii) an efficient and effective management, valorisation and dissemination of cultural heritage.

Based on the collected data, this thesis examines the relationship between the eremitical medieval settlements and their transformation into the monastic and post-monastic ones, highlighting how closely linked they are to their geographic and chronological coordinates.

The following questions are set as a guideline to achieve the aforementioned aims and objectives:

- Do these eremitical settlements bring something new to the spatial framework of the late Middle Ages in Southern Portugal? By virtue of their spirituality, do these communities change the space or have they adapted to it?
- What are the factors leading to the increasing prevalence of eremitical and monastic settlements in the South of Portugal?
- What is the impact of the transition from eremitical to monastic and, lastly, post-monastic settlements?
- Is it possible to recognise similarities in the analysed settlements, considering the formulation of a typological definition?

## 3. Research methodology

To address the research objectives, interdisciplinary methodologies coming from multiple fields are combined. Tools from history – medieval, art and architectural – architecture, landscape, archaeology, representation, geography, computing science, and heritage provide a broader and comprehensive study of the Portuguese eremitical congregation of São Paulo da Serra de Ossa, in order to analyse diachronically their architecture and landscape.

The research process consists of three main phases: i) data collection; ii) data analysis and interpretation; iii) outputs evaluation.

Data collection

A national and international literature review concerning eremitical and monastic experiences development, with focus on three Mediterranean countries – Italy, Spain and France – established a broad basis for the understanding of the chronological and geographical evolution. In addition, creating an archival dataset involved seeking out and extracting evidences from around 1000 records dated between the 14th and the 19th centuries, mostly in national libraries and archives. Once the 17 case studies have been identified in the territory – supported by cartographic and toponymic consultation and analysis, interviews with local people and entities – a preliminary location map was carried out, constituting the support for gathering information for field visits. Most of the time their exact location was unknown. After identification and contact with the buildings' management entities, on-site visits have been scheduled when possible. The visits included a photographic and architectural survey of the buildings – with traditional techniques – and interviews with the owners. Furthermore, unpublished documentation from private archives was added, providing data about the buildings' metamorphosis in terms of morphology and function since the dissolution of religious orders. Key features of the building and the surrounding space were examined: on the one hand, accessibilities, architectural style, construction materials, state of conservation, functional spaces such as cells, refectories, cloisters; on the other hand, cultural and ecological components that structure the landscape, with focus on the circulation, vegetation, water and building systems. With respect to two specific monasteries – Santa Margarida do Aivado and Santa Catarina de Montemuro – a digital survey campaign, by combining Terrestrial laser scanning (TLS) and Structure from Motion (SfM) methodologies, were carried out. It was

integrated into the Summer School Digital Survey in Religious Architecture, which took place in July of 2018. A third monastery, Santa Cruz de Rio Mourinho, was the subject of a SfM survey made by UAV, in August of 2018.

Data analysis and interpretation

In the second phase, data were systematised on the basis of their typologies and contents. So, from literature review and on-site visits, a genealogy of eremitism, and its variation in time and space, was outlined (Chapter 1). Landscape data extracted from the 1000 medieval records have been archived in database tables on the basis of ecological and cultural components, allowing the interpretation of eremitical landscapes, their spatiality and meaning (Chapter 2). Data from on-site traditional surveys – photographic and metric – were examined in their main components – enclosure and monastic complex – in order to understand, when possible, their diachronic evolution, going back to the 16th century. In order to formulate a typological definition, a comparison between the 17 monasteries has been carried out, with the aim of further analysing their morphological and spatial features and diachronic evolution (Chapter 3). At the same time, archival records of the 19th century, on-site surveys, the literature review and the interviews with the owners were aimed at monitoring the current state of monastic buildings and at analysing their evolution during the last two centuries, after 1834. Starting from the digital survey campaigns for the monastery of Santa Margarida do Aivado, a 3D digital database was set up, containing information – material and metrical – enabling several analyses about the monastery and the surrounding space (Chapter 4). This task has been carried out with the support of Prof. Stefano Bertocci, Matteo Bigongiari and Pietro Becherini (UNIFI).

Outputs evaluation

All of the heterogeneous data, such as historical documents, photos, technical drawings, maps, can be combined into one dynamic and multilayer system, which can be managed, updated and shared. This represents a support tool for diagnostics and consolidation interventions, and a monitoring and management tool for Cultural Heritage. Two-dimensional drawings, images and videos can be created for documentation and for educational purposes, including 3D models for virtual visualisation and their real-time navigation. At the same time, this process contributes to the discovery of the congregation of São Paulo da Serra de Ossa built heritage, and consequently, to an increased awareness of the need for preservation.

## 4. Research limitations

The empirical results and contributions of this study should be considered in the light of some limitations: i) scarcity of documentary sources; ii) current state of analysed buildings and landscape.

Firstly, eremitical communities, due to their intrinsic nature – based on isolation, silence, introspection – present a scarcity of documentary sources when compared with other religious experiences, even more so before 1378, as testified by previous studies (Fontes 2012). Indeed, eremitical communities followed no kind of rules or norms until an organised congregation was established, and, even then, their statutes or rules do not contain detailed and prescriptive information in terms of spatial organisation. Moreover, iconographic sources and technical drawings are rarely found, thus hampering the diachronic reading of certain buildings.

Secondly, the conditions of conservation and accessibility of some monasteries, which lost their religious destination, are precarious. The great transformations these spaces have undergone over the centuries and their state of abandonment or decay often hinder a deeper analysis. Indeed, it is important to take into consideration that some buildings have partially or totally disappeared, sometimes leaving only few traces. The landscape analysis on the basis of contemporary findings is similarly difficult, as various transformations compromised the edapho-climatic conditions, e.g. eucalyptus forestation in Ossa Hill chain.

Data collection was also delayed by the identification of the management of buildings and sites, and getting in touch with them, to the point that, in some cases, on-site visits only took place in 2019 and 2020.

Finally, despite several experts of different fields supported the development of this research, a larger multi-disciplinary team would be necessary in order to further analyse some aspects in the most appropriate way, such as the archeological findings belonging to the 14th-15th centuries; the built heritage conservation of current evidences; the definition of programmes and measures for heritage valorisation, also aimed at touristic purposes.

## 5. Thesis outline

The thesis is organised into four chapters corresponding to four chronological frames: the first addresses a conceptual overview around the *locus eremus*, with a wide time and geographical range, from the 3rd to the 14th century (Chapter 1); the following chapters focus on the eremitical landscape during the Portuguese Late Middle Ages (Chapter 2) and the monastic landscape in the Early Modern period (Chapter 3); and the final one examines the evolution of monasteries in the last two centuries (Chapter 4).

In Chapter 1, a genealogy of eremitism is traced, from the first known experiences (3rd century) until the emergence of the "homens da pobre vida" (14th century). Starting from the analysis of selected eremitical and monastic Eastern experiences, and the subsequent Western evolution, continuity (and discontinuity) in terms of settlements' construction is discussed, with the goal of outlining typologies based on the concept of *locus eremus*.

Chapter 2 focuses on two aspects. On the one hand, it examines the genesis of the "homens da pobre vida" movement (1366) and the spatial distribution of its communities in the Portuguese territory, comparing it to other religious movements in order to understand the reason of such a density in the Alentejo region. On the other hand, it provides a reconstruction of the late medieval settlements from historical documentation – mostly charters – aiming to define the eremitical landscape.

In Chapter 3, the seventeen monastic settlements, forming the eremitical congregation of São Paulo da Serra de Ossa (1578), are examined at a micro-scale, through a literature review, an archival dataset, and an on-site spatial and morphological analysis, towards the formulation of a typological definition.

The first part of Chapter 4 is an analysis of the monastic legacy from the dissolution of religious orders (1834) to present day, starting with the examination of inventories and then outlining the evolution of post-monastic structures. The second part of the chapter delves deeper into the case study of Santa Margarida do Aivado through the production of digital documentation, obtained with contemporary technologies, aimed at the creation of a basis for heritage knowledge and valorisation.



**Cover Image 1** – *Livro de lembra[n]cas dos planetas repartido em quatro tratados...* (1593), Ms. 440, p. 131, University of Coimbra General Library (BGUC)

# 1. *Locus eremus*: *excursus* from the desert of Thebes (3rd century) to the spiritual desert of Serra de Ossa in Portugal (14th century)

*Licet enim ambuletis, tamen conversatio vestra sit sic honesta,*
*quemadmodum in heremitorio aut in cella permanseritis;*
*quoniam ubicumque sumus et ambulamus, habemus cellam nobiscum:*
*frater enim corpus est cella nostra et anima est heremita,*
*que moratur intus in cella ad orandum Deum et meditandum.*
*Unde, si anima non manserit in quiete et solitudine in cella sua,*
*parum prodest religioso cella manu facta*[2]

*Compilatio Assisiensis* 108, 21-23

The eremitical phenomenon is one of the oldest in the Christian tradition. It emerges as a form of religious life seeking solitude for a more radical following of Christ, in search of the union with God. This ideal – and practice – had a great impact since the end of the 3rd century, from the Eastern to the Western world, with different declinations. The ideal of a religious life in solitude persists, further on, in more structured and institutionalised forms of monastic life, as a privileged space of encounter with God[3].

[2] "Although you are traveling, nevertheless, let your behavior be as decent as if you were staying in a hermitage or a cell because wherever we are or wherever we travel, we have a cell with us. Brother Body is our cell, and the soul is the hermit who remains inside the cell to pray to God and meditate. So if the soul does not remain in quiet and solitude in its cell, a cell made by hands does little good to a religious", translated from *Compilatio Assisiensis* 108, 21-23 (also defined *Legenda Perusina* or *Legenda Antiqua Sancti Francisci*), published in *Fontes Franciscani*, ed. E. Menestò, S. Brufani et al. (Assisi: Edizioni Porziuncola, 1995).

[3] An exhaustive reconstruction of the history of the eremitical movement is hampered due to the overwhelming variety and declinations of these practices. However this research is anchored to some paradigmatic research. Concerning the individual eremitism, see: G. Penco (1985) "L'eremitismo irregolare in Italia nei secoli XI-XII", in *Benedictina*, vol. 32, pp. 201-21; F. Ferrero (1974) "Eremitismo individuale", in *Dizionario degli Istituti di Perfezione*, vol. 3, pp. 1246-1258. A. Vauchez (1994) *La spiritualité du Moyen Age occidental: VIIIe-XIIe siècles*, Paris: Presses Universitaires de France. Remarkable and very ambitious studies have been carried out in order to provide an interpretation of the emergence of monasticism – by delineating a chronology from the early eastern antiquity to the medieval West diffusion. Among the scientific publications, due to the relevance for the present research, see: M. Sensi (2003), "Il santesato: eremiti e comunità rurali: rapporti giuridici e umani", in *Ermites de France et d'Italie*, pp. 343-371, Roma: École française de Rome. C. Caby (1999) *De l'éremitisme rural au monachisme urbain. Le Camaldules en Italie à la fin du Moyen Âge*, Roma: Ecole Française de Rome. G. Grado Merlo (2007) *Fra eremo e città. Studi su Francesco e il francescanesimo medievale*, Assisi: Edizioni della Porziuncola. S. Allemand (2003), "Observances franciscaines et fondations èrémitiques, le cas de la province de Bourgogne", in *Ermites de*

This chapter addresses the multiplicity of relationships that eremitical practices establish with the surrounding space, over diferent times and geographies, including the reception of these ideals into semi-anachoretic or coenobitic forms[4]. This is aimed to the study of the late 14th century eremitism, linked to the voluntary poverty, at the basis of the Franciscan and pauperistic mendicant model.

In this research, the eremitical experiences are approached through the architect's perspective, focusing on the architectural-landscape components and their evolution in space and time. The research is mainly supported by national and international bibliography, archival documentation and on-site surveys, in order to understand and explore this phenomenon in a more structured way.

Eremitical life embodies one of the most ancient spiritual experiences. The Greek word *eremos* means: in solitude, solitary, isolated, sole, empty, destitute of, and desert (Machado 1956)[5], thus *eremos* can be defined as a space with several potential meanings.

In the field of human geography, Yi-fu Tuan (1977) describes places and spaces through the affective bond between human experience and the environment, as introduced previously with the concept of *topophilia* (1974). According to Tuan (1979), the place is a space infused with human meaning[6]. The term was coined by the poet W.H. Auden in the introduction of his book "Slick but not Streamlined" (Betjeman 1947) and then used by the philosopher Gaston Bachelard (1957).

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*France et d'Italie*, pp. 461-478, Roma: École française de Rome. C. H. Lawrence (1987) *Medieval monasticism. Forms of Religious Life in Western Europe in the Middle Ages*, London: Longman. About the Portuguese territory, and closely linked to the case study of this research, see: J. Mattoso (1972) "Eremitas portugueses no século XII", in *Lusitania Sacra*, vol. 9, pp. 1-40. M. A. Beirante (1985), "Eremitérios da pobre vida no Alentejo dos séculos XIV-XV" in *Actas das Jornadas de História Medieval, 1383/1385 e a Crise Geral dos Séculos XIV/XV*, Lisboa: História & Crítica. J. L. Inglês Fontes (2012) *Da «pobre vida» à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)*, Ph.D. Thesis, Department of History, Universidade Nova de Lisboa.

[4] Medieval studies about the diachronic and typological evolution of eremitism were analysed in-depth during the Italian congress "L'eremitismo in Occidente nei secoli XI e XII" in Mendola. For the proceedings of the congress, see: "L'eremitismo in Occidente nei secoli XI e XII", in *Atti della Seconda Settimana di studio (Mendola, 30 agosto-6 settembre 1962)*, (1965), Milano: Società Editrice Vita e Pensiero. During the remarkable congress "Ermites de France et d'Italie (XI-XV siècle)", organised by the *Ecole Française* in 2000, cultural and territorial perspectives converged. It is interesting the final conclusion. See: Sofia Boesch Gajano (2003) "Alla ricerca dell'identità eremitica", in A. Vauchez (ed.), *Ermites de France et d'Italie (XI-XV siècle),* Atti del Convegno (Pontignano, 2000), pp. 479-492.

[5] In addition, others dictionaries have been consulted. See: N. S. Bergier (1831-1835) *Diccionario enciclopédico de teología / escrito en francés por el abate Bergier*. Madrid: Imprenta de los Hijos de Doña Catalina Piñuela. R. Bluteau (1712-1728) *Vocabulario portuguez e latino: áulico, anatómico, architectonico, bellico, botanico, brasilico, comico, critico, chimico, dogmatico, dialectico, dendrologico, ecclesiastico, etymologico, economico, florifero, forense, fructifero…* Coimbra: Colégio das artes da Companhia de Jesus. F. Torrinha (1945) *Dicionário Latino-Português.* Porto: Editorial Domingos Barreira.

[6] Yi-Fu Tuan (1979), "Space and Place: Humanistic Perspective". In: Gale S., Olsson G. (eds.) *Philosophy in Geography. Theory and Decision Library (An International Series in the Philosophy and Methodology of the Social and Behavioral Sciences)*, 20. Springer, Dordrecht. DOI: 10.1007/978-94-009-9394-5_19.

Spatiality[7] refers to the spatial quality of a space[8], associated to the human experience and perception. It refers to a dynamic notion of space, so it is possible to talk about spatialities, like forms of appropriation of a geographic space, which generate new relationships: these are always open, a kind of movement-space (Merriman et al. 2012), a space in permanent change, which is moulded by and through history. Spatiality is the quality or process of being spatial, which means being located or experienced in (or as) space.

Space and place represent two important aspects of the human-landscape (Hunziker, Buchecker, and Hartig 2007). According to Gonçalo Ribeiro Telles[9], the landscape is the synthesis of the ecological system and the built environment. The first one, *topos* (or space), is the matrix and tellurian force, complemented by the second one, which corresponds to the *locus*, the place of being, staying, existing. When combined, they create an ecological, aesthetic and cultural occasion at the basis of both the physical and the mentally construed landscape (Carapinha 2015). A territory can be religiously construed (Vincent 1995) after the recognition of the divine existence in the physical space, in which the connection and the communication with the divine are enabled. These are, generally, areas marked by the presence of caves, rivers, forests, elements that organise the territory through their liaison (Longo 2011).

In the Portuguese late medieval documentary sources[10], for example, in addition to *locus eremus* or *eremitério* (hermitage), the terms *oratório* (oratory), *cela* (cell) and *provença*[11] are used. The last one is frequent in the older toponymy, and sometimes it

[7] A review of the concept of "spatiality" is available at: M. Shoorcheh (2019) "On the spatiality of geographic knowledge", in *Asian geographer*. DOI: 10.1080/10225706.2018.1463854.

[8] The word "space" comes from the old French *espace*, meaning "period of time, distance, interval". It is an evolution of the Latin word *spatium*, probably from the verb *patēre*, which means "to be open", like the word "patio". The term place comes from the Latin word *platea*, meaning "open space", with the same meaning of the Latin word *locus*, which is the space that a body occupies or can occupy.

[9] P. Pacheco & J. Adrião (2000) "Gonçalo Ribeiro Telles", in *Documentos de Arquitectura*, vol. 3, pp. 31-63.

[10] The terminology when it comes to the medieval period is different. In fact, in the High Middle Age, historical records are written in Latin, assuming distinct meanings. Contrarily, Late Middle Age documentation is already in Portuguese language. With respect to the terminology used between the 9th and the 11th centuries in the North of the Portuguese territory, associated to "hermitage" and "monastery", see: André Evangelista Marques (2014), *Da representação documental à materialidade do espaço: território da diocese de Braga (séculos IX-XI)*, pp. 245-250. Porto: Edições Afrontamento-CITCEM.

[11] According to José Pedro Machado (1984, vol. 3, p. 1217), in *Dicionário Onomástico Etimológico da Língua Portuguesa*, the term *provença* is identified, through a toponimic analysis, in Alenquer, Avis, Elvas, Évora, Figueiró dos Vinhos, Portel, Serpa, Sines, and Vila Viçosa. He still explores the possible link between *provença* and the Latin word *prudentĭa*, and the archaic form of *providência* (providence). Moreover, Viterbo (1865, vol. 2, p. 165) includes two different definitions for the term "provença": one refers to "province, region, diocese", with a spatial meaning; the second refers to "providence", as seen in Machado. In the same page it is interesting to note the term "proveza", referring to "poverty". Indeed,

survives in the more recent cartographies, allowing the identification of the settlements' location.

It is still not possible to define the hermitage concept, or to identify an eremitical architectural *typos*, but it is possible to say that a symbolic typology, dictated by the primordial eremitical ideals, is identified. The definition of typologies has been possible in a specific case study: the architectural-landscape eremitical Celestines' structures in Majella and Morrone mountains, in Italy (Ciampa 2014)[12]. Here, three typologies of hermitage are identified: a) "totally in cave", spiritual retreat places inside natural pre-existing caves or pits, located in valleys or mountain slopes; b) "partially in cave", as the result of a relationship between nature and architecture; in these, walls and coverings are partially natural and partially artificial; c) "on surface", formed by cells, not taking advantage of the pre-existing natural crevices (Figure 1.1)[13].

But there is also an eremitism that is not linked to materiality, in which a building, a construction or a hermitage is not necessary for eremitism to be practiced. In this case, the sacred place is interiorised. In the text *Compilatio assisiensis* – also known as *Legenda Perusina* or *Legenda Antiqua Sancti Francisci* – these places are found. Saint Francis compares the human body to a hermitage, and the soul to a hermit who lives in there in prayer and meditation (*see* footer 2, p. 4); if the soul is not in peace in the solitude of its cell – the body –, the one built by the religious man brings no benefits[14].

through the analysis of documentary records, displayed in the Chapter 2, a specific record refers the word *pobrencia* and *probencia*, closely linked to *pobres* or *probes* (poor men). So, the term is used with the meaning "place of the poor life". In: TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 30.

[12] Several scientific conferences took place in Italy about Pope Saint Celestine V, mostly in the 1980s and 1990s. The proceedings *Celestino V Papa Angelico: atti del convegno storico internazionale* (L'Aquila, 26-27 August of 1987), edited by Walter Capezzali, L'Aquila: Centro Celestiniano, Sezione Storica, 1988 contain significant contributions related to this research. Among them, the articles: *I Celestini nella storia del monachesimo medievale*, by Réginald Grégoire, pp. 155-164; *Tra monasteri cistercensi e monasteri celestiniani, la transumanza*, by Alessandro Clementi, pp. 233-256.

[13] An inventory of the evidence, starting from a previous study about 36 hermitages, has been realized by Ciampa (2014) in her master thesis in Architectural Conservation, entitled "Eremi e luoghi di culto della Majella: indagini ai fini della candidatura a sito UNESCO", aimed at an application for the World Heritage recognition by UNESCO. The analysis takes into consideration the relationship between assets, history and territory, and it proposes a management plan. The research starts from Edoardo Micati's investigation (1990) about the rupestrian hermitages in Abruzzo region, mostly the publication: *Eremi e luoghi di culto rupestri della Majella e del Morrone*, Pescara: Carsa Edizioni.

[14] The dialectic between the space of the eremitism and the search for the inner cell, between the outer and the inner eremitism, is not necessarily contradictory or opposite. Indeed, several times, it is complementary. The experience of Saint Francis, that swings between the enthusiasm of the pastoral activity, the preaching, the fraternity and the search for the solitude, for the retreat. So, the eremitism is not exclusively interior, needing an external hermitage to be practiced. As a matter of fact, the *Regula pro eremitoriis* displays clearly this complementarity. Saint Francis seeks to create the exterior conditions that, even as a simpler form of organisation, allow the safeguarding for those who are looking for eremitical experiences. This suggests a continuity with previous models which were developed, for example, by the Carthusian Order.

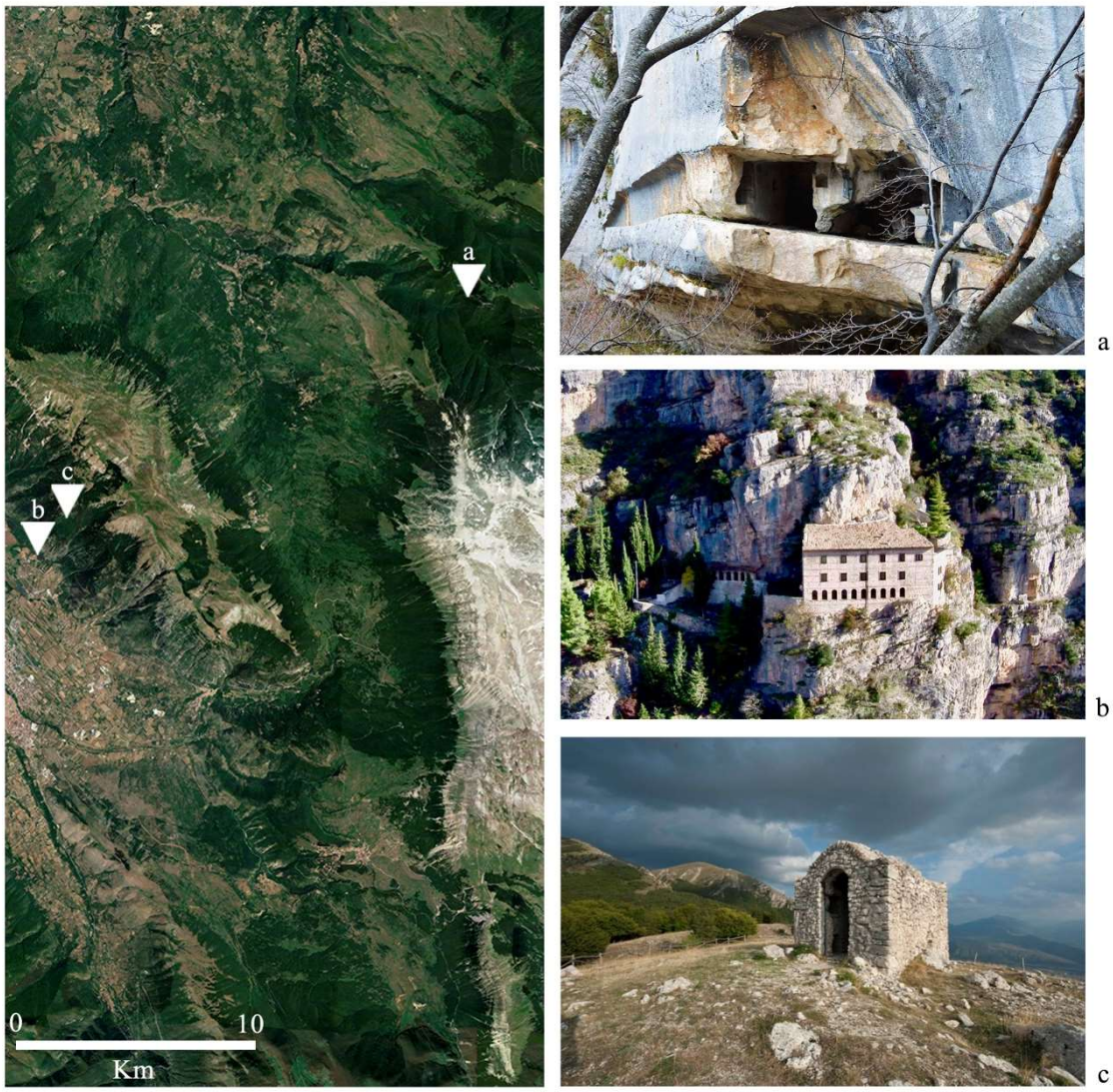



Figure 1.1 – Celestines' hermitages in Morrone and Majella mountains (Italy): a) *San Giovanni all'Orfento*; b) *Sant'Onofrio al Morrone*; c) *Santa Croce* or *San Pietro al Morrone*. Hermitages location, ©Google Earth View (2019) (left), case studies pictures (right), adapted from ©Ciampa, 2014

Therefore, the body can be an eremitical place, a sacred one that allows to live the spirituality. This homology is taken up by Mircea Eliade (1961) and developed through three figures: home, body and cosmos; both the human dwelling and the human body are a microcosm.

This places man at the centre, where communication with the divine becomes possible.

Indeed, a group of lay brothers who ensure a set of conditions, so that the other part of the community can dedicate, almost exclusively, to the eremitical experience, in solitude.

Catherine of Siena (1347-1380) goes further. She felt a vocation for the ascetic life very early, but her parents did not allow her to live it, so she built a secret mental cell, inside her soul – her knowledge shelter[15]. Her own interior is an eremitical and sacred place (Figure 1.2).



Figure 1.2 – *San Francesco riceve le stimmate* (Giotto di Bondone?, 1295-1299), in Basilica Superiore di Assisi (left); *Santa Caterina si taglia i capelli per offrirsi a Dio* (Alessandro Franchi and Gaetano Marinelli, 1896), in Santuario Casa di Santa Caterina (right)

The sacred places can be physical but also imaginary. The body, in this specific case, is an inner spatiality, bounded to spirituality. Any space may become sacred through a hierophany or theophany experience: from the desert to the private houses, from the human body to the mind[16].

Against this background, in this work an *excursus* along the architectural declinations and morphological variations of the hermitage is displayed, by considering different times and geographies. This research will not present a reconstruction of the history of eremitism, but a selected review that mainly intends to show how these forms of life in solitude translate into different solutions of settlements in space. It is an attempt to examine monasticism in the light of the great variety of relevant approaches. Spirituality will be explored first, then physical space will be analysed.

[15] Sofia Boesch Gajano and Odile Redon (1982) "La Legenda Maior di Raimondo da Capua, costruzione di una santa", in D.Maffei and P.Nardi (eds.) *Atti del simposio internazionale cateriniano-bernardiniano*, pp.15-35, Siena, 17-20 Aprile 1980. A recent biography has been written by André Vauchez (2018), *Catherine of Siena: A Life of Passion and Purpose*, New York: Paulist Press (English Version).

[16] Recent studies are delving deeper into the influence of female religious reclusion in cities, focusing on Southern European experiences, and their relationship with eremitical movements. These topics have been debated in 2016 during the International Seminar "O Deserto na Cidade: experiências religiosas femininas nos finais da Idade Média" organised in Lisbon by João Luís Inglês Fontes and Maria Filomena Andrade.

### 1.1 The origin of the *locus eremus*: Eastern experiences of eremitism

The *eremos* initially takes shape in the physical desert. This is understandable, as the landscape of the regions where these experiences were born is strongly characterised by the presence of the desert as a geographical feature. Indeed, one of the meanings of the word *eremos* is "desert". As a consequence, the physical desert gives its own name to the eremitical movement, to the entire spiritual experience, which is, at the same time, hierophany and theophany, manifestation of the sacred and God. In other geographies, mostly in the Western world, the *eremos* is embodied in mountains, islands, forests[17].

The physical desert is the stage for different religious traditions – Islam, Judaism and Christianity – linking the idea of *eremos* to that of being strangers to the world (Špidlík 1974)[18]. The eremitical form of living is defined by detachment, extreme solitude and penance[19]. Its origins can be assumed in Eastern Mediterranean regions, such as Egypt, Palestine and Anatolia[20], where men and women lived in solitude – rarely in groups of two or three – in huts and caves, or outdoors with no protections (F. Ioannides 2011).

From a spiritual point of view, the history of eremitism has its roots in the episode of the "Temptation of Christ", when Jesus fasted in the Judean desert for forty days and forty nights[21]. He is then tempted and tested by the devil on the *Jabal al-Qarantal* (Mount

[17] Christine Delaplace (2005), "Aux origines du desert en Occident. Eremistisme et premières foundations monastiques en Gaule et en Italie aux Ve-Vie siècles", in S. Brunet, D. Julia, N. Lemeitre (eds.) *Montagnes sacrées d'Europe*, pp. 217- 226. Paris: Pu de Paris-Sorbonne.

[18] "Nella vita religiosa il tema del deserto é direttamente collegato con l'idea di «essere estranei al mondo» per la contemplazione di Dio. Questa estraneità al mondo, si é manifestata storicamente in forme numerose e varie, a volte estremamente curiose e singolari: l'apathéia, la clausura, la reclusione, l'esicaismo, la peregrinatio, i dendriti, gli stiliti, i pazzi per Cristo, i predicatori itineranti, ecc. non sono che espressioni di quest'unico spirito". See: J. Gribomont (1974), "Eremitismo", in G. Pelliccia & G. Rocca (eds.) *Dizionario degli Istituti di Perfezione*, pp. 1224-1230. Roma: Edizioni Paoline.

[19] These practices may be an evolution of the spiritual exercises carried out by some philosophical schools of Ancient Greece (Stoicism, Pythagoreanism, Platonism, Neoplatonism, Cynicism, Orphism) in order to achieve the contemplative life. Among them are the *θεραπευταί* (Therapeutae), described by the Jewish philosopher Philo of Alexandria in his *De vita contemplativa* (The Contemplative Life). According to Eusebius of Caesarea in his *Ecclesiastical History*, Philo was the first Christian monk. Therapeutae dedicated six days to the contemplation in solitude in their cells, and in the seventh days, they met each other. See: R. Radice (1983) *Filone di Alessandria. Bibliografia generale* (1937-1982), Napoli.

[20] See: D. J. Chitty (1966) *The Desert a City. An Introduction to the Study of Egyptian and Palestinian Monasticism under the Christian Empire*, Oxford. G. M. Colombas (1974) *El monacato primitivo*, Madrid: Biblioteca de Autores Cristianos. José Amtónio Molina Gómez (1998) "El monacato cristiano en Siria. Introducción, problemas y propuestas", in *Romanización y Cristianismo en la Siria Mesopotámica, Antig. crist*. (Murcia) 15, pp. 379-397.

[21] The episode is described in the Gospel of Matthew 4:1-11; Mark 1:12-13; Luke 4:1-13. Among others, see the edition: Franco de Carlo (2016), *Vangelo secondo Matteo. Nuova versione, introduzione e commento*, Milano: Paoline Editoriale Libri.

of the Temptation or Mount Quarantania), northwest of Jericho, on the road which links this town to Jerusalem (Figure 1.3).

Similarly, the desert, as a testing place, is the background of characters like the Penitent Mary Magdalene, Saint John the Baptist. Moreover, the Biblical story of the Exodus, when Moses led the Israelites from Horeb (Sinai) to Càdes-Barnèa through a big and scary desert[22].



Figure 1.3 – The Mount of Temptation: location (Jericho), ©Google Earth view, 2009 (above); view of the monastic complex, ©Dmitrij Rodionov, 2009 (below)

Regarding the emergence of the monasticism and Christian eremitism, divergent opinions exist (Dunn 2003).

[22] Among the several editions, see: Grazia Papola (2011), *Deuteronomio. Introduzione, traduzione e comment*. Cinisello Balsamo (Milano): San Paolo Edizioni.

Saint Paul (c. 226/7-c. 341) is generally recognised as the first hermit living in a desert – that of Thebes – when he was escaping the persecutions of Roman emperors Decius and Valerian (a.d. 249–260). According to Saint Jerome (c. 375)[23], Saint Paul spent the rest of his life in the desert and in solitude, fed everyday by a crow, until he was 113 years old. At this age, he received a visit from Saint Anthony the Great (c.251-356) – whose life is narrated by Athanasius, bishop of Alexandria[24] – later known as the founder of the Desert Fathers (Figure 1.4)[25].

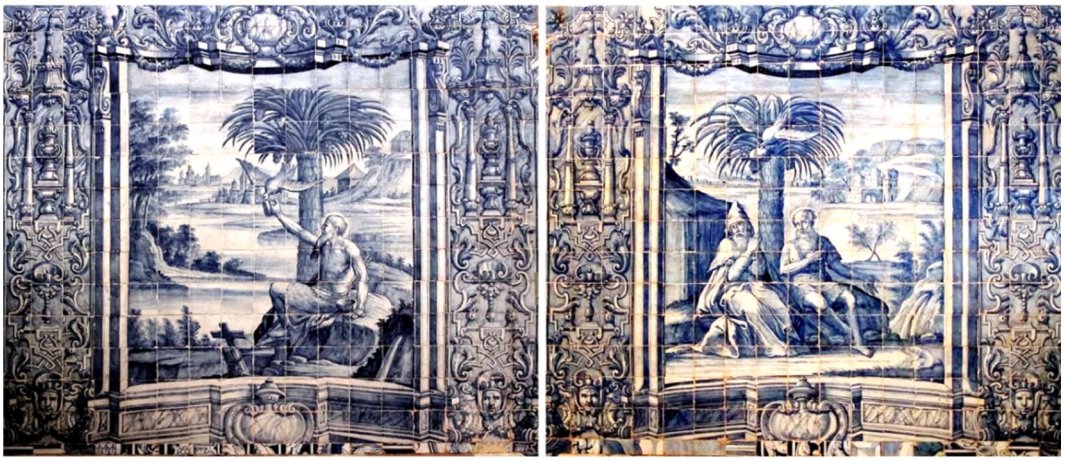


Figure 1.4 – *Azulejos* of the ancient monastery of São Paulo da Serra de Ossa, in Redondo, 1710-1720: Saint Paul fed by the Raven (left); Saint Paul and Saint Antony of Egypt (right)

Over time, Saint Anthony's way of living attracted so many disciples that, when he died, the desert was being described and represented as a city of hermits. An iconographic catalogue of the different eremitical settlements is represented in several paintings. In particular, the Thebaid painting by Beato Angelico shows caves, excavated paths, wood cabins, masonry cells (Malquori 2012, Bertocci and Parrinello 2013), in a mountainous landscape with an important and navigable watercourse (Figure 1.5).



Figure 1.5 – Tebaide (Beato Angelico, 1418-1420). Galleria degli Uffizi, Firenze

[23] *Vita Sancti Pauli Eremitae* (The Life of Paulus the First Hermit), available online at: http://www.ccel.org/ccel/schaff/npnf206.vi.i.html.
[24] Among others, see: St. Athanasius of Alexandria, *The Life of St. Anthony*. Translated by H. Ellershaw (2019). Editor D. P. Curtin Independently Published.
[25] Among others, see: Ward Benedicta ed. (1984) *The Sayings of the Desert Fathers: The Alphabetical Collection*. Kalamazoo, Michigan: Cistercian Publications. J. Chryssavgis (2008) *In the Heart of the Desert: The Spirituality of the Desert Fathers and Mothers*. Bloomington, Indiana: World Wisdom.

The Thebaid case exemplifies the tension between the extreme solitude, the semi-eremitical and the coenobitic traditions. The experience of Saint Anthony extends to Lower Egypt, Siria[26], Palestina, Cappadocia and Sinai.

In particular, in Sinai, Saint Pachomius (c.292-348) founded a more institutional form of monasticism, the *koinonia* – form the Greek word *κοινωνία* literally meaning communion – that is at the basis of the *coenobium*. Monks lived in cells with two or three persons, which could be grouped in buildings with up to twenty people, each one governed by an *oikiakos* (Dunn 2003), that is a housemaster, a father superior (Byassee 2007). They settled inside or close to villages, sometimes abandoned ones. The *koinonia* of *Tabennese* is a prime example: it is set up along the Nile, which makes the lands fertile and allows access to the markets through the river[27].

Cappadocia became the centre of Christian monasticism after the second half of the 4th century and the monastic movement of the Cappadocian Church Fathers spread from there to other parts of the Byzantine Empire. The monks followed a coenobitic *modus vivendi*, traceable to the monastic rules of Saint Basil of Caesarea (c.330-379), that called for living together in prayer, not in isolation, but in contact with the world. Saint Basil incorporated the coenobitic experience of Saint Pachomius, but he also integrated the small communities of monks into the life of the Church and of the civil community. For this reason, many religious establishments were built near main and secondary roads, villages and towns, not in deserted or inaccessible places, so that the choice of silence was linked to the charitable dimension. The Cappadocian Church Fathers realised that the volcanic rock could be easily carved to form houses, storages and places of worship, such as churches and monasteries (Rodley 2010). In Göreme valley, nowadays transformed in the "Göreme Open Air Museum", it is still possible to observe a settlement formed by a sequence of churches, chapels and refectories, in the countless caves (Figure 1.6).

Saint Basil founded several monasteries – *Annesi* is the first foundation – and Basilians became a point of reference for the local people due to the presence in their settlements of hospitals, hospices, etc. Saint Basil's rules[28] and letters reveal that he considers the coenobitic dimension as a priority.

[26] About the hermits in Siria, see: A. J. Festugière (1962) "Antioche païenne et chrétienne. Libanius, Chrysostome et les moines de Syrie, in *Revue d'Art Oriental Et d'Archéologie*. Paris: Librairie Orientaliste Paul Geuthner, pp. 342-343.

[27] See: L. T. Lefort (1939) "Les premiers monastères pachômiens: Exploration topographique", in *Muséon*, vol. 52, pp. 347-407.

[28] *Regulae fusius* tractatae (Greater Monastic Rules) and *Regulae brevius tractatae* (Lesser Rules). Both have been translated in Latin by Rufinus Aquileiensis and united into a single Rule named *Regulae sancti*



Figure 1.6 – Göreme Valley. Planimetric view: 0) Refectory; 1) St. Basil Chapel; 2) Elmali Church; 3) St. Barbara Chapel; 4) Yilanli Church; 5) Pantocrator Church; 6) Chapel; 7) Karanlik Church; 8) St. Catherine Chapel; 9) Çarikli Church; 10) Nunnery, ©Rolando Volzone, adapted from (Murat E. Gulyaz, 2002) (left); on-site picture, ©Rolando Volzone 2019 (right)

Basilian monks started spreading to the regions of Southern Italy since the 6th century. Similarly to what happens in the Göreme valley, they lived together in a sort of monastery-house organised around a central nucleus for prayer, with several cells for the monks around it, mostly located inside previous caves or natural refuges (Comes 2015)[29]. Hence, they introduce in the Western world the *laura* model, which will be further discussed later (Figure 1.7).



Figure 1.7 – Basilian caves in Cerenzia (Calabria, Italy), 8th-9th century, ©Comune di Cerenzia, 2012

*Basilii episcopi Cappadociae ad monachos*. In: G. Turbessi (1990), *Regole monastiche antiche*. Roma: Ed. Studium.

[29] About the Southern Italy Basilian settlements, see*:* B. Cappelli (1959) "Il monachesimo basiliano e la grecità medievale nel Mezzogiorno d'Italia", in *Rassegna storica salernitana*, vol. 20, pp. 1-16A. Recently, a thorough study of the Basilian settlements in the Amalfi Coast (Salerno, Italy), their historical value, typological and morphological analysis, and conservation issues, has been carried out by Federica Comes in her PhD thesis (2014), titled *L'Architettura eremitica in Costiera Amalfitana. Specificità e problemi di conservazione.* Naples: Università degli Studi di Napoli Federico II.

Saint Basil's model influenced the ancient monasticism of Saint Benedict of Nursia, as he regarded Basil as his teacher. Saint Benedict codified the characteristics of western monasticism by fusing previous eastern experiences and putting them into practice with the construction of the Montecassino Abbey.

Different religious traditions have distinct architectural and spatial organisations. Stylites – from Greek *stylos*, column – literally spent their days on a column, as clearly shown in oriental iconographies. Saint Simeon Stylites the Elder (c. 390-459) is the first and best known of them. Stylites lived in less than one square metre, exposed to the elements, although some hermits did build a little shed on their columns. Indeed, in some cases the columns were erected with large stone blocks, on which a branch hut was built to protect the hermits from the weather (Špidlík 1974); in other cases, the columns were old military watchtowers (Proja 2005) (Figure 1.8).

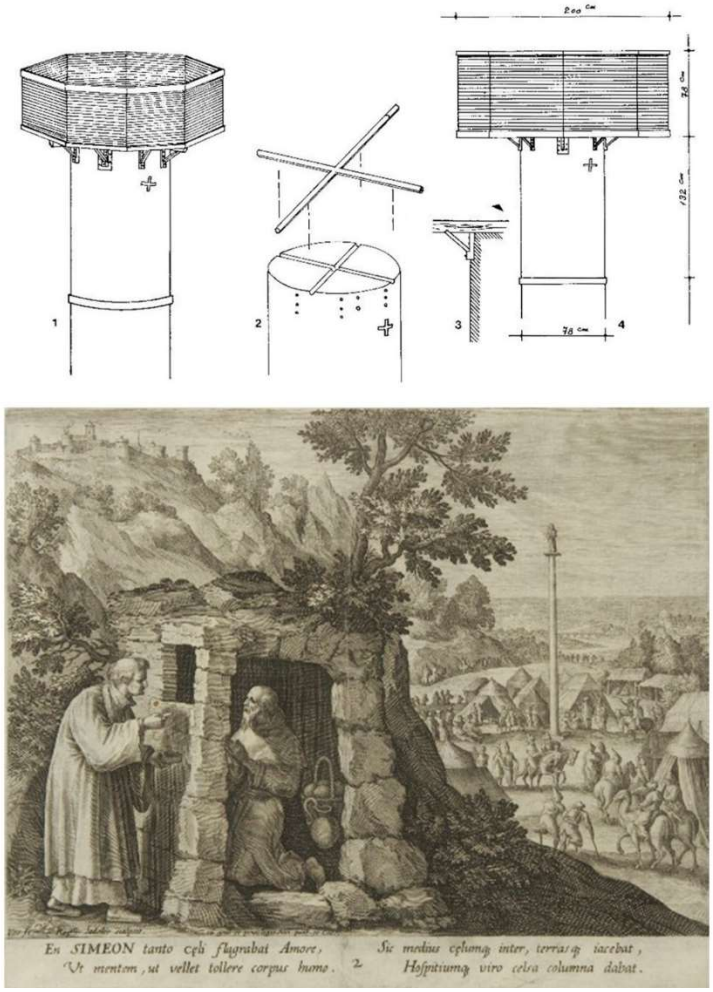



Figure 1.8 – Saint Simeon Stylites the Elder in prayer (Sadeler Raphael, 1598), Inventario dei beni storici e artistici della diocesi di Trento (above). Column platform of an unknown stylite of Telanissos and joints reconstruction: 1) column and cubicle; 2) notches at the top of the column and bars which supported the cubicle; 3) details. In: AA.VV. (1975) *Les Styltes syriens*. Milano: Editions de la Custodie de T.S (below)

The only architectural example still standing is the tower of Umm ar-Rasas (Jordan), built in the first half of the 6th century (Figure 1.9). It is 13.5 metres tall, with a 2.52 metres square base side, built with rows of trimmed local limestone blocks laid dry (Clemente et al. 2019). The domed room on the top could be reached through some kind of ropes or ladders, and a window or door on its southern face, in the direction of a church, was maybe used to provide minimal supplies through a basket. Inside the walls a channel was probably used as a toilet. The column-tower, in relation with the surrounding landscape, represents the *conditio sine qua non* of the stylite's ascesis.



Figure 1.9 – Stylite Tower in Um er-Rasas (Jordan): planimetric view ©Google Earth, 2018 (above); view of the tower and the surrounding settlement ©Alistair Langfield, 2019 (below)

Voluntary reclusion is another extreme form of eremitism[30]: temporarily – or not – the recluse lives inside a cell or a hermitage, which is sometimes attached to a church, connected through a small window. According to *Historia Religiosa* (Teodoreto, 444), Eusebio of Teledan was the first recluse in Siria, and he lived in a cell without windows, with just an opening in the roof[31]. The absence of a roof coverage represents an additional mortification, much in the same way as with the stylites. The recluses could live inside a tower, in a dwelling with one or more rooms, in a tomb, in a cave, or in an empty tank, but they all shared the same ideal[32]. Ironically, voluntary reclusion does not allow for absolute solitude, because these particular hermits are totally dependent from other people to supply their primary needs.

It often happened that one hermit attracted other people who aspired to imitate him – as in the case of Saint Anthony and the Thebaid. In these cases, several eremitical cells or caves could be aggregated. These were usually organised around a central church or monastery, developing into a *laura*. The *laura* is distinct from both the hermitage – where the hermits live alone –, and from the monastery – where the monks live in community. The term *laura* or *lavra*, from the greek *Λαύρα* literally means "narrow way" – probably suggesting the path that connected the caves (Lawrence 1987) – or gorge. Indeed, the first *lauras* arose inside narrow crevices, on mountain slopes poorly covered by vegetation. The physical characteristics of the place allowed the hermits to have a shelter, and inspired the name of this peculiar religious form, which represents a compromise between the eremitical and the monastic ones. The monks usually gathered in the center of the *laura* to celebrate the divine office, the Eucharistic liturgy and to receive the Holy Communion on Sunday. After that they returned to their own cells, bringing with them the Eucharist, food supplies and water. There, they prayed, read, meditated, practiced asceticism and worked, living in solitude (Řezáč 1974).

[30] In the West, recluses' existence is attested since the 6th century (Tours, c. 538-594 A.D.). The reclusion spreads during the 11th and 12th centuries, when, several Benedictine monasteries had cells for the monks who opted for this practice – sometimes inside a monastery or in isolation. Since the 13th century, the phenomenon of the urban reclusion is documented in Europe. Urban recluses were mostly women; indeed, reclusion was both a spiritual and a material form of protection. According to Anna Benvenuti (1990) cells with walled doors proliferated against the walls of a sacred building, on bridges, etc. These spaces are called *reclusoir* and are typologically small cells characterised by the presence of a small window (Viollet-le-Duc 1854) – most of the time with bars – called *fenestrelle*, which was used to introduce food.

[31] See: T. Spidlik, "Reclusione", in G. Pelliccia & G. Rocca (eds.) *Dizionario degli Istituti di Perfezione*, v. 7, pp. 1231-1232. Roma: Edizioni Paoline.

[32] Pena visited and studied about 70 recluse towers. See: I. Pena, P. Castellana & R. Fernandez (1980) "Les reclus syriens. Recherches sur les anciennes formes de vie solitaire en Syrie", part of *Studium Biblicum Franciscanum*, *Collectio Minor*, vol. 23.

The relationship between geology, topography and the settlement is evident. In the case of a *laura* carved into the rock, the cells were often simple slits, generally in limestone peaks that are easier to carve, as it happens in the Mount of Temptation, Cappadocia, or in the Basilian settlements. Instead, if the *laura* was located on a plain, the cells were built of baked or sun-dried bricks. Usually, the cells are composed by two spaces – one vestibule and a small internal room – and the common space has an oven, a warehouse, most often a stable, a church, a hall of meeting which consisted generally in a large cave adapted to this function (F. Ioannides 2011).

Chariton the Confessor (mid-3rd century-ca. 350) was the founder of the first three *lauras* known in Palestine: Pharan, northeast of Jerusalem; Douka, on the Mount of Temptation, west of Jericho; Souka – Syriac word for *laura* – or Old Laura, in the area of Tuqu' in Wadi Khureitun[33]. For the last one, also known as the *laura* of St. Chariton[34], archaeological evidences show its organisation consisting of *coenobium*, cells and natural caves (Figure 1.10).

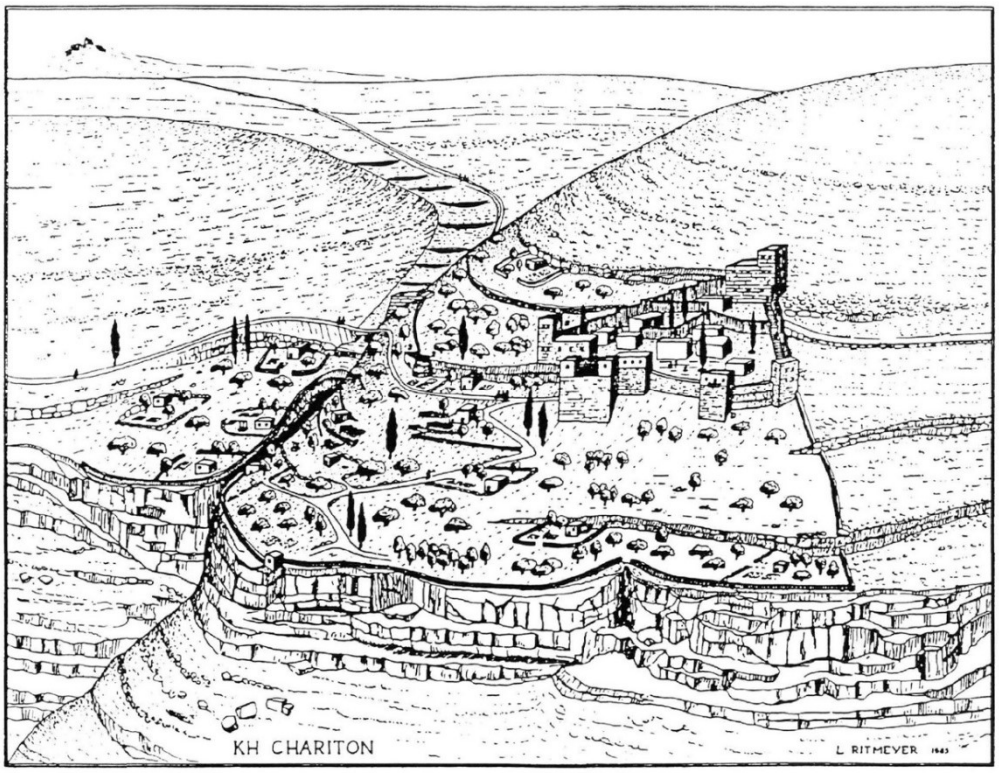



Figure 1.10 – Laura of St. Chariton and its components. ©Yizhar Hirschfeld, 1987

[33] About lauras and monastic settlements, see: O. Meinardus (1980), *Laurae and Monasteries of the Wilderness of Judaea*. Jerusalem: Ariel Publishing House. R. P. Féderlin (1902) "Recherches sur les lauras et monastères de la plaine de Jordain et du désert de Jerusalem", in *Terre Sainte*, vol. 19, pp. 129-132.
[34] Y. Hirschfeld (1987), *The Judaean Desert Monasteries in the Byzantine Period, Their Development and Internal Organisation in the Light of Archaeological Research*, PhD Thesis, Jerusalem: Hebrew University of Jerusalem.

The *laura* is set up at the highest point, and presents all the structures for communal life – church, refectory, bakery, etc. –, separated from the rest of the common spaces through triangular walls. The individual cells spread over the cliff, outside the walls, and are southwest oriented, sometimes with a small kitchen-garden, a water reservoir and an enclosure to mark their own space and define a microcosm. This type of organisation will stay at the basis of several western eremitical settlements, including the ones of the Portuguese eremitical congregation of São Paulo da Serra de Ossa, which will be further explored later. The relationship between cells and enclosure will accompany the evolution of the western eremitical and monastic architecture, taking on different features. The natural caves provided a more severe isolation. In this specific *laura*, the water is stored into a large reservoir, built on the highest point, from which it is distributed through gravity, taking advantage of the topographical conditions (Tzaferis 1989).

As already mentioned, the coenobitic movement was introduced in the 4th century by Saint Pachomius, who established a community in the Tabennese village, whose livelihood came from working in cereal fields, and vegetable gardens around the monastery. Here, dormitories were designed, initially, as scattered cells. However, due to the increasing pressure of the growing population, they needed to be aggregated on the basis of a grid of alleys, adopting various configurations (Sowers 1951). Eventually, these huts coalesced into two ribbons of contiguous cells, located on either side of a narrow alley – like a corridor house – with a common room at the head of the fold (Figure 1.11).

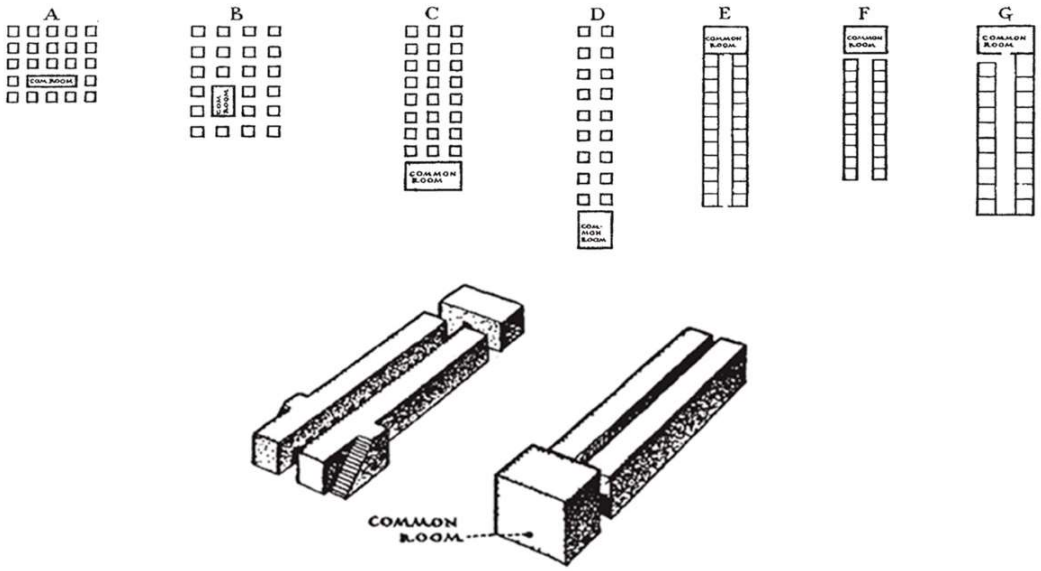



Figure 1.11 – Pachomian Houses: presumptive development from ordered groups of separated cells (A to D) to ribbons of contiguous cells (E to G) (above); axonometry of two possible configurations (below), adapted from ©Sowers, 1951

The existence inside the walls of Tabennese of a central nucleus for communitarian spaces – such as the church, the refectory, and the surrounding monks' cells – was inspired by the legionary camps Pachomius knew when he was young (Lawrence 1987).

After all, this kind of distribution with the common space at the centre will be reflected in many monastic experiences, in which the cloister works as a hinge between the various spaces.

## 1.2 The Western evolution of eremitism: Europe, the Iberian Peninsula and the "spiritual" desert of Serra de Ossa

In the Western world, the writings of Saint Jerome (c. 347-420), "The Life of Anthony" quickly translated to latin by Saint Athanasius, John Cassian's (AD 360-c. 435) *De institutis coenobiorum* (Institutes of the Coenobia), *Conlationes or Collationes patrum in scetica eremo* (Conferences of the Desert Fathers), *Apophthegmata Patrum* and *Vitae Patrum*, among others, are the vehicles of knowledge transmission of the eastern eremitical ideals.

Also in Western culture geographical and biophysical differences define the *eremos*, which is, ultimately, a spiritual, more than formal, category: forests, islands, mountains, valleys, represent the spiritual equivalent of the great eastern deserts.

Throughout the variety of religious forms – from monastic, canonical, eremitical to mendicant – also in western Christendom eremitism represents the ideal of monastic life. It is an option for those seeking a more perfect form of religious life, or aiming to denounce the sins of their own society, or even proposing a return to a model of life closer to the original ideals of their communities or religious orders. Each of the three monastic experiences – eremitism, coenobitism and laurism – corresponds to different architectural types, resulting from different topographical conditions and characterised by different spatial solutions. Indeed, while the hermits chose natural caves and gorges to place a humble bed and a small altar – in accordance with the eastern tradition of Cappadocia – the coenobitic settled in the *oratory*, open to the cult of the laity and guarded by several monks. This differed little from the *laurel* model, since both shared the existence of a chapel or a church-crypt, a place of gathering and prayer.

The first Western ascetic communities are linked to Eusebius of Vercelli (344-71) and Martin of Tours (c. 316-397), the monk-bishop protagonist of the monastic movement in Galia in the 4th century, who founded a community structured as a *laura* at Marmoutier, Alsace.

The study of the 4th century Iberian ascetic life is hampered by the shortage of material data if compared to the more abundant written sources. Priscillian (c. 340-385) is the first known ascetic. In the following centuries, the eremitical tradition seems to mark some of the most ancient monastic experiences and reformers, such as Aemilian of Cogolla (472-573), Martin of Braga (520-579), Isidore of Seville (c. 560-636), Fructuosus

of Braga (595-665), Ildefonsus of Toledo (607-667), and Valerius of Bierzo (630-695). Their lives and written sources show the spiritual organisation and practices of the monastic communities, despite the lack of material evidences of the monasteries (Martín 2006; Artemio Manuel Martinez Tejera 2017)[35]. Through previous studies, it is known that, at this time, although eremitism in the Iberian Peninsula may seem essentially rupestrian, it was actually forming authentic rural settlements (Quiroga 2017)[36].

Benedict of Nursia (480-549) is considered the father of western monasticism. His *Regula monachorum* or *Sancta Regula* – based on the previous *Regula Magistri* – celebrates the centrality of the community, and establishes the architectural and spatial characteristics of the coenobium. The rule will penetrate the Portuguese territory only in the 10th century. Even though it is a coenobitic proposal, the rule does not reject eremitical life. In fact, in the Regula's prologue, Saint Benedict describes four categories of monks: coenobites, anchorites (also defined hermits), sarabites, and gyrovagues[37]. The last two are despised, while the first two – including hermits – are treated as the only true monks. Eremitism is intended as the culmination of the monastic journey: with the accompaniment and discernment of an abbot, coenobites may be admitted to the eremitical life after a long time.

The importance, centrality and predominance of the Benedictine model is undeniable[38]. However, the adoption of ancient rules, with a predominance of the *regula mixta* – a combination of regional traditions from Fructuosus of Braga, Pachomius, Isidore of Seville, among others, also greatly impacted monasticism in the Iberian Peninsula. Here, abbots adopted a set of spiritual values for the communities' government, rather than the exclusive observance of a single rule with a normative value.

[35] See: A. Mundò (1957), "Il monachesimo nella penisola iberica fino al sec. VII. Questioni ideologiche e letterarie", in *Il monachesimo nell'Alto Medioevo e la formazione della civiltà occidentale*, Atti della IV settimana di studio del Centro Italiano di Studi sull'Alto Medioevo (Spoleto, 8-14 aprile 1956), pp. 73-117. T. Moral ed. (1970) *España eremitica: actas de la VI Semana de Estudios Monásticos*, Abadía de San Salvador de Leyre, 15-20 de septiembre de 1963, Pamplona: Editorial Aranzadi. J. A. Testón Turiel (2008) "El monacato en la Diócesis de Astorga en los periodos antiguo y medieval. La Tebaida berciana", in *Cuadernos de estudios gallegos*, vol. 56, nº 122, pp. 472-474. León: Universidad de León, Secretariado de Publicaciones.

[36] A state-of-the-art survey of studies on Iberian settlements in the analysed chronology is outlined in: João Luís Inglês Fontes (2012), p. 6.

[37] Sarabites lived in groups of two or three persons, without definite rules. Gyrovagues were itinerant monks who moved from one to another monastery.

[38] However, in other significant western realities, such as the Irish one, the *Regola Coenobialis* and *Regola Monachorum*, composed by Columbanus (540-615), became a reference. Initially, Columbanus monasteries had to be simply made up of wooden huts, gathered around a church, surrounded by a palisade; then, the aspect of the monastery evolved in a sort of city with cells divided by paths, with the church as the community's religious centre. In order to become more independent from the outside world, they were equipped with mills, ovens, stables, artisan laboratories.

As a result, it is possible to identify different spatial categories. In particular, Isidore of Seville, in the first chapter of the *Regula Monachorum*[39], describes the coenobitic space – inspired by Saint Pachomius (Tejera, 2007) – as surrounded by an enclosure, with a single entrance to ensure good defence, and a back door to access the kitchen garden. This is evident by observing the remains of the settlement of Santa Maria de Melque (Figure 1.12).



Figure 1.12 – Virtual reconstruction of Santa Maria de Melque monastery: plan of the phase 1B (7th century) (above); general view of the complex (below). ©Pablo Aparicio Resco-PAR. Arqueología y Patrimonio Virtual (2018)

The settlement is located south of the Tagus river, near Toledo (Martín and Zoreda 2013), at the crossing of two ancient roads, one of which – the north-south oriented one – was a *cañada real*[40]. It is set up in a place with a well-defined economic strategy.

[39] From: Julio Campos Ruiz and Ismael Roca Melia (1971) *Santos Padres españoles II. San Leandro, san Isidoro, san Fructuoso. Reglas monásticas de la España visigoda. Los tres libros de las "Sentencias".* Madrid: Biblioteca de Autores Cristianos (BAC), pp. 91-125. Available online at: http://www.hispanomozarabe.es/monacato/regl-isi.htm#monasterio.

[40] A road made of earth, which crosses farmlands, and is typical of the Spanish transhumance.

The topography dictates the subdivision in two terraces, and two enclosures – one rectangular shaped and the other pentagonal –, with a church in the middle (Martín and Zoreda 2013).

It is not easy to know how the northern Portuguese monasteries evolved during the Visigothic period. In the South, the monastic communities were inspired by Isidore's rules. The Northern 7th century monasticism is known through Fructuosus of Braga and the *Regula communis*[41]. In the 10th century, Rudesind founded São Salvador de Celanova monastery, inspired by the Benedictine Rule.

The South of Portugal has been the stage of a Sufis experience (Figure 1.13)[42]. Throughout the 9th century, mozarabs retreated to the mountains and isolated places. Muslim eremitism, in most cases, combines the spiritual and defensive issues, with a very specific geography. A retrospective of studies on this issue is provided by Isabel Cristina Ferreira Fernandes (2015)[43].



Figure 1.13 – Example of *cuba* in Monsaraz: São João Baptista Chapel, ©Rolando Volzone, 2016

[41] See: P. C. Barata Dias (2008), *Os textos monásticos de ambiente Frutuosiano*. Coimbra: Fundação Paula Seixas.

[42] An enquiry about the *cubas* – small architectural structures, characterised by their whitewash-painted domes – has been developed in: Luís Ferro (2018) *Lugares Sagrados: as Cubas da Kûra de Beja*, Programa Gulbenkian para a Cultura e Língua Portuguesas.

[43] About the presence of *ribat* in the Iberian Peninsula, see: Christophe Picard (2002), "Les ribats au Portugal à l'epoque musulmane: sources et définitions", in *Mil Anos de Fortificações na Península Ibérica e no Magreb (500-1500)*, coord. Isabel Cristina Ferreira Fernandes, Lisboa: Ed. Colibri - Câmara Municipal de Palmela, pp. 203-212.

Since the beginning of the 11th century, the revival of eremitism is linked to the new currents of monastic renewal. These experiences spread out and lead to the recovery of the concepts of poverty, manual labour, solitude, evangelical radicalism and involvement of laymen condemning the clergy corruption. The teachings of the Egyptian and Syrian Desert Fathers were rediscovered through a search for inaccessible and isolated places, dominated by the nature, such as woods and caves.

The eremitism becomes a more sought after way of life. A rediscovered life, looking for a greater radicality, accessible to all, by both clergy and laity. At that time, simultaneously, movements of renovation of monasticism emerged. Indeed, many of these orders were based on the eremitical experience of their founders.

In this century, hermits attracted many disciples and often founded new religious communities, which adopted Saint Augustin or Saint Benedict's rules, determining the establishment of religious congregations. In the Portuguese case, the adoption of Benedictine rules is due to the influence of Cluny and to the liturgical reform, through the imposition of the Roman Rite. However, in this territory, many settlements did not turn into Benedictine but into Cistercian monasteries, already in the 12th century, as testified in São João de Tarouca monastery.

Therefore, during the renewal movement of the 11th century, it is possible to witness the combination of two different *modus vivendi*: eremitical and monastic. The development of this combination has its beginning with Saint Romuald (c. 951-c. 1025/27) and the Camaldolese Order, which has been characterised by the relationship between hermitage and monastery, between coenobitic and eremitical lives (Belli 2015). A double settlement model is proposed, in which both the hermitage and the monastery coexist (Figure 1.14), inspired by the model of the *lauras*, harking back to the Eastern hermits' experiences and to the Benedictine monasticism.

The centre of the complex is the hermitage, and the *domus* (later *hospitium* and *coenobium*) has a secondary role. The former includes functional spaces like the oratory and the cells, while the latter hosts the church, the Chapter house, the refectory, the dormitory, and it is organised around one or more cloisters.




Figure 1.14 – Planimetric view of Camaldolese complex (near Arezzo, Italy): a) Forte Buono, b) Sacro Eremo (below); detail of the hermitage settlement distribution (above). ©Google Earth view, 2018

In the earlier days , the hermitage's cells were distant from each other; later, they gradually started being built closer to each other, often adjacent, and were organized around a church. This is evident in the representations of the first Camaldolese settlement, particularly in the detail of a painting dated from the end of the 15th century (Figure 1.15), in which cells are isolated and placed behind the church, enclosed by a wall (southern area) and by the woods (northern area). The hermitage on the higher area, with the monastery below it, on a lower ground, represent the architectural solution for the renewal of the eremitical tradition.



Figure 1.15 – *The death of Saint Ephraim and other scenes from the lives of the hermits* (15th century), by Tuscan School and Florentine School, displayed at Edinburgh, National Galleries Scotland. The painting (above); detail with Camaldolese hermitage (below)

The Camaldolese vocation, in its eremitical components, shows analogies with that traced by the Carthusians, founded by Bruno of Cologne (c. 1030-1101). In both cases the separation in two spaces – *Fonte Buono* and *Sacro Eremo* in Camaldoli, *domus inferior* and *domus superior* in the Charterhouses –, aims at ensuring the perfect isolation of the eremitical settlement. At the time of the expansion of the two orders, hermitage and *coenobium* coexisted in Camaldoli, while in the Carthusians case a spatial evolution took place. The priests and the laity spaces, originally completely separated, began to be brought closer, even though a clear distinction between monks and lay brothers was

maintained. At the same time, the charterhouse's monk space is subdivided into two areas: the eremitical one, around the main cloister, and the coenobitic, around the little cloister.

All the Carthusian monasteries are built according to the same norms. Generally, the *coenobium*, which includes the common spaces – such as church, chapter house, library, refectory and kitchen – is organised around one or two minor cloisters (Leoncini 1980). Nevertheless, the design of the monasteries – even after the two distinct areas grew nearer – is adapted to the location, generating different compositions (Figure 1.16).



Figure 1.16 – Example of Charterhouse in Italy: planimetric view of Galluzzo settlement (Firenze), ©Google Earth view, 2018

A significant difference between Camaldolese and Carthusians is visible in the cells' organisation. The Carthusian ones are side by side and distributed around the main cloister. In Camaldoli, instead, cells are distant and placed along a path, in a similar fashion to the first settlements that existed in the desert of Egypt[44].

All Charterhouse cells, at first sight, seem to have the same morphology – unlike the Camaldolese ones, which are evidently different[45] –, but recent analysis (Picchio, Cioli, and Volzone 2018) show that they have distinct shapes, mainly due to the

[44] Both experiences started with ephemeral settlements – caves or wooden huts – according to their eremitical roots. Later, in the first records, the main characteristics of both settlements is almost unchanged. In the Camaldoli case, dated of 1027: five cells are built, with their own oratory, and separated each other. In the Carthusian one, dated of 1115: cells around a cloister (a second distinct cloister is present too) and inside hermits live alone. See: Giovanni Leoncini (2012), "L'alternativa a Camaldoli: la certosa. Achitettura eremitica certosina in Toscana", in *Architettura eremitica. Sistemi Progettuali e Paesaggi Culturali*, atti del terzo Convegno internazionale di studi, Camaldoli, 21-23 settembre 2012, pp. 94-101. Firenze: Edifir.

[45] An in-depth architectural survey of Camaldoli Monastery has been carried out by Andrea Pagano (2013) *Metodologie di rilievo per l'analisi dell'architettura storica a Camaldoli*, PhD Thesis. Firenze: Università degli Studi di Firenze - Dipartimento di Architettura.

topographical characteristics[46]. Cells have one side in contact with the main cloister, and the opposite side opens on a *hortus conclusus*. This element appears also in Camaldoli cells, evoking a compression of the small fence that surrounded the Chariton's laurel cells, as if it were a hermitage inside a *coenobium* (Figure 1.17).

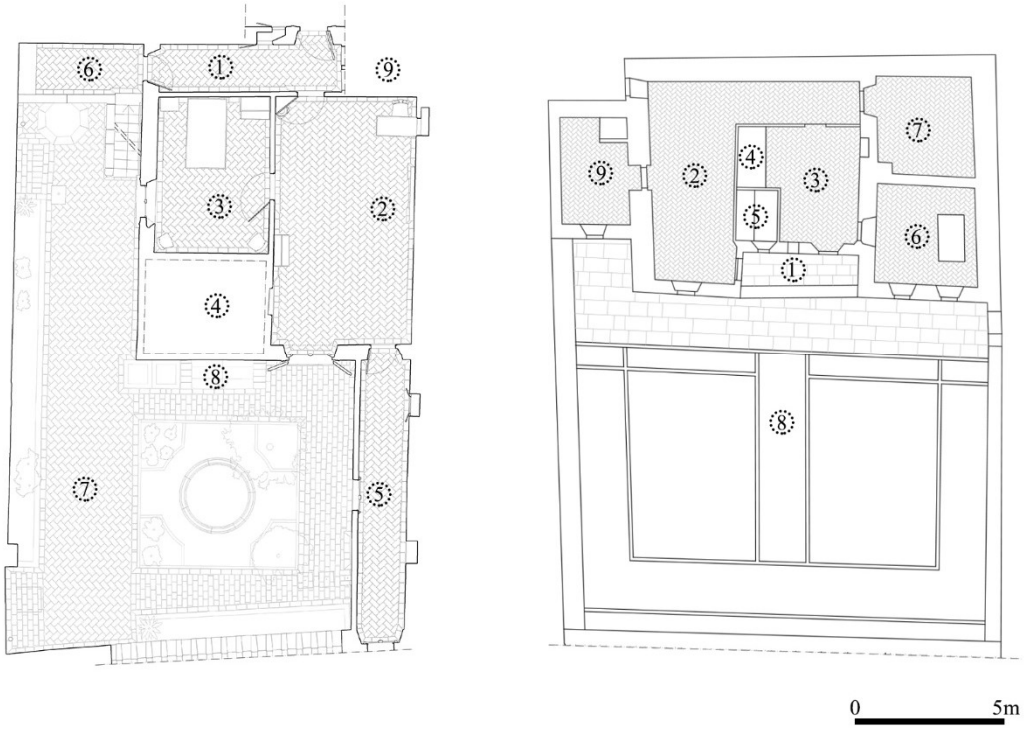



Figure 1.17 – Cells' morphology and function comparison. Charterhouse cell plan: 1) Entrance; 2) Dining/Study room; 3) Bedroom; 4) WC; 5) Closed Loggia; 6) Access to the garden; 7) Garden with well; 8) Access to the basement; 9) Access to the stairs (left). The drawings result from 3D survey campaigns of 2018, © Picchio, Cioli, and Volzone 2018. Camaldolese cell plan: 1) Entrance; 2) Passageways; 3) Bedroom; 4) Alcove; 5) Writing desk; 6) Chapel; 7) Wood Storage; 8) Kitchen Garden; 9) Bathroom. © Rolando Volzone, adapted from (Pagano, 2013)

Against this background, the mendicant experience knew a remarkable spread thanks to the fact that they did not refer to the institutionalised models, either Benedictines or Augustinians, but followed the example of the Desert Fathers (Penco 1985). The first mendicant orders were founded by Saint Francis of Assisi (1182-1226) and Dominic of Guzman (c. 1170-1221) – Franciscans and Dominicans, respectively – and arose during

[46] Since 2014, campaigns of digital survey of two Italian charterhouses – Pavia and Florence – have been carried out by the Joint Laboratory LS3D of the University of Florence and the University of Pavia, with the scientific coordination of Prof. Stefano Bertocci (UNIFI). In 2018 the author Rolando Volzone took part in the digital survey of the Florence charterhouse cells. The results have been presented in: F. Picchio, F. Cioli & R. Volzone (2018) "Il rilievo della Certosa di Firenze. Catalogazione e analisi delle celle del chiostro grande per la gestione e la valorizzazione del complesso certosino", in Fabio Minutoli (Ed.), *VI Convegno Internazionale sulla documentazione, conservazione e recupero del patrimonio architettonico e sulla tutela paesaggistica, ReUSO 2018*, pp. 837-848. Messina: Gangemi Editore.

the first half of the 13th century. They put into practice a pastoral strategy based on communitarian poverty and brotherhood. Travelling from place to place, they provided an answer to the religious needs of preaching and evangelisation in the urban centres.

The rules and ideals of Saint Francis conceive a synthesis between the desert and the apostolate. His disciples switched from the eremitical life in solitude to the communitarian way of living, when they moved to the city. The first Franciscan settlements were set up near the main roads, urban centres or shepherd and farmer areas (Pellegrini 1977). Saint Francis used to retreat on La Verna Mountain (Figure 1.18), among the cracks of rock which echo the Calvary and the passion of Christ, emulating the *laura* examples. At this time, it was just a forest.



Figure 1.18 – La Verna monastery (Arezzo, Italy). ©Google Earth view, 2018 (above). General view etching, Jacopo Ligozzi (1612), edited in Lucilla Conigliello (1992) *Jacopo Ligozzi: le vedute del Sacro monte della Verna, i dipinti di Poppi e Bibbiena*. Poppi: Biblioteca Comunale Rilliana (below)

At *Sasso Spicco* (Prominent Rock), he received the stigmata through a hierophany (Figure 1.19). In this place he used to retreat to meditate, and here, according to Vauchez (2010) he drew up the *Regula pro eremitoriis*.



Figure 1.19 – View of Sasso Spicco (Arezzo, Italy), ©Lorenzo Taccioli, 2017

So, in the Franciscan context, a specific rule for hermitages underlines the importance of eremitism. The foundation of La Verna is the paradigm of the dialectical relationship between eremitical and monastic *modus vivendi*. The first Franciscan order, solely composed of men, consists nowadays of three autonomous branches. In the dispute over poverty (13th-14th century), concerning the extent of the obligation of pauperism in the life of the friars, they took different positions. The subdivision of the Order goes back to the movement of Reform of the Observance, propounded in the 14th century by the Minor Friars, which demanded a stricter respect for the rules of the Order's founder. The eremitical component is present in the mendicant experience (Grado Merlo 1991), namely in the Franciscans: there is a rule of the hermitages, a tension between the *eremos* and the city and, above all, the recourse to it as a space of connection to the poverty lived by Francis.

Along with the progress of the Christian conquest of the Portuguese territory (11th to 13th centuries), many hermits settled in some of the new uninhabited areas, thus contributing to the integration of these territories into the Christian order, and using local resources. They are linked to the presence of Cistercians, Premonstratensias and female religious movements (Mattoso, 1972). Observant religious currents internal to existing orders that are attracted by the *eremos* – such as the Franciscan – are protected by the

papacy since the end of the 14th century. The Portuguese hermits, starting from this spiritual debate, sought for a life of solitude. They spread through Portugal, mostly in the South, more specifically in the Alentejo region. Only between the end of the 14th and the beginning of the 15th century, with the support of the bishop of Évora and the Portuguese kings, new religious houses – monastic (the Hieronymites), canonical (the Secular Canons of Saint John the Evangelist) and mendicant (the Poor Clares) – developed. These were, at the same time, used as principal movements to institutionalise others experiences. Indeed, the dicotomy between the autonomy and the authorities' control were a constant of these movements (Fontes 2005; M. L. F. Santos 2009).

It is in this natural, human and monastic landscape that the hermits of Serra de Ossa will expand and turn into a congregation. The eremitical movement that arose around Ossa Hill chain (Figure 1.20), spread along the South of Portugal in these centuries, and it seemed to be linked to spiritual contexts particularly engaged in religious renewal with strong participation from lay people and a particular accent on voluntary poverty, linking the search for solitude and prayer to manual labour in the agricultural lands (Sensi 1985; Rosa 2000; Fontes 2012).

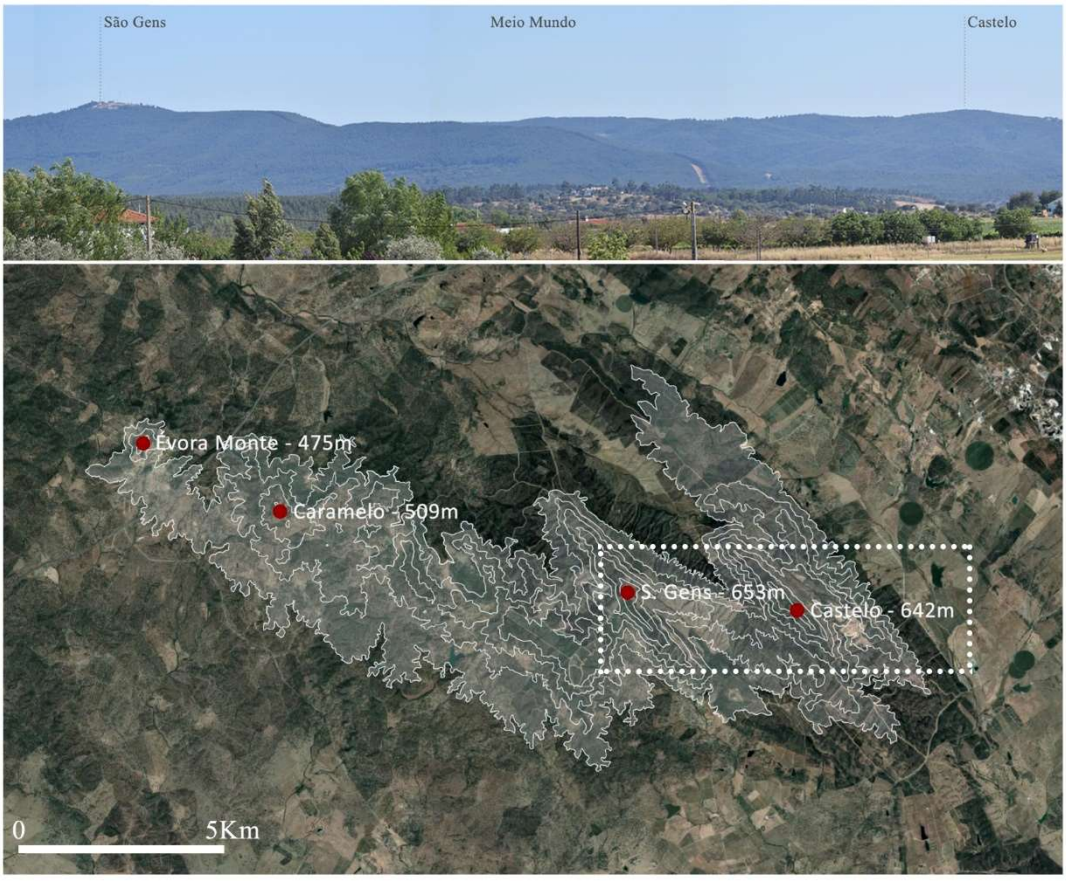



Figure 1.20 – Ossa Hill chain: South view, ©Rolando Volzone, 2017; planimetric view with the identification of notable point in Ossa Hill chain, adapted from ©Google Earth view, 2018

The physiography of the Ossa Hill chain, together with the spiritual values associated to it, determined the patterns of the eremitical occupation. Mountains have always been a privileged stage for spiritual experiences: here, in the highest point, the connection to the divine is closest. In addition, the difficult and dangerous access allows for the solitude hermits looked for. Ossa Hill chain represents their *eremos*. In this place, hermits firstly took shelter, taking advantage from the natural resources. Probably, they settled into caves, such as the ones located in Vale da Infante (Figure 1.21). However, the lack of historical records and in-depth archaeological studies do not allow to confirm – or not – this theory.



Figure 1.21 – Natural caves in Vale da Infante, ©Rolando Volzone, 2017

Through the scarce and sparse documentation, it has been possible to gather that eremitical settlements were constituted by an enclosure, eremitical cells, a common oratory – even though liturgical life or at least sacraments' celebration was greatly reduced – a hospice, agricultural areas whose features differ inside and outside the enclosure. Judging by information about the spatiality of other movements with similar experiences, it is possible that the model incorporated both individual and communitarian spaces, as is evident in the structure found on Ossa Hill chain. This could be the hypothetical hermitage of Santa Maria de Monte Virgem. A small structure of about 1,75X3,75 metres and less than 1,50 metres tall, with two small rooms: a cell and probably, given the evidence of an altar, an oratory.

The building could be the point of passage between the hermitages in the cave and those "partially in cave" (Figure 1.22)[47]. Subsequently, the progressive institutionalisation of these experiences led to the establishment of a congregation and the subsequent construction of monasteries.




Figure 1.22 – Hypothetical hermitage of Santa Maria de Monte Virgem: hermitage location, adapted from ©Google Earth view, 2018 (above). The hermitage and its surrounding space, making it mimetic; entrance on the south-west façade; interior space with a view of the possible altar (below, from left to right), ©Rolando Volzone, 2017

[47] On-site visits have been supported by Redondo municipal chamber, thanks to the help of the archaeologist Rui Mataloto.

### 1.3 Final Comments

In this chapter, a study of the origin and evolution of eremitism is outlined through a critical review of selected eremitical experiences, with the aim of comparing how these specific ways of living translate into spatial terms. The interaction between the choice of eremitical ideals and the spaces to practice it is analysed through the forms of construction, management and spatial transformation.

This analysis aims to answer the research question: is it possible to identify some features common to all the analysed experiences that can define the eremitical phenomenon from a spatial point of view? In other words, can we define a single eremitical spatial typology? The study of physical spaces is the starting point for the interpretation of this religious, existential and social phenomenon. The architectural and landscape organisation of eremitical communities is examined through their variation in different spaces and times. From the physical desert of Thebes (3rd century) to the spiritual desert of Ossa Hill (14th century), it is immediately clear that framing an overview of all these experiences into a single spatial typology is difficult.

Originally, the *eremos* takes shape in a real desert. Then in Western culture, due to the geographical and biophysical differences, forests, islands, mountains, valleys, represent its spiritual equivalent. The *excursus* on these experiences and their translation from the Eastern to the Western world shows different architectural and spatial solutions that seem to respond to the same feeling of being strangers to the world: separated from all and, at the same time, united to all. This feeling manifests itself sometimes in extreme ways, as seen through the analysis of stylites and recluses, among others. Natural spaces tend to prevail in the representations of extra urban eremitism: here, the hermitage stands as a precarious shelter, often a natural cave. In the iconography the cave sometimes constitutes a frame and shows the hermit in penance and prayer (Cover Image 1, p. 2). At the same time, choices of places – such as bridges, roads – translate the spiritual desert into an urban environment.

Characters like Saint Paul of Thebes, Saint Anthony the Great – and their life spent in solitude – attract several disciples, who then begin to populate the desert. Here, the tension between the extreme solitude, the semi-eremitical and the coenobitic tradition is symbolised. The respective spatial organisation typologies – hermitage, laura, and *coenobium* – are clearly recognisable in the further experiences of Saint Pachomius, Saint Basil of Caesarea, Chariton the Confessor.

Continuities among these experiences can be identified thanks to the insight into their respective settlement typologies. Structures for the communal life – such as church, chapels, and refectory – and for the individual one – dormitories, cells – including ecological and cultural components – kitchen garden, water reservoir, and enclosure – mark these spaces and define a microcosm. These elements will remain at the basis of several western eremitical settlements, but will develop in different architectural types, filtered by physical geography conditions and resulting in diverse solutions. A permanence in spatial configurations occurs, for example, from the Palestinian 4th century (Chariton Old Laura) to the Italian 11th century (Camaldolese and Carthusian monasteries).

Focusing on the Iberian Peninsula, the eremitism penetrates in this territory through Isidore of Seville, Fructuosus of Braga, among others. Their rules were adopted in a combined manner, until the diffusion of Benedictine rules in the 10th century, facilitated by the expansion of Cluny. Coenobitism and eremitism constantly alternated throughout the centuries, until the attempt of combining both in the same experience. Camaldolese and Carthusians propose a kind of double settlement, in which hermitage and *coenobium* can coexist. In the beginning, they are physically separated. Then they gradually grow closer, and their architectures evolve accordingly. Through the monasteries' morphological and spatial analysis, two different typologies are identified, although they still show some analogies. The study of the cells reveals similar spatial solutions in terms of morphology and functions – joining internal spaces with small and personal kitchen gardens. In both cases, the typology is dictated by the order's rules, but different spatial compositions are generated, due to their adaptation to the physical places.

The alternance between life in solitude and life in common characterises the experience of Saint Francis. In terms of settlement, it results in a dialectic between the hermitage – Sasso Spicco – and the communitarian life. In a few decades, Franciscan and Augustinian orders spread widely, including in the Iberian Peninsula. Their settlements respond to similar practical and aesthetic needs, referring to the Cistercian model, developing an architectural pauperistic *typos*. Against this background, the eremitical congregation of São Paulo da Serra de Ossa was established starting from the 14th century.

The main conclusion of this chapter with regard to the research question, is the impossibility to define a single concept of hermitage, or to identify an eremitical

architectural *typos*. Therefore, a spiritual typology is identified, differently translated in terms of spatiality and materiality and dictated by the primordial ideals of eremitism.

From pre-existing caves – which hermits take advantage of – to hermitages – with different levels of human intervention – all the way to the configuration of monasteries – which are complex architectural objects – several interior/exterior relationships are established between soul, body, architecture, landscape. Any space may become sacred through a hierophany or theophany: from the desert to the private houses, from the human body to the mind[48]. Ultimately, eremitism can be disconnected from materiality: a physical space is not necessary for it to be practiced, and the sacred place is interiorised.

In the case study analysed in this thesis, the space is characterised as eremitical (Chapter 2) and monastic (Chapter 3) – two sub-categories of the religious or sacred places[49] – or as post-monastic (Chapter 4), which could be defined as its opposite in terms of meaning. In the first two situations, the appropriation of space led to several ways of living, in solitude or in communities, in hermitages or in monasteries; in the last case, we witness an overlap of opposite places in the same space – a *hétérotopie* (Foucault 1967). So, the monastic one, is occupied but with a loss of the symbolic and sacred values[50].

The archaeological and architectural evidences enable the analysis of the eremitical congregation of São Paulo da Serra de Ossa, from caves to monasteries, that is essential for the reconstruction of the relationship between the original religious ideal and its institutional evolution.

[48] Sometimes spirituality permeates the spaces and their physical geography (Gajano 1998), in such a way that the relationship between the religious experience and the selected physical geography in which the very experience occurs, turns a space into a spiritual or sacred place. The process of sacralisation of certain spaces, which are taken away from the profane dimension through the attribution of peculiar symbolic values concerns both natural places used for religious purposes, and places which are built by man specifically for the same intent. The opposite process, desacralisation, is also possible. It is not just about the absolute meaning of a space or its elements, but what matters is the value attributed to the space by a specific culture in a specific time. In this way, the same space can have a different characterisation and can be transformed in different places along the centuries. Indeed, each society organises the territory in function of a given spatiality (Blaschke et al. 2018).

[49] Among the studies concerning the relation between semiotics and space, see: S. Cavicchioli ed. (1997), "La spazialità: valori, strutture, testi", in *Versus*, nº 73/74; E.W.B. Hess-Lüttich, J.E. Müller, A. Van Zoest, eds. (1998) *Signs and Space: An International Conference on the Semiotics of Space and Culture in Amsterdam*. Amsterdam: Rodopi. S. Cavicchioli (2002) *I sensi, lo spazio, gli umori e altri saggi*. Milano: Bompiani. M. Hammad (2006) *Lire l'espace, comprendre l'architecture : essais sémiotiques*. Limoges: Pulim; Paris: Geuthner.

[50] See: Michel Foucault (1967) "Des espaces autres: Hétérotopies", presented at *Cercle d'études architecturales*, 14 march 1967, and published in "Architecture, Mouvement, Continuité", vol. 5, October 1984, pp. 46-49.



**Cover Image 2** – Santa Maria do Monte da Virgem settlement, ©Rolando Volzone, 2020

## 2. Eremitical Landscape (1366-1578): “men of poor life” and the creation of a symbolic spatiality

*… disseram que lhis Era compridoiro logar apartado E hidonjo para esto.*[51]

… they said a secluded place was imperative for them and suitable for this.

(Donation Charter, 09 March 1366, Estremoz)

National historians have extensively studied the Portuguese eremitical movement of "men of poor life"; however there is still a gap in systemising the architectural and landscape features, which would allow for a more integrated interpretation of their settlements.

José Mattoso is a pioneer in the study of medieval eremitism in Portugal, as evident in its article *Eremitas Portugueses no século XII* (1972). However, the medievalist historian summarised Serra de Ossa hermits' movement only in two dictionary entries[52], delineating its first chronological characterisation, its geographical distribution and its role in the regions' settlement.

Maria Ângela Beirante published *Eremitérios da pobre vida no Alentejo dos séculos XIV-XV* (1985), achieving a census of the hermitages in Alentejo region, by identifying 27 rural communities, and, then (2000) further delving into the evolution of the congregation from the beginning until the dissolution in 1834.

Recently, João Luís Inglês Fontes's PhD thesis *Da «pobre vida» à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)* has further delved into the historical evolution of this eremitical movement and these communities' *modus vivendi* (2012).

[51] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 36; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 34v-35.

[52] "Eremiti Paolini Portoghesi", in: *Dizionario degli Istituti di Perfezione* (1976) dir. Gerrino Pellicia e Giancarlo Rocca, vol. 3, pp. 1195-1199; "Mendo Gomes de Seabra", *idem* (1978), vol. 5, pp. 1212-1213.

With regards to historical sources, the first one known is the *Chronica dos Eremitas da Serra de Ossa* (Santo António 1745)[53], which outlined the *genesis* of this movement in the Alentejo region. The text represents an apologetic version, with the concern to affirm, at various levels, the primacy of this congregation among the other religious orders. This was a common practice among chroniclers, with the aim to demonstrate the antiquity of this movement as the eremitical life cradle, even before Saint Paul of Thebes' experience. Just over half a century later, Damásio (1793) in *Thebaida Portuguesa*[54] – the title connects the Portuguese spiritual desert with the spiritual and physical one of Thebes – provided information about several historical archives of the congregation. The importance of his work, as highlighted by Fontes (2012), lies in the reconstruction of the custodial history of some collections, through references to the dates of dissolution of certain hermitages and monasteries, or through the elements he provided about the archives' location. Moreover, this work shows that there is not a great loss in term of documentation, by comparing the records he lists (in the 18th century) and the ones still available nowadays.

The chronological limits of these two sources, which do not go beyond the 14th century, do not make them usable for this research, falling outside the time limit under analysis.

Indeed, this chapter considers the historical period that goes from 1366 to 1578. A documentary source dated 1366, the oldest found to date (Fontes 2012), attests the existence of "men of poor life". In 1578[55], an autonomous congregation settled[56] and was integrated by the papacy into an already existing religious order – the Hungarian Order of Saint Paul the First Hermit. The analysed time frame includes the historical mark of the Council of Trent (1545-1563), after which all the religious or mendicant orders went through a phase of reform and transformation.

[53] Fr. Henrique de Santo António (1745-1752), *Chronica dos Eremitas da Serra de Ossa No Reyno de Portugal, e dos que floresceram em todos os mais Ermos da Christandade; dos quaes nos seguintes séculos se formou a Congregação dos Pobres de Jesu Christo; e muitos depois a Sagrada de S. Paulo primeiro Eremita, chamada dos Eremitas da Serra de Ossa, tomo I – Que contêm a Historia Anachoretica, e Cenobitica dos primeiros cinco séculos do Mundo Christão; tomo II – Que contêm a Historia Anachoretica, e Cenobitica dos Seculos Sexto, Settimo, Oitavo e Nono*. Lisboa: Officina de Francisco da Sylva.
[54] Fr. Manuel de S. Caetano (1793), *Thebaida Portugueza. Compendio Historico da Congregação dos Monges Pobres de Jesu Christo da Serra de Ossa, chamada depois de S. Paulo I Eremita, em Portugal, tomos I e II*. Lisboa: Officina de Simão Thaddeo Ferreira.
[55] BPE, *Convento de São Paulo da Serra de Ossa*, lv. 40, macete 1, nº 36; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 34v-35 (certified copy of 08/12/1542, Redondo).
[56] Through the bull *Creditum nobis*, available at BPE, Cód. CLXIX/1-7.

In a period marked by the Black Death – the first epidemic dates from 1348 – which decimated between one third and half of the Portuguese population, and by the famine associated with repeated bad harvest years, naturally the crown developed a policy aimed at demographic and economic recovery and reorganisation, in order to attract the population to new villages and municipalities (Beirante 1985). The plague and the population exodus led to the existence of large abandoned and uncultivated land, so it is not surprising that municipalities supported hermits who would certainly contribute to the farmland settlement and recovery. In addition, hermits were admired by different institutions and populations because of their exemplar way of living (Beirante 1985).

The main goal of this chapter is to understand the appropriation process, how the eremitical landscape is structured and organised by hermits and its impact on the surrounding space. This appropriation defines a typical Mediterranean form of settlement – agrosylvopastoral – taking advantage of ecological culture and reflecting a certain historical context and the concrete space in which it develops, although steeped in the specific characteristics of the eremitical religious choice.

## 2.1 An eremitical movement in the South of Portugal. Spatial distribution and comparison with other spiritual renewal movements in Portugal

*Alentejo, ai solidão,*
*Solidão, ai Alentejo,*
*Convento de céu aberto!*
*Nos teus claustros me fiz monge,*
*Alentejo ai solidão...*
*Em ti por ti me fiz monge,*
*Perdeu-se a terra ao longe,*
*Chegou-se-me o céu mais perto!*
(Régio 1968, 141-143)

The poem *Fado Alentejano*, added in the third edition of José Régio's collection *Fado, Complete Works of 1968*, very effectively symbolise the eremitical condition – of solitude, of closeness to the divine, which seems to impregnate the Alentejo region.

Rui de Pina (15th century) described this region as comprising small villages and deserts, a scenario not different from the present, except that woods and forests have been replaced by the *montado* or plainly uprooted to increase the amount of arable land at the beginning of the 20th century[57].

The region chosen by "men of poor life" for their eremitical settlements presented particular natural conditions, along with a peculiar population and a characteristic monastic landscape, clearly different from the northern region of the Portuguese territory. Indeed, Alentejo – which literally means beyond the Tagus River – in the South of Portugal, is dominated by the peneplain[58]. The soil is not very rich in terms of hydric

[57] The original document is available at: TT, with reference PT/TT/CRN/16. It has been edited later in: Rui de Pina (1790), "Crónica d' el Rei D. Duarte deste nome o primeiro dos reis de Portugal", in *Collecção de Livros Inéditos de História Portugueza, dos Reinados de D. João I, D. Duarte, D. Affonso V, e D. João II, José Correa da Serra*. Lisboa: Officina da Academia Real das Sciencias de Lisboa & Imprensa Nacional.
[58] The region is limited to the north by the natural boundary of the Tagus River and Ribatejo, to the south by the Algarve region, to the west by the Atlantic Ocean, and to the east by Spain. The peneplain, with a

resource – when compared with the northern regions –, with low rainfall, and low-medium agricultural capacity (Rau 1965). Here, human occupation has always been rarefied and concentrated, mostly because of the soil's low fertility, and because of historical and political factors (M. Feio 1949; Sousa 1988). The low population and the consequent shortage of labor favours the presence of large uncultivated areas away from urban centres along with extensive cattle area, which were an important source of income through animals, the sale of related products – meat, milk, fur – and the pastoralism transhumance (Morais 1998).

The late conquest of the territory by Christian forces, which was concluded only in 1249, and the need to assure its defense, population and economic exploitation, encouraged Portuguese kings to promote the establishment, in this region, of several military religious orders, which received important land donations and privileges, and settled their own convents in strategic points of defense (M. L. F. Santos 2009). Military orders – Santiago, Avis, Hospital, Christ – participated in the definition of territorial borders, characterised by the choice of strategic positions (P. P. Costa 2006). They were organised, firstly, as knights' confraternities, secondly, into religious military communities, close to the monarchy. In addition, they sometimes adopted already approved religious rules: e.g. Santiago with the St. Augustine Order, and Avis with the Cistercians and Calatrava orders. In the case of the Hospital Order, for example, its own rules were approved by the papacy. The peculiarity of military orders combines the secular and the religious dimensions, by joining two aspects that in medieval perception would be antagonistic or irreconcilable – the practice of war and the monastic life.

The Military Order of Avis, documented in Évora since 1176, observed Benedectin rules. With its possessions and the significant number of parishes under their jurisdictions, it strongly influenced the northern border diocese area – Alto Alentejo – controlling almost the entire territory from the frontier to the Tagus, from Elvas to Coruche (L. Fonseca 2001). The Military Order of Santiago, already established in Alcácer since 1175, occupied a wide territory, all along Alentejo coast and Setúbal Peninsula.

medium altitude around 300 metres, represents a hinge between the lowest areas in the south of this region and the highest in the north. It is interrupted by few hill chains – São Mamede in the north 1025 metres high, and others are not very tall, Ossa (698 metres) in the north-east, Monfurado (423 metres) in the west and Portel (412 metres) in the south-east.

The military struggle was accompanied by territorial colonisation, especially in central and southern areas, leaving deep marks on the rural space and settlement. The population settlement process advanced hand in hand with the military occupation: monastic fixation determined poles of attraction for people.

The formation process of Portugal proceeded with the military progression but the construction of the kingdom also involved the settlement of communities, spatial planning and the social organisation of the territory.

The presence of military orders in the southern area influenced and conditioned the penetration of other religious orders by inhibiting their installation. In contrast to the northern regions of the Portuguese territory, the monastic and canonical orders were completely absent in the south until the middle of the 15th century, with the only exception of the Cistercian nunnery of São Bento de Cástris, nearby Évora (Vilar 1999; Fontes 2005; M. L. F. Santos 2009; A. F. Conde 2009).

The regular clergy in the region beyond the Tagus River assumed very different characteristics in relation with the northern territory and to the natural geographical border defined by the Tagus line.

In the Iberian Peninsula, with regards to the military orders, prayer was associated to military actions, probably with roots in the Muslim *ribât*, in a monastic-warrior double vocation (L. F. Oliveira 2016). So, Évora diocese turned into a frontier territory of dispute between Christian and Muslim forces, until the definitive conquest of the Algarve in 1249.

Between the 14th and the 15th centuries, the Portuguese territory was grouped into ten dioceses (Figure 2.1 left) and six administrative units (Figure 2.1 right). A larger density of religious communities in the territories out of the military orders' domains has been verified through an overlaying of these data in a map of Portugal (Figure 2.1). Even more, it is evident how religious orders settled in the south, in areas not occupied by the orders of the Hospital, Santiago and Avis. Regarding the communities of "men of poor life" located throughout the territory, a larger presence has been verified in the administrative division of *Alem-Tejo* and the diocese of Évora.

Indeed, among the forms of religious life practiced in the kingdom of Portugal and throughout the West, the variants of the monastic model carried out by Benedictines and Cistercians, and the canonical one by the Canons Regular of Saint Augustine have no presence in the south of the territory until very late. The latter actually owned land properties, despite the absence of settled religious communities. It is the case of Santa Cruz monastery of Coimbra, with its properties in the Alentejo region.

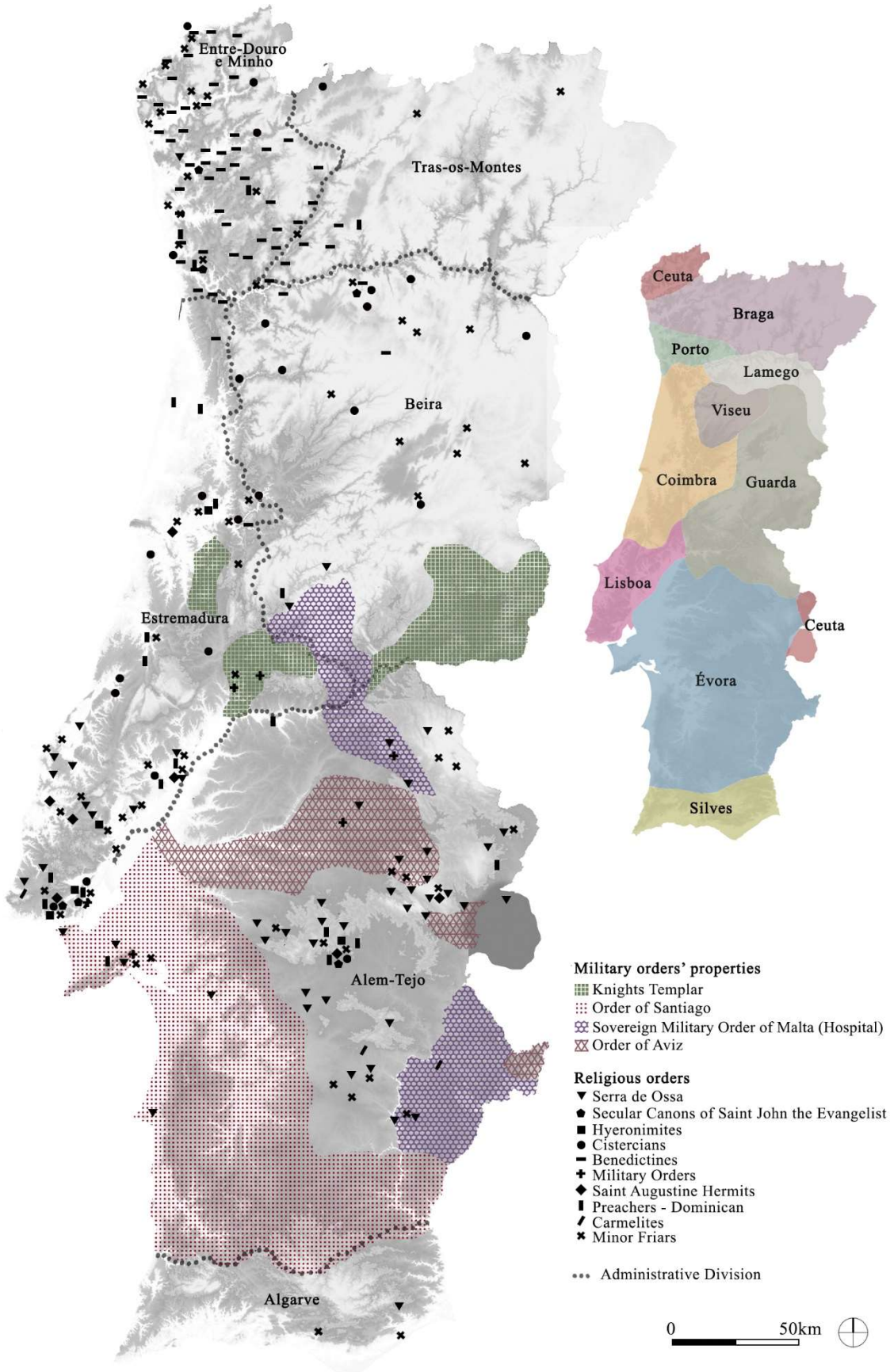



Figure 2.1 – Ecclesiastical space organisation: Portuguese medieval dioceses (14th-15th century), based on A. H. de Oliveira Marques, *Portugal na crise dos séculos XIV e XV*, 1987, p. 366 (right); domain of military orders in central and southern Portugal (based on José Mattoso, *História de Portugal*, II, p. 212) and distribution of religious orders in Portugal (14th-15th century) (left), ©Rolando Volzone, 2020

In the southern Portuguese territory, particularly in the mentioned diocese of Évora, it has been verified that there was only a weak regular settlement of monastic orders. Indeed, the presence of Benedictines and Cistercians was limited, in opposition to the Mendicant orders, particularly the Franciscans and Dominicans, who enjoyed special papal support through several bulls (Vilar 1999).

Mendicant orders – mainly Dominicans and Franciscans[59] during the first half of the 13th century, but soon followed by the Hermits of Saint Augustin and the Carmelites – provided an answer to the religious needs of the southern urban centres, with their testimony of communitarian poverty and brotherhood, their care for the sick and the poor, their openness to laymen, and their success as preachers, attentive to the new problems that cities posed to Christians (Vauchez 1994). Consequently, they set up their convents within or close to the urban walls, in growing and dynamical areas that would be quickly absorbed by the urban expansion (Mattoso 2002).

Thus it is possible to observe again the constant dialectic between urban area and countryside, which characterises religious history.

New religious communities arrived in Alentejo only in the 15th century, with the support of Évora bishops and Portuguese kings: monastic (Hieronymites), canonical (Secular Canons of Saint John the Evangelist) and mendicant (Poor Clares) (Fontes 2005; M. L. F. Santos 2009).

It is in this context that Serra de Ossa hermits expanded and, then, turned into a congregation.

The Order of Saint Jerome, according to the historical memories of the order, was founded in Spain in 1373, strongly influenced by the Italian *fraticelli* – Little Brethren – in particular through the experience of Tommaso da Siena, in Italy, during the 1350s. Hieronymites' eremitical origins reflected the choice for isolated places; indeed, in the beginning they too used to live in caves (Figure 2.2).

[59] A framework of the first Franciscans foundations in Portugal is outlined by José Mattoso (2002) "O enquadramento social e económico das primeiras instituições franciscanas", in *Obras Completas*, *Portugal Medieval – Novas Interpretações*, vol. 8, Lisboa: Círculo de Leitores em Portugal, pp. 243-254. António Montes Moreira (2000), "Franciscanos", in *Dicionário de História Religiosa de Portugal*, dir. Carlos Moreira Azevedo, vol. 2, Lisboa: Círculo de Leitores, pp. 273-280. For a more comprehensive perception of this order's settlements in the Portuguese territory, see data and bibliography in: Bernardo Vasconcelos e Sousa (dir), Isabel Castro Pina, Maria Filomena Andrade e Maria Leonor F.O. Silva Santos (2016) *Ordens Religiosas em Portugal – Das Origens a Trento. Guia Histórico*, Lisboa: Livros Horizonte, 3rd editon, pp. 253-294.



Figure 2.2 – Eremitical cave settlement (above) used before the Hyeronimites settlement of Guisando in Ávila monastery (below). © Monasterio de Guisando, 2018

This order was introduced in Portugal in 1400 (C. D. dos Santos 1980), thanks to the hermit Vasco Martins. The hermitages already established in this date – Penha Longa, near Sintra and São Jeronimo do Mato, in Alenquer – were converted into two Hyeronimites monasteries. A first documentary record (1390)[60], regarding a land purchase with the support of King João I of Portugal, proves the presence of Vasco Martins in Penha Longa, who was probably linked to "men of poor life". It is clear that the Hyeronimites had the protection of the King and approval of Pope Boniface IX – through the bull *Piis votis fidelium* – in 1400, which lead to converting both hermitages into Hyeronimites monasteries. Despite the passage to a coenobitic life, these religious men still felt attracted to isolated places or ones with a previous eremitical experience. In the second half of the 15th century, two monasteries were founded: in Coimbra (São

[60] TT, *Mosteiro de Nossa Senhora da Saúde de Penha Longa*, maço 1, nº 30.

Marcos, 1451) and in Évora (Espinheiro, 1457). However, between the end of the 15th and the beginning of the 16th century, the order spread out with important monasteries: Santa Maria de Belém in Lisbon (1496)[61], Nossa Senhora da Pena in Sintra (1503), and São Vicente do Cabo in Sagres (1514)[62], in Algarve.

The Congregation of Secular Canons of Saint John Evangelist, commonly known in Portugal as Lóios, was a Portuguese congregation founded in 1425, influenced by religious reform movements of the observance, by the Hieronymites, and supported by the Avis dinasty (Tavares 2001). A charter of Pope Martin V dated 1427, documents the existence of a group of clerics that were living in the Portuguese territory, according to the custom of the Canons Regular of San Giorgio in Alga (Pina 2011). The pope confirmed the donation of the monastery of Vilar de Frades – which had been made two years earlier by D. Fernando da Guerra, Archbishop of Braga – in order for this new congregation to establish in. Similarly, they settled in Recião, near Lamego, occupying a pre-existing Benedictine monastery. So, their first foundations were located in North of Portugal. In 1422, Pope Eugenio IV donated the Hospital of Santo Elói in Lisbon to the congregation, so that it could establish a community. In 1455 the oratory of São Bento was donated to the congregation to found a convent, São Bento de Xabregas, in Lisbon too, which became the motherhouse in 1462. Only in 1485, they established a first community south of the Tagus River, in Évora – convent of São João Evangelista – and, in the second quarter of the 16th century, the Convent of Nossa Senhora da Assunção, in Arraiolos, both in Alentejo (Sousa 2016).

In several Orders, before the Council of Trent, there were attempts at regeneration and change, and laymen played an increasingly important and active role within the Church (M. L. F. Santos 2009). It happened with the Hyeronimites, *Loios*, Franciscan Observance, and with the eremitical movement of "men of poor life". They reflected several attempts at religious renewal, which were documented in the Portuguese territory since the last decade of 14th century, and which also find expression in other marginal movements with a strong involvement of lay people.

As mentioned above, the eremitical movement of "men of poor life" and its earliest settlements were first documented in 1366. The historical research developed on the origins of these eremitical communities clearly shows their early expansion in the

[61] This foundation represents a great change, causing alterations even in the order's organisation. In fact, Santa Maria de Belém becomes a religious house associated to the royalty and to the royal Pantheon. Among the important changes, for example, due to the king option, the provincial is no longer the prior of Penha Longa, but the prior of this monastery.

[62] This is an ephemeral foundation. In fact, due to the inhospitable place, religious men quickly abandon this foundation.

south of Portugal, supported by the Holy See, mostly after an enquiry conducted around 1377-1378 that ensured their commitment to the Church and the righteousness of their way of life (Fontes 2012)[63]. The bull *Cum vobis visitationem* of Pope Gregory XI, represents a precious document that includes data about the existing communities in the Portuguese territory. A visit was ordered to inquire about the life, customs and orthodoxy of these hermits. It was carried out by Vasco Domingues, Braga precentor – *chantre* in Portuguese –, and D. Pedro Dias Tenório, bishop of Coimbra. So, on the 2nd of February 1378, Vasco Domingues issued a sentence focused on these hermits, who lived in "mountains and desert places of the Évora diocese and Alentejo County"[64]. This document attests the presence of the Serra de Ossa and Vale de Infante communities (Fontes 2012) in the Ossa Hill chain – the presence of the Vale de Infante community is documented in 1371 and 1374. It also refers to the Felgueira (the community later moved to Ervedeira and Rio Mourinho), Cabeço de Vide, Arraiolos, São Domingos de Brunheda, Mata de Serpa communities. It should be noted that the Azambujeira community – which was abandoned before 1377 and reapropriated in 1423 – is also worthy of mention.

By analysing the evolution and geographical distribution of eremitical communities through documentary sources, it is evident how the Ossa Hill chain represents the material epicenter of this experience. In addition, it has been verified that new settlements consistently multiplied between 1385 and 1510 (Figure 2.3). Indeed, hermits promoted the spread of this way of life through new foundations, also supported by several land donations for their settlement. Primarly, from the epicenter, they spread to the sorrouding territory, including Elvas[65], in 1380. In the same year, it is known that a first community settled in Setúbal Peninsula[66]. Since the end of the 14th century and during the first half of the 15th century, documentary references concerning the communities multiplied. In Ossa Hill chain: the community of São Gens in 1374[67], referred as Vale da Infante since 1397[68]; the hermitage of Santa Maria de Monte Virgem in the same year[69], and Vale de Abraão in 1390. In 1405, the first reference to the

[63] It is known through a copy made in 1389: BPE, *Pergaminhos Avulsos*, pasta 7, nº 24.
[64] "nas montanhas e logares Ermos do bispado d euora e comarca d aalem teio", in: BPE, *Pergaminhos Avulsos*, pasta 7, nº 24.
[65] ADPTG, *Convento de S. Paulo de Elvas*, CVSPELV/TB nº 28-cx.10 (*Tombo das capelas e títulos de propriedades 1664-1781*), fls. 17-17v.
[66] This is known thanks to a documented land donation in Palmela: BPE, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 2.
[67] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20.
[68] TT, *Convento de Santo Antão de Vale da Infante*, maço 1, nº 8.
[69] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 15.

community of Água das Infantes, close to Portel hill chain, is identified[70]; finally, in 1407, around Borba, Montes Claros hermitage was founded[71].

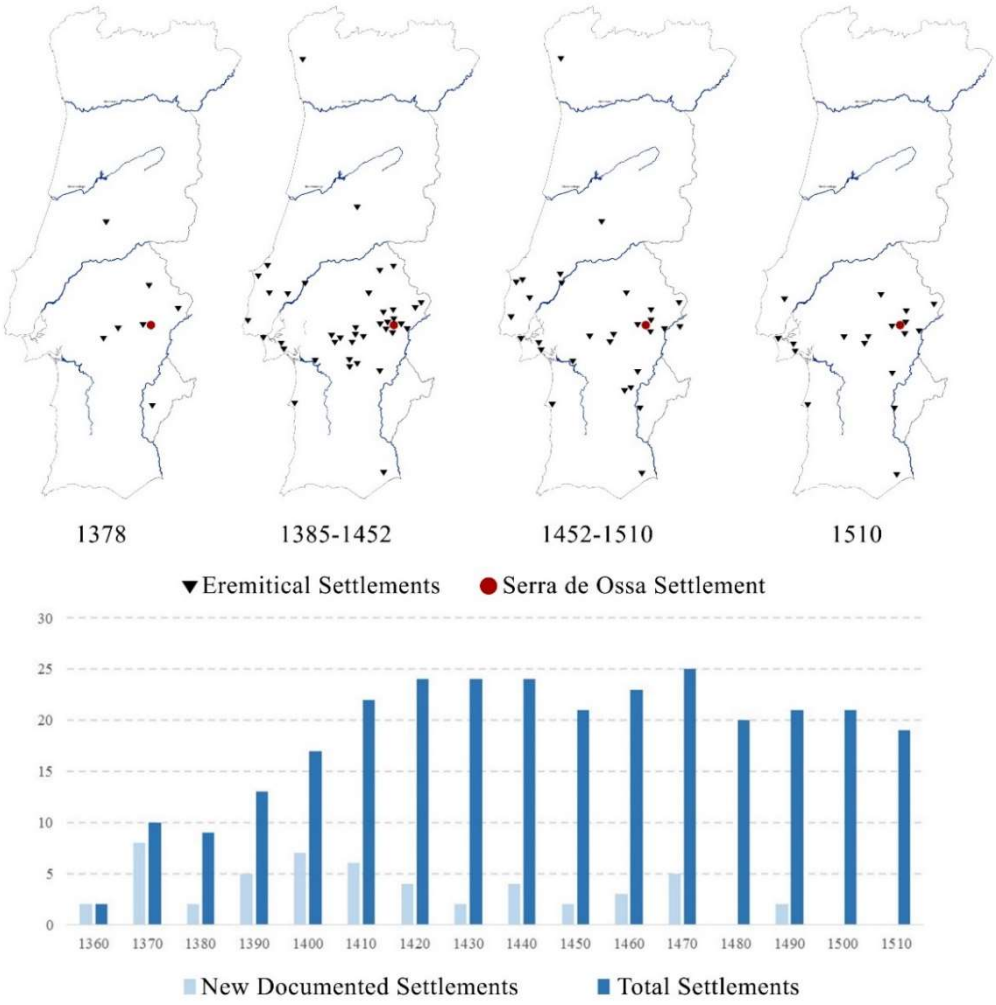


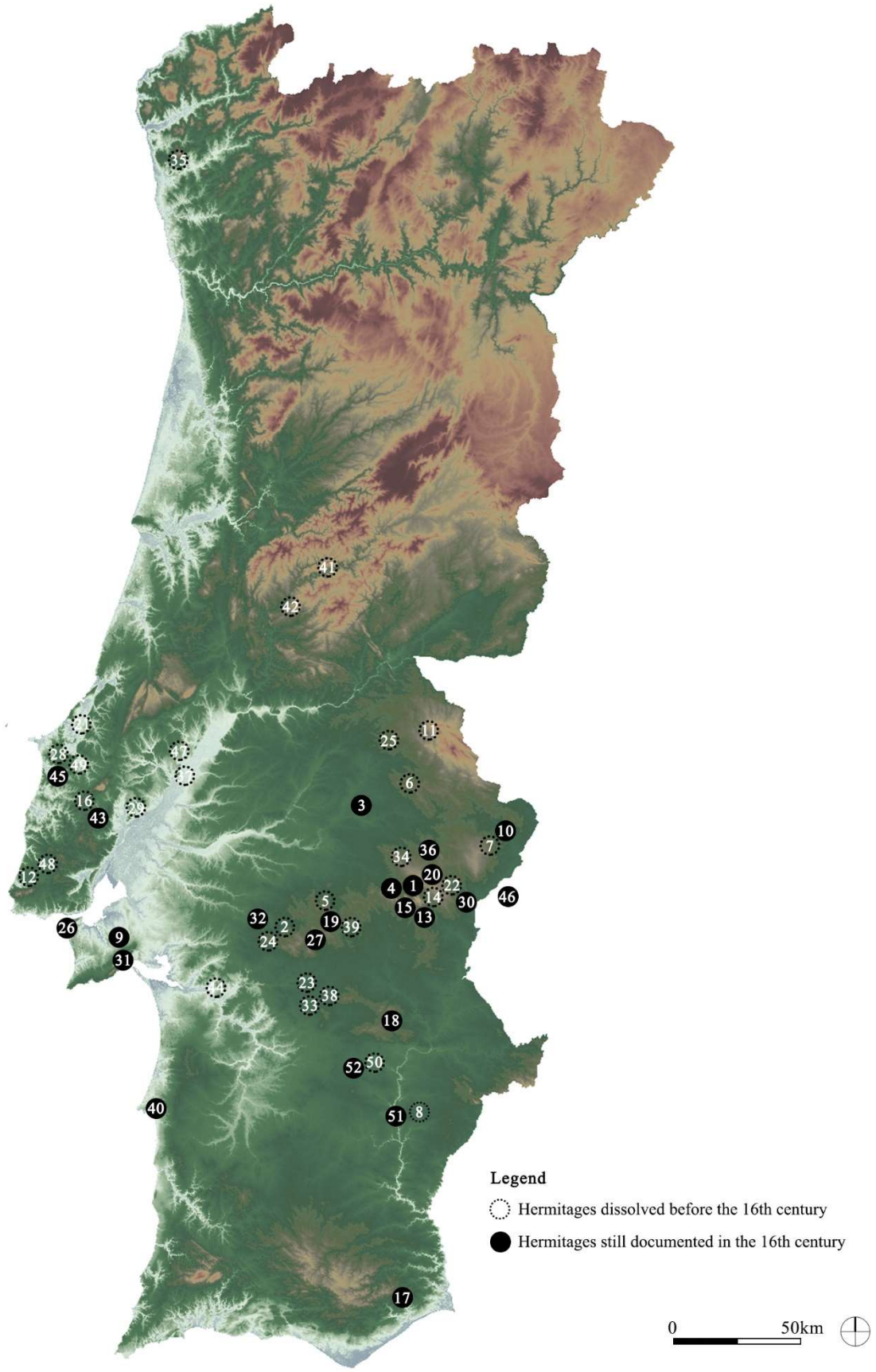

Figure 2.3 – The evolution of eremitical settlements: "men of poor life" settlements according to a survey taken in 1378, the intense expansion from 1385 to 1452, and the settlement of the congregation in 1510 (above). The table shows new documented settlements (adapted from Fontes, 2012) (below), ©Rolando Volzone and João Luís Fontes, 2020

The Serra de Ossa community was responsible for the reformation of several hermitages. Firstly, the eremitical settlement that has been documented since 1369 in a place called Felgueira[72], moved to Ervedeira in 1410[73], and, in 1425[74], relocated to its current location of Rio Mourinho. This community's history is linked to Mendo Seabra[75], a member of the Portuguese royal court who embraced the eremitical life around 1407,

[70] BPE, *Convento de São Paulo de Portel*, lv. 1, nº 48, nº 53, doc. A.
[71] BPE, *Convento de S. Paulo de Borba*, lv. 7, nº 1 [4].
[72] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20.
[73] TT, *Colégio de S. Paulo de Coimbra*, livro 2, nº 47.
[74] BPE, *Pergaminhos Avulsos*, pasta 5 (*Pergaminhos do Convento de S.Paulo da Serra de Ossa, sécs. XIV-XV*). According to Fontes (2012), this hermitage's name is identified in a previous supplication charter of 1422, by Infant Duarte to Martinho V, in: ASV, *Reg. Supl.* 159, fls. 199v-200.
[75] For a complete biography of Mendo Seabra, see: Fontes (2012), pp. 75-77, 105-8, 414-20.

after obtaining an explicit papal licence to do so, and held this *modus vivendi* until his death in 1442[76]. He was involved in the foundation of Mendoliva hermitage in Setúbal, in the direction of the communities of Alferrara in Palmela, Cela Nova in Almada, with the protection granted by Kings João I and Duarte, as well as by Prince João, administrator of the Santiago Order[77]. In 1401, the hermits' presence in Algarve is documented through a donation charter near Tavira Hill chain, in a place called Vale Formoso[78]. In 1406 the first settlement close to Évora city, Santa Margarida do Aivado, was founded[79]. Three years later, documentary references of Ameal do Gorjão hermitage[80], close to Vila Viçosa, S. Brissos de Xarrama[81], close to Évora, near the homonymous river, and the hermitage named Alentejo in Óbidos[82]. In 1410, the presence of hermits close to the monastery Flor da Rosa is recorded[83]. Close to Évora, near Montemuro woods, a new hermitage is founded in 1415[84]. In 1416, once again in Vila Viçosa, the Valbom hermitage was established[85]. Around the Ossa Hill chain, Amieira[86] and Espadaneira[87] emerged. At the end of the 1440s, Junqueira[88] appeared near Sines. References to Amieira near Figueiró[89] and Santa Maria de Sertã[90], North of the Tagus River, were two foundations with a very short life. All these settlements have been introduced into a map of Portugal with their specific location, obtained by crossing data from historical records, previous studies (Fontes 2012), the analysis of cartographic sources and interviews with local administrations. Several times, the persistence of toponyms and microtoponyms aided the individuation of the settlements in the Portuguese territory (Figure 2.4).

[76] TT, *Colégio de S. Paulo de Coimbra*, lv. 1, doc. nº 64; BPE, *Pergaminhos avulsos*, pasta 7, doc. nº 11.
[77] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, maço 3, doc. nº 17. Other documents prove his involvement in the reformation of the hermitage of Rio Mourinho in Montemor-o-Novo (TT, *Colégio de S. Paulo de Coimbra*, lv. 2, doc. nº 47), and his participation in the government of Serra de Ossa, at least since 1436 (BPE, *Convento de S. Paulo de Borba*, lv. 7, doc. nº 1).
[78] Donation records are the first identified: TT, *Convento de Nossa Senhora da Ajuda de Tavira*, mç. único, nº 2. About the critical establishment of this document date, see: João Luís Inglês Fontes (2012), pp. 12-13, 327, 595-596.
[79] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 100.
[80] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. C4.
[81] BPE, *Convento de S. Paulo de Coimbra*, lv. 2, nº 40.
[82] TT, *Convento de S. Bento de Xabregas*, mç. 18, nº 1.
[83] BPE, *Pergaminhos Avulsos*, pasta 16 (*Pergaminhos Avulsos*, 98), nº 103.
[84] BNP, *Coleção de Pergaminhos*, *Série Roxa*, PGS 3R.
[85] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 103.
[86] TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 5.
[87] ADPTG, *Convento de S. Paulo de Elvas*, *Colecção de Pergaminhos*, nº 5.
[88] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, maço 3, nº 21.
[89] TT, *Leitura Nova, Estremadura*, lv. 5, fls. 174v-175.
[90] TT, *Chancelaria de D. Afonso V*, lv. 10, fl. 73v.


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Legend
Hermitages dissolved before the 16th century
Hermitages still documented in the 16th century
0
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| | Hermitage Designation | 1st documental reference | Last documental reference |
|---|---|---|---|
| 1 | Serra de Ossa | 1366 | 1834 |
| 2 | Felgueira | 1369 | - |
| 3 | Azambujeira | 1371 | 1618 |
| 4 | Vale da Infante | 1374 | 1642 |
| 5 | Arraiolos | 1378 | 1396 |
| 6 | Cabeço de Vide | 1378 | 1385 |
| 7 | São Domingos de Brunheda | 1378 | 1405 |
| 8 | Mata de Serpa | 1378 | 1378 |
| 9 | Alferrara | 1380 | 1813 |
| 10 | Rio Torto | 1380 | 1834 |
| 11 | Vale de Flores | 1385 | 1436 - 1467 |
| 12 | Penha Longa | 1390 | 1400 |
| 13 | Vale Abraão | 1390 | 1593 |
| 14 | São Pedro de Bencatel | 1395 | 1441 |
| 15 | Santa Maria de Monte Virgem | 1397 | 1559? |
| 16 | São Jerónimo do Mato | 1400 | 1400 |
| 17 | Vale Formoso | 1401 | 1834 |
| 18 | Água das Infantes | 1405 | 1834 |
| 19 | Santa Margarida do Aivado | 1406 | 1797 |
| 20 | Montes Claros | 1407 | 1834 |
| 21 | Alentejo, termo de Óbidos | 1409 | 1434 - 1465 |
| 22 | Ameal do Gorjão | 1409 | 1425 |
| 23 | São Brissos de Xarrama | 1409 | 1425 |
| 24 | Ervedeira | 1410 | - |
| 25 | Flor da Rosa | 1410 | 1410 |
| 26 | Cela Nova / Barriga | 1414 | 1813 |
| 27 | Montemuro | 1415 | 1593 |
| 28 | Olho Marinho | 1416 | 1416 |
| 29 | Santa Maria de Azambuja | 1416 | 1416 |
| 30 | Valbom | 1416 | 1834 |
| 31 | Mendoliva | 1420 | 1531 |
| 32 | Rio Mourinho | 1422 | 1823 |
| 33 | Zarco | 1425 | 1436 |
| 34 | Amieira (Estremoz) | 1428 | c. 1440 |
| 35 | Franqueira | 1429 | 1476 |
| 36 | Espadaneira | 1433 | End of 1500 |
| 37 | Santa Catarina de Vale de Mourol | 1433 | 1470 |
| 38 | Viana do Alentejo | 1436 | 1450 |
| 39 | Santa Maria do Espinheiro | 1446 | 1446 |
| 40 | Junqueira | 1447 | 1645 |
| 41 | Amieira (Figueiró) | 1448 | 1449 |
| 42 | Santa Maria de Sertã | 1454 | 1454 |
| 43 | São Julião de Alenquer | 1459 | 1823 |
| 44 | Alcácer do Sal | 1465 | 1482 |
| 45 | Pó | 1468 | 1533 |
| 46 | Asseiceira | 1470 | 1502 |
| 47 | Alcanhões | 1471 | 1487 |
| 48 | Santa Maria da Pena | 1477 | 1477 |
| 49 | Moutelas, Vale de Ramada | 1478 | 1478 |
| 50 | Vale do Bispo | 1479 | 1479 |
| 51 | Serpa, Nossa Senhora da Consolação | 1494 | 1592 - 1834 |
| 52 | São Miguel o Anjo | 1496 | 1526 |

Figure 2.4 – Geographical distribution of Serra de Ossa eremitical communities in Portugal (1366-1578). Map with the settlements' location (previous page); legend with the names, the first and the last individuated documentary references: the settlements dissolved before the 16th century are highlighted in grey (current page). ©Rolando Volzone, 2020

The new religious orders and movements, grounded in the south of Portugal during the 15th century, contributed to the reform of the Church in the Late Medieval period[91]. They had different matrices. Indeed, *Loios* was a clerical congregation voted to pastoral care, and it settled in cities and in the middle of society. On the contrary, the Hyeronimites and the Serra de Ossa hermits originated from an eremitical experience: they anchored their roots in secluded places, away from the world. These "desert" places were easily found in the extensive areas of southern cities[92].

Here, but also in other geographies, these settlements played an important role in periurban areas, working as dynamic elements of their surrounding areas, through spatial organisation. According to Joaquim Bastos Serra (2006a) about the Évora case, these settlements formed another wall – beyond the city walls – one that wasn't physical but spiritual.

These communities, despite their ascetism practices, needed to engage in activities that were indispensable for their self-sufficiency, e.g. raising cattle and beekeeping. Indeed, they used the resources of woods and cultivated lands around the hermitage – obtained through donations and sales, which are documented with official charters.

These documentary records are analysed below in order to reconstruct the landscape in which the eremitical congregation settled.

[91] Mendicant Observance – Franciscans and Dominicans – is not considered in this frame. Indeed, despite having a great importance in the Portuguese reform, these movements arrived later in the southern of the territory. For an in-depth look at the genesis of the Franciscan Observance movement, its introduction and diffusion in Portugal, see: Vítor Gomes Teixeira (2010), *O movimento da observância franciscana em Portugal, 1392-1517*. Porto: Centro de Estudos Franciscanos; Braga: Editorial Franciscana.

[92] For a general framework of these radical and religious movements in Portugal see Maria de Lourdes Rosa (2000) "Entre a corte e o ermo: reformismos e radicalismos religiosos (fins do século XIV-século XV)", in *História Religiosa de Portugal*, dir. Carlos Moreira Azevedo, vol. 1, pp. 492-505, Lisboa: Círculo de Leitores.

## 2.2 Reconstructing the eremitical landscape from historical records

There is a very limited understanding of the landscape features related to the "men of poor life", especially in the Late Middle Age, as there is scarce evidence attesting their materiality.

In the context of this research, the history of landscape construction is studied through the analysis of documentary sources, which, although fragmentary and dispersed, are useful to identify specific spatial components that help to define what an eremitical landscape is. The study of the history of landscape construction requires close collaboration between various disciplines. The historical analysis of primary sources is used, in this case, towards an ecological perspective.

Previous studies approach agricultural evolution in the Portuguese territory (B. da Costa and Castro 1900; Rau 1965; A. O. Marques 1978), some address specifically the southern regions, focusing on the case of Alentejo *dehesa* (M. Feio 1949; Parsons 1962; Joffre et al. 1988; A. Fonseca 2004; Fra Paleo 2010)[93].

It is possible to outline the materiality starting from iconographic and, mostly, written sources. Concerning iconographies, very few records showing Late Middle Age Alentejo landscapes are known (V. Serrão, 2016). To date there are only two. The first is *Livro de Horas de D. Manuel* (The Book of Hours of D. Manuel)[94], a medieval illuminated manuscript, whose authorship is attributed to António de Holanda, dated between 1517 and 1551. The iconography of the month of November seems to represent the *montado*, the agrosylvopastoral system of Alentejo landscape (Azambuja 2009), with cork and oak trees. The second is constituted by the the mural paintings of São Bento de Castris monastery, in the refectory vault, dated 1605 – they are twenty medallions divided into three thematic groups – four seasons, four elements, and twelve months of the year[95]. This last group shows the daily life of local communities through the characters and their

[93] Dehesa – *montado* in Portuguese – is an agrosylvopastoral system, tipical of the south-western Iberian Peninsula. Generally, it is used for cattle breeding, hunting and exploitation of other forest products. This ecosystem derives from the Mediterranean forest and it is a typical example of agroforestry system. It is particularly widespread in areas that can be defined as economically "marginal" for a limited agricultural vocation due, for example, to the lower quality of the soil. It is the case of the Alentejo and Algarve regions in Portugal. About the southwest Iberian Peninsula, with references to the Algarve region, see: (Garcia 1986)

[94] It is available at MNAA, nº 00960.14 TC.

[95] Mural paintings pictures of São Bento de Castris refectory vault have been made available by Milene Gil/PRIMART-Portugal Rediscovering Mural Art: Historical and Scientific study of Evora Archiespiscopal (1516-1615) (PTDC/CPC-EAT/4769/2012).

rural experience; landscape details can be extracted, such as the presence of cork and holm oak trees (Figure 2.5).



Figure 2.5 – Alentejo 16th-17th landscape iconographies. The month of November in the Book of Hours of D. Manuel, ©DGPC (above left). Mural paintings in São Bento de Castris monastery (below) and detail of the month of November (above right), pictures by Manuel Ribeiro, 2013@Lab. Hercules. ©Rolando Volzone, 2020

The analysis of historical records about the eremitical movement of "men of poor life" is enriched with some documentary collections with already systematised data. Even more, a range of selected studies in the fields of history, geography and agriculture, enables a broader perception of the eremitical landscape.

Among the available historical records still not examined, a set of documentation, that could complement data previously obtained, has been considered. The *História Florestal, Aquícola e Cinegética* (Neves 1980) is a collection of royal chancellery records from Torre do Tombo, dated between the 13th and the 16th century. It includes rules set for the protection of the aquifer, the forest and the cynegetic resources. For instance, it tells how to prevent water degradation in springs and wells, and how to ensure the

reproduction of fish species; it also includes restrictions on cutting certain arable species and harvesting their fruits, and it also focuses on protecting periurban crops and private property against people and animals[96].

Academic works developed in the last forty years include elements that can contribute to reconstructing the eremitical landscape. This specific landscape contains hermitages settled in an extended area, embracing three different regions: Lisbon, Algarve and Alentejo, even though most of them are located in the last one.

The Alentejo is characterised by sub-regional areas, with different geological, topographical and also climatic features. Previous studies were taken into consideration: regarding Évora (Beirante 1985; 1995a; 1995b; 2008; Vilar 1999; 2002)(Beirante 1985; 1995a; 1995b; 2008; Vilar 1999; 2002); Beja (H. Fernandes 1991); Montemor-o-Novo (J. Fonseca 1998; 2008); Setúbal Peninsula (P. D. Braga 1998; J. A. Oliveira 2013); Elvas (Correia 2013); Tavira (J. Magalhães 1974)[97]; Alenquer (Ferro 1996; Olaia 2019)[98].

These works are a kind of repository about certain cities and their surrounds. They don't directly provide data about specific eremitical settlements, but include information, which, once interpreted, supports the shaping of an overall picture. All this, combined with charters about eremitical communities – although they are scattered and with little evidence, when compared with the existing documents on other congregations or religious orders – plays a role in the delineation of each eremitical settlement.

The medieval landscape system that welcomed the "men of poor life" and that was shaped by them at the same time, assimilating the connotation of eremitical, was reconstructed by elaborating the information contained in several diplomas[99] dated from 09/03/1366 – a donation charter of land by Gil Afonso to the Serra de Ossa hermits[100] –, to 1578 – date of the bull *Creditum nobis* by Pope Gregory XIII for the approval of the

[96] The analysis of complementary sources does not take part of this work. It implies a previous historical research – this work has not yet been carried out, or has been carried out only partially – in order to identify the documentary records, mostly chapels' assets inventories, and documentation about the administrative practice of institutions. This data, once interpreted, could restore an even more detailed scenario of cultures, landscapes, etc. Among the written sources, for example, *Tombo das capelas de Évora* contains properties registers linked to the chapel, describing their features, thus representing a source of information about the land property and its use. This inventory was elaborated between 1533 and 1537, by order of D. João III. It is a collection of elements related to the establishment of chapels in the city of Évora and its region county, from the beginning of the 14th until the beginning of the 16th century.

[97] Moreover, an interesting primary source has been consulted (São Jozé 1577)

[98] With regards to the study of eremitical settlements in Óbidos area, see: (M. S. Silva 1994).

[99] The scattered data set have been localised and inventored by the researcher João Luís Inglês Fontes, who generously shared the transcriptions of 1130 diplomas.

[100] BPE, *Convento de São Paulo da Serra de Ossa*, lv. 40, macete 1, nº 36; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 34v-35 (certified copy of 08/12/1542, Redondo).

Saint Paul Order[101]. These documents, mostly charters, represent a *corpus* of evidence that allows us to understand the Middle Age eremitical landscape. They were issued by kings, landowners, nobles, clerics, and contain records such as donation of properties, sales, exchanges, etc. These sources, mainly conserved in the Public Library of Évora, Torre do Tombo, the National Library of Portugal, and in district and municipal archives – e.g. Évora, Coimbra, Beja, Portalegre –, include valuable data about the structure of the hermitage settlement lands, their boundaries and confines, with information about circulation, vegetation and water systems.

Once analysed the set of 1130 charters, only 300 were selected, due to the paradigmatic data they contained about the eremitical settlements landscape. They were introduced into a database enabling the categorisation on the basis of the records typology (Appendix A.4 and A.5). A prevalence of sale and donation charters was verified (Table 2.1).

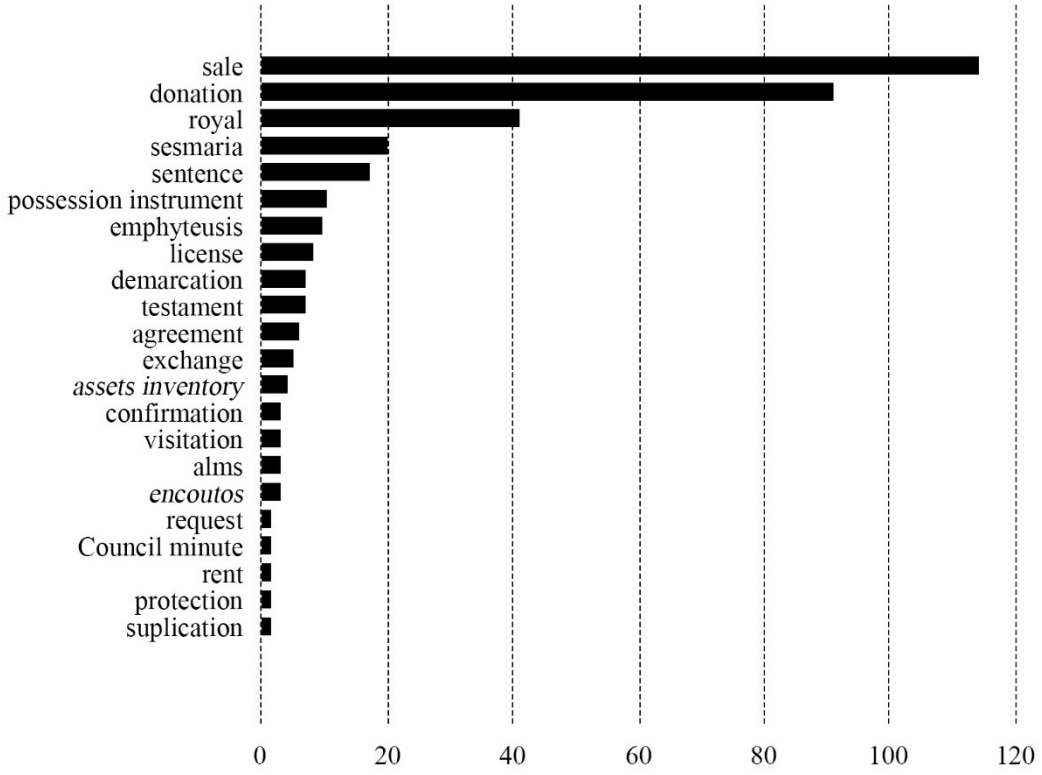



Table 2.1 – Hermitages and analysed charters typology in numbers (1366-1578). ©Rolando Volzone, 2020

[101] BPE, Cód. CLXIX/1-7; TT, *Convento do Santissimo Sacramento de Lisboa*, maço 3, nº 9 (certified copy of 01/08/1581, Lisboa); TT, *Convento de S. Paulo da Serra de Ossa*, maço 2, nº 2.

By crossing the typological categories with the production dates of the documents, it has been verified that, generally, the first historical records regarding the communities belong to the donation charters. After that, little by little, it is evident how hermits started to gain economic power; indeed, they bought lands around the hermitage, increasing their own possessions, mostly in relation with the number of sale charters growing (Table 2.2)[102].

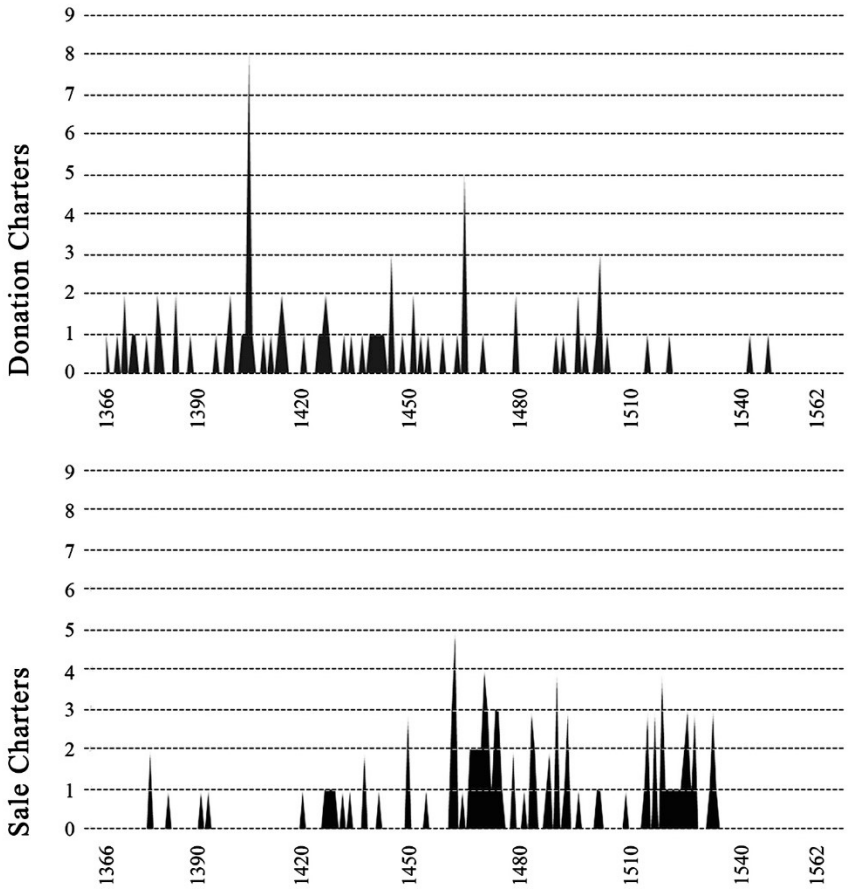



Table 2.2 – Charters typologies along the decades (1366-1578): number of donation (above) and sale charters (below). ©Rolando Volzone, 2020

It becomes clear that in a first phase the expansion of the eremitical settlements was powered by lands donations. In a subsequent consolidation of the movement, communities started to implement strategies of property management that were based also on the acquisition of new lands, especially around the hermitage, in order to increase the land they could work and to ensure their subsistence and isolation.

[102] The increasing of lands possession is verified, even if in a smaller part, also through donations, exchanges and agreement charters.

Through an analysis in which the number of documents and the communities are related, it is possible to conclude that Rio Mourinho, Vale de Infante, Serra de Ossa, Alferrara, Valbom, and Aivado appear in a larger number of charters, mostly of the donation and sale type (Table 2.3)[103].

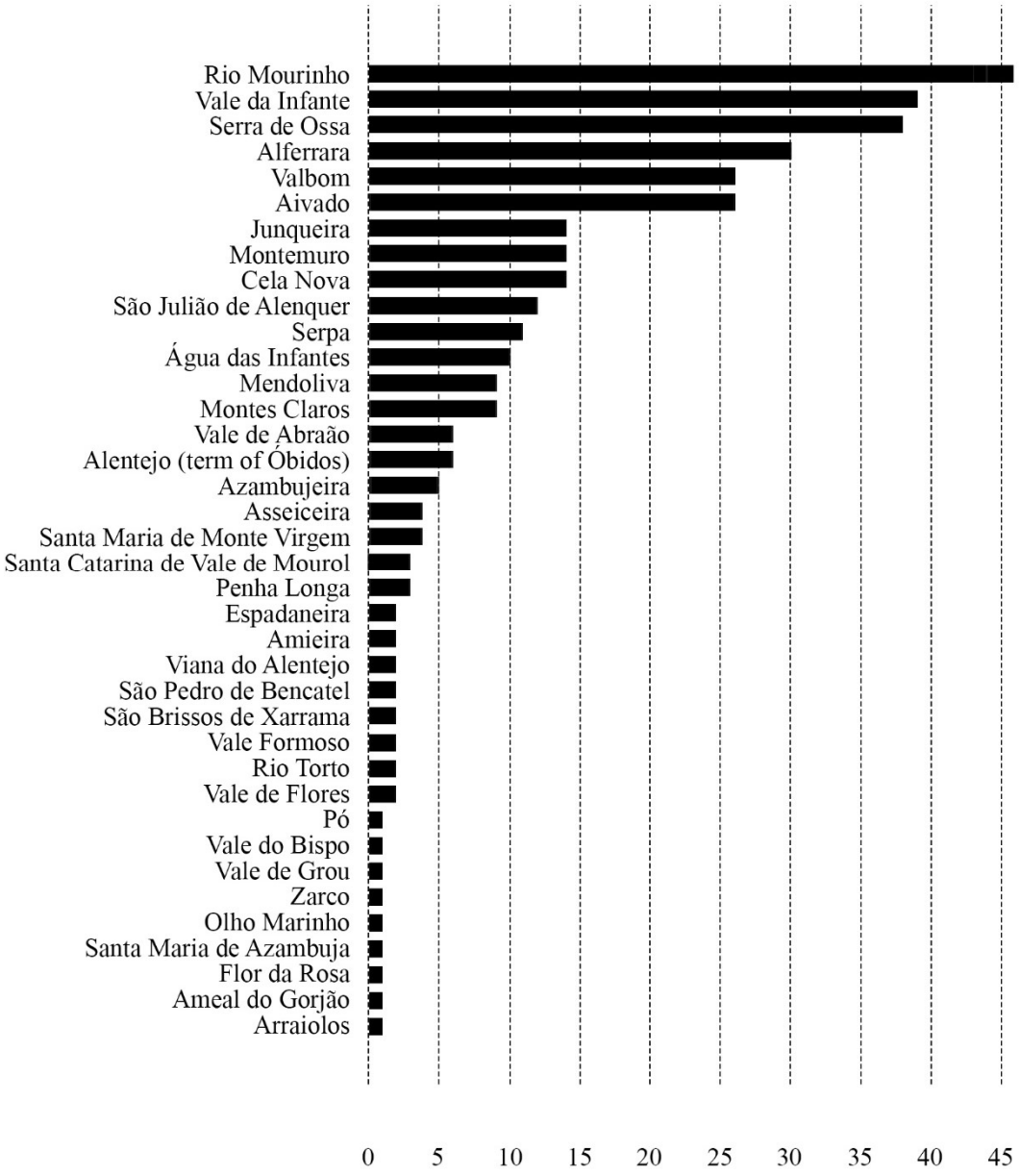



Table 2.3 – Hermitages and number of charters (1366-1578). ©Rolando Volzone, 2020

It is not surprising that these communities, as well as others with a consistent number of charters, were not dissolved before the 16th century (Figure 2.4), instead becoming part to the congregation of São Paulo da Serra de Ossa[104].

[103] The community Rio Mourinho includes Felgueira and Ervedeira data; Cela Nova includes Barriga.
[104] This analysis should be considered at the light of two factors: i) the conservation and loss of the settlements' records; ii) the shorter or longer settlements' lifetime.

A set of cultural and ecological variables is at the basis of this difference. The richness of the soil could dictate a greater or lesser number of donations. Poor soil, e.g. the ones in the Ossa Hill chain, were economically unattractive, so a larger area was required to have an adequate production, even for self-subsistence. They were located in a biophysically less rich region. This is one of the starting points of *latifundia*, larger estate. Indeed, *latifundia* develops from the need to own larger areas in order to have the same end product than the ones with the richest soil. As traced by the geographer Orlando Ribeiro (1996), the *latifundia* took shape during the Reconquest, essentially in large deserted areas. In opposite cases, such as in the Rio Mourinho community, the soil is very rich in terms of geology and water availability.

Hermits would acquire lands in order to have self-sufficiency; sometimes they acquired lands far from their location, with the aim of selling or exchanging with others that were close to their own hermitage[105].

Based on the division elaborated by Magalhães (1996), data have been grouped into two categories: cultural and ecological components. This allows the definition and delimitation of the landscape structure, and it contributes to further delve into the history of landscape humanisation and construction. Among the ecological components, the ones analysed refer to hydric system, spontaneous vegetation, orography and geology[106]. Cultural components represent the way cultures use the ecological resources, taking advantage from them for the daily life: equipment, land use and hydraulic systems.

Through the analysis of the ecological components that represent the natural substrate from which humanisation was created, it is possible to find the justification to a determinated cultural component density in a specific area[107].

Due to the kind of available analysed data, and through the interaction between the components, this study identified four systems: building, circulation, vegetation, and water (Table 2.4).

[105] This is verified in the case of Vale da Infante community. Through later sale charters, a set of lands around Monforte – at a distance of about 40Km from the eremitical settlmenets – emerges. In: TT, *Convento de Santo Antão de Vale de Infante*, lv. 2: fls. 36v-37v (10/02/1462); fls. 31v-32 (24/01/1463); fls. 51v-52v (01/03/1463); fls. 50-51 (28/03/1463); fls. 40-41 (08/05/1463); fls. 53v-55v (11/04/1472); fls. 60v-61v (07/05/1472).

[106] Ecological components include, in addition to those mentioned, the air, which is not considered in this study.

[107] This work organisation refers to other authors, e.g. (Schama 1995). In its work, the relationship between few landscape elements – wood, water, rock – and the population is further explored. An interesting perspective is that of the dialogue between geography, history, art, and the social memory projected on Lithuanian, German or Italian lanscapes, among others.

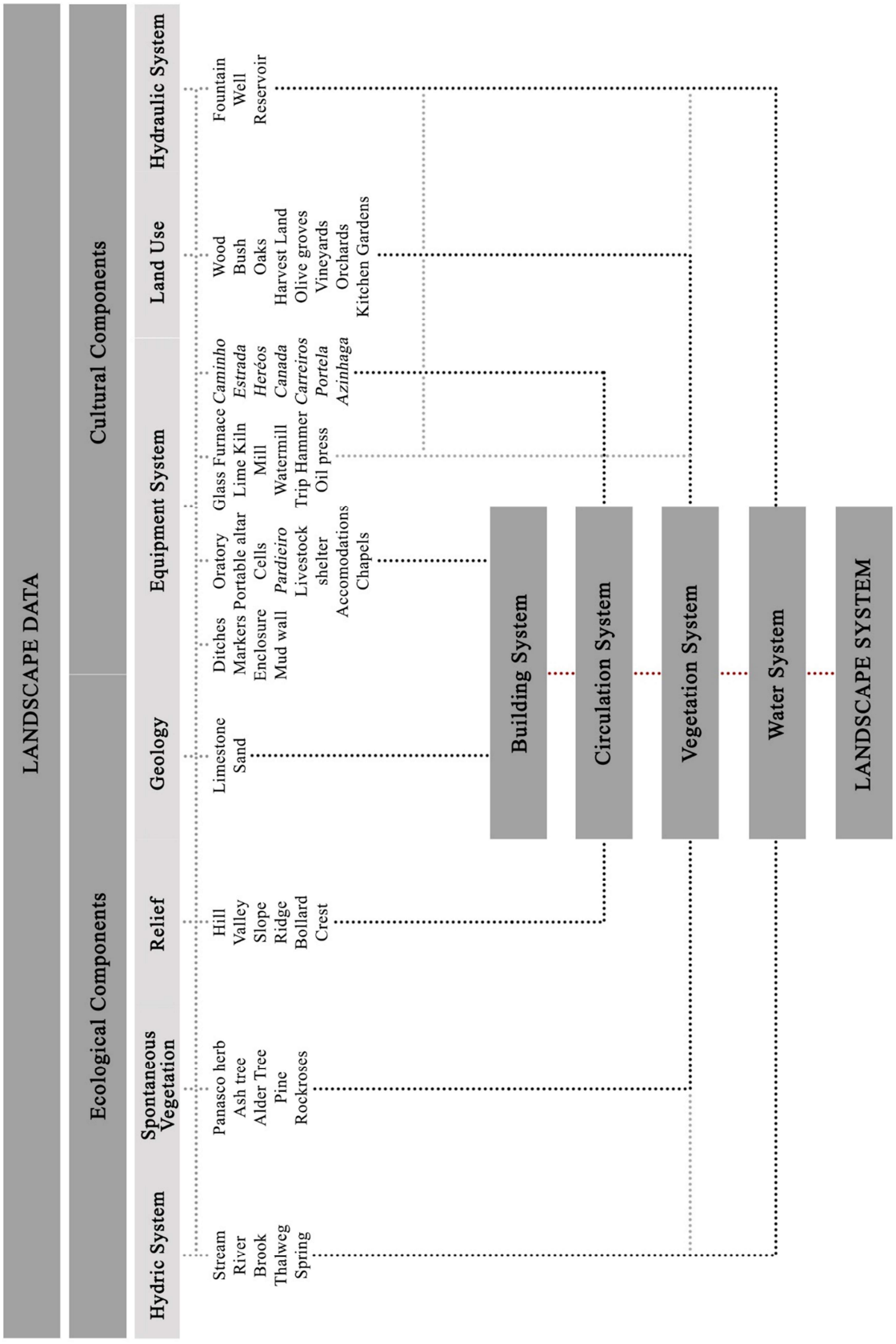



Table 2.4 – Landscape data and their organisation: cultural components and their relation with the ecological ones. ©Rolando Volzone, 2020

As seen in Table 2.4, a system of sub-systems formed by various interconnected levels was defined.

After identifiying the distribution of eremitical settlements and understanding their territorial dispersion, as well as the reason behind it, a multiscale analysis process was used.

Materiality is further explored by moving from the macro to the micro perspective: the study proceeds from the territory scale to the regional scale – also including their relationships with the cultural components; finally the study explores the the hermits' scale, the hermitage.

Land appropriation and its subsequent humanisation by hermits correspond to a landscape construction process. Therefore this study begins with analysing the path – the first way to access the land –, then it moves to explore boundaries, then the lands themselves and their use, then the enclosure and its interior, and finally the buildings.

This analysis "zooms" in – looking from the outside to the inside.

### *2.2.1 Circulation System*

Hermits intended to lead a secluded life, so distance was important but also relative, as the microcosm they constructed was not a space of complete isolation. The fenced perimeter, which often surrounded lands and hermitages, welcomed the outside world, since hermits' tradition required them to provide hospitality to those who were looking for it.

However, the opposite happened too: hermits visited and stayed in cities when they needed to celebrate a juridical act, to request a copy of a document, or simply to deliver fruits surplus from their lands or wooden spoons they made to women who would sell them (Fontes 2012).

For these reasons, a strict relation between the hermitage and the circulation system was necessary. Based on historical studies about the Alentejo region, it is proved that some roman itineraries were used during the medieval period and others were partially abandoned (Boissellier 2003; Bilou 2005; Carneiro 2010). In some cases, it is evident that the existence of a road could determine the selection of a place. In other cases, locals led to the creation of new roads. This defines a system, enriched with other hierarchically organised connections (Volzone and Fontes 2019).

By overlapping the ancient Roman roads network, adapted from previous studies, and the hermitages' location, even at a macroscale, it is evident that there is an interconnection between the two networks and how the eremitical settlements lied in areas relatively close to the roads (Figure 2.6).

Generally, the main road network ensured connection with the most important nearby settlements and with the rest of the territory. A secondary network of paths connected several places of the same settlement, such as orchards and vineyards (J. Fonseca 1998). This is basically the difference between the north and south of Portugal. In the north, religious orders settlements were essentially rural, and had a greater impact on defining the road network. In the south, most settlements belonged to mendicant orders, thus they were usually close to urban centres and near a preexistent road network.

One of this analysis' limits is the identification of secondary network paths. Indeed, these are not easily traceable. Instead, an examination that links hermitages with the ancient Roman and medieval paths is more accessible.

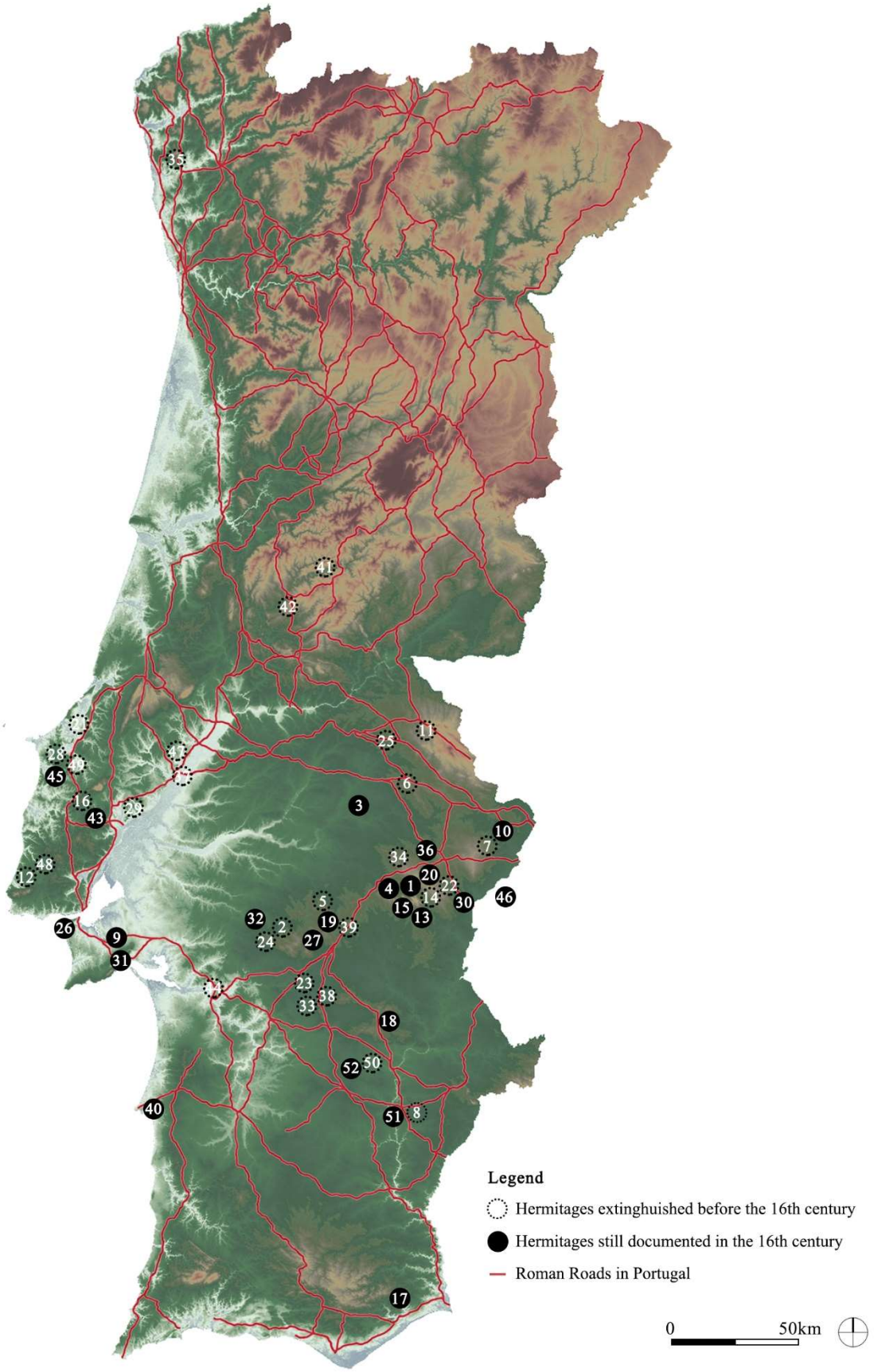



Figure 2.6 – Relation between the ancient Roman roads network in the Portuguese territory (data adapted from ©Pedro Soutinho, 2020, available at http://viasromanas.pt) and the hermitages' location. ©Rolando Volzone, 2020

After identifying these main Roman roads, a deeper analysis was carried out in five settlements, by introducing, when available, data about the medieval roads.

The following case studies have been examined as a research sample, due to the greater number of studies on road systems in these areas: Évora (Montemuro and Aivado), Montemor-o-Novo (Rio Mourinho) and Setúbal Peninsula (Alferrara and Mendoliva). Therefore, this methodology can be applied to the remaining settlements.

Aivado and Montemuro settlements lied at a distance of 7 and 15 km from the city of Évora, respectively. From the results of previous studies that analysed the old road system in this area (Bilou 2005; Carneiro 2010), it was possible to verify that Aivado stood at a distance of 0.3 km from the medieval road and 1.2 km from the old Roman road between *Ebora* and *Scalabis* (Évora and Santarém), and that the second settlement stood at a distance of 1.5 km from the old Roman road between Évora and Alcácer, which was a part of Itinerary XII, from *Olisipo* to *Mérida* (Lisbon to Mérida) (Figure 2.7).

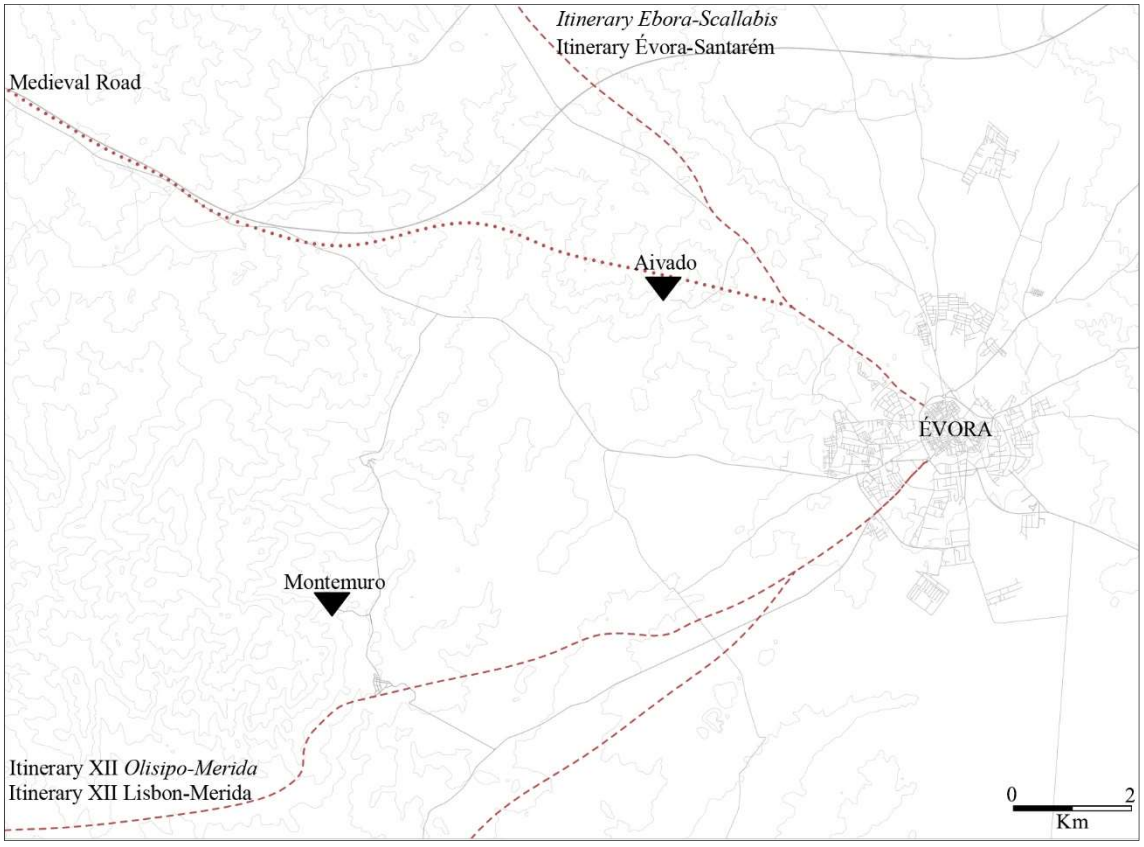



Figure 2.7 – Settlements and their relationship with ancient Roman and medieval roads: map of the district of Eastern Évora, with the ancient roads and the location of two settlements (Aivado and Montemuro) overlapped. ©Rolando Volzone, 2020

Montemor-o-Novo also owned a circulation system made up of paths and roads with different functions. An eremitical community settled in the area of Felgueira, then moved to Ervedeira and finally to Rio Mourinho. The last settlement was located close to roads going from Montemor-o-Novo to the south: the late medieval road to Alcácer and the secondary Roman road to Beja (Figure 2.8). The first road, which lied 2.5 km from the settlement in a southwesterly direction, was straight until it reaches the area of Santa Susana, where, meeting Itinerary XII, it merged into the larger road. The second road, which lied 3.5 km from the settlement in a southeasterly direction, started in Montemor-o-Novo and went to Santiago do Escoural until it reaches Casa Branca, where it crossed Itinerary XII; this road, however, went on to Alcáçovas, Vila Nova da Baronia, Faro do Alentejo, and Beja (J. Feio 2010). No longer used, it was included in the transhumance route for driving cattle to Montemor-o-Novo, and from there to Lisbon and to Beja up until the 1960s.

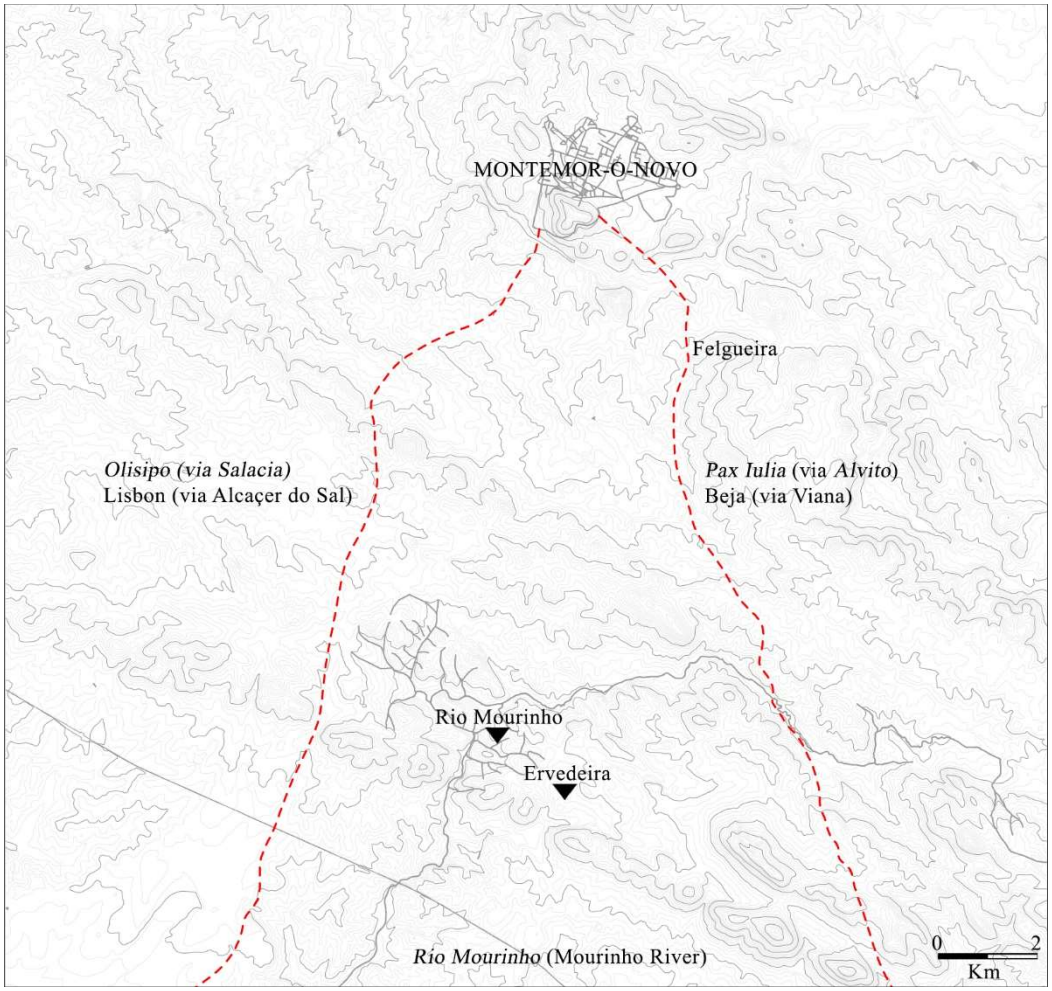



Figure 2.8 – Rio Mourinho: relationship between the hermitages and the old Roman roads presented on a chorographic map of Portugal 1:100000, nº 28 and nº 29, 1853-1892 (topographic base drawings provided by CIMAC). ©Rolando Volzone, 2020

In the Setúbal Peninsula, the land communication network can be traced back to the Roman and Muslim routes that crossed the territory. Palmela is no exception and the network is formed by narrow paths, paths and roads (J. A. Oliveira 2013). Beyond the Roman itineraries, other paths have been documented and identified, linking Setúbal to Alferrara, Palmela, and Azeitão or Fonte Santa to Coina or Palmela (P. D. Braga 1998; F. Mendes 2010).

The hermitage of Alferrara was located near the mentioned Roman Itinerary XII, specifically in the section between *Aquabona* and *Cetobriga* – Coina and Setúbal, respectively. Setting out from Coina, there were two possibilities: going in the direction of Setúbal, close to the settlement, and a shorter route connecting Coina to Marateca, avoiding Setúbal and, most important, crossing Arrábida Hill chain (Figure 2.9). Distances were 2.5 km from the first and 7 km from the second. In the case of Mendoliva, the distance was about 2.2 km from the first one.

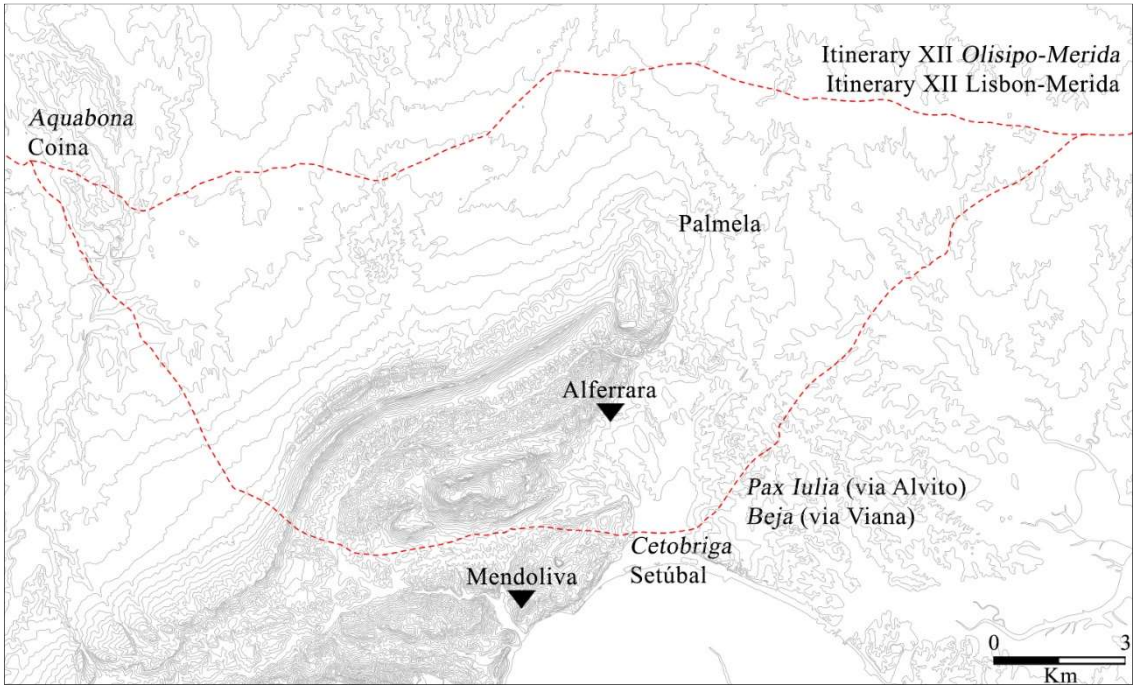



Figure 2.9 – The hermitage Alferrara: relationship between the monastery and the old Roman roads (topographic base drawings provided by the CMP). ©Rolando Volzone, 2020

Through charters analysis, it is possible to find a broad set of terms designating the circulation system, and it is viable to delineate a system hierarchically structured: from main roads – designated as *caminho* and *estrada* – to a secondary network –

*azinhaga*, *hereos*[108], *canadas*[109], *portelas*[110]. The first ones ensure the connection between main locations, the territory transitability and delimit the space; the second give acess to the land, closer to human scale.

Unlike what is underlined in previous similar studies about other orders (J. A. Oliveira 2013), in this research case it is not possible to find a correspondence between the term *estrada* and the ancient roman or medieval itineraries. The terms *estrada* and *caminho* are probably used indistinctly.

Only eight references to *estrada* have been identified[111]. On the other hand, *caminho* emerges in 62 of the analysed documents. Mostly, these terms are used to locate certain lands in the territory, and are identified by two points, extremes of the path itself[112]. In other occasions, only one extreme is mentioned, mostly the destination place[113]. Sometimes they are useful to locate elements of the vegetation system that are

[108] According to Viterbo (1865, vol. 2, p. 24), the word *eréo* or *heréo* is related to *herdeiro*, which means "heir".

[109] According to Viterbo (1865, vol. 1, p. 160), it refers to a narrow path between walls or isolated and shady places: "passagem ou caminho por entre paredes, ou lugares ermos, e escusos".

[110] According to Viterbo (1865, vol. 2, p. 156), the word *portela* refers to a door, path or smaller and narrow road, which allows the passage from one place to another: "sendo portella diminutivo de Porto, bem se deixa ver que é uma porta, caminho ou estrada mais pequena, estreita e acanhada, por onde se passa ou passava de um lugar a outro".

[111] "Estrada que uay de panoyas pera sam rromão e com Estrada que uem d alualade pera panoyas", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 48, 51. "a estrada da dicta villa de palmella", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 58. "estrada de quouna", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 69. "estrada publica", in: TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 102. "estrada que vay pera o bayrro", in: TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 106. "estrada que vay pera o allamdroall", in: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. D10. "estrada que uay de ueiros para eluas", in: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. B5; TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 32v-33v.

[112] "camjnho de azeytão que vem pera pallmella", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 69, nº 81-100. "camynho que vay de panoias pera alualade", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 41. This last one probably corresponds to a section of the transhumance route; indeed, Alvalade and Panoia emerge as two *invernadoiros* – greenhouses – during the reign of King João III, see: (Morais 1998). "camjnho uelho que uay d estremoz pera o llandroall", in: BPE, *Convento de S. Paulo de Borba*, lv. 7, nº1 [4]. "camjnho que vaj de Sjntra para maluejra", in: TT, *Mosteiro de Nossa Senhora da Saúde de Penhalonga*, maço 1, nº 30. "camjnho que uay do Redondo pera villa viçossa", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (*Pergaminhos*), nº 32. "camjnho que vem de soussel pera Monforte", in: TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 1 and lv. 2, fls. 66-70. "camynho que vay de Jurumenha a vjla buym", in: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. B7, and lv. 6, nº 78, fls. 114-115.

[113] "estrada que vay pera couna", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 38, nº 69. "caminho que vay perra couna", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100. "camjnho do rredondo", in: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. G5. "camjnho de borua", in: BPE, Convento de S. Paulo de Borba, lv. 7, nº11; TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 19, and lv. 2, fls. 60v-61v. "caminho d estremoz", in: BPE, *Convento de São João da Penitência de Estremoz*, lv. 103, nº 28; TT, *Leitura Nova*, *Odiana*, lv. 3, fls. 40v-41; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fl. 37, fls. 84v-86, 87v-88v; BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 26 / lv. 35, nº 10, nº 27 / lv. 36, nº 115 / lv. 44, nº 25 ; BPE, *Pergaminhos Avulsos*, pasta 15 (*Pergaminhos Avulsos*, 80), nº22; "camjnho d euora", in: BPE, *Pergaminhos Avulsos*, pasta 11 (*Vários*, 50), nº49. "Caminho da Tourega", in: TT, *Colégio de São*

part of donations or sales[114], other times the path absorbs the name of cultural or ecological components[115]. Moreover, in documents, paths link certain important geographic points[116]. Some references are associated to *caminho velho*[117], probably no longer used roads; others to *camjnho do conçelho*[118] or *camjnho puprico e aberto*[119], the public ones. Finally, roads that enable a connection to hermitages were identified[120].

*Paulo de Coimbra*, lv. 2, nº 88. "camjnho quando uãao para bemcatell", in: BPE, *Pergaminhos Avulsos*, pasta 11 (*Vários*, 50), nº 49. "camjnho que uay da do cascauell ao camjnho que uay pera sancta maria de monte virgem", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 32. "camjnho que uay da do cascauell ao camjnho que uay pera sancta maria de monte virgem", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 32. "camjnho que uay da do cascauell ao camjnho que uay pera sancta maria de monte virgem", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 32. "camjnho de zanall", in: ADPTG, *Convento de S. Paulo de Elvas*, *Colecção de Pergaminhos*, nº 6. "camjnho que vay pera mouta", in: TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 81A. "Camjnho que vem da azanbugeira", in: TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 1; TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 66-70. "caminho d estremoz", in: BPE, *Convento de São João da Penitência de Estremoz*, lv. 103, nº 28; TT, *Leitura Nova*, *Odiana*, lv. 3, fls. 40v-41; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fl. 37, fls. 84v-86, 87v-88v; BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 26 / lv. 35, nº 10, nº 27 / lv. 36, nº 115 / lv. 44, nº 25; BPE, *Pergaminhos Avulsos*, pasta 15 (Pergaminhos Avulsos, 80), nº 22; "camjnho d euora", in: BPE, *Pergaminhos Avulsos*, pasta 11 (Vários, 50), nº 49. "Caminho da Tourega", in: TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 88. "camjnho quando uãao para bemcatell", in: BPE, *Pergaminhos Avulsos*, pasta 11 (Vários, 50), nº 49. "camjnho que uay da do cascauell ao camjnho que uay pera sancta maria de monte virgem", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 32. "camjnho que uay da do cascauell ao camjnho que uay pera sancta maria de monte virgem", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 32. "camjnho que uay da do cascauell ao camjnho que uay pera sancta maria de monte virgem", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 32. "camjnho de zanall", in: ADPTG, *Convento de S. Paulo de Elvas*, *Colecção de Pergaminhos*, nº 6. "camjnho que vay pera mouta", in: TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 81A. "Camjnho que vem da azanbugeira", in: TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 1; TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 66-70.

[114] "vinha a caminho de alandroal", in: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. D2, nº 5. "camjnho que vay pera as rroças", in: TT, *Chancelaria de D. Afonso V*, lv. 31, fl. 135; TT, *Chancelaria de D. João II*, lv. 21, fls. 118-119; TT, *Leitura Nova*, *Odiana*, lv. 2, fls. 167v-169v.

[115] "camjnho do mojnho", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 47. "canmjlho que sse chama do colmeiro", in: TT*, Convento de Santo Antão de Vale de Infante*, mç. 1, nº 9 (2). "Camjnho das açenhas", in: ADPTG, *Convento de S. Paulo de Elvas*, *Colecção de Pergaminhos*, nº 8. "Camjnho que vay per as Eiras", in: TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 4, nº 5 / lv. 2, fls. 70-72, 77-79. "Camjnho que uae pera a carrascosa", in: *Arquivo Distrital de Beja*, *Convento do Carmo de Beja*, nº 45, fl. 345.

[116] "camjnho atee serra", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 58. "camjnho pello espigam que uay teer a cabeça dos besteiros", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 32.

[117] "camjnho de montemoor ho camjnho velho" in: TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 92-93; "camjnho uelho que uay d estremoz pera o llandroall", in: BPE, *Convento de S. Paulo de Borba*, lv. 7, nº1.

[118] TT, M.C.O., O.S./C.P., *Documentos Particulares* (*Antiga Colecçao Especial*), maço 2, nº 10; TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 39, nº 57; TT, *Convento de Nossa Senhora da Rosa da Caparica*, mç. 2 de pergaminhos, nº 38.

[119] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 63; TT, *Convento de Nossa Senhora da Rosa da Caparica*, mç. 3 de pergaminhos, nº 3; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. G5.

[120] "camjnho da prouença", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº10. "chamynho que uay perra a casa dos djctos proues", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 36, nº 1. "Chamjnho que uay d euoramonte perra a chasa dos djctos proues", in: BPE, *Convento de Nossa Senhora*

On a second level there are *hereos.* They are mostly referred to as a way of delimiting land[121], but also as *camjnho d ereos*[122] in the first donation charter of the Alferrara hermitage. These can be defined as private walkings (M. S. Conde 2000).

*Azinhaga* is a narrow path, sometimes between two walls. It emerges five times related to the hermitage Aivado[123], and just one, *azjnhaga do Conçelho*, in relation to Amieira[124]. The term appears in other documents, but always in correspondence of properties inside the cities, e.g. Évora[125].

About *portela*, references to *portella* or *portellas das paradas*[126], *portella que chamam de ssam geens*[127] have been found. This spatial component refers, generally, to a passage between two orographic elements, as the case of São Gens, located on a crest in Ossa Hill chain. Therefore, it includes a territorial reference.

*Canadas*, according to Morais (1998), in the Évora area can be grouped based on the function, in: i) transhumanting; ii) outflow of rural products; iii) connection between cities, villages, and fairs; iv) *canadas* of the main circulation system.

References to *canada*[128]*, quinhão da courela da canada*[129]*, canada do conçelho*[130]*, cabeça da canada brraba*[131] and *canada braua*[132]*, canada aberta*[133]*, canada branca*[134]*, abrir canadas*[135]*,* are identified. For example, concerning Rio Mourinho (near Montemor-o-Novo) in Santiago do Escoural, previous studies identified a path for driving cattle that arrived to Viana do Alentejo in Serpa (Figure 2.10).

*do Amparo de Vila Viçosa*, lv. 7, doc. F7. "pedaço de camjnho que dá acesso às propriedades", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 33.

[121] BPE, *Convento de São Paulo de Portel*, lv. 1, nº 52; TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 20, nº 32, nº 34, nº 51, nº 79, nº 100; BPE, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 2; TT, *Mosteiro de Nossa Senhora da Saúde de Penhalonga*, maço 1, nº 30; TT, *Convento de Nossa Senhora da Ajuda de Tavira*, mç. único, nº 2; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. F7.

[122] BPE, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 2.

[123] TT, *Colégio de S. Paulo de Coimbra*, livro 2, nº 68, 79, 80, 94, 95.

[124] TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 5.

[125] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20.

[126] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100, fls. 21-21v, 23v-25; BPE, *Pergaminhos Avulsos*, pasta 11 (Vários, 50), nº 49.

[127] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 27.

[128] TT, *Colégio de São Paulo de Coimbra*, lv. 1, nº 42/ lv. 2, nº 2, nº 10; TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 13 / lv. 2, fls. 79-80v.

[129] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 34.

[130] ADB, *Convento de São Paulo de Serpa*, lv. 1, doc. nº 7, nº 13, nº 23.

[131] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (Pergaminhos), nº 31.

[132] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 10.

[133] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 36, nº 3 / lv. 40, macete 2-3, nº 95; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 9, fls. 23v-25.

[134] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 39, nº 24.

[135] BPE, *Pergaminhos Avulsos*, pasta 9 (Pergaminhos Vários, 50), nº 26, doc. 1; TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 95-96.




Figure 2.10 – Livestock transhumance in the Évora area, adapted from (Morais, 1998, p. 338). ©Rolando Volzone, 2020

The analysis of the circulation system shows that hermits were not completely isolated from the rest of the territory, and that the hermitage was strictly linked to a multilevel road network. At a first level, there was a connection between the main cities and the rest of the territory. At a second level, a network of paths – which were sometimes narrow, allowing the passage of just one or two persons – connected parts of the same settlement. Indeed, some lands needed to be worked on a daily basis, and a network of rural paths was indispensable to ensure a capillary circulation through them.

The two levels belonging to the circulation system draw the lands, the landscape, and, together with other components, are able to delimit the land possessions, whether larger or smaller. In the analysed documentation an abundant set of components designate physical elements for the lands' delimitation in spatial units.

Sometimes these are elements created specifically for this purpose, other times pre-existing elements, such as paths but also rivers or trees, assume this function.

Charters analysis helps to understand the several and diverse elements useful as spatial delimiters and, at the same time, to reconstitute the Alentejo regional Late Middle Age's landscape.

### *2.2.2 Vegetation system*

The vegetation system is the result of the interaction between ecological components, which are natural of a specific area, and cultural components, introduced through human action. Both are morphological components of a landscape, and define its identity.

Regardless of their dimensions – a type of information that is rarely included in the analysed records –, their location, or use, lands owned by hermits needed to be delimited in order to ease their management.

A set of heterogeneous elements was adopted for this purpose.

Previous studies (Gonçalves 2013) argued the use, at first, of little-defined elements materialised in landforms, such as ridges, heads, waterlines, valleys. Successively, delimitations acquire a greater accuracy, thanks to continuous – e.g. ditches – or punctual elements, isolated or in sequence – e.g. marks.

#### *Property markers*

Ditches – *vallado* in Portuguese – are generally related to land delimitation. Another term indicating a land compartmenting is *cerrado* – closed. In the analysed documentation, the term *çarrado* or *çerado* is mentioned several times[136], since the first document of 1366. And, finally, *cercado* – fenced[137]. However, these words seem to refer indiscriminately to the big and the small scale.

Boundary markers – *marcos fronteiriços* in Portuguese – originated in the Roman tradition. They were usually positioned in series, along paths, or at the limit between two lands belonging to different owners, sometimes underlining other types of property markers, such as ditches. A demarcation instrument about *Aivado*[138] is exemplary of their utilisation. It indicated a series of boundary markers all around the property, their respective distances – it has been verified also in Alferrara[139] – and the relationship with hydric, vegetation and orography components, such as in Montes Claros[140], Serra de

[136] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 26 / lv. 40, macete 1 (Pergaminhos), nº 36 / lv. 44, nº 25; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 34v-35; BPE, *Pergaminhos Avulsos*, pasta 15 (Pergaminhos Avulsos, 80), nº 22; TT, *Colégio de S. Paulo de Coimbra*, livro 2, nº 57.
[137] «Pedaço de chãao que ffoy ujnha segundo esta çercado de uallado antigo em termo da dicta cidade», in TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 97.
[138] TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 99.
[139] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100.
[140] BPE, *Convento de S. Paulo de Borba*, lv. 7, nº 1 [4], nº 3 [9].

Ossa[141] and Valbom[142]. Markers emerge as a toponym in *cabeça do marquo*[143]. They could be in stone, *pedra tituladas (t.as)* and *chantados*[144], and have an engraved cross[145]. The references to *Marco Reynaces*[146] and *Marco rreynal*[147] are interesting. Markers provide a spatial delimitation, and represent the first step for the creation of a physical closed space. A sign – mostly a cross – was often engraved on pre-existing stones, already in a specific land, turning an ecological element into a property marker, a cultural one.

Ecological components, like rivers, do that naturally, and without human intervention. Rivers, brooks and streams were very suitable as continuous property delimiters. Therefore owners could take advantage of up to half the width of these watercourses. These landmarks, already belonging to the environment, start to perform also delimitation functions. Trees constituted another element able to delimit land properties. They could be of a different species, or anyway distinguishable from the other trees by a peculiarity, like for example, a cross engraved on them.

Cultural elements define a perimeter and are executed for the purpose of delimiting an area. At first they were created with natural materials, such as ditches, walls, hedges; afterwards they were created with inert materials. They could succeed one another in the delimitation of the same land, defining a continuous enclosure, forming *cerrados* or *tapadas*. In addition, elements such as wells, kilns, and mills could acquire a delimitation value due to human action.

This is the beginning of a progressive evolution from an open landscape to a closed one, defining a tangible limit (Castro 1978). Indeed, as these elements were built and not simply found, this is an act of lansdscape construction. The closure modalities depend on the concrete properties of the dividing lines, which determine the closure degree. The consequent separation is, firstly, at a macro-scale, a territorial one, in terms of land properties; later, through the introduction of enclosures, the separation is at a micro-scale, the human one, and it will have practical and symbolic consequences.

[141] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 39, nº 20 / lv. 44, nº 28; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 9, fls. 25-27.
[142] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 2, nº 64.
[143] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 41, 48, 51.
[144] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100.
[145] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. C7 / lv. 9, fls. 27v-28v; TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 99.
[146] TT, *Convento de Santo Antão de Vale de Infante*, mc. 2, nº 35; TT / lv. 2, fls. 64-66.
[147] TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 18 / lv. 2, fls. 53v-55v.

***Land Use***

Agriculture in the Alentejo region is mostly based on the Mediterranean trilogy: wheat, wine and olive oil (Renano 1992). In the Middle Age, for instance in the Évora area, land use was spatially distributed in a concentric form, taking into account distances in relation to the urban centres. This way, cultures with diary needs occupied areas closer to the city, within a walking distance. Agricultural systems were divided in groups, following a typical Roman landscape organisation (Figure 2.11), splitted in productive and complementary groups: *urbs*, *hortus, ager*, *saltus*, *silva* (Mazoyer and Roudart 2001), corresponding respectively to the urban area, kitchen garden, agriculture, pasture paths, and forest; this same landscape organisation has been reported also by Portuguese authors (Ribeiro 1996)[148].

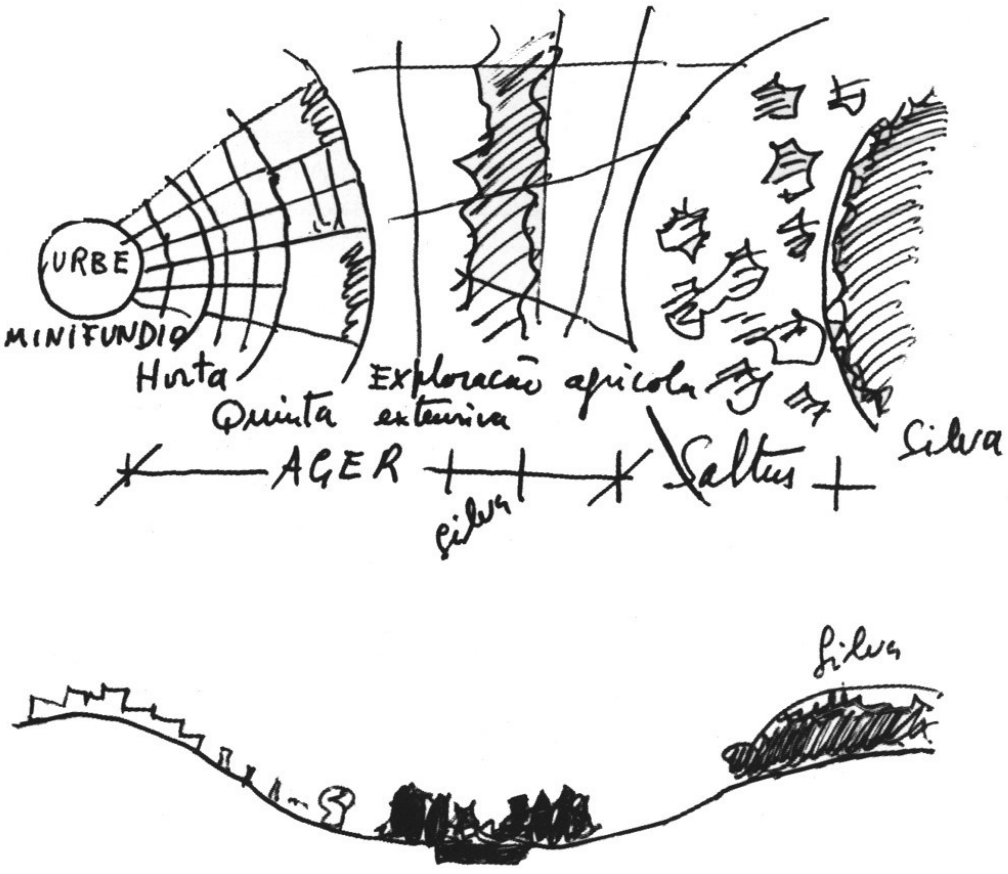



Figure 2.11 – Landscape organisation in the Middle Age. ©Gonçalo Ribeiro Telles (1997), provided by Prof. Aurora Carapinha

[148] Regarding the analysis of the Italian agricultural history in terms of economic, social, and ecological context, a synthesis from antiquity to the mid-twentieth century is carried out in (Serini 1961).

When applied to the Portuguese territory, four circles are identified (F. T. Barata and Leite 1996). In the first one, close to the city – about 1 or 2 km from it or the city walls – there was the *ferragial*, an intensive livestock feed production site, where barley and rye were cultivated. Other agricultural productions were common as well, such as kitchen garden in a rotative system, in order to ensure food sustainability for the city. This circle was located near the city because of daily needs. The second one was generally occupied by vineyards, which didn't need daily care over the whole year, unlike the kitchen gardens, so it was located from 2 to 5 km away from the centre. It was cultivated with other arable crops, depending on the ecological conditions that were more apt for certain products. In the Alentejo region, vineyards were associated mostly to olive trees or figs. Even from the landscape and morphological point of view, they constituted a boundary of the periurban space (Serra 2006a). Indeed, also according to Langhans (1970), the cultivated areas were those in the immediate surroundings of the villages and the rest was endless scrub and desert. Farms were located in the third circle. Here, crop fields and grazing lands coexisted. These areas did not need daily treatment, so they were located 15 km away. The last circle was for pasture. Évora had an important indigenous cattle production and was also a place of passage of the transhumant livestock that moved from Serra da Estrela to the southern fields and returned to the highlands in the summer (Morais 1998). Finally, there are two more systems to highlight harvest lands and wood. The first one could be associated with the *ferragial*, vineyards or parcels of the farm; the second one had an important role in the population's daily life: place of feed, fodder and raw materials. Monoculture fields with an exclusive system were rare, indeed associations were common: kitchen gardens with harvest lands, vineyard with olive trees, cork tree or orchards, among others (F. T. Barata and Leite 1996).

In order to obtain a progressive scale approximation, from the territorial to the hermit one, the outermost of these circles is analysed first.

***Bush***

Bush – *mato* in Portuguese – is a landscape unit left in its natural characteristics, not cultivated, with shrub and herbaceous. The bush has an economic interest for firewood, honey, berries, and cattle pastures. Moreover, it can be granted in emphyteusis. In the set of the analysed charters, the term *mato* appears 60 times, underlying its importance in the eremitical landscape and in all of the Portuguese territory. A variety of

interesting references was found, contrarily to what happens, for example, with the Order of Santiago (Alves 2011).

Most of charters are related to communities in Ossa Hill chain area. It doesn't necessarily mean that in this area the bush is predominant, but it is interesting to verify that still in the 19th century, Link (1801), in his travel report, describes the Ossa Hill chain and the Estremoz area, talking essentially about the bush, identified with *estevas* – rockroses.

The first discovered document about the *Valbom* community, a *sesmaria* charter, refers the existence of an isolated mountain with large rockroses and cork oaks[149] to be explored and transformed. The rockrose presence is, generally, an indicator of very poor soil. Indeed, looking at the soil map of Portugal[150], a schist soil can be identified (Appendix A.6). Valleys are generally very rich because of thalwegs, but slopes can be poor. The only other reference to rockrose is about the *Junqueria* community, through the toponym *vale de esteveira*[151]. In the documents about the Ossa Hill chain communities, bush appears as a property delimiter[152] very few times.

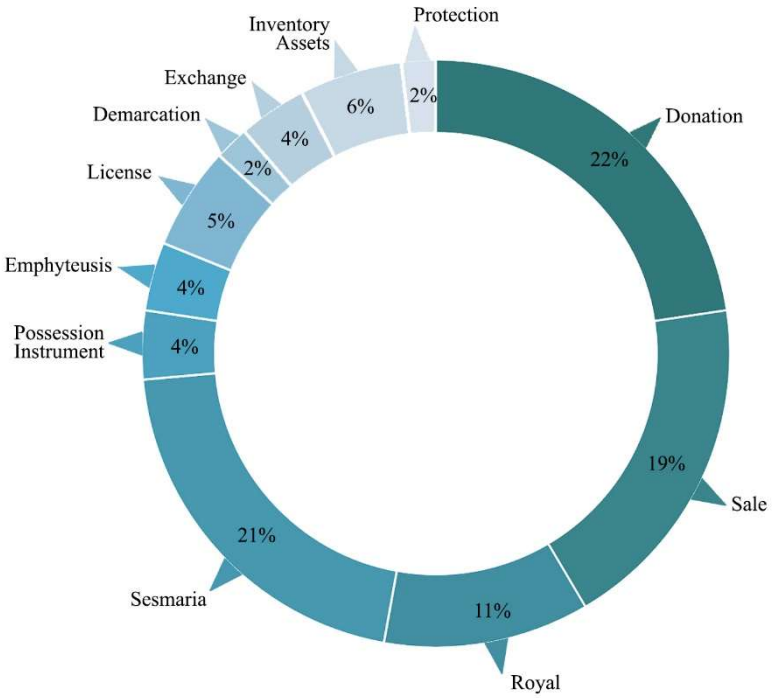



Table 2.5 – Circle chart with the relation between bush and charters typology (1366-1578), ©Rolando Volzone, 2020

[149] "montanha de grandes esstevãeees e souerãeees que esta herma", in TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 103.
[150] Information obtained from José V. J. de Carvalho Cardoso (1965), *Solos de Portugal. Sua Classificação, Caracterização e Génese (1-A Sul do Rio Tejo)*, Lisboa: Secretaria de Estado da Agricultura/Direção Geral dos Serviços Agrícolas.
[151] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 57.
[152] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 5, nº 7, nº 9.

Mostly, part of the bush was donated[153], granted in sesmaria, and sold, as visible in the circle chart (Table 2.5).

Lands that had previously been cultivated with vineyards, *ferragiais*, and were then left in bush condition for decades[154] were distributed, responding to the efforts of the crown and the municipalities, among others, to organise the food production. Serra de Ossa community received several lands in sesmaria[155]; the same happened to the Valbom community[156].

Sometimes the term *mato* is applied to adjectivise olive groves lands[157], other times watermills and the sorrounding lands[158].

The case of Vale Abraão is paradigmatic of this eremitical movement's importance. This is evident through the analysis of charters containing this component. Indeed, three of the six identified documents report the bush. A charter enabled the community settled there to use the bush around their possessions[159]. Subsequently, nobody was authorised to exploit the bush contiguous with the hermitage to cut firewood, to hunt, except hermits, in order for them to protect their enclosures from invasion that would cause damage[160]. According to a royal charter[161], not even the municipality was authorised to cut wood to make coal and burn the bush. Vale da Infante community asked to cultivate part of a bush to get straw and wheat outside the enclosure[162].

[153] BPE, *Convento de S. Paulo de Borba*, lv. 7, nº 1 [4].
[154] "dar de sesmaria pardieiros e mortórios e herdades e ujnhas e ffarregeaaes que jazem em mato.. porque há çinquuoeenta anos e majs que Jaz em mato, E em mortorio", in: BPE, *Convento de S. Paulo de Borba*, lv. 7, nº 1 [4].
[155] "logar o qual iaz meado em mato", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 36, nº 115. "hua pequena de terra a qual he toda metjda em mato e em sserra branha", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 27. "chão estaua em mato e metudo em serraa per tal maneira que o dicto Conçelho se nom aprofeytaua delle em gujsa nenhua", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (*Pergaminhos*), nº 31. "terra brauya toda em mato", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 10.
[156] TT, *Colégio de S. Paulo de Coimbra*, livro 2, nº 103; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. D2, nº 5.
[157] "huu oliuall que ora todo he queimado e desyrado E metido a mato", in: BPE, *Pergaminhos Avulsos*, pasta 11 (*Vários*, 50), nº 49.
[158] "açenha uelha com seu chãao… auya saseenta ou seteenta annos que nom moya e estaua já toda metyda em mato", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 26.
[159] "possam armar çepos nos matos d arredor pera Ajuda de seu soportamento", in: BPE, *Pergaminhos Avulsos*, pasta 7, nº 66.
[160] "gardar a sua terra que teem a redor da dita provençia que lhe nam aRanquem cepa nem cortem madeira nem ponham fogos nem caçem aveez nem allymarias por tudo ser necesareo para ssoportamento dos pobres da dita casa, pera suas collmeas e madeira, e armadilhas E que ora de poucos dias a esta parte lhe devasam os ditos seus matos de maneira que ata aas taipas das casas lhe vão caçar com cães", in: BPE, *Pergaminhos Avulsos*, pasta 8, nº 99.
[161] "matos grandes… nenhuu nom podese colher lenha nem cortar madeira, nem arrancar çepas sem licença dos dictos autores nem caçar alijmarjas com nenhuua armadilha", in: BPE, *Cód. CLXIX/10*, nº 2.
[162] "ffora das taypas Ronper hu pedaço de mato para fazerem uma pequena lauoyra pera haverem palha E alguu triguo", in: TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 14 / lv. 2, fls. 180-191v.

Montemuro Hill chain, in which the homonymous community was located, is defined as *mato maninho*[163] (uncultivated land) and it appears to have been a real economic source for the surrounding inhabitants because it was the only one in that area. Part of it was donated to hermits, with its firewood, cereals, and waterlines[164]. In a charter, King João I of Portugal asked the Municipality of Évora to let the *Montemuro* community use part of the bush around the settlement for beast pasture, because of the lack of ground around their hermitage. So the parcel was delimited and could be used for collecting firewood, plant vineyards or orchards[165]; later, the king, through another charter, asked the hermits to use the County bush for the grazing of their goats[166].

The Alferrara community donation[167] and sale charters[168] include the bush too. In the latter, *matos rotos e por romper* (transformed or to be transformed) are identified. This transformation feature is present, generally, in sesmaria charters[169], in order to convert the bush into an olive grove. In another document it is associated to the presence of a rye cultivation[170]. In Junqueira, Sines, lands belonging to this community are bounded by *matos maninhos*[171] (uncultivated) or *matos baldios*[172] (uncultivated or belonging to a local community). The same is reported in São Julião de Alenquer[173]. Once again, in these two communities, the lands are assigned in sesmaria, since they were not being cultivated[174]. In the community named Alentejo, located near Óbidos, the house of who takes care of the bush was located close to the hermits' settlements (*casal do mateyro que esta Junto com os proues d aalenteio*)[175].

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[163] "se guarda pera mato, pera os fornos, e pera Lenha, e madeira, e pera paaos, de ujnhas, pella muita necessidade que delo tem o pouo da dita çidade por nama ver d aRedor outro mato tam perto donde se posa prouer", in: TT, *Núcleo Antigo*, nº 286.
[164] ADE, *Arquivo Distrital de Évora*, lv. nº 67, fls. 67v-68v / lv. nº 145, fls. 121-122; TT, *Chancelaria de D. Duarte*, lv. 1, fls. 175-175v; TT, *Leitura Nova, Odiana*, lv. 6, fls. 225-225.
[165] TT, *Chancelaria de D. João I*, lv. 4, fls. 16v-17; TT, *Chancelaria de D. Duarte*, lv. 1, fls. 174-175; TT, *Chancelaria de D. Afonso V*, lv. 18, fl. 16; TT, *Leitura Nova*, *Odiana*, lv. 4, fls. 227-228.
[166] ADE, *Arquivo Distrital de Évora*, lv. nº 71, fl. 41 / lv. nº 145, fls. 19v-20.
[167] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 3.
[168] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 39.
[169] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 30. In addition, about this typology of charters in the Middle Age Portugues territory, see: (Rau 1982).
[170] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100, fls. 32v-36.
[171] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 42.
[172] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 431.
[173] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 105, nº 108.
[174] "mato com certas oliueiras… para aproueitaram bem as dictas oliueiras E asi emxertar os azanbugeiros que pera emxertar forem e as oliueiras lauradas de dous em dous anos E o mato esmontado E aproveitado em pam ou em vjnhas… assentamento todo danificado em matos… as terras do pam e as que soyam a ser ujnhas todas Eram perdidas E em matos E que auja mais de dez anos que nom Eram aproueitadas", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 21.
[175] MNArq, *nº antigo de registo*: E. 1218.

Common myrtle (or *Myrtus communis*) is another typical component of the bush in the Mediterranean region. In documents, its existence is marginally referred to: it is mentioned only once, in relation to Aivado[176].

***Wood***

*Mata* (wood or *silvus* in Latin) covered the Portuguese territory entirely. The term refers to relatively cared for small tree groves with several types of vegetation, in which the dominant factor is forest production, whether for food, fodder or raw materials. It had an important role in terms of protection: climate regularisation, soil water retention, erosion and wind shield, fertility maintenance, wind shelter; in terms of production it was used for wood and firewood[177].

Wood occupied certain strategic points: tops of the bollards, very steep slopes, watercourse spring areas (Cabral and Telles 1999).

References are mostly found in relation to the Mendoliva and Alferrara communities in the Setúbal Peninsula: *mata de el rei*[178] and *mata do Barril*[179]. In the first identified charters[180] the wood was located immediately next to the hermits' possessions, delimiting the hermitage. Since 1490, sale charters show part of this wood being purchased[181], demonstrating the communities' enrichment and the accumulation of land around the hermitage.

In the case of the Rio Mourinho community, two documents underline, once again, the wood's economic importance. The community obtains the licence to cut firewood in the wood located on both sides of Xarrama River[182].

[176] TT, *Colégio de S. Paulo de Coimbra*, livro 2, nº 77; in consonance with its distribution in Portuguese territory, in the wet-hot zone, according to Cabral e Telles (1999).
[177] About the economic importance of the wood and the several utilisation of its resources, see Gonçalves (1989), pp. 261-270.
[178] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 26, nº 64, nº 78.
[179] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 49, nº 52, nº 53, nº 72, nº 76, nº 81-100 (fls. 21-21v, 23v-25).
[180] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 26, nº 49, nº 52, nº 53.
[181] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 54, nº 64, nº 72, nº 76, nº 81-100 (fls. 21-21v, 23v-25).
[182] TT, *Leitura Nova*, *Odiana*, lv. 2, fl. 176 / lv. 4, fls. 250-250v; TT, *Chancelaria de D. Afonso V*, lv. 19, fl. 38v.

***Oaks and forest trees***

Cork, holm and kermes trees (respectively *sobreiro*, *azinheiro*, *carrasco* in Portuguese) are grouped in the oaks category. The chestnut (*castanheiro*[183]) is in a separated category, that of forest trees. Due to its biophysical conditions, this last one is detected only in the Monfurado and Portalegre Hill chains, respectively near Évora and Portalegre.

Cork oak (or Q*uercus suber*) is present in most of the Portuguese territory, mainly on slopes but also on flat topographies. Few references have been found in the Setúbal Peninsula communities[184], contrarily to the ones about communities located in the Ossa Hill chain: Montes Claros[185], Valbom[186]; a Rio Torto charter reports a *toquo de sobreiro*[187], moreover, sesmaria charters refer to the toponimous *vale do sobreiro*, a place in which hermits could cultivate vineyards[188].

Holm oaks (or *Quercus ilex*) were present in Azambujeira, as underlined by the existence of the toponym *ribeiro de Azinhal*. Holm oaks were also found in Vale da Infante; mentions are found also in two documents, once in association to cork trees[189] and once as a way of marking property boundary – *carrasqueira de azinho*[190]. Holm oaks punctuate all of Portugal and are generally located on slopes or ridges, depending on geography.

Kermes oaks, (or *Quercus coccifera*), situated in the centre and south of Portugal, in slopes and ridges, have been found in Aivado records, as *carrasqueira pequena*[191], and in Vale da Infante, as *carrasqueira de azinho*[192]. In Valbom, located in Vila Viçosa, *carrasqueira negral*[193] is mentioned. It could correspond to the *Quercus pyrenaica*. Indeed, this tree species is abundant in the North-East Alentejo region, and it is located in mountain ridges, on the slopes or plateaus, predominating in granite and schist soil, such as in the Valbom case (Appendix A.6).

[183] Regarding these trees phytoclimatic association in the Portuguese territory, see (Cabral and Telles, 1999, pp. 42-44).
[184] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 35, nº 39, nº 58, nº 69, nº 81-100.
[185] BPE, *Convento de S. Paulo de Borba*, lv. 7, nº 1 [4], nº 3 [9], nº 11.
[186] TT, *Colégio de S. Paulo de Coimbra*, livro 2, nº 103.
[187] ADPTG, *Convento de S. Paulo de Elvas*, CVSPELV/TB nº28-cx.10 (*Tombo das capelas e títulos de propriedades 1664-1781*), fls. 17-17v.
[188] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 10.
[189] TT, *Chancelaria de D. Afonso V*, lv. 30, fl. 141; TT, *Leitura Nova*, *Odiana*, lv. 2, fls. 188-189.
[190] TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 4, nº 5 / lv. 2, fls. 70-72 and 77-79.
[191] TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 99.
[192] TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 4, nº 5 / lv. 2, fls. 70-72 and 77-79.
[193] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 2, nº 64.

Therefore, biophysic conditions determinate its presence.

In the same area, the unique reference to chestnut – *Castanea sativa* – is found[194] in association to olive trees. This tree is mostly located in the centre and north of Portugal, inclunding the Portalegre area. Chestnuts stand on slopes, in cramped mountain valleys, living only in acidic soil.

***Harvest lands***

Harvest lands can be associated with the presence of urban settlements or away from human habitation, at the edge of the scrub (Gonçalves 1989). This designation can include a monoculture or a polyculture. Indeed, it was planted with vineyards, orchards, olive trees (M. S. Conde 2000).

This represents a way of countering the crops poor yield, due to the long forced fallow of poor land, with another more economically sustainable culture (Ribeiro 1996). In documents, the mixed organisation is referred to as *mestiço*[195].

The main problem is the identification of areas for cereal cultivation. In addition to *terras de pão*, there are others terms: *terra*, *terras*, *courela de terra*, *herdade*, as mentioned in previous studies on other areas (M. S. Conde 2000; Alves 2011).

Évora is named in the first written references of the 1st century as *Ebora Cerealis*, a name that points to its fertility. Despite this, only few data have been found about the Montemuro[196] and Aivado[197] communities, in this area.

Concerning the Rio Mourinho community, mostly sale charters are individuated[198], and associated to the presence of mills in the same lands[199].

The Alferrara community charters refer several times to harvest lands[200]. Sometimes they are associated to olive groves[201], but most of the time they are related to wood presence. Around 75% of documents with references to harvest lands belong to sale

[194] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 6, nº 78, fls. 113v-114 / lv. 7, doc. D7
[195] TT, *Colégio de São Paulo de Portel*, lv. 1, nº 4; TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 45.
[196] BPE, *Convento de Santa Catarina de Sena de Évora*, lv. 86, nº 28; TT, *Núcleo Antigo*, nº 286.
[197] "hua courella de terra de pam que elle tem no termo d aRayollos nos fferegaes da dita vylla no val de freyxos", in: TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 74.
[198] TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 23 / lv. 2, nº 6, nº 32, nº 59.
[199] "moinho Jumto com o dicto oratório pera lhe auer de moer seu pam", in: TT, *Leitura Nova*, *Odiana*, lv. 2, fls. 213-213v.
[200] "herdade de pam que eu ey onde chamam os barris termo da vijlla de pallmella", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 28, nº72. "casal de pam que Elles avijam a beira da mata do barrill", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 49. "courela de herdade de pam", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 52.
[201] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 26.

charters (Table 2.6). In one of these[202], harvest lands are associated, in the same land, to pine forests, olive groves, and a quarry with an adjoining limekiln. In the Mendoliva case, close to the Alferrara community, it is clear that harvest lands were located around the city of Palmela[203].

In Montes Claros a sale charter concerns a *herdade de pam*[204]. It is very common for denominating harvest lands, with no information about the type of cereal cultivated, be it rye, wheat or barley.

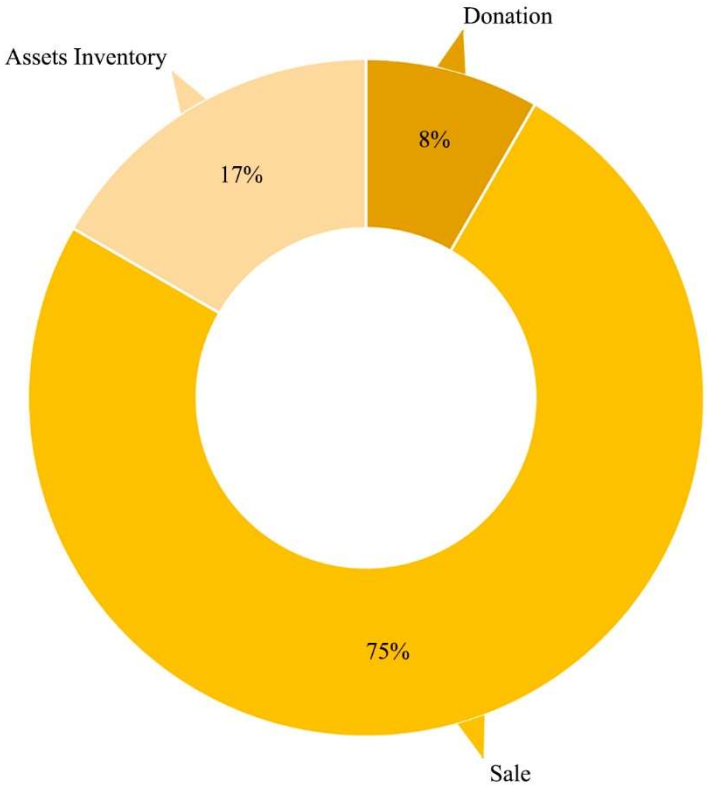



Table 2.6 – Harvest lands charters typology about the Alferrara community (1366-1578). ©Rolando Volzone, 2020

About the Serra de Ossa community, an emphyteusis charter is identified about a small bush land and a hill chain in its natural condition, in which hermits could sow bread for their maintenance[205]. In the Vale da Infante community, sales charters are found about

[202] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 64.
[203] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 29; TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 35, nº 45.
[204] BPE, *Convento de S. Paulo de Borba*, lv. 7, nº 7 [13]. A comparison between these data and the ones analysed by previous authors, concerning the Sétubal Peninsula, shows analogies in the references to harvest lands. See J. A. Oliveira (2013) pp. 247-259.
[205] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 27 / lv. 44, nº 10.

a bush to be transformed in a harvest land, in order to obtain straw and some wheat[206]. The same happens in Junqueira, as referred to in a sale charter of *huuas Courrellas de terras de pam*[207]; in addition, a sesmaria charter was found, which allowed to make a land with a reservoir and the rockrose valley into a harvest land[208]. Finally, this component is found in a São Julião de Alenquer emphyteusis document, according to which the intention was to transform that bush – *mato esmontado* – into harvest lands or vineyards[209].

Wheat and grinding sistems, the mills, are associated mostly in charters about Rio Mourinho, Santa Catarina do Vale de Mourol, hermitages in the Ossa Hill chain and Rio Torto, in Elvas. Regarding the type of cereal, as well as its cultivation, there is little information provided by the analysed charters. Studies about the possession of Santa Maria de Alcobaça community show that harvest lands were mostly cultivated for the production of bread, at the basis of that centuries' alimentation[210]. One document attests the presence of rye (*centeio)* in Alferrara[211]. The same emerges in the Alentejo community, located near Óbidos, where *centeio* is mentioned together with *trigo* and *cevada*[212]. Barley is found in Valbom, Vale de Infante and Alentejo (near Óbidos); while wheat is found in Vale da Infante[213], Alentejo, Junqueira, Rio Mourinho, Rio Torto, and Santa Catarina de Vale de Mourol and Serra de Ossa. Additionally, sometimes it is possible to identify the type of cereal from the rents referring to the payment in wheat.

***Vineyards***

Vineyards are typical of the Mediterranean regions, due to the edaphoclimatic conditions (Viana 1998; M. S. Conde 2000), at the basis of the land use trilogy constituted by "vineyard-cereals-olive grow" (M. Braga 2015).

Among the selected analysed documents, the oldest reference to vineyards is included in a donation charter of 1369[214]. The donated land was located in Felgueira, in Montemor-o-Novo. The toponym still exists in a land at about 4 km from the city walls,

[206] "ronper hu pedaço de mato pera fazerem hua pequena lauoyra pera haverem palha e alguu triguo", in: TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 14 / lv. 2, fls. 180-191v.
[207] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 41.
[208] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 57.
[209] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 101.
[210] See: Gonçalves, 1989, pp. 215-229.
[211] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100.
[212] TT, *Convento de São Bento de Xabregas*, mç. 18, nº 10.
[213] BPE, *Colecção Especial*, cx. 35, nº 34.
[214] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20.

which corresponds to the second of the four land use circles. In the charter, vineyards are described as located around the orchards of the donated land.

Vineyards were located in the nearest areas of the village, probably after kitchen gardens and orchards, on roads and access roads to the urban centres, along with olive groves. This is due to the fact that the vineyard is very close to the producer's area of residence, as vine growing is a continuous work throughout the year. At the same time, vineyards should be close to places of processing and storage of the product considering its easy deterioration (wine and grapes).

In the selected documents, vineyards are referenced 91 times. Sometimes they are defined *mhorta*[215] – dead –, *mortorio de vinha*[216] or *vinha com seu mortorio*[217], *courela de vinha*[218], community land with vineyard, *vinha no termo da cidade*, around Évora[219] and Borba[220]. It is also associated to *panasqueira*[221], a place with *panasco* – grass growing in wetlands – which hermits transformed into vineyards. The existence of vineyards and other crops around the village, associated with orchards and other cultures – *courela de vinha com figueiras*[222]*, vinha com árvores*[223]*,* or olive groves, *vinha com olival*[224] – represents a traditional form of Mediterranean culture.

This consists in surrounding olive trees to prevent animals that could destroy them – mostly cattle and, according to documents, hives – from entering. In this case, it is plausible that the charter refers to wasp hives, which indeed eat grapes. Bees would not be a problem; in fact, they increase the fructification and benefit plants both with vineyards and olive trees (Paixão 1969). This lead to the consequent production of pollen and honey, which were both used as sweeteners in that period. It is curious to reflect about the meaning of Aivado, the community name, which is intimately related to bees; indeed, it comes from *alvado*, the hive hole through which bees enter (Machado 2003).

[215] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 82. This is typical in the Middle Ages, in fact numerous references, also with regards to other religious settlements, are identified.
[216] BPE, *Pergaminhos Avulsos*, pasta 11 (Vários, 50), nº49.
[217] TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 81A.
[218] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 78.
[219] BPE, *Pergaminhos Avulsos*, pasta 13 (*Pergaminhos Avulsos*, 200), nº 61.
[220] BPE, *Pergaminhos Avulsos*, pasta 16 (*Pergaminhos Avulsos*, 98), nº 5.
[221] TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 96.
[222] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 77.
[223] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. A10.
[224] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 15.

In Rio Mourinho, there is an increase in documents referring to vineyards in the last quarter of the 15th century. The vineyard is defined *velha*[225]or *grande*[226] in two records.

In addition to the olive trees that could protect them, vineyards could also be surrounded by *taipa*[227], a wall made of mud. Aivado in Évora, Valbom in Vila Viçosa, Serra de Ossa, and finally Cela Nova in Caparica present more documents concerning the presence of vineyards.

With respect to the Serra de Ossa community, it is interesting to note that two sesmaria charters were found regarding the cork oak valley in which to plant vineyards and orchards.

***Olive Trees***

Olive trees – *Olea europaea* – have a very significant presence in southern Portugal. Previous studies show the olive growth best conditions in term of ecological systems (Marçal 1900) – orography, geology, among others –, its distribution in Portugal (Daveau 1995), their presence and development in the rural Alentejo territory (Saldanha 2003). In the analysed period, olive trees would be located in a green ring around the villages (Coelho 1989; Gonçalves 1989; M. S. Conde 2000; Alves 2011).

The first documentary reference to olive trees is dated 1380[228]: a donation made by Lourenço Eanes Reguengo and Margarida Domingues, inhabitants of Elvas. They donated a land in Rio Torto, which was delimited by hedges, olive trees, wild olive trees, and cork oaks. Olive trees identified in the selected documents are mentioned as *olival*, *oliveira*.

Similarly to vineyards, sometimes olive trees appear isolated, sometimes with other species, such as *herdade de pão com oliveira*[229]. The association with the harvest land was very common, as well as with vineyards, *vinha com olival*[230], *çarrado de olival e vinha e arvores*[231], and sometimes with chestnut, *oliveiras e castanheiros*[232]. In a

[225] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. C8.
[226] TT, *M.C.O., O.S./C.P.*, livro 177, fls. 12v-13v.
[227] TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 68J / lv. 2, nº 3.
[228] ADPTG, *Convento de S. Paulo de Elvas*, CVSPELV/TB nº28-cx.10 (*Tombo das capelas e títulos de propriedades 1664-1781*), fls. 17-17v.
[229] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 26.
[230] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. G3.
[231] TT, *Chancelaria de D. Duarte*, lv. 1, fsl. 133-133v.
[232] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 6, nº 78, fls. 113v-114 / lv. 7, doc. D7.

document dated 1441, *huu olival que era todo queimado e desirado e metido a mato*[233], an abandoned olive grove is donated and it is located near *portelas* – local natural paths that allow the hill chain transitability.

Alferrara and Mendoliva, in the Setubal peninsula, and São Julião de Alenquer certainly stand out for the documentary references to olive groves. In the latter, references to *zambujeiro – Olea europea* var. *sylvestris* – appear. This tree is present in the centre and south of the Portuguese territory. Its reference in Alenquer makes sense because of its biophysical characteristics.

***Enclosure***

The perimeter of the often-surrounded hermitages welcomes the outside world, as hermits' tradition requires them to offer hospitality to those who seek it, such as sick or old people in need of care, travelers or pilgrims seeking accommodation, people seeking advice or accompaniment, or even people interested in buying their products – fruit surpluses from the orchards they cultivated or the wooden spoons they produced from groves around them (Volzone and Fontes 2020).

Above all, an enclosed space means a distinct area that is separated from the adjoining environment by erecting a border. *Temenos* is the archetypal form of significant space and it constitutes the starting point for the human settlement; later, the word came to indicate the sacred place belonging to a sanctuary and its enclosure. So, an enclosure is a physical boundary between the interior, the sacred place, and the outside world, but the hermits' microcosm does not materialise in a space of complete isolation.

The possibility of living in an *eremos* becomes feasible, first of all, with the act of closing. Several documents from the analysed group prove it. Perhaps, one of the practical reasons for closing these spaces was protecting the hermitage, with its houses and farming, from men and animals such as wasp hives and livestock[234].

Mostly, the enclosure is mentioned in charters in relation to properties being invaded by cattle. Several council deliberations highlighted the antagonisms between farmers and breeders (J. Fonseca 1998). Livestocks – *gado* in Portuguese charters – sometimes appear as the exterior element that damaged the hermits' property, as it

[233] BPE, *Pergaminhos Avulsos*, pasta 11 (*Vários*, 50), nº 49.
[234] TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 9.

happened in Alferrara[235], Montemuro[236], Pó[237], Serra de Ossa[238]. Livestock would take advantage of natural resources belonging to the enclosed properties[239]. It happened with part of the wood donated to the Montemuro community[240], or with Mendoliva's water for land irrigation[241].

Other times, bovines – *gado vacum* – invaded lands and owners were obliged to pay fines, such as in the Azambujeira community's instance[242]; this could lead, as in the case of Rio Mourinho, to close *canadas* in order to bar access to livestock[243]. Regarding livestock typologies, in this last community charters, few species emerge[244].

In another occurrence, several animals – *catorze rresses uacunaes conuem saber ssete uacas mayores e ssete bezerros e bezarras*[245] – were donated. A letter from King Afonso V reveals the presence of *galinhas, gado, besta de sela e de albarda*[246] – chickens, cattle, saddle and pack-saddle livestock.

In Óbidos, a possession instrument and its inventory includes different livestock species – *gaado uacarill antre machos e fêmeas E grande e pequeno*, *gado mjudo, ouelhas, cabras, colmeas*[247] – containing even the correspondent quantity in numbers.

The enclosure creates a discontinuity with the surrounding space. The degree of discontinuity depends on its intrinsic characteristics, its shape and (Carapinha 1995), and generates minor or major permeability.

In most cases, enclosures were the result of valleys dug and planted with shrubs or herbs (J. Serrão and Marques 1987). On the one hand, a natural enclosure merges with the environment for its living features, through homogenisation. On the other one, an

[235] TT, *M.C.O.*, *O.S./C.P.*, *Documentos Particulares* (Antiga Colecçao Especial), maço 2, nº 10.
[236] BPE, *Convento de Santa Catarina de Sena de Évora*, lv. 86, nº 28.
[237] TT, *Colegiada de S. Pedro e Santiago de Óbidos*, mç. 3, nº 28 (a).
[238] BPE, *Pergaminhos Avulsos*, pasta 7, nº 32; BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 17; TT, *Chancelaria de D. Afonso V*, lv. 19, fl. 27v / lv. 34, fl. 35v; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 77-77v; TT, *Leitura Nova*, *Odiana*, lv. 3, fls. 255v-256 / lv. 4, fls. 228-228v.
[239] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 30.
[240] ADE, *Arquivo Municipal de Évora*, lv. nº 67, fls. 67v-68v / lv. nº 145, fls. 121-122; TT, *Chancelaria de D. Duarte*, lv. 1, fls. 175-175v; TT, *Leitura Nova*, *Odiana*, lv. 6, fls. 225-225.
[241] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 45.
[242] TT, *Chancelaria de D. Afonso V*, lv. 30, fl. 142 / lv. 31, fl. 135; TT, *Chancelaria de D. João II*, lv. 21, fls. 117v, 118-119; TT, *Leitura Nova*, *Odiana*, lv. 2, fls. 167v-169v, fls. 188-189.
[243] TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 10.
[244] TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 42 / lv. 2, nº 2.
[245] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 2, nº 49.
[246] BPE, *Colecção Especial*, cx. 35, nº 34.
[247] TT, *Convento de São Bento de Xabregas*, mç. 18, nº 10. The historical record has been deeply analysed in (Fontes 2009). In this period, the hermitage was part of the Secular Canons of St. John the Evangelist, but it is interesting because shows an image of the livestock tipologies in that specific area.

artificial enclosure, due to its heterogeneous nature, defines a more radical and inviolable limit with respect to its surroundings (Herrera 1513).

The first reference to *cerca* (enclosure) dates back to 1390. According to the document, it stood inside the land of the Serra de Ossa hermitage, where hermits could sow bread, or anything for their self-sufficiency[248]. This component enclosed gardens, vegetable gardens, orchards.

It is verified in Serpa[249] and Santa Maria do Monte da Virgem[250]. A document dated 1485[251], a sentence between Junqueira hermits and Estevão da Gama, Santiago Order knight, in which hermits declare their possessions, refers the orchards – apple, pears, and figs – inside the fence that they cultivate. Later, in 1519[252], in a royal sentence about a dispute between the Count of Odemira and Vale da Infante hermits, the presence of orange trees, orchards, vineyards, and olive trees[253] inside the enclosure is verified.

It is possible that, similarly to what happens with other eremitical settlements (Serra 2006b), this represented the first ring around the hermitage. Often, as seen earlier, mud walls surrounded vineyards and olive trees[254].

***Orchard and Kitchen Gardens***

This study distinguishes between orchards and kitchen gardens for systematisation reasons, in order to help with reading the documentation. Indeed, in Mediterranean regions, unlike in northern or central Europe, a promiscuous agriculture or horticulture takes place, and both coexist. Sometimes the insolation level is so strong that it is possible to have production at multiple levels. This is a way of controlling the insolation on vegetables, and, simultaneously, the more shade there is the less water evaporates. It is typical of small landscapes. Data about surfaces is lacking – except for very few instances

[248] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 27.
[249] ADB, *Convento de São Paulo de Serpa*, lv. 1, doc. nº 49.
[250] BPE, *Convento de São João da Penitência de Estremoz*, lv. 103, nº 28; TT, Leitura Nova, Odiana, lv. 3, fls. 40v-41; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 84v-86, 87v-88v.
[251] TT, *Convento de São Paulo da Junqueira*, mç. único, nº 3.
[252] TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 14 / lv. 2, fls. 180-191v.
[253] "As taypas a dentro… muj gramde terra cercaram Com taypas demtro das quaees tinham muytos laramJaes e pumares e oliuaes domde sempre se mantiveram", in: TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 14 / lv. 2, fls. 180-191v.
[254] "Dentro do çarado de bariga, conuem a saber asy de casas come de vjnhas, E matos E aruover E fontes", in: TT, *Convento de Nossa Senhora da Rosa da Caparica*, maço 2 de pergaminhos, nº 33; TT, *Chancelaria de D. Duarte*, lv. 1, fsl. 133-133v.

where information on dimension is provided[255]. However, it is probable that documented areas were not too large.

In opposition with the components analysed so far, orchards reflect a great human intervention (Cabral and Telles 1999). Fruits were an important product for hermits, whether for their own consumption or sale. Indeed, fruit – and vegetable – surpluses were often sold in cities (Fontes 2012).

The term orchard – *pomar* – emerges twelve times in documents, without species being identified. Sometimes it is associated to the presence of kitchen gardens, sometimes to vineyards – *vinhas e pumares* – in Asseiceira[256], Montemuro[257], Montes Claros[258], Penha Longa[259], Serra de Ossa[260], Vale de Infante[261]. When it comes to Rio Mourinho[262] and São Julião de Alenquer[263], both associations are observed. Orchards need land with rich soil, abundant water for irrigation and the owners' care.

In other occasions, distinct species were found. They vary according to geographical and production area, soil and weather conditions. Aivado presents references to fig trees – *figueiras* – and a queen fig tree – *figueira rainha*[264]. Fig trees are also identified in the Arraiolos[265] and Felgueira[266] communities, located between Évora and Montemor-o-Novo, in the Junqueira community[267], in the coastal zone, and São Pedro de Bencatel[268], in Estremoz.

References to seed fruit trees, such as citrus, have been found in Penha Longa, Sintra – orange, lemon, cider[269] –, and orange trees in Vale da Infante[270]. Even later

[255] An assets inventory about the Alferrara community, already late, contains data about a land property with the respective delimitations and dimensions. In TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100.
[256] TT, *Chancelaria de D. Afonso V*, lv. 32, fl. 97; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. C2, doc. A5; TT, *Leitura Nova, Odiana*, lv. 4, fls. 172v-173.
[257] TT, *Chancelaria de D. João I*, lv. 4, fls. 16v-17; TT, *Chancelaria de D. Duarte*, lv. 1, fls. 174-175; TT, *Chancelaria de D. Afonso V*, lv. 18, fl. 16; TT, *Leitura Nova*, *Odiana*, lv. 4, fls. 227-228.
[258] TT, *Chancelaria de D. João I*, lv. 4, fls. 108v-109.
[259] TT, *Mosteiro de Nossa Senhora da Saúde de Penhalonga*, maço 1, nº 30.
[260] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 7; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 49-50.
[261] TT, *Chancelaria de D. Afonso V*, lv. 30, fl. 173; BPE, *Pergaminhos Avulsos*, pasta 7, nº 84; TT, *Leitura Nova*, *Odiana*, lv. 2, fls. 185v-186.
[262] TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 68J / lv. 2, nº 3.
[263] TT, *Confirmações Gerais*, lv. 5, fl. 40; TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 82.
[264] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 77.
[265] BPE, *Convento de Nossa Senhora da Assunção de Arraiolos*, lv. 12, nº 6.
[266] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20.
[267] TT, *Convento de São Paulo da Junqueira*, mç. único, nº 3.
[268] BPE, *Pergaminhos Avulsos*, pasta 16 (*Pergaminhos Avulsos*, 98), nº 5.
[269] TT, *Mosteiro de Nossa Senhora da Saúde de Penhalonga*, maço 1, nº 30.
[270] TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 14 / lv. 2, fls. 180-191v.

descriptions define this valley as a true oasis where orange, lemon and other fruit trees thrived as much as on the coast (Proença 1927)[271]. Finally, references to apple and pear have been found in Junqueira[272].

In relation to stone (or drupe) fruit trees, references to cherry trees have been found in Rio Mourinho. Their presence – sometimes mentioned as *cerezeiro* – in this region is justified because of the area where it is located, in the Monfurado Hill chain, with average annual rainfall that can reach values of 900mm (Chambel 1990), therefore an area with aptitude for this type of planting. It could refer to the *Cerejeira-brava* (*Prunus avium* var. *actiana*). The existence of the toponym *Lugar de Cerejeiro* in these lands indicates that cherries were there: their presence represents an exceptional fact and justifies the toponym's emergence. Indeed sometimes due to the lack of information in sources, a toponymic analysis can reveal the existence of species whose names are incorporated. The toponyms V*ale do Pereiro* and *Peralonga*[273] suggest the presence of pear trees[274], *catapereiro* (the *Pyrus communis* ssp. *Piraster*) also known as the Iberian pear, which is generally located in hedgerows, slopes, or valleys (Cabral and Telles 1999). The same applies to the apple trees valley (*vale de maceiras*[275]) in Vale da Infante.

References to *pomar regadio*[276] – watered orchard – have been featured in the Felgueira community charters. It could correspond, in this case, to orange trees, in contrapposition with the algarvian dryland orchards, more southern, e.g. fig, almond and carob trees. In the Ossa Hill chain communities, with the exception of Vale de Abraão, 19 documents attest the presence of orchards. This discovery reveals a considerable human intervention in an area that was supposed to be in a wild state.

The hermits' nourishement was also based on vegetables, so the existence of kitchen gardens is natural. These gardens formed a half-rim around the city, and 17 references to kitchen gardens are verified in the analysed documents.

[271] "o fundo de certos vales da serra, por exemplo, o Vale de Infante, constitui verdadeiros oásis no meio destas solidões. As laranjeiras, limoeiros e outras árvores de fruto prosperam ali como no litoral. As duas vertentes do Vale do Infante, formadas de xistos compactos, apresentam um contraste impressionante. Um impenetrável matagal de estevas de 2m, 5 de alt. cobre uma das vertentes, enquanto a outra é revestida de um espesso tapete vegetal composto de gramíneas", in: Raul Proença (1927, vol. 2, p. 89).
[272] TT, *Convento de São Paulo da Junqueira*, mç. único, nº 3.
[273] TT, *Mosteiro de Nossa Senhora da Saúde de Penhalonga*, maço 1, nº 30.
[274] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 10 / lv. 40, macete 1. nº 34 / lv. 44, nº 7; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 49-50, fls. 69-70v.
[275] TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 3, nº 4, nº 5, nº 16 / lv. 1, fls. 17v-18v / lv. 2, fls. 70-72, fls. 75-77, fls. 77-79, fls. 84-85.
[276] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20

In the case of *Azambujeira* hermitage, in Avis, it is interesting to note the sequence of two letters: the first one offers part of an abandoned kitchen garden on one of the brook banks (*um quinhão da horta velha, a parte de além do Ribeiro*[277]); in the second one, another part on the other side of the same brook is donated[278]. These documents allow us to draw three conclusions. Firstly, there is an association between kitchen gardens and streams; indeed, kitchen gardens are located near important watercourses, because of the specific needs of this type of land use. Secondly, the strategy adopted in this territory was that of accumulating adjacent lands, densifying possessions around the hermitage. Thirdly, there is a link between abandoned land donations, old – *velha* – in this case, and the figure of the hermits as an instrument in the resettlement of uncultivated land.

The same is visible in a document concerning the Serra de Ossa community, in the Hell Valley (*vale do inferno*). Here, kitchen gardens and orchards, this time acquired by hermits, were dead (*mortório*)[279] without active production. Vale Formoso, in Tavira[280], and Serpa[281] present two documents each with references to kitchen gardens. No references to the vegetable types have been found.

Sometimes trees along the river are revealed in documents, corresponding to riparian vegetation, such as ash[282] or alder[283] species, which sometimes are incorporated in toponyms. The wood of these trees could be used, due to its features, for the wood spoons produced by the hermits. The presence of these trees, belonging to the original ecological system, shows a land with specific features, before humanisation.

All the identified landscape data regarding the vegetation system, on the basis of the distinction between ecological and cultural components, have been grouped in the seven categories previously analysed. In order to correlate these components and their presence in 17 eremitical communities[284], a radar-type chart was made. This chart supports different interpretations. Firstly, it allows to understand the presence of each

[277] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20.
[278] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 20.
[279] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº 19; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fl. 36.
[280] TT, *Convento de Nossa Senhora da Ajuda de Tavira*, mç. único, nº 2, nº 5, fls. 1v. 2.
[281] ADB, *Convento de São Paulo de Serpa*, lv. 1, doc. nº 13, doc. nº 49.
[282] BPE, *Convento de Nossa Senhora da Assunção de Arraiolos*, lv. 12, nº 6.
[283] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 6, nº 78, fls. 112v-113v / lv. 7, doc. B2, D6; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. B2; BPE, *Convento de Santa Catarina de Sena de Évora*, lv. 85, nº 41.
[284] These 17 case studies have been deeeply analysed due to two different factors: on the one hand, these eremitical communities have developped into monastic ones, and are examined in Chapter 3; on the other hand, these present, mainly, a more consistent number of charters, being paradigmatic in terms of landscapes data.

component in the settlements, enabling a specific comparison. Secondly, it allows to verify the global richness of each community, on the basis of the documentary references, by taking into consideration all the components simultaneously. Thirdly, it higligths the association between transformation equipment systems, in a specific settlement, and land use components (Table 2.7).

The majority of data about the vegetation system is registered in Serra de Ossa, Valbom, Alferrara and Rio Mourinho, proportionally to the larger number of charters individuated in these communities, as seen previously (Table 2.3).

By analysing the single components, it is possible to see that the first three communities were rich in terms of bush and oaks trees. These components correspond to the geographical areas' edapho-climatic association.

Conversely, Rio Mourinho stands out for data regarding orchards and kitchen gardens, only followed by Serra de Ossa. In counting of the orchards, the generic references to the term *árvore* (tree) have not been taken into consideration. In previous studies this term is associated to orchards[285]. Adding this data into the chart could show a much more expressive number about orchards. Indeed, their massive presence would be justified by the benefits obtained through royal privileges, such as tax exemption for fruit sale.

On the other hand, the Aivado community stands out for its references to the vineyards.

In Vale da Infante, Valbom, Rio Mourinho and Junqueira – communities with a greater recorded presence – harvest lands show a strict relation with transformation equipment. Only in the case of Alferrara, despite the high number of references to harvest lands, no mills are individuated.

Conversely, Vale Formoso and Azambujeira, followed by Vale de Abraão and Rio Torto, are the communities with fewer references. In the first two cases, it is also due to the total scarcity of identified data. But it is important to take into consideration that these two settlements were abandoned between the end of the 16th and the beginning of the 17th century. Vale Formoso moved inside the city of Tavira, while Azambujeira was dissolved and the settlement abandoned.

[285] See: "A árvore na paisagem rural do Entre Douro e Minho: o testemunho das Inquirições de 1258" (1996), 2º *Congresso Histórico de Guimarães – Actas do Congresso*, vol. 6, Guimarães: Câmara Municipal de Guimarães-Universidade do Minho, pp. 5-25; "Sobre o coberto arbóreo da Beira interior nos finais da Idade Média" (2006), in *Estudos em homenagem ao Professor Doutor José Amadeu Coelho Dias*, vol. I, Porto: Faculdade de Letras da Universidade do Porto, pp. 321-350.

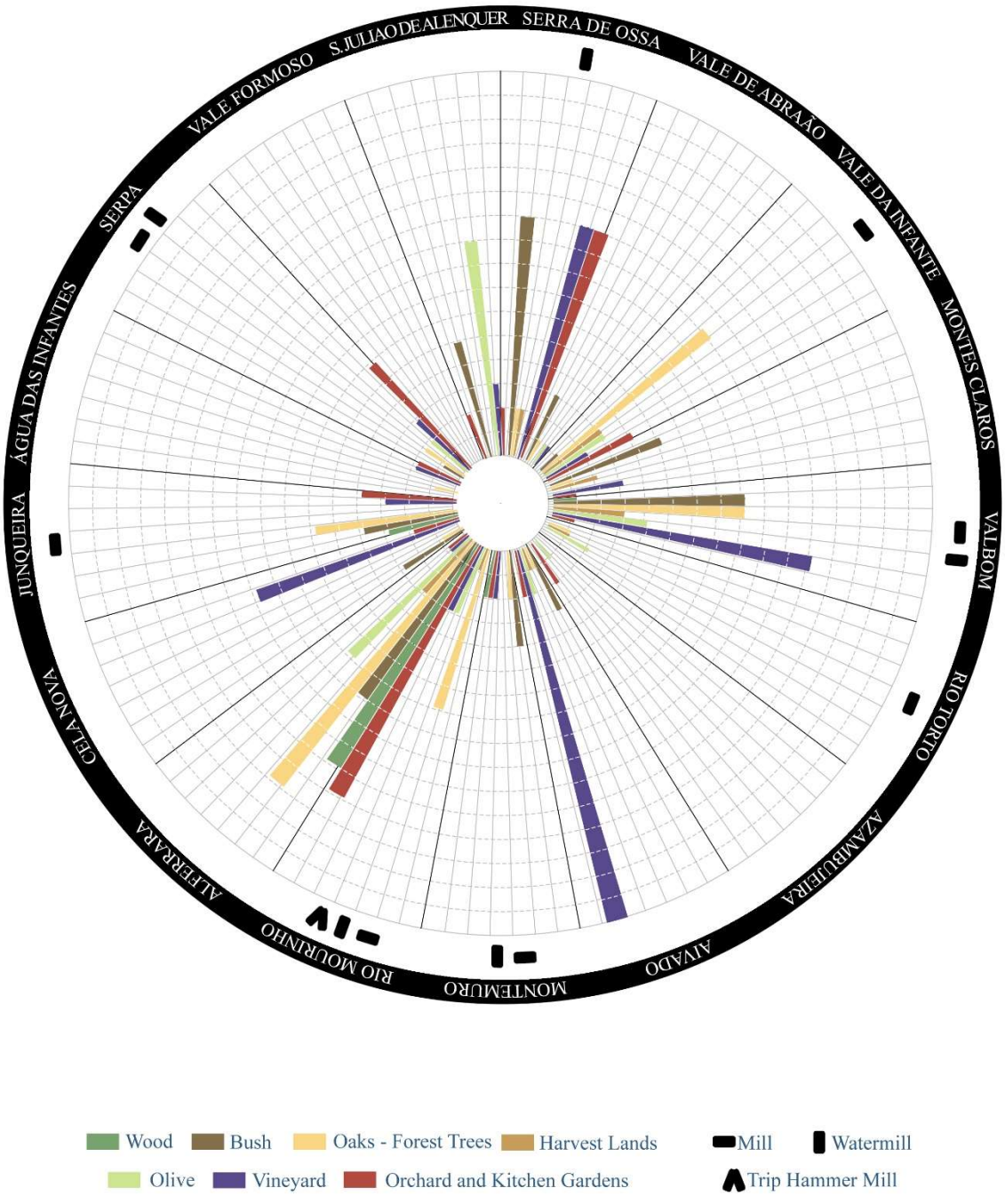



Table 2.7 – Hermitages and land use components found in analysed charters (1366-1578). ©Rolando Volzone, 2020

### *2.2.3 Water System*

The wide availability of water – part of the hydric system – enabled hermits to carry on their retired life with the necessary autonomy in relation to the closest settlements. Moreover, hermits needed a hydraulic system for water collection, transportation, storage, and distribution for personal usage – for washing and cooking – as well as for the irrigation of crops and for cattle (Mascarenhas and Jorge 1996). As an earth fertilizer too and, symbolically, for its inhabitants, water played a central role in the hermits' settlement (Volzone 2017). Consequently, it is not surprising that hermits settled near springs or important waterlines. Water abundance also increased the soil's agricultural potential, which was beneficial to the communities.

Regarding the hydric system, three terms are individuated: *ribeiro*, *ribeira* and *água*. There are 39 references to *ribeiro* (brook), 49 to *ribeira* (stream), and 33 to *água* (water), differentiated between *águas vertentes* or *correntes* (either running or still water), and *água do alto*[286] (water from above). Rivers' names are revealed in several documents and it is interesting to verify how many of these hydronims are still present in contemporary cartographies (Table 2.8). In several records, the community's name includes the hydronim: Rio Mourinho, Rio Torto, Água das Infantes and São Brissos de Xarrama.

Concerning the hydraulic system, three elements have been identified: *fontes, poço*, *lagoas*.

The first one belongs to the distribution system. There are 39 references to *fontes* (springs) in the Vale da Infante, Água das Infantes, Aivado and Alferrara communities. This element corresponds to a spring, which may have an architectural treatment.

*Poço* (well) is identified in records about Junqueira, Mendoliva, and Serra de Ossa.

Reservoirs (*lagoas*) have been identified in the Aivado[287], Alferrara[288], Junqueira[289], and Montes Claros communities[290].

[286] BPE, *Convento de S. Paulo de Coimbra*, lv. 2, nº 40.
[287] "semada d huu ualado e chega a hua lagoa que hi etsa a ffundo no ual", in: TT, *Colégio de S. Paulo de Coimbra*, livro 2, nº 100.
[288] TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 81-100.
[289] "alagooa e o vall todo da esteveira", in: TT, *Convento de Nossa Senhora da Consolação de Alferrara*, mc. 3, nº 57.
[290] "llagoa de trauaços", in: BPE, *Convento de S. Paulo de Borba*, lv. 7, nº 1 [4], nº 3 [9], nº 11 [18]; TT, *Chancelaria de D. João I*, lv. 4, fls. 108v-109.

A curious reference to *pego nadável*[291] (swimmable pond) characterises a sentence regarding the Montemuro community.

| Hermitages | Hidric System | |
|---|---|---|
| | Stream name | Brook name |
| Serra de Ossa | *ribeira de Pero Crespo*<br>*ribeira do Espinheiro*<br>*ribeira de Ana Loura*<br>*ribeira de Alcuvisca* | *ribeiro de Pero Crespo*<br>*ribeiro de Palhavã* |
| Vale da Infante | *ribeira do mestre*<br>*ribeira de Gatuz*<br>*ribeira de Alfanger*<br>*ribeira de gatos* | *ribeiro do ferreiro*<br>*ribeiro da pedra*<br>*ribeiro de Monporcam* |
| Azambujeira | *ribeira de Avis* | *ribeiro de Azinhal*<br>*ribeiro do vale de Santiago*<br>*ribeiro de Fonte Arcada* |
| Alferrara | | |
| Rio Torto | *ribeira de chinches* | |
| Vale Abraão | | |
| Vale Formoso | | |
| Àgua das Infantes | | |
| Aivado | | *ribeiro do Aivado* |
| Montes Claros | | |
| Cela Nova | | |
| Montemuro | *ribeira de Rio Mourinho*<br>*ribera de Degebe* | |
| Valbom | *ribeira de Guadiana*<br>*ribeira de Borba*<br>*ribeira d emures*<br>*ribeira da Asseca* | |
| Rio Mourinho | *ribeira da Javallacira*<br>*ribeira de Odjera*<br>*ribeira de Xarrama* | *ribeiro de Infante*<br>*ribeiro da Espadaneira* |
| Junqueira | | *ribeiro dos camachos* |
| São Julião de Alenquer | | |
| Serpa | *ribeira de Guadiana*<br>*ribeira de Álamo* | |

Table 2.8 – Hermitages and hydric system: hydronims detected in charters (1366-1578). ©Rolando Volzone, 2020

[291] BPE, *Convento de Santa Catarina de Sena de Évora*, lv. 86, nº 28.

Water energetic potential is used for subsistency, locomotion and irrigation, but also as a driving force for the operation of grinding systems: mills, watermills, and trip hammer mills.

Mills are the most used tecnologies for raw material processing and transformation. In Portugal, as highlighted by previous studies (E. V. de Oliveira et al. 1983), two types of grinding devices moved by hydraulic power existed[292]: *moinho* – mill, generally with a horizontal waterwheel – and *azenha* – also known as watermill, with a vertical waterwheel. They needed to be located in places with frequent watercourses[293] in order to work. They were distributed all over the Portuguese territory, depending on the local ecological component, and the proximity to urban centres or to the circulation system.

There are 29 references to mills with regard to the communities of Rio Mourinho – whose toponym comes from *Rio de Moinhos* (mills River), Montemuro, Valbom, and São Brissos de Xarrama. These structures are always related to the presence of important watercourses (Table 2.9) or to harvest lands (Table 2.7) (*terras de semeadura*) as seen previously.

Watermills are mentioned 17 times, which of course attests to the direct link with water presence. The references found are limited to the Serra de Ossa and Rio Mourinho communities, mentioned six and two times, respectively. With regard to Serra de Ossa, there are mentions sometimes of *azenha velha* (abandoned watermill) – one that hasn't milled in the last 60 or 70 years[294] – and sometimes of *azenha nova*[295] (new watermill), related to wheat production of *Anha Loura* stream place. In another document *enxaguadouro* (watermill rinser)[296] is mentioned, probably referring to the stream derivation that allows water to reach the watermill.

Trip hammer mills are also hydraulic powered structures with a wheel that moves hammers (E. V. de Oliveira and Galhano 1977). The Portuguese term *pisão* can be applied to the transformation of olives or fabrics, although in this context the term is associated to the first use. References to trip hammer mills are limited to the Rio Mourinho

[292] According to the author, between the 14th and the 16th century, windmills would be rare in the Portuguese territory.
[293] See: (White e Lejeune 1969, pp. 106-107; Gimpel 1977, pp. 9-18).
[294] "azenha velha que não moia há 60 ou 70 anos e estava em mato", in: BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 44, nº 26.
[295] TT, *Chancelaria de D. Afonso V*, lv. 31, fl. 1; TT, *Leitura Nova*, *Odiana*, lv. 3, fls. 8v-9v; BPE, *Pergaminhos Avulsos*, pasta 15 (Pergaminhos Avulsos, 80), nº 29.
[296] BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 40, macete 1 (*Pergaminhos*), nº 36; BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 8, fls. 34v-35.

community, usually in association with the presence of the Xarrama River and with mills[297], and also in another document, located in estates where a watermill, a mill, two orchards, a vegetable garden, a vineyard, three olive grove circuits, were found near Alcaçova[298].

In order to understand the relationship between the components of the water system and their presence in records regarding a specific settlement – similarly to the analysis carried out with the vegetation system components – a radar chart has been elaborated (Table 2.9). This allows to interpret the data of a specific settlement, enabling, at the same time, a comparison with the others.

By analysing this data, it is evident how communities around the Ossa, Arrabida and Monfurado Hill chains were richer in terms of hydric and hydraulic components.

Through this analysis, the majority of the records in the database regards the Serra de Ossa, Vale da Infante, Valbom, Alferrara and Rio Mourinho communities. This shows a correspondence with the chart about the vegetation system (Table 2.7), underlying the link between water resources and soil fertility.

The Serra de Ossa, Vale da Infante e Rio Mourinho communities show multiple references in terms of *água* (water) – an ecological element intimately related to the nature of the places. Since most of the references regard running or flowing water, it is evident that they occur mainly in mountainous or valley topographies.

In some cases, above all Rio Mourinho, the presence of records regarding transformation equipment is strictly linked to the abundance of references about the water system. In other cases, this correspondence does not exist, as evident in Junqueira, Serpa and Rio Torto.

[297] TT, *Colégio de São Paulo de Coimbra*, lv. 2, nº 65; TT, *Chancelaria de D. Afonso V*, lv. 19, fl. 38v; TT, *Leitura Nova*, *Odiana*, lv. 2, fl. 176 / lv. 4, fls. 250-250v / lv. 6, fls. 229v-230v; TT, *Chancelaria de D. Duarte*, lv. 1, fls. 213v-214.
[298] TT, *Colégio de S. Paulo de Coimbra*, lv. 1, nº 68J / lv. 2, nº 3.

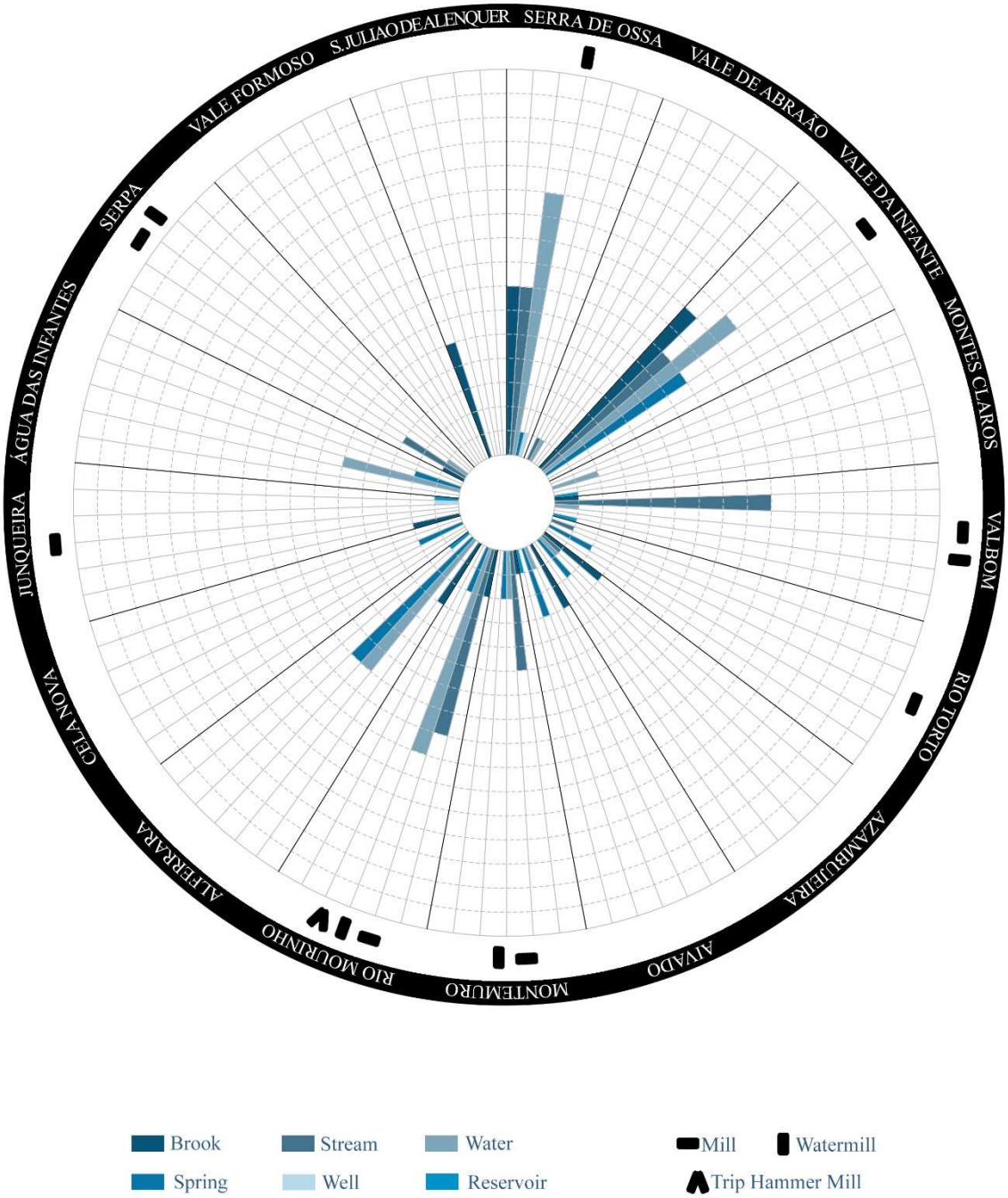



Table 2.9 – Relationship between hermitages and the water system (1366-1578). ©Rolando Volzone, 2020

As seen before, the geomorphology, through the interaction between orography, vegetation and water – basic components of any natural place – influenced eremitical settlements. Hermits, by understanding these factors, respected and accomodated the *genius loci* (Norberg-Schulz 1980). Settlements needed a natural framework with singular features with respect to other topographic contexts related to regular religious experiences. This met practical needs such as the population's relative remoteness, and the presence of abundant drinking water, which allowed also soil fertility. Chosen spaces were characterised by the presence of: i) hills, ii) valleys, and iii) important waterlines. These elements were included in charters several times; as seen previously, sometimes the hermitage took its name from these natural elements, e.g. Serra de Ossa (Ossa Hill chain), Vale Abrão (Abraham Valley), Rio Mourinho (Mourinho River), among others (Table 2.10).

The Alentejo region is mostly plane, known as peneplain, interrupted by small altitude mountains or hill chains. In the south of Portugal, hill chains are not characterised by great altitude, with the exception of São Mamede in Alto Alentejo which is 1.205 metres high. Hill chains, such as Monfurado, Montemuro and Ossa stand out through the contrast with the immensity of the surrounding peneplain.

Detachment was the most important element; in those centuries, hills as well as valleys were not very busy places. For hermits the desire for seclusion implied distance from communitarian life, which provided the necessary tranquility to this life of recollection, prayer, asceticism, and silence, in contrast to the outside world. The outside noises came from far away, almost whispering, muffled by the mantle of vegetation (Mendoça 1989). Additionally, elevations brought with them a certain transcendence symbolism; they were perfectly suited to offer detachment, but they also allowed and facilitated the proximity to heaven, to the divine.

The geographical accidents, elevations, and depressions seemed to hold a latent sacredness, awaiting the action of religious men to be subtracted from the profane world (Volzone 2017). It is understandable that spaces chosen for settlements went "From the valley to the mountain" – *Do Vale à Montanha* – title of a Fernando Pessoa poem of 1932[299], in which the Monk Knight's solitary and secret walk is invoked, towards the ultimate knowledge, to God. The same happens in Francesco Petrarca's *Ascesa al monte*

[299] The version is available at Archivo Pessoa, http://arquivopessoa.net/textos/2365

*Ventoso* (Ascent of Mont Ventoux)[300], through the walk, the ascent to the mountain. When the poet reaches the top, in order to thank God, he opens the Confessions of Saint Augustin, and reads a passage «and men go to contemplate the tops of the mountains, the vast waves of the sea, the wide currents of the rivers, the immensity of the ocean, the course of the stars and neglect themselves». The silence, searched and found in the altitudes, evokes the experiences of the Desert Fathers.

| **Hermitage** | **Hill** | | **Valley** | |
|---|---|---|---|---|
| Serra de Ossa | • | *Serra de Ossa*<br>*Serra de São Gens* | • | *Vale das Roçadas*<br>*Vale do Inferno*<br>*Vale do salgueiro*<br>*Vale do colmieiro*<br>*Vale do pinheiro*<br>*Vale do pereiro*<br>*Vale da fornalha*<br>*Vale da terra de cabeça*<br>*Vale do durão*<br>*Vale de Abraão* |
| Vale da Infante | • | *Serra de São Gens*<br>*Serra da Fonte do Lobo*<br>*Serra de Sousel* | • | *Vale de Carnes*<br>*Vale de Fatoz*<br>*Vale de Maceiras* |
| Azambujeira | | | • | *Vale de Santiago* |
| Alferrara | • | *Serra do Barril*<br>*Serra de el Rei*<br>*Serra grande*<br>*Serra de Louro* | • | *Vale de argalho*<br>*Vale do milho* |
| Rio Torto | | | | |
| Vale Abraão | • | | • | |
| Vale Formoso | • | | | |
| Àgua das Infantes | • | *Serra de Portel* | | |
| Aivado | • | *Serra do Aivado* | • | *Vale da Silveira*<br>*Vale dos Freixos* |
| Montes Claros | • | *Serra de Parua* | • | |
| Cela Nova | | | | |
| Montemuro | • | | • | *Vale panascoso*<br>*Valverde* |
| Valbom | • | | | |
| Rio Mourinho | | | • | *Vale de Corvos*<br>*Vale de Mós*<br>*Vale do vilão* |
| Junqueira | • | | • | *Vale da esteveira* |
| São Julião de Alenquer | | | • | *Vale do Junco* |
| Serpa | | | | |

Table 2.10 – Hermitages and their relationship with hills and valley in the historical records (1366-1578).
©Rolando Volzone, 2020

[300] The letter, better known as "A Dionigi da San Sepolcro dell'ordine di Sant'Agostino e professore della Sacra Pagina. Sui propri affanni", is available at: https://letteritaliana.weebly.com/lascensione-del-monte-ventoso.html

Valley and mountain – the concave and the convex – are complementary. The first one is the valley, which symbolises a spiritual receptacle of influences from heaven due to its orography, and it is similar to the cave where the first hermit took shelter (Xavier 2004). It is also the place in which earth and water combine and mix, preparing the earth for the harvest, and where symbolically the human soul and the divine merge. The second one is the mountain strongly materialises the connection between heaven and earth. A mountain can be seen as a sort of pyramid, where the base coincides with the earth – the corporeal and material world, implanted in Humanity – while the vertex is oriented to the non-manifest; thus, it symbolises transcendence, the place of the *Axis Mundi,* the tension towards the divine (Eliade 1952).

### *2.2.4 Building System*

Concerning the architectural elements forming the hermitages, records are extremely scarces. The systematisation, critical analysis and interpretation of the few clues included in the historical records allow to outline some conclusions, aimed at identifying the physical structures that housed the hermits or fulfilled certain functions. As seen before, transformation equipment was identified in several settlements. With regards to this, it is interesting to note that the hermits were involved in the repairing and manteinance of these structures, such as watermills or trip hammer mills, which were built close to the watercourses. This emerges, for example, in records referring to the hermit Gonçalo da Silveira and his companions[301]. Therefore, it has been supposed that hermits were involved in the construction of these and, eventually, other elements.

Although, local materials such as stone were used for some equipment, these medieval constructions were mostly very rudimentary and fragile, and were made of perishable materials, especially wood. For this reason, several references to ruined buildings, sometimes completely destroyed, are identified. *Pardieiro* or *paredeiro* is a physical structure that emerges in some records. The term refers to a house in ruin, deserted or uninhabited, indicating the presence of a previous dwelling that was abandoned afterwards. This term is associated, in Cela Nova, to harvest lands – *terra com pardieiro*[302]. In this sense it corroborates the abandonment of agricultural land, when

[301] "E que ao tempo que elle o dito mojnho ouuera, Era muito delapidado, e que ele com os outros pobres seus parceiros que no dito logo com ele estauam trabalharam no dicto muinho e ho lançarom a moer", in: TT, *Leitura Nova*, *Odiana*, lv. 3, fls. 187-188. In addition, a sesmaria charter allows the construction of a watermill close the Xarrama Stream, in: TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 40.
[302] TT, *Convento de Nossa Senhora da Rosa da Caparica*, mç. 2, nº 36-nº 45.

associated, for example, with dead vineyards, or lands previously cultivated and then occupied by the bush, in Valbom[303]. It justifies the interest shown by municipalities and kings in promoting the cultivation and settlement of these lands, which were donated also for this reason. But these structures are rarely mentioned within the hermitages' enclosure, being mostly associated to their cultures.

Through the analysed records, the existence of portable altars is verified. The presence of these structures is documented since 1402, through the bull *Sincere deuotionis affectus* of Pope Boniface IX. Hermits obtained the license to own a portable altar, and to erect a belfry for Masses or celebrations of other services, by a suitable priest they could choose[304]. Consequently, hermits did not need a built chapel, but they could adopt this type of structure to celebrate anywhere. Gradually, fixed altars were introduced, with the consecration of worship places inside the hermitages, as affirmed by Fontes (2012, p. 201) about the hermitages of Serra de Ossa, Água das Infantes, Montemuro and Valbom.

Another interesting structure is the oratory, *oratorio* or *adoratorio*[305] in the records. Several charters attest the existence of oratories in Rio Mourinho[306], Montemuro[307], Portel[308], Aivado[309], São Julião de Alenquer[310], Vale da Infante[311], and Nossa Senhora da Consolação de Serpa[312], among others.

A sentence of King João II about a strife between "men of poor life" and Hyeronimites, includes a description of the occurence from both points of view[313].

[303] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 103.
[304] BPE, *Pergaminhos Avulsos*, pasta 7 (*Pergaminhos do Convento de São Paulo da Serra de Ossa, sécs. XIV-XV*), nº 2.
[305] BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. B2 | lv. 6, nº 78, fls. 112v-113v.
[306] TT, *Leitura Nova*, *Odiana*, lv. 2, fls. 213-213v.
[307] BNP, *Coleção de Pergaminhos*, *Série Roxa*, PGS 3R.
[308] BPE, *Pergaminhos Avulsos*, pasta 6 (*Pergaminhos dos Conventos*), *Convento de S. Paulo de Portel*, nº 1.
[309] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 100.
[310] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 110-111.
[311] BPE, *Pergaminhos Avulsos*, pasta 7 (*Pergaminhos do Convento de S. Paulo da Serra de Ossa, sécs. XIV-XV*), nº 35-36.
[312] ADB, *Convento de S. Paulo de Serpa*, lv. 1, nº 13.
[313] With regards to the hermits: «sse meterom dentro em ssuas casas e oratório e çarrarom de dentro ssuas portas e as trancarom muy bem, E os dictos dous frades e vigayro e os homens de cauallo sse forom as portas pera as abrirem E botarom duas fora do couçe e per força entrarom dentro contra a vontade dos outros yrmitães que na dicta casa Estauam». The different Hyeronimites version: «ssem outra força foram dentro ao oratório e casas da dicta provençia estando as portas abertas por onde entraram paçifiquos e manssos ssem outro escandallo». In: BPE, *Pergaminhos Avulsos*, pasta 7 (*Pergaminhos do Convento de S. Paulo da Serra de Ossa, sécs. XIV-XV*), nº 88. Underlying the difference between the monastic and the eremitical typology even more, in the same document they declare: «Elles nom conssentyam que ssua casa e oratoryo fosse tornado em moesteyro», so, they would not let transform their house and oratory into a monastery.

Despite the different stories, common spatial elements are identified in the hermitage Serra de Ossa. Firstly, the record mentions the enclosure (*cerquoyto*) with a possible entrance. Secondly, the presence of an oratory can be verified. Thirdly, there were houses in which the hermits took refuge, closing the doors. This proves the exhistence of a built structure, and not just a cave, typical of the eremitical traditions. Similarly, in a charter regarding the conflict resolution dated 1483[314], once again, between the "men of poor life" of Rio Mourinho and the Hyeronimites, an assets description contains data on the architectural system of this community. This consisted of the mud wall, some transformation equipment, an oratory, and also some houses; even more interestingly, the presence of six beds, including their linen, is also noted. It is likely that the same typologies were associated to the other eremitical settlements. Indeed, already since 1383, a charter about the Rio Torto community[315] attests the presence of closed houses.

Therefore, it is possible to deduce that the model adopted foresaw the existence of cells, or houses, and not a common dormitory. This kind of shelter populated the landscape even in the engraving contained in *Chronica dos Eremitas da Serra de Ossa* (1745), which represents the Serra de Ossa monastery on a slope of the Ossa Hill chain. This could indicate the existence of small oratories inside the hermitages even after the institutionalisation of the eremitical movement.

As seen previously, due to the values of eremitical tradition, "men of poor life" welcomed old and sick people, pilgrims, but also men interested in buying products – such as wooden spoons or fruit. It is evident that hospitality structures existed, as proven by a testimony given by Frei Paulo de Portalegre in *Novo Memorial do Estado Apostólico* – the first chronicle of the Secular Canons of St. John the Evangelist, dated 1468[316]. This document contains the description of the welcome Frei Paulo de Portalegre received in the Serra de Ossa hermitage, and it mentiones the presence of a structure for keeping horses and of houses inside and outside the enclosure. On the one hand, this implies a differentiation of spaces; on the other, it implies that not everyone could enter into the hermitage's most intimate space.

Information about the architectural system is mostly fragmentary and sparse. This hampers a more complete reconstruction. However, it is very probable that the identified

[314] TT, *Colégio de S. Paulo de Coimbra*, lv. 2, nº 3.
[315] "derom aos pobres e a el e seus Jrmãos que ujuem em na dicta proue ujda o dicto logar em que ora estam com suas Casas çaradas com suas aruores em que fazem serujço a deus", in: ADPTG, *Convento de S. Paulo de Elvas*, *Colecção de Pergaminhos*, nº 1.
[316] See the critical edition of Cristina Sobral (2007).

built components were replicated in the other hermitages. It is possible that a gradual spatial organisation, still far from the definition of a model, was at their basis.

In the first years after the institutionalisation, the only reference to the architectural design of a settlement is individuated through graphic elements with regard to the monastery of Nossa Senhora da Rosa da Caparica, evolution of the eremitical community Cela Nova. This is the only one identified to date, and it is analysed in the following chapter.

### 2.3 Final Comments

The landscape construction arises from the interaction between man and the environment. The eremitical landscape of "men of poor life" and the construction of their symbolic spatiality is not an exception. *Locus eremus* is defined in terms of practical and spiritual aspects. The second ones, related to the spiritual dimension, are strictly linked and guaranteed only if the material needs are satisfied.

The Alentejo region is the backdrop of the analysed eremitical experience, beyond the Tagus River, a geographical area that has historically been occupied by the mendicant orders. After taking into consideration the historical and socio-economic situation of the Portuguese territory, particularly the southern one, the political decisions to repopulate abandoned areas, and the religious power that looks at the hermits as a testimony of the Christian life in remote areas, the nature of the place and the appropriation process are studied.

Due to the scarcity of documentary sources about the spatiality of the eremitical settlement between 1366 and 1578, medieval charters have been identified and analysed, in order to bring to light material data that, once interpreted, could help to reconstruct that landscape.

Data have been distinguished in cultural and ecological components. A study of cultural elements verified their presence in a specific land, due to the natural substrate, soil and geology. Indeed, in a kind of statistical distribution, the density of a specific cultural component is justified by the presence of the ecological ones. Paradigmatic of this relation is the presence of limekilns and glass furnaces, in correspondence to limestones or sand areas, respectively. Indeed, hermits showed great empathy with the place and deeply respected its *genius*.

Charters contain references to cultivated land inside and outside enclosures that were farmed by hermits themselves, along with the presence of cattle and beehives, displaying an agrarian distribution typical of periurban areas. Similarly to other monastic experiences, the more fragil cultures (*culturas mimosas* in Portuguese) such as orchards and vegetable gardens created a first ring around the hermitage. They were often inside the first enclosure, because they required more maintenance and surveillance. This also justifies the presence of wells and reservoirs in this area. Vineyards and olive groves formed the second ring. It should be noted that these settlements – despite not yet having

a monastic structure – had an administrative logic that was not only spiritual, but revealed also land humanisation.

Hermits were extremely clever in the way they organised the properties obtained through donations of lay benefactors and municipal authorities, or purchases.

Communities such as Rio Mourinho, Vale da Infante, Serra de Ossa, Valbom, Alferrara and Aivado, among others, accumulated considerable possessions, increasing their acres around hermitages by creating a compact land around the enclosure. This allowed them to safeguard their seclusion and subsistence, and, at the same time, to enlarge their cultivated areas. Sometimes, they owned areas that may even have been geographically isolated but that ensured their survival. In this case, the lands farthest from the hermitage were assigned to the care of a tenant. This is detected, for example, in sales charters about Vale da Infante regarding a land in Monforte, at a distance of about 50 km.

Their settlement in scarcely populated areas – sacralising the space in the anthropological sense of the term – contributed to the human occupation of the surrounding rural municipalities and the enlargement of their cultivated areas. On the one hand, they used local resources (e.g. water, wood, and stone); on the other hand, they transformed the surrounding landscape, with the support of those municipalities that granted lands in allotment, knowing that they would ensure their cultivation and exploitation. Moreover, through their agroforestry-pastoral system, they developed their own subsistence economy, but maintained relations with the outside world: they sometimes needed to go to the city, or welcome into the hermitages those seeking their hospitality.

These foundations brougth something new to the spatial framework of the rural monastic experience of the late Middle Ages. Indeed, by virtue of their spiritual option, they changed the space and, at the same time, they adapted themselves to the space and the environment. Additionally, by cultivating abandoned areas away from the urban centres – areas where they could take advantage of existing resources, like water, soil, and vegetation – they introduced a new settlement typology into the south of Portugal, which was different from the urban mendicant one found in the north. Another interesting conclusion is that the presence of mountains and valleys tended to play a role in the selection of the settlement's site, because of the territory's ecological richness, the isolation these environmental features permit, and their symbolism.

Unfortunately, the existing historical records related to the materiality of the "men of poor life" are scarce. In the oldest documentation, regarding the medieval period and until the 16th century, the few indications about built elements are very dispersed.

Although no references to a conformed space, following either the monastic or the conventual model, emerge until the 16th century, a gradual organisation in terms of spatiality is verified closer to when this movement was institutionalised. This organisation is evident through references to the delimitation made by fences, and to oratories, cells, and spaces of reception. No further elements exist that could provide an even more complete image of the hermitage.

The institutionalisation process affected the settlements profoundly, bringing changes not only in the hermits' daily life and discipline, but also in the way their spaces were organised. On the one hand, this institutionalisation meant an architectural evolution from a hermitage to a monastery; on the other, it led some of the peripheral or rural communities to move to new locations, near or even within cities.

The still existing monasteries – although nowadays most of them are in ruin or have been heavily modified – provided interesting evidences to understand in which specific point of their lands, the monasteries were built. In parallel, this allows for a further analysis of these materialities.




**Cover Image 3** – Symbol of the eremitical congregation of São Paulo da Serra de Ossa in the monastery of Santíssimo Sacramento in Lisbon. ©Rolando Volzone, 2018

# 3. Monastic Landscape (1578-1834): typological and morphological variation of the monastic settlements' legacy

In 1578, through the bull *Creditum nobis*, the eremitical congregation of Serra de Ossa was officially integrated into the religious order of Saint Paul the First Hermit and recognised as an autonomous congregation[317].

At that time, a passage from the hermitage (in Portuguese, *eremitério* or *provença*) to the monastery *typos* occurred. This is visible in terms of buildings, and in the terminology applied in the historical records[318]. In 1585 the Order gathered in the Vale da Infante settlement and determined that all communities had to assume a Marian invocation.

Several eremitical settlements had already disappeared, due to the relocation of their inhabitants and the donation of their lands to other religious orders or eremitical groups that had settled nearby: e.g. Alentejo (near Óbidos), Ameal do Gorjão and São Pedro de Bencatel (Vila Viçosa), Amieira (Estremoz), Asseiceira (Olivença), São Brissos de Xarrama (Alcáçovas), Vale de Flores (Portalegre), Viana do Alentejo and Zarco (Viana do Alentejo). In the 16th century, the congregation decided to dissolve the Mendoliva community – one of the three medieval settlements located in the Setúbal Peninsula – and Espadaneira, near Estremoz (Volzone and Fontes 2020)[319].

This institutionalisation also profoundly affected the remaining settlements. Indeed, along with all the changes in the hermits' daily life and discipline, the process also meant, on the one hand, an architectural evolution from the hermitage to the

[317] The bull *Creditum nobis* is available at BPE, Cód. CLXIX/1-7.
[318] Generally, in the medieval documentation the term "convent" is used to identify the community, while the term "monastery" designates the institution or the religious houses – be it monastic or mendicant. In this research, the term is applied mostly to distinguish communities with eremitical roots, which are later institutionalised on the basis of the monastic model, as well as in the analysed case studies. Indeed, "monastery" is associated to the religious options connoted by seclusion and stability. Contrarily, the term "convent" is applied to designate other kinds of communities, as well as mendicant and clerics orders.
[319] A complete list is available in Fontes (2012), pp. 523-600.

monastery and, on the other, a movement of some peripheral or rural communities to new locations, near or even inside towns, typical of the *inurbamento* phenomenon.

For this reason, two different types of monastic settlements are identified. The first and largest group includes twelve settlements located in rural areas, at the most 15 km away from urban centres, at a walking distance of approximately three hours. These monasteries can still be found more or less in their original locations[320], and they retain some of their eremitical traces.

The second group is made up of five monasteries: Nossa Senhora dos Remédios, Nossa Senhora da Ajuda de São Marcos, Nossa Senhora do Socorro, Nossa Senhora do Amparo de Valbom, and Nossa Senhora da Consolação. Their former locations were abandoned, and they relocated closer to urban centres: Elvas[321], Tavira[322], Portel[323], Vila Viçosa[324], and Serpa[325], respectively. The distances between the eremitical settlements and the monastic ones, with regard to these communities range between 2.5 km – the minimum identified in most of these cases – and about 5 km – the maximum verified in Serpa (Figure 3.1).

[320] In the analysed historical records dating back to the 17th and 18th centuries, data about the distance between the eremitical and monastic settlements are sometimes identified. For example, in the case of the hermitage Montes Claros, which evolved in the monastery Nossa Senhora da Luz de Montes Claros, the documented distance between the two settlements is of approximately 1.25 km. The document "Memorias do Convento de Montes Claros, nº 7" mentions: "A primeira fundação em hũ sitio que dista do em que se acha hũ quarto de Legoa em que hoje existe hũa Ermida de Nossa Senhora das merces". In: TT, *Convento de Nossa Senhora da Luz de Montes Claros*, maço único, nº 4B, fl. 1. A shorter distance is documented between the hermitage Aivado and the monastery Santa Margarida do Aivado. In the document "Mémorias do Convento de Santa Margarida do Aivado de Évora nº 9", the evidences of a previous settlement named Santa Margarida a Velha are described, and these are located at the distance of a *tiro de mosquete* from the current location, corresponding to a few hundred metres. In: TT, *Convento de Santa Margarida de Évora*, maço único, nº 1 (b).

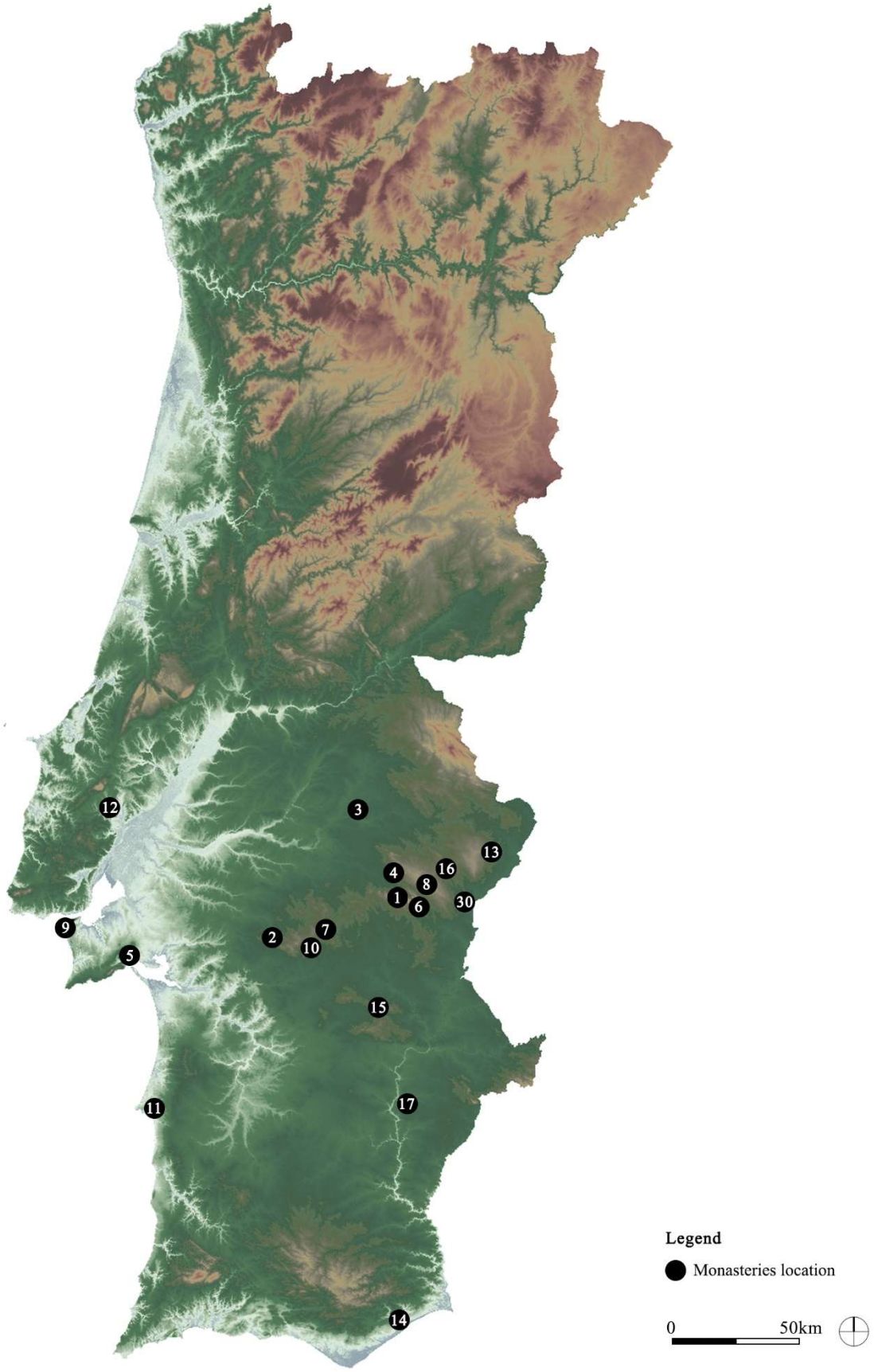
[321] In this case, five foundations emerge: 1418, 1593, 1598, 1658, 1678. See: TT, *Convento de São Paulo de Elvas*, maço 1, nº 6. In the document, the first foundation is identified at about 2,5 km from Elvas: "a primeira fundação foi no sitio de Rio Torto meya legoa de distancia desta cidade pera a parte do norte, one chamão a Provença de Rio Torto".

[322] According to the record "Memorias do Conuento de Tauira", the monastery Nossa Senhora da Ajuda de Tavira stayed at 2,5 km from the previous eremitical settlement, in: TT, *Convento de Nossa Senhora da Ajuda de Tavira*, maço único, nº 3.

[323] The first eremitical settlement Água das Infantes was located in the land named *outeyro*, in which a kitchen garden named *Provençia* is documented in the 18th century. Nowadays the toponym is still maintained in a land at about 3km from Portel, named *herdade da Provença*. In: BPE, *Convento de S. Paulo de Portel*, lv. 2, nº 3. Through an on-site visit and interview with the owners, few evidences are still individuated in 2018.

[324] Three different foundations are identified: 1384, 1585, 1597. According to the document: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 11. In the same record, the first foundation is identified at about 2,5 km from the urban centre, in the south-east direction: «citio ameno, e aquoso distante meia legoa desta Corte, emtre o nasente, e o sul, mais emclinado ao nassente».

[325] The eremitical settlement was located at about 5km from Serpa. According to "está hua legoa da villa de Serpa", in the royal license: ADB, *Convento de S. Paulo de Serpa*, lv.1, nº 33.


12
3
13
4
16
8
1
6
30
9
2
7
10
5
15
11
17
14
Legend
Monasteries location
0
50km

| | Hermitage | Monastery | |
|---|---|---|---|
| 1. | Serra de Ossa | São Paulo da Serra de Ossa | Rural |
| 2. | Rio Mourinho | Santa Cruz de Rio Mourinho | |
| 3. | Azambujeira | Nossa Senhora da Azambujeira de Fonte Arcada | |
| 4. | Vale da Infante | Santo Antão de Vale da Infante | |
| 5. | Alferrara | Nossa Senhora da Consolação de Alferrara | |
| 6. | Vale Abraão | Santo Onofre de Vale Abraão | |
| 7. | Aivado | Santa Margarida do Aivado | |
| 8. | Montes Claros | Nossa Senhora da Luz de Montes Claros | |
| 9. | Cela Nova / Barriga | Nossa Senhora da Rosa de Caparica | |
| 10. | Montemuro | Santa Catarina de Montemuro | |
| 11. | Junqueira | Nossa Senhora da Junqueira | |
| 12. | São Julião de Alenquer | São Julião de Alenquer | |
| 13. | Rio Torto | Nossa Senhora dos Remedios de Elvas | Urban |
| 14. | Vale Formoso | Nossa Senhora da Ajuda de São Marcos de Tavira | |
| 15. | Água das Infantes | Nossa Senhora do Socorro de Portel | |
| 16. | Valbom | Nossa Senhora do Amparo de Valbom de Vila Viçosa | |
| 17. | Serpa | Nossa Senhora da Consolação de Serpa | |




Figure 3.1 – Locations of the monastic network made up by the congregation of São Paulo da Serra de Ossa in Portugal (previous page); locations of five case studies and their movement from rural towards urban areas (current page). ©Rolando Volzone, 2020

This reality confirms the constant dialectic in the choice between urban or rural areas for the place these communities would settle – a dialectic that accompanies all religious history, as seen in Chapter 1. The oscillation between the hermitage and the city has been a peculiarity of Franciscanism – as referred to by Giovanni Grado Merlo (1991) – but also of Camaldoleses and Augustinians, among others. In both cases, religious settlements generate new dynamics in the space, not only in terms of spirituality, but also in terms of modelling the space. They often created new vectors for the cities' expansion.

With its centre in the Serra de Ossa monastery[326], the congregation encompassed over seventeen male communities established south of the geographical barrier constituted by the Tagus River, with the exception of the monastery of São Julião, located in Alenquer[327]. Most of them were located in the southern hinterland of Portugal, with only four communities settled near the coast: Nossa Senhora da Consolação de Alferrara in Palmela, Nossa Senhora da Rosa in Caparica, Santa Maria da Junqueira in Sines, and Nossa Senhora da Ajuda in Tavira. In both cases, the criteria used to select the most favourable sites in which monasteries would settle were: i) the physiographic characteristics – namely topography and hydrography; ii) the proximity to major roadways; iii) the influence of the religious, municipal and regal powers, which determined the capacity to access, through donations, land where communities could settle, as evidenced in the previous chapter.

In Europe, research networks have been set up, with the purpose of disseminating knowledge about the eremitical architecture in the Mediterranean area, through the organisation of conferences since 2010[328]. A similar model has been reproduced in Lisbon with the international seminars "Architectures of the Soul" (2017, 2018, 2020), and the Summer School "Digital Survey in Religious Architecture" (2018), as part of this PhD research. These networks establish a platform for a multidisciplinary approach, joining

[326] Only in 1647 the monastery of Santíssimo Sacramento de Lisboa will be the new motherhouse of the congregation.
[327] In this research, in order to delve further the evolution from the eremitical to the monastic settlements, colleges instituted since the end of the 16th century – São Paulo (Évora, 1578), Nossa Senhora da Soledade (Borba, 1703), São Paulo (Coimbra, 1779) – as well as monasteries founded since the 17th century – Santo António (Sousel, 1616), Santissimo Sacramento (Lisbon, 1647) – have not been considered.
[328] The conferences "Architettura eremitica: sistemi progettuali e paesaggi culturali", organised by Prof. Stefano Bertocci (Università degli studi di Firenze) and Prof. Sandro Parrinello (Università degli studi di Pavia), took place in Italy, at Monte Senario (2010), Vallombrosa (2011), Camaldoli (2012), La Verna (2014).

History, Architecture, Landscape architecture, Cultural heritage, and Art history, among others[329].

With regard to the historiographical field, in 2009[330] José Mattoso drew attention to the need for updated studies about most of the religious orders, beyond the partial ones that delve deeper into the evolution of one singular convent or monastery, leaving aside their totality. Since then, broader studies about religious orders in Portugal have been carried out: the Order of Saint Clare (Andrade 2011), the eremitical congregation of São Paulo da Serra de Ossa (Fontes 2012), and the Portuguese Secular Canons of St. John the Evangelist (Pina 2011). They join previous comprehensive researches focused on the Hieronymites (C. D. dos Santos 1980), Carmelites (Bayón 2001), the Order of Saint Augustine (Alonso 2003), and the Franciscan Observance (Teixeira 2004)[331].

With regards to the geography and the chronology that have been analysed in this chapter – the south of Portugal and the early modern period – there is still a gap in a more systematic and comparative study on monastic architectures linked to the new Franciscan Observances. In the last three decades, few studies have addressed networks of mendicant orders, mostly about the Franciscan Order: a comparative study about convents in the work *Provincia da Piedade* (Medinas 1994), in *Provincia da Conceição* (Figueiredo 2008), and a typological research about their enclosures (Xavier 2004; 2011). These studies link spatiality and spiritual precepts. Catarina Almeida Marado (Marado 2007), in her PhD thesis, connects the territorial planning and the heritage safeguarding, through the study of the Algarve region conventual network.

Documentary sources concerning the analysed monasteries and the surrounding landscape are very fragmentary[332]. Indeed, only a few scattered manuscripts, about these communities and their monasteries have been identified.

[329] Seminars are integrated into the present PhD project. International Seminar "Arquiteturas da Alma: a construção do ermo dentro e fora da cidade" (November 2017): https://www.dinamiacet.iscte-iul.pt/arquiteturas-da-alma. International Conference and Summer School Digital Survey in Religious Architecture (July 2018): https://www.dinamiacet.iscte-iul.pt/conference-summerschool. The second edition of the International Seminar Architecture of the Soul (November 2018): https://www.dinamiacet.iscte-iul.pt/seminario-arquiteturas-da-alma; finally, the third edition (September 2020): https://www.dinamiacet.iscte-iul.pt/seminario-arquitecturas-2020.

[330] José Mattoso (2009) "Perspectivas de investigação em história religiosa medieval portuguesa", in: *Lusitania Sacra*, 2ª série, pp. 153-173.

[331] The research has been published in 2010, with the homonimous title, by Porto: Centro de Estudos Franciscanos; Braga: Editorial Franciscana. ISBN: 978-989-96485-1-7.

[332] As the result of a survey promoted by the Royal Academy of History among parish priests all over the country, the document *Memórias Paroquiais* (in English, Parishes Memories) dated 1758, constitutes an important source. It includes data about the main local agricultural products and vegetation – providing a general idea of land use in the second half of the 18th century – and information about the existence of monasteries, convents, and churches, among others. Part I "O que se procura saber da terra" includes at

The same scarceness regards iconographies and technical drawings, which could help to understand the 17 monasteries' spatiality. These kinds of sources are extremely rare. The only one, encountered to date, regards the monastery of Nossa Senhora da Rosa, which will be examined later. At the same time, it is ironic that the only identified graphic document regards the only monastery about which no physical evidences have been found.

The consultation of chorographic, military, agricultural, forestry and land use maps, together with the consultation of online maps, has been useful to individuate the exact spatial coordinates and the evidences of the monasteries. On the one hand, the maps allow to sketch a physiographic analysis; on the other, they allow to understand, even in a limited way, the landscape's evolution over the years, which, most of the time, profoundly transformed the spirit of the place. Starting from a historical framework, the legacy has been analysed through archival, photographic and architectural on-site surveys[333]. In some cases, e.g. São Paulo da Serra de Ossa, a major consistency in documentary sources and artistic studies allows for a more detailed description of the spatiality[334]. With regards to Nossa Senhora da Junqueira (Sines) and Santo Onofre do Vale de Abraão (Redondo), the lack of material evidences hampered their study. Consequently, they are excluded from the cluster of analysed monasteries. The same lack is found for Nossa Senhora da Rosa da Caparica (Figure 3.2).

point 10 "Se tem conventos, e de que religiosos, ou religiosas, e quem são os seus padroeiros" data about convents and their correspondent religious order in each analysed parish. The transcription is available at: http://www.cidehusdigital.uevora.pt/portugal1758/memorias. Another interesting source can be represented by the foreign travel reports about Portugal, thanks to their thoroughness and richness of detail concerning cultural features and those of the landscape represented, as pointed out by other authors (Matos, Conde, and Bernardo 2010). Among these, the German naturalist and botanist Heinrich Link's one (1801), due to the analysed geographical area – the Ossa Hill chain – is quite useful for this research.

[333] With regards to the 17 case studies, it is important to thank all the private and public owners who allowed access to the monasteries, and the various municipalities, including their collaborators: Almada, Serpa, Portel, Tavira, Montemor-o-novo, Évora, Redondo, Setubal, Elvas, Estremoz, Borba, Vila Viçosa, Portalegre, Avis. Additionally, it is important to show gratitude also to all the executive bodies of each civil parish.

[334] In *Inventário Artístico de Portugal* (Artistic Inventory of Portugal), some volumes contain descriptions of the architectural features of several case studies. See: vol. 1, *Distrito de Portalegre* by Luís Keil; vol. 7 (1º, 2º t.), *Concelho de Évora*; vol. 8 (1º, 2º t.), *Distrito de Évora: Concelhos de Arraiolos, Estremoz, Montemor-o-Novo, Mora e Vendas Novas*; vol. 9 (1º, 2º t.), *Distrito de Évora: Zona Sul: Concelhos de Alandroal, Borba, Mourão, Portel, Redondo, Reguengos de Monsaraz, Viana do Alentejo e Vila Viçosa*; vol. 12 (1º, 2º t.): *Distrito de Beja: Concelhos de Alvito, Beja, Cuba, Ferreira do Alentejo e Vidigueira*.



Figure 3.2 – Monasteries' physical evidences: Nossa Senhora da Junqueria, Santo Onofre do Vale de Abraão, and Nossa Senhora da Rosa da Caparica (from the top). ©Rolando Volzone, 2019

However, with regards to this last one, a description of the monastic church[335] and technical drawings have been identified (Appendix B.3)[336]. The drawing (Figure 3.3) is dated 14/3/1593. According to previous studies, which further analyse the ten drawings contained in the same folder, it could correspond to an architectural survey, probably aimed to renovate the monastery (R. Mendes 2017). Indeed, the remaining drawings include another planimetry, the correspondent section and specific details. They seem related to the same project, which was probably never built. One of these drawings is signed by Luís de Frias Pereira (1590-1640), a royal architect, so, probably, the other eight can also be of his authorship. In the research, the older one is taken into consideration, in order to establish a comparison between this drawing and the morphology of other monasteries.

[335] TT, *Ordem de Santiago e Convento de Palmela*, lv. 177, PT/TT/OSCP/B/003/00177. These are dated 1527, and have been transcribed and published in: Rui da Costa Pinto (2001) "As Visitações da Ordem de Santiago em Almada no século XVI", Lisboa: Boletim da Sociedade de Geografia de Lisboa, vol. 119, pp. 171-223.

[336] "Desenho do Mosteiro de Nossa Senhora da Rosa da Ordem de Sam Paulo", in: TT, *Os Eremitas de São Paulo*, *Mosteiro do Santissimo Sacramento de Lisboa*, mç. 11, nº 6 | PT-TT-OESP-MSSL-MC11_m0001-m0010.

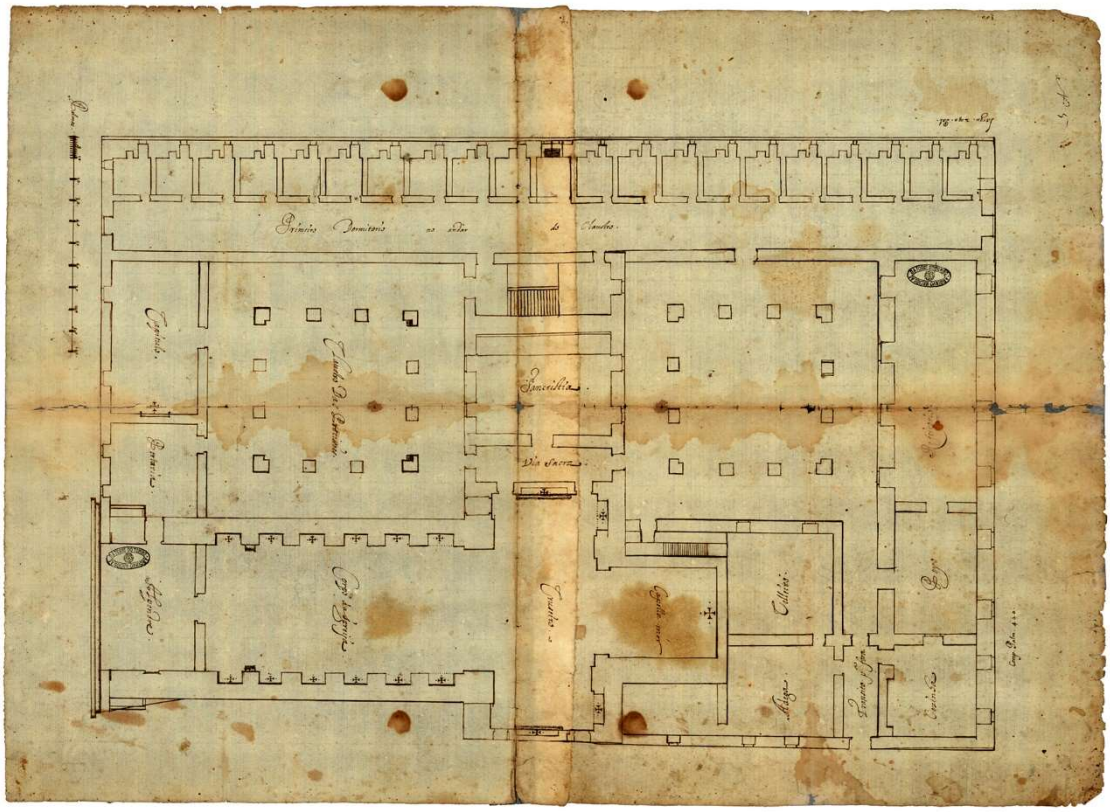


Figure 3.3 – Possible planimetric survey of the monastery of Nossa Senhora da Rosa da Caparica (1593). In: "Desenho do Mosteiro de Nossa Senhora da Rosa da Ordem de Sam Paulo", PT-TT-OESP-MSSL-MC11_m0004

With regard to the monastery of Nossa Senhora da Azambujeira de Fonte Arcada, by analysing the cartographic references, no religious buildings or their evidences in the place with the toponym Fonte Arcada were identified. According to Damásio (1793, vol. 2, p. 258) and Fontes (2012, p. 538), in 1566, a fire destroyed part of the monastic buildings and the entire registry. The monastery was abandoned in 1592 and only two religious men still cultivated the land. As stated by the Parish Memories of Sousel of 1758[337], the monastery was located in the homestead of Provença, at a considerable distance from the Fonte Arcada land. This fact leads to suppose the presence of an extensive land, in line with the *latifundium*, which was typical of this area. Here, only one

[337] "El rei mandou pello Desembargo do Passo ao provincial que nomeasse patrimonio e nomeou o mesmo patrinonio do convento de Fonte Arcada sito no termo de Aviz e detreminou Sua Magestade não houvesse mais relligiozos no dito convento de Fonte Arcada que hoje se chama a Erdade da Provença e procurando a renda que teria o convento ao mesmo reitor me não disse mas o serto he que com as muitas capellas de missas que tem cojuntamente com as rendas do seu patrimonio pasão muito bem os relligiozos porque tem rendas de trigo e muntos oliviais". In: TT, "Memórias Paroquiais, da freguesia de Sousel, comarca de Vila Viçosa" vol. 35, nº 236, p. 1680. The transcription by Maria Patrício dos Santos is available at: http://www.cidehusdigital.uevora.pt/portugal1758/memorias/sousel-sousel.

religious structure is individuated in Monte da Torre do Ervedal – part of the church and of the monastic structures (Figure 3.4). It is located in a place connoted by its proximity to important watercourses, the richness of its soil, and its relative distance from the village. Future researches should further analyse this structure and its possible relationship with the eremitical congregation of São Paulo da Serra de Ossa and the ancient monastery of Nossa Senhora da Azambujeira de Fonte Arcada. Due to the uncertainty related to this structure, its architectural features are not examined[338].



Figure 3.4 – South façade of an abandoned monastic structure in Monte da Torre do Ervedal (Avis).
©Ana Ribeiro, 2018

The eremitical phase (1366-1578), previously analysed by interpreting the charters, allowed for a general portrait of the eremitical landscape at a macro scale. Indeed, rare physical evidences of those settlements have been found. Among these, only Vale de Flores hermitage, still maintains traces of its primitive structure. As stated by Fontes (2012, pp. 591-593) the hermitage was abolished between 1436 and 1437. At the end of the 15th century it belonged to the convent of São Francisco de Portalegre. According to Luís Keil[339] the ruins were incorporated into a manor house in the 16th century (Figure 3.5).

[338] The topic has been discussed with Ana Ribeiro, archaeologist of Avis municipality.
[339] Luís Keil (1943) in: *Inventário Artístico de Portugal*, vol. I (Distrito de Portalegre), p. 152, Lisboa: Academia Nacional de Belas Artes.



Figure 3.5 – Evidences of Vale de Flores hermitage (Portalegre). ©Rolando Volzone, 2016

In contrast, the analysis of the remaining monasteries belonging to the congregation (1578-1834) is allowed by the existence, in most cases, of physical evidences, although altered due to new uses. Indeed, their exact location is traceable, and they mostly maintain the original layout developed between the end of the 16th century and the beginning of the 17th century. This fact allows for an accurate analysis and understanding of the strategies adopted in the selection of a certain point – within a land – in which the monastery was established, starting from an analysis of the contemporary legacy. Beyond the criteria previously examined, it is important to remember: i) the abundant presence of water; ii) the soil's agricultural capacity; iii) the availability of raw materials for building.

Starting from the analysis of scarce normative sources – the constitutions – mostly from the oldest one documented, approved in 1594[340], spatial elements emerge with respect to both interior and exterior areas of the monastery. Unlike what happens with

[340] According to Fontes (2012) the first constitutions, reformed in 1567 with the influence of Cardinal Henrique I, have not been found. In 1594 the constitutions were published in: *Liuro da Regra de Sancto Agostinho e das Constituições perpetuas dos religiosos pobres hermitãos da serra Dossa, da ordem de S. Paulo primeiro hermitão. Feitas & confirmadas com autoridade Apostolica*. Lisboa: Manoel de Lyra, 1594. Another version was published in: *Livro da Regra do Bispo & Doutor Da Igreja Sancto Agostinho. E das Constituiçoe[n]s da Ordem de São Paulo primeiro Ermitão da cõgregação da Serradossa, emendadas, & reformadas pello Provincial & Definidores, & Capitolares juntos no Capitolo celebrado no Convento de Santo Antão sito em val d´Iffante o anno de 1616. & confirmadas Authoritate Apostolica pello Illustrissimo & Reverendissimo senhor Octavio Acorombono Bispo de Fossombruno Collector gèral Apostolico de sua Santidade nestes Reynos de Portugal, & Protector Apostolico da dita Ordem*. Lisboa: Pedro Craesbeeck, 1617.

other orders' constitutions, in which even the spatial dimensions are indicated, very sparse information emerges here, mostly related to the *modus vivendi*.

Confirming the previous examination, enclosures represented the limit of the sacred place. According to the constitutions[341], monks could perform handworks (*exercícios corporais*), such as farming, only inside the enclosure. Specific areas were identified for this function: houses, orchards, orange groves, and kitchen gardens[342]. The enclosure emerges also in relationship with the presence of women in the monastic spaces. Women could not stay inside the monastery, not even in orchards or kitchen gardens. So, once again this component defined and divided this space. Women were admitted only for olive picking, since another division existed – through walls, for example – to prevent the simultaneous entrance of men and women. Through the analysis of the chapter 12 of the constitutions[343], additional components are revealed: church, sacristy, and presbytery. The same occurs in the chapter regarding places of silence[344]: church, choir, dormitory, refectory, cloister – *crasta* in the document[345] – cells, sacristy, and novices' house. Novices could be admitted only in the Serra de Ossa and Vale da Infante communities[346]. Through the analysis of the document, the chapter room emerges as an important space. The presence of the nursery has been identified with several components, mainly linked to the well-being of sick men: bed, bed sheets, shirts, tablecloths, pink and white sugar, raisins, prunes, and distilled water. Interesting data mentions other types of food: eggs, milk and its derivatives, wine, and bread.

To critically set up a comparison among the 17 case studies, some typological components have been considered and analysed in more depth: the enclosure, the monastery with its functional areas – cloister, monastic dependences, dormitory – and the church.

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[341] Along this analysis, it is important to take into consideration that the constitutions led to the normalisation of the congregation's *modus vivendi*, by reforcing the community and liturgical dimensions with a direct consequence on the space. Indeed, the growing clericalisation of the communities implies the openness to pastoral activities. These new conditions mark the architecture, as it is necessary to let access the faithful from the outside, for example, therefore the narthex – or a porch – and spaces for confessionals are necessary. At the same time, the religious life is conceived as a renunciation journey; therefore it is dedicated to the vows of obedience and chastity.

[342] "Capitulo VI. Dos exercícios corporaes, & a que hora se farão", fl. 10.

[343] "Cap. XII. Da charidade, & dos hospedes, & pessoas q ve a nossas casas: & que se fechem de noite as portas da clausura", fls. 14-15.

[344] "Capitulo Nono. Do Silencio, & dos lugares, & tempos onde se há de guarder", fls. 11-12.

[345] According to Bluteau (1712, vol. 2, p. 601), it is the same than the word "claustro", Portuguese word for cloister.

[346] According to "Capitulo XIII. Do recebimento dos Noviços, em que casas, & como os receberão: & os impedimentos", fls. 16-18. This has been confirmed in other documents (see: APPENDIX B.2).

### 3.1 Enclosure

Enclosures have been defined as meta-landscapes (Carapinha 2002). Indeed, they reflect functional and aesthetic principles. This section explores more in depth the primordial enclosure, closest to the monastery. The one examined here enabled the definition of a spiritual dimension, mostly exclusive of the monks. The larger one, analysed in the previous charter, concerned the property delimitation.

Generally, monasteries had enclosures, but contemporary evidences have not been found in all case studies. Nossa Senhora da Consolação de Alferrara, Santa Cruz de Rio Mourinho, Nossa Senhora do Socorro de Portel, Santa Margarida do Aivado, Santa Catarina de Montemuro, among others, still maintain this structure or part of it. The most impressive in size and integrity belongs to the monastery of São Paulo da Serra de Ossa. It is also the only one documented through iconographic sources since 1744 (Figure 3.6).

The engraving (Figure 3.6 left) transmits information about the monastery and its surrounding space. It shows the entire monastery located at the foot of a hill chain. This hill chain (*desertus*) is populated by anchorites in prayer, topped by the chapel of São Gens. It is interesting to note how, despite being just a graphic solution, it is possible to individuate diversity in terms of vegetation, which nowadays has been lost in favour of the eucalyptus plantation, completely mischaracterising the landscape. Beyond the architectural features, which will be examined later, it is possible to visualise a little enclosure – the *hortus conclusus* – square in shape, adjacent to the cloister, with a kitchen garden. This enclosure presents three doors, a wall with a superior cultivation – like a terrace – to the east, and a small tower in the southwest corner. From this tower, part of a wall is visible, and at east, clearly, part of a bigger enclosure. The drawing dated 1849 (Figure 3.6 bottom right) shows the square enclosure with trees inside, probably orchards. The west part side develops in a linear building, from which a wall, made of stones, follows the topography, leaving evidences of a larger enclosure. The east part of the enclosure is, in this case, more detailed. It presents three high arches, reminding an aqueduct, or in any case a system for transporting water, at the basis of an escarpment[347]. Evidences are still detectable, even with the alterations of the last decades (Figure 3.7).

[347] "porque ao mesmo tempo que se trabalhava no mosteiro, se cuidava também de o cercar com alto muro, ficando-lhe da parte de dentro hum grande terreno, para ficarem resguardados os muitos pomares, de que abunda, horta, olivaes, vinhas, e terras de pão, que tudo trabalhavão os monges por suas próprias mãos, colhendo do dito cerco copiosos fructos, para sua decente sustentação" (Damásio, 1793, II, pp. 473-474).

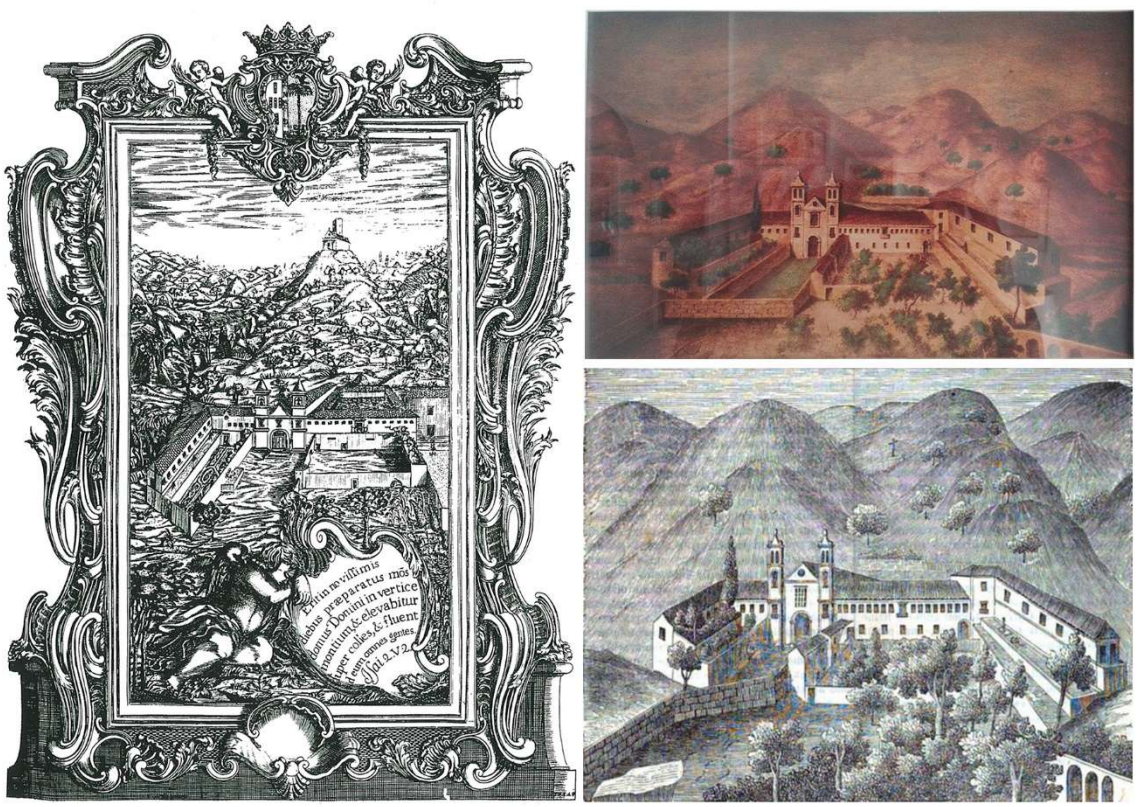


Figure 3.6 – Detail of Francisco Xavier Freire, *Panorama of São Paulo da Serra de Ossa*, in the engraving from the Chronicles of the Carmelites of Serra de Ossa, 1744 (left); unknown, provided by Fundação Henrique Leote (top right); *Revista Popular*, nº 30, not signed, 1849 (bottom right)



Figure 3.7 – Monastery of São Paulo da Serra de Ossa and its enclosure. ©Rolando Volzone, 2017

In Nossa Senhora do Socorro de Portel the enclosure contains the masonry gate (in Portuguese, *porta do carro*) surmounted by pyramidal pinnacles (Figure 3.8). It enabled the entrance of goods supply – for kitchens and pantry – and was located near the old Évora road. The enclosure limited kitchen gardens (Patalim 1730)[348] and olive groves.



Figure 3.8 – Nossa Senhora do Socorro de Portel: enclosure (left) and detail of porta do carro (right). ©Rolando Volzone, 2017

The monastery of Santa Catarina de Montemuro's enclosure, ovoid in terms of shape, surrounds a complex hydraulic system for the irrigation of the kitchen garden, but also for personal needs (Figure 3.9).



Figure 3.9 – Santa Catarina de Montemuro monastery: planimetric view of the enclosure, ©Google Earth View (2019) (left), and detail from south-west (right). ©Rolando Volzone, 2018

[348] "Há mais na dita vila, poucos passos dela, um nobre convento da ordem de São Paulo, primeiro Eremita. O qual fica da parte do poente, no mais aprazível sítio da vila, com uma dilatada vinha e uma grande cerca que serve de horta bem murada", in (Patalim 1730).

In the same way it happens in several old farms of the Alcáçovas river basin, in Montemuro the enclosure was built allowing the flowing of the river through it, and the drainage of the surplus waters (F. T. Barata, Mascarenhas, and Telles 2002).

Regarding Santa Margarida do Aivado, a record dated between the 17th and the 18th century[349] describes the enclosure with vineyards, olive groves, an enclosed orangery, tanks, and three fountains (Figure 3.10).



Figure 3.10 – Santa Margarida do Aivado: planimetric view of the enclosure, ©Google Earth View (2017) (left); detail of the east side (right). ©Rolando Volzone, 2018

From the comparative analysis of this group of enclosures, a morphological correspondence is not detected, mostly due to the adaptation of these structures to the topography.

In addition, their dimensions – in terms of area – and shape depended on other factors, such as the land donations and possessions, which determined the space to be enclosed. Even more, the materials for their construction were mostly extracted *in loco*, so the geology of the place dictated the enclosure's materiality. Therefore, the physical geography of the settlement area stays at the basis of several declinations of the same component.

[349] "Memorias do Convento de Santa Margarida nº 9", in: TT, *Convento de Santa Margarida de Évora*, maço único, nº1 (b).

### 3.2 Monastic Complex

The monastic network has been grouped into well-defined areas, outlining implantation centres with a greater or lower density in certain landscape units (Figure 3.11), based on the characterisation of the Portuguese territory (Abreu, Correia, and Oliveira 2004)[350]. Inside each unit, sub-units are identified: some of them based on orographic accidents – e.g. Ossa, Arrábida, Monfurado, Portel Hill chains, the Estremoz-Borba-Vila Viçosa calcareous limestone – or important elements of the hydric system – e.g. Baixo Guadiana and affluent, Sado drainage basin, Ria Formosa lagoon.

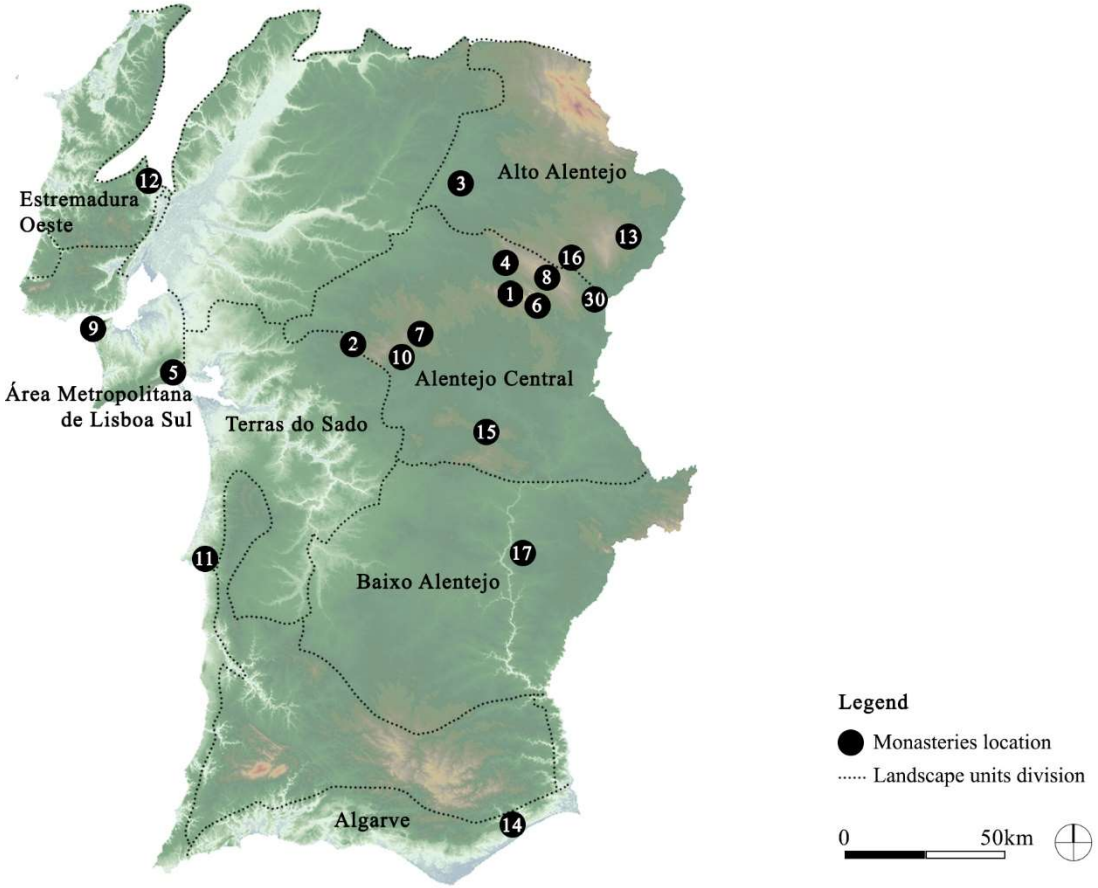



Figure 3.11 – Grouping of settlements based on landscape unities (d'Abreu, Correia, e Oliveira 2004), ©Rolando Volzone, 2020

[350] The study "Contributos para a Identificação e Caraterização da Paisagem em Portugal Continental", was developed between 1999 and 2002 by University of Évora (Biophysical and Landscape Planning Department). It allows the identification of 128 landscape units, grouped into 22 macro-areas, based on the ecological, cultural, socio-economic and sensory analyses.

The Alentejo Central area stands out for the presence of eight monasteries. Its sub-units, centred in the Monfurado Hill chain and even more Ossa Hill chain, represent important areas for the evolution of these settlements, also due to reasons related to the major presence of natural sources, easily found in the wood or the bush, among others.

Monasteries were located, as seen earlier, in rural and peri-urban areas. In some cases, they settled not far from cities or villages, and were later much closer or became integrated into the urban walls. As isolation and recollection are among the main needs of this experience, a complex relation is established between the monastery and the surrounding landscape – most of the time in a wild state, especially with regard to the settlements in peri-urban or rural areas.

The location on slope areas allowed for this detachment from the rest of society, contributing through the better conditions of the physical geography to the community's self-substistence.

The slopes on which monasteries settled were generally oriented toward the south (Table 3.1) – mostly southeast and southwest – providing better sun exposure and protection from northern winds, thus benefiting kitchen gardens and orchards (Moreira 1991).

The building's orientation was generally dictated by the topographic characteristics to which they adapt. Consequently, the analysed monastic complexes are oriented toward the south too, mainly toward southeast, with some cases toward southwest (São Paulo da Serra de Ossa, Nossa Senhora da Consolação de Serpa, Nossa Senhora da Ajuda de Tavira). The only exception is the monastery of São Paulo de Portel, oriented toward the west (Figure 3.12).

In addition, the height's difference aids to transport the construction materials, by using gravity, in the construction of the monastery, and, in a very simple way, allows to feed the hydraulic system. Indeed, on-site accessibility of raw building materials contributed greatly to selecting a location. The use of local materials was preferred for the monasteries' construction, taking into consideration that there were larger quantities of these materials and more easily extractable. Therefore, it led to clear gains in terms of efficiency, costs and construction timings (M. A. D. de Sousa 2012, pp. 35-37).

| Name | Slope[351] | Location on the slope (in third) | Slope Exposure[352] | Altitude (in metres) |
|---|---|---|---|---|
| Santa Cruz de Rio Mourinho | Almost plane | Upper - Middle | West | 248 |
| Nossa Senhora da Consolação de Alferrara | Moderate | Middle | South-East | 96 |
| Santa Catarina de Montemuro | Smooth | Middle - Lower | East | 261 |
| Santa Margarida do Aivado | Smooth | Upper - Middle | South-East | 305 |
| São Paulo da Serra de Ossa | Moderate | Middle | South-West | 427 |
| Nossa Senhora do Amparo de Vila Viçosa | Plane | Middle | North-East | 396 |
| Nossa Senhora do Socorro de Portel | Plane | Middle - Lower | South-West | 325 |
| Nossa Senhora da Luz de Montes Claros | Plane | Middle | South-West | 396 |
| Nossa Senhora dos Remedios de Elvas | Plane | Upper - Middle | South-West | 336 |
| Nossa Senhora da Consolação de Serpa | Plane | Middle - Lower | North | 215 |
| Nossa Senhora da Rosa da Caparica | Almost plane | Middle | South | 67 |
| Nossa Senhora da Ajuda de São Marcos de Tavira | Plane | Middle - Lower | South-East | 14 |
| São Julião de Alenquer | Almost plane | Middle - Lower | East / South-East | 75 |
| Santo Antão de Vale da Infante | Smooth | Middle - Lower | South-West | 404 |

Table 3.1 – Monasteries and the slope analysis. ©Rolando Volzone, 2020

The slope can be divided into three main parts: upper, middle and lower thirds. The upper third, close to the mountain ridges, was reserved to the woods, where spontaneous vegetation created an organic and irregular structure consisting of springs, streams, rocky outcrops, pathways and gutters. In the middle and lower thirds – naturally flatter or artificially terraced land – the levels of humidity were higher because of the

[351] Five ranges of inclination have been taken into consideration: plane or almost plane (0-5%); smooth (5-8%); moderate (8-16%); accented (16-25%); very accented (25-40%).

[352] With regards to the monasteries settled inside the urban walls, it is important to underline that the selection of a specific area for the monastery was constrained by the donated lands, mostly smaller if compared with the ones in rural or peri-urban areas. In the cases of larger areas, the chosen slope is the most sunny, most protected, but in the smaller areas the choice is constrained.

water present in the valley. Consequently, kitchen gardens and orchards were planted there. Usually, monastery buildings were constructed between the upper and middle thirds of a slope, enabling them to be safeguarded against flooding from the river or humidity, and, at the same time, ensuring better building salubrity (Xavier 2004; Volzone and Fontes 2020).

In rural areas, monasteries were generally visible and recognisable from afar. They were built in locations with sweeping views, enabling contemplation at various levels – at a small, medium and large scale – of the enclosure, the surrounding space and the whole landscape, respectively (Xavier 2004). Visibility links the visual perception – including formal aspects such as structure, dimension, and colour – with subjective components (Mendoça 1989), allowing a global comprehension of the landscape (Carapinha 1995)[353].

Once the relationship established between the monasteries, their location, and the surrounding space has been analysed, the approach to the micro-scale can continue, as proposed along this study.

Monastic complexes, at a superficial level, look very different with regard to plan, elevation and dimension. It is even more evident once planimetries are placed side by side (Figure 3.12)[354]. These are essentially quadrangular in shape – with the exception of Santa Cruz de Rio Mourinho and Santa Catarina de Montemuro (Figure 3.12.a,c) – and constituted by perpendicular sides – with the exception of Nossa Senhora da Consolação de Alferrara (Figure 3.12.b), which reveals a deviation in the east and west wings. Nossa Senhora da Rosa de Caparica (3.12.m) stands out for the architectural development around two cloisters and the presence of dormitories on the first floor.

[353] The monasteries located in the upper third of the slope reached more space visually than the ones in the middle or lower third. It would be interesting to elaborate a viewshed map to understand the relationships of visibility and intervisibility. However, it will result into an anachronistic map, due to the alterations in terms of vegetation. Indeed, nowadays the massive plantations – e.g. eucalypt – altered the landscape. Probably in the 16th and 17th century the visibility was reduced, due to the spontaneous vegetation of these areas.

[354] Planimetries and other technical drawing are displayed with a more detailed scale in the monasteries documentary sheets (Appendix C.3).

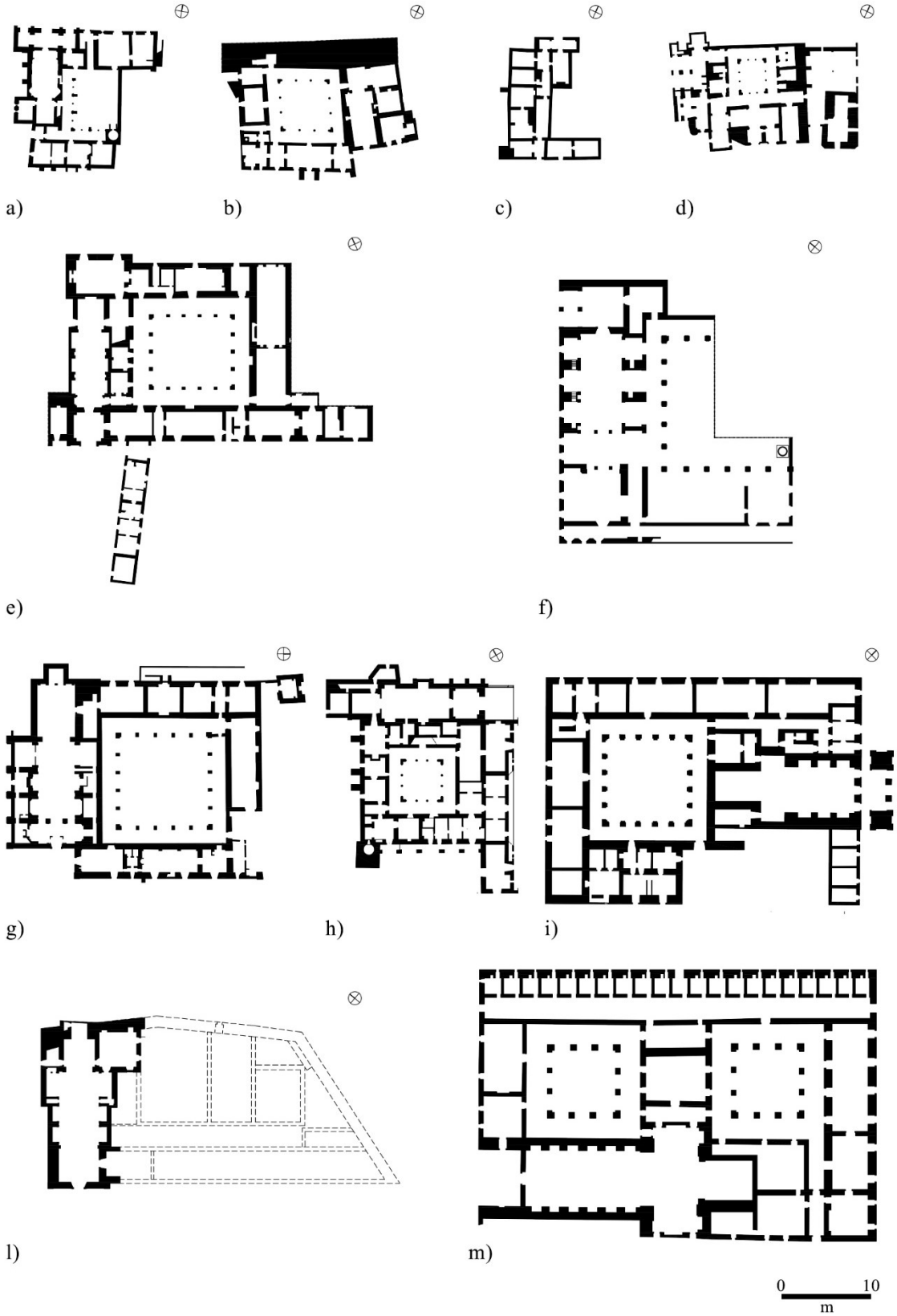



Figure 3.12 – Monasteries' plans drawing: a) Santa Cruz de Rio Mourinho; b) Nossa Senhora da Consolação de Alferrara; c) Santa Catarina de Montemuro; d) Santa Margarida do Aivado; e) São Paulo da Serra de Ossa; f) Nossa Senhora do Amparo de Vila Viçosa; g) Nossa Senhora do Socorro de Portel; h) Nossa Senhora da Luz de Montes Claros; i) Nossa Senhora dos Remédios de Elvas; l) Nossa Senhora da Consolação de Serpa; m) Nossa Senhora da Rosa. ©Rolando Volzone, 2020.

Differences in terms of morphology are defined by natural factors, such as topography, but also the support of the religious, municipal, and regal powers, as well as the number of community members – revealing the importance of a specific monastery (Appendix B.2). As evidenced by analysing the plans, the architectural complexes – even with their different solutions in terms of morphology, and with discrepant areas – show a dialectic relationship between the church and the cloister. It is around this last component, be it single or double, that the rest of the monastic dependencies develop. All these elements were integrated into a more intimate space, the enclosure – the monastic microcosm.

To critically set up a comparison among the case studies, a detailed analysis of three typological components has been considered and explored in depth: the enclosure – previously examined –, the monastic building with its functional areas, including cloister, monastic dependencies, dormitory, and the church. This analysis was aimed at understanding the spatial configuration, in order to find continuities with other religious houses – be they monastic or conventual – in the south of Portugal.

### *3.2.1 Churches*

Churches are symbolically the most important construction of a monastic complex, playing a morphogenetic role in its design composition. These are the most imposing buildings of the monastic structure, at least in height.

With respect to the function-space organisation, churches were predominantly located in the north side, between northeast and northwest. This way, being the highest building of the complex, they protect the rest of the monastery from northern winds. This principle is applied in about half of the analysed case studies (Nossa Senhora do Amparo de Vila Viçosa[355], Nossa Senhora de Montes Claros de Borba[356], Nossa Senhora dos Remédios de Elvas, São Julião de Alenquer, Nossa Senhora da Consolação de Serpa). In three of them, due to the topographic conditions, the church occupies the east side (Nossa Senhora da Consolação de Alferrara, Nossa Senhora da Ajuda de Tavira[357], Santa Catarina de Montemuro). In Santa Cruz de Rio Mourinho, São Paulo da Serra de Ossa

[355] A description of the church and the respective chapels is found in: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv.11, fls. 64-67.
[356] A description of the monastic church is provided in "Memorias do Convento de Montes Claros, nº 7", in: TT, *Convento de Nossa Senhora da Luz de Montes Claros*, maço único, nº 4B, fls. 1-3.
[357] According to the document *Memorias do Conuento de Tauira*, in: TT, *Convento de Nossa Senhora da Ajuda de Tavira*, maço único, nº 3, fl. 1, the construction began in 1633.

the church stands in the west, and, finally in São Paulo de Portel[358] and Santa Margarida do Aivado in the south.

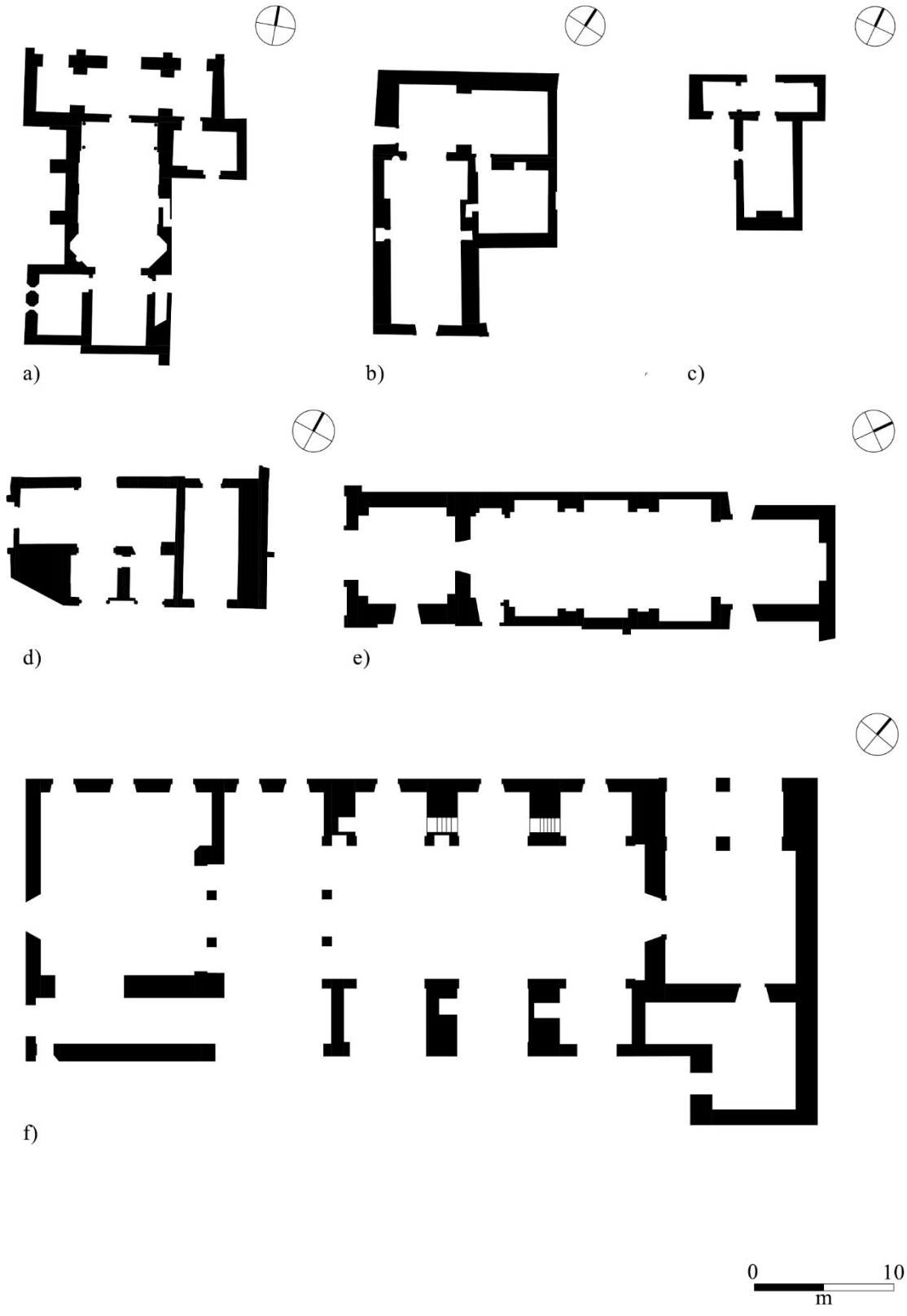
Churches don't follow the classic orientation toward the east, apart from São Julião de Alenquer and Santa Margarida do Aivado. In the latter case, due to the architectural modifications of the more recent decades, the orientation is deduced through a diachronic reconstruction. Indeed, the orientation toward the east, in the analysed centuries was no longer mandatory. They occupied, generally, one entire cloister wing, representing one of its limits. This geometric composition is replicated in most of the case studies, except for Nossa Senhora dos Remédios in Elvas. In this monastery, a church is located perpendicularly to the cloister's northeast wing.

Based on the current evidences – after buildings have undergone several alterations through the decades – a formal analysis is developed.

Considering the plan's composition, churches have similar characteristics: a longitudinal plan composed of a single nave without transept or with a pseudo-transept, and a straight termination presbytery. This is a simplified typology, reduced to the minimum, as typical of the plain architecture style (*arquitectura chã*) (Kubler 1988) and respecting the poverty and despoliation, which is at the basis of the analysed congregation. Even the outside rectangular morphology doesn't disclose the division of the inner space. This architectural formal solution is typical of the mendicant orders, such as the Franciscan convents of the Strict Observance, in particular the *Província da Piedade* and *Província da Arrábida* – in southern Portugal. Contrarily to these last ones, the analysed monastic churches are contrasting in terms of dimensions. This affects the proportions of the whole monastic building.

It is immediately possible to detect a difference between monastic churches in urban centres (Figures 3.13.f,g,i,l) – generally larger – and the ones located in rural areas, smaller (Figures 3.13.e,h) or even smaller (Figures 3.13.a,b,c,d).

[358] A description of the monastic building is provided in: TT, *Convento de S. Paulo de Portel*, Maço 1, cx.1. The church and the regular spaces, including dimensional data, are described in the record *Memórias do Convento de Portel*, in: TT, *Convento de S. Paulo de Portel-Medidas da Igreja e Convento de São Paulo da vila de Portel*, Maço 15, nº 22. Through the conversion of the values – from *varas* and *pés* to metres – and the measurement of the spaces, togheter with the historical records, a reconstitution of the monastery has been possible. With regards to the mearurement in architecture, along the centuries, see, among others: A. H. de Oliveira Marques (1968) "Pesos e Medidas", in *Dicionário de História de Portugal*, vol. III, pp. 369-374, Lisboa: Iniciativas editorais. Mário J. Barroca (1992) "Medidas-Padrão Medievais Portuguesas", in *Revista da Faculdade de Letras da Universidade do Porto*, pp. 53-85, Porto: Universidade do Porto. Faculdade de Letras. Rui Maneira Cunha (2003), *As medidas na arquitectura: séculos XIII-XVIII, o estudo de Monsaraz*, Casal de Cambra: Caleidoscópio.


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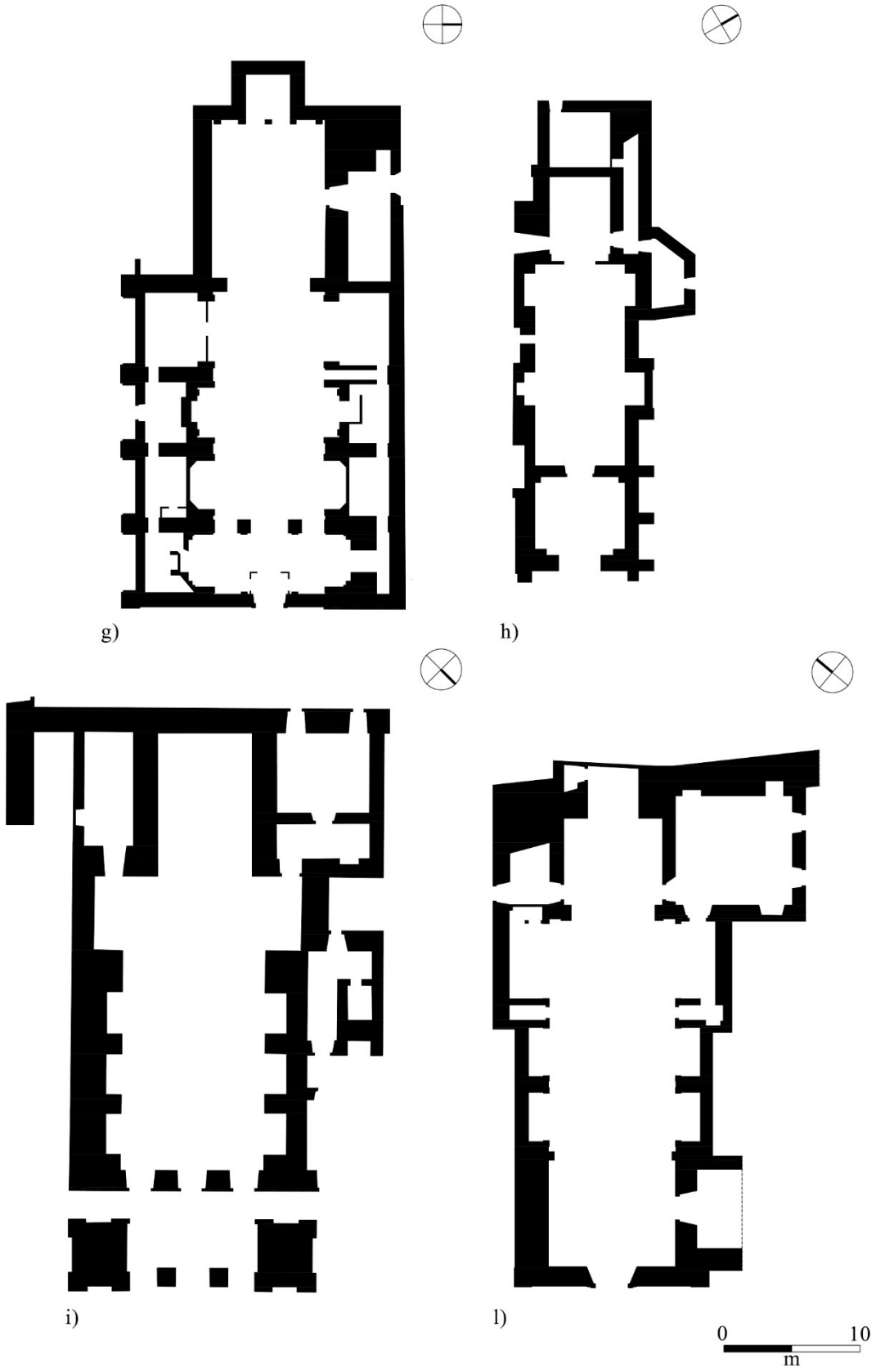



Figure 3.13 – Monastic churches plans: a) Santa Cruz de Rio Mourinho; b) Nossa Senhora da Consolação de Alferrara; c) Santa Catarina de Montemuro; d) Santa Margarida do Aivado; e) São Paulo da Serra de Ossa; f) Nossa Senhora do Amparo de Vila Viçosa; g) Nossa Senhora do Socorro de Portel; h) Nossa Senhora da Luz de Montes Claros; i) Nossa Senhora dos Remédios de Elvas; l) Nossa Senhora da Consolação de Serpa. ©Rolando Volzone, 2020.

The length of the churches, as usually in this architectural *typos,* correspond approximately to the one of a cloister wing. In Nossa Senhora do Amparo de Vila Viçosa, through an analysis of its plan proportions, a square module is detected – two within the rectangular nave and one within the presbytery.

| Name | Church Dimension | Presbytery Dimension | Narthex[359] |
|---|---|---|---|
| | | | |
| Santa Cruz de Rio Mourinho | 11,0X5,8 | 5,4X4,2 | exo |
| Nossa Senhora da Consolação de Alferrara | 12,4X5,3 | 5,1X4,4 | eso |
| Santa Catarina de Montemuro | 7,0X3,8 | n. i. | exo |
| Santa Margarida do Aivado | 11,2X4 | 3,9X3,9 | n.i. |
| São Paulo da Serra de Ossa | 14,2X7,0 | 7,1X6,1 | eso |
| Nossa Senhora do Amparo de Vila Viçosa | 22,5X9,6 | 9,6X9,4 | eso |
| Nossa Senhora do Socorro de Portel | 17,6X8,4 | 12X8,4 | eso |
| Nossa Senhora da Luz de Montes Claros | 15,7X7,0 | 6,6X4,7 | eso |
| Nossa Senhora dos Remédios de Elvas | 21,6X10,5 | 10,5X7,0 | eso |
| Nossa Senhora da Consolação de Serpa | 17X9,3 | 7,2X4,7 | eso |
| Nossa Senhora da Rosa da Caparica[360] | 40,0/13,0 | 12,3X9,2 | exo |
| Nossa Senhora da Ajuda de São Marcos de Tavira | 12,5X25,0 | 10,8X9,2 | eso |
| São Julião de Alenquer | 7,5X3,5 | 3,4X3,0 | eso |
| Santo Antão de Vale da Infante | n.i. | n.i. | n.i. |

n. i. = not identified

Table 3.2 – Monastic churches and dimensional data. ©Rolando Volzone, 2020

[359] "Exo" refer to the exonarthex, an architectural element which develops in the exterior of the church taking the shape of a porch. Contrarily, "eso" refers to the esonarthex, the inner one, which is integrated into the church and topped by the high choir. The last one is commonly also defined as endonarthex.
[360] According to the vectorisation of the graphic record: PT-TT-OESP-MSSL-MC11_m0004.

After analysing the plans of the monastic churches, some recurring features have been detected. Indeed, churches share a similar layout.

The religious space was accessed in axis to the nave through a narthex. Only in the monastery of Nossa Senhora do Amparo (Figure 3.13.f) the entrance is found laterally, probably due to the necessity to have a circulation flow and to the impossibility to access it from the north-east façade. Practical needs exceed the symbolic ones, similarly to what happens in the São Pedro das Águias settlement. Here, despite the existence of an axial portal, the entrance from the south side is privileged due to the presence of a large crag. In the analysed group, two typologies of narthex are identified: exonarthex – developing externally – and esonarthex – developing interiorly (Table 3.2). The last one, essentially, takes advantage of the choir's structure to create an entrance.

The interior spaces feature a rectangular plan, composed by a single nave and a presbytery – except for Santa Catarina de Montemuro (Figure 3.13.c), which constitutes a singular case study. In most cases a pseudo-transept divides these two spaces. The passage to the presbytery is materialised through a triumphal arch, mostly round, and made with local materials (Figure 3.14). Presbyteries are rectangular in shape, with various sizes and proportions (Table 3.2).

With regard to the retables – altarpieces that stand at the back of the altar – starting from an analysis of the physical evidences, the adoption of contrasting solutions has been identified[361]. They could be decorated with paintings (Figure 3.14.a,b,c,d,e) or with sculptures (Figure 3.14.g,h,l,n,o). Santa Cruz de Rio Mourinho shows a structure dated from the end of the 18th century, simple in terms of decorations. In São Paulo da Serra de Ossa, the retable dates back to the end of the 17th century in the Portuguese Baroque style. Nossa Senhora do Amparo de Vila Viçosa presents a manneristic retable developing on three floors, as emerged by an analysis of the tribune's structure. Nossa Senhora do Socorro de Portel displays a manneristic retable that still has the original structure, despite having been heavily painted. This one was renovated in the 18th century, indeed the

[361] The descriptions of the retables are based on the on-site survey at the churches, also supported by data available in previous studies (Espanca, 1975). In addition, the artistic analysis of the retables has been developed with the support of Paula Figueiredo, director of SIPA-Sistéma de Informação para o Património Arquitetónico. However, it is important to highlight that this kind of analysis can be anachronistic due to the circulation of the monastic assets, and their possible alterations, after the decree of dissolution of 1834. Indeed, bishops was authorised to redistribute liturgical implements, sacred images, and retables among the other churches of the same diocese. An in-depth analysis of the monasteries' inventory assets produced in the 19th century could help in the identification of these items' origin. This work needs to be carried out. Indeed, inventories contain few data about the retables, but they are often not easily associated to the correspondent monastic spaces.

original, as customary during that period, should have only the central part painted. In Nossa Senhora da Consolação de Serpa, the carved wooden retable can be associated to the Baroque style of D. João V period. This shows an archaic structure, typical of the 17th century, but with a more elaborated decoration. Nossa Senhora da Ajuda de Tavira presents an interesting retable with the original mannerist structure on floors and upper frame. Indeed it presents carved wooden elements, lateral panels with the symbols of the Marian litanies, reliefs and acanthus panels at the basis. It was renovated at the end of the 18th century with the introduction of a rococo tabernacle. In São Julião de Alenquer, the national baroque retable dating back to the 17th century, still presents a structure influenced by the mannerist style. The Nossa Senhora da Luz de Montes Claros's retable is in a rococo style, dating back to the second half of the 18th century, with a typical concave body and the sides forming the lateral axis.

The interior side elevations are also configured in different ways. Two chapels with round arches are individuated in Vale da Infante and in Santa Cruz de Rio Mourinho (3.13.b). In this last case, the narrow nave and thickness walls supported by external buttresses were not sufficient to create chapels within the main structure. Therefore, they are located at 45 degrees in the transition between the nave and the presbytery. Two chapels on each side are identified in Nossa Senhora da Luz de Montes Claros (Figure 3.13.h); six chapels, three on each side are visible in Nossa Senhora do Amparo, and four are identified on each side in Nossa Senhora do Socorro (Figures 3.13.f,g). These last two cases, although formally different, have intercommunicating chapels through corridors. This solution is typical of the Jesuit architecture: the system is adopted in Évora, in the Alentejo region, and it was introduced at the end of the 16th century, through Santo Antão and Espírito Santo churches, but also in São Roque (Lisbon) and Colégio de Santiago (Braga). Three chapels on each side are identified in Nossa Senhora da Consolação de Serpa and in São Paulo da Serra de Ossa (Figures 3.13.l,e). In this last case, the lateral chapels and the transept have the same width. Finally, in Nossa Senhora dos Remédios there are four chapels on each side (Figure 3.13.i).

Churches are mostly barrel vaulted (Figure 3.14), apart from São Julião de Alenquer, in which a vault is not detectable. Instead, a contemporary polygonal ceiling (*masseira* in Portuguese), consisting of a central part higher and two sides oblique to the walls, is identified (Figure 3.14.o).

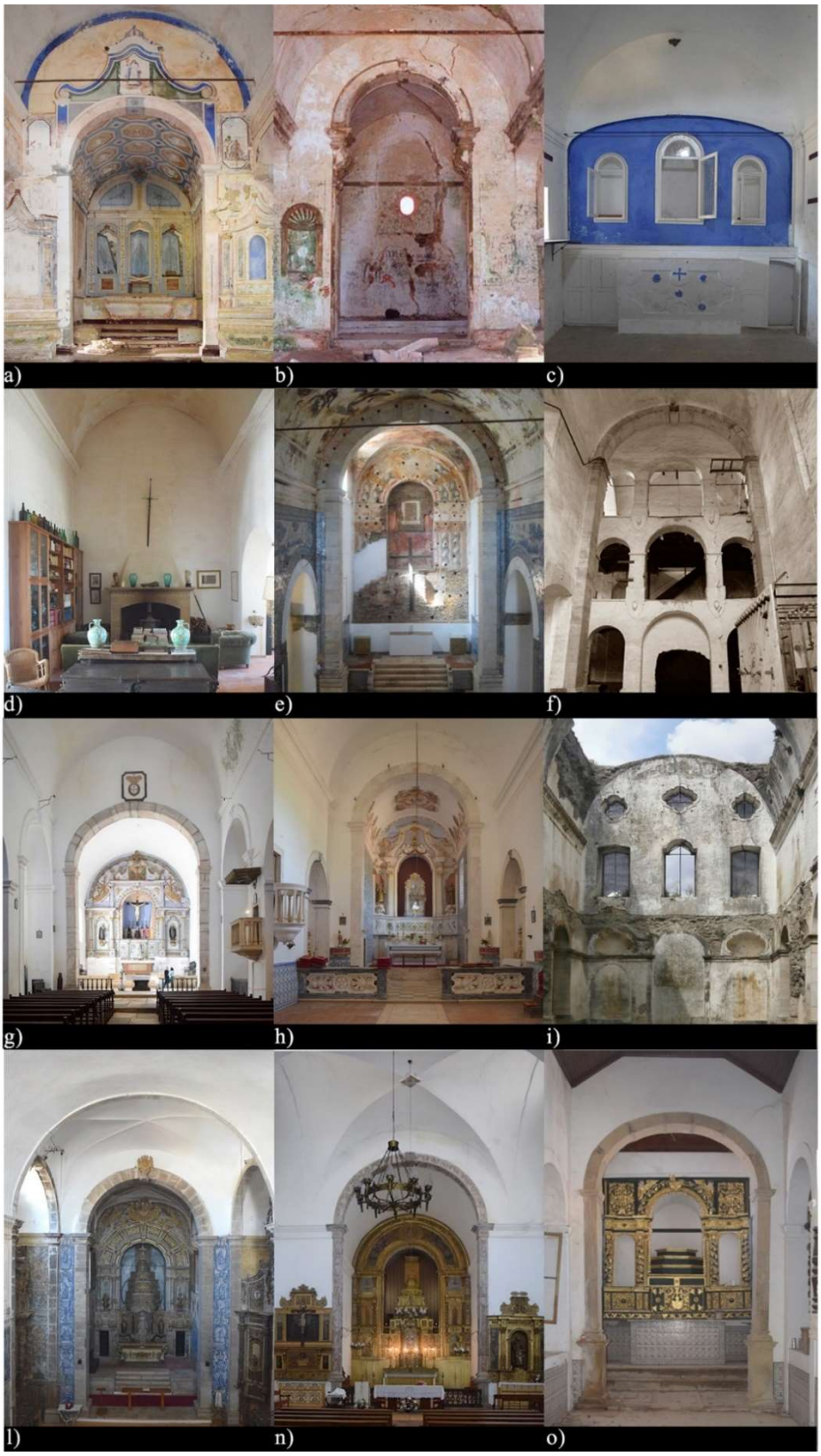



Figure 3.14 – Monastic churches' interior views: a) Santa Cruz de Rio Mourinho; b) Nossa Senhora da Consolação de Alferrara; c) Santa Catarina de Montemuro; d) Santa Margarida do Aivado; e) São Paulo da Serra de Ossa; f) Nossa Senhora do Amparo de Vila Viçosa; g) Nossa Senhora do Socorro de Portel; h) Nossa Senhora da Luz de Montes Claros; i) Nossa Senhora dos Remédios de Elvas; l) Nossa Senhora da Consolação de Serpa; n) Nossa Senhora da Ajuda de Tavira; o) São Julião de Alenquer. ©Rolando Volzone, 2020.

Monasteries' *facies*, as well as other parts of the complex, are the result of overlays that took place along decades. Façades are mainly despoiled, without ornaments, and just plastered, with the exception of the main one, which received a more careful treatment. Santa Cruz de Rio Mourinho is the only one decorated through a geometrised *sgraffito* technique (Figure 3.15.a). In the temple façades, the analysed narthexes present mostly one opening (Figures 3.15.b,g,h,l,n,o), sometimes three (Figures 3.15.a,c), or five, taking into consideration doors and windows (Figure 3.15.i). In this last case, the round arch main portal is flanked by four smaller openings, surmounted by circular windows. The extreme ones are, actually, part of bell towers, not opening onto the inside of the church. In the centre and above the narthex there is a small round window (Figure 3.15.c), or a large window, sometimes flanked by two smaller ones. In other cases, there are three rectangular windows of the same size, without a hierarchy among them (Figure 3.15.n). In the façade of Nossa Senhora dos Remédios de Elvas (Figure 3.15.i), the most articulated of the analysed cases, there are five large windows surmounted by circular *oculi* – reminding the convent of Nossa Senhora da Conceição dos Congregados do Oratório de São Filipe Nery, in Estremoz. Façades can terminate with triangular (Figures 3.15.a,c,e,l), curved (Figure 3.15.g), straight (Figure 3.15.i) or swan necks pediments (Figure 3.15.b), or, still, a counter-curved cornice (Figure 3.15.n). Above this element two symmetrical bell towers may arise (Figures 3.15.a,e), in some cases only one (Figure 3.15.c,n); in Nossa Senhora da Luz de Montes Claros (Figure 3.15.h) a triangular pediment with a wavy cornice – similar to São Francisco de Estremoz convent – is found.

Concerning the dates of construction, through the analysis of the façades, Santa Catarina de Montemuro belongs to the 16th century (Figure 3.15.c), seemingly the oldest. Nossa Senhora do Socorro de Portel shows features typical of the transition between the 16th and the 17th century (Figure 3.15.g). Three case studies present façades of the 17th century (Figure 3.15.e,f,h) and five façades can be dated back to the 17th century with renovations of the 18th century (Figure 3.15.a,b,l,n,o). Santa Margarida do Aivdo can be dated back to the 16th century, despite the alterations of the last centuries (Figure 3.15.d).




Figure 3.15 – Monastic Churches' façades: a) Santa Cruz de Rio Mourinho; b) Nossa Senhora da Consolação de Alferrara; c) Santa Catarina de Montemuro; d) Santa Margarida do Aivado; e) São Paulo da Serra de Ossa; f) Nossa Senhora do Amparo de Vila Viçosa; g) Nossa Senhora do Socorro de Portel; h) Nossa Senhora da Luz de Montes Claros; i) Nossa Senhora dos Remédios de Elvas; l) Nossa Senhora da Consolação de Serpa; n) Nossa Senhora da Ajuda de Tavira; o) São Julião de Alenquer. ©Rolando Volzone, 2020

### *3.2.2 Cloister*

Cloisters play a central role in the entire monastic structure with their centripetal and ordering force (Borges 1998). Surrounded by covered corridors, they lead to the main spaces and allow the light to enter, both physically and symbolically[362]. Generally they are quadrangular in shape and located against one church's sides, working as a hinge between this and the monastic dependencies, and as the main distribution centre for the surrounding spaces: chapter room, refectory, kitchen – on the ground floor – and, mostly, dormitories on the first level[363].

Due to the lack of permanencies or sources that could help in an accurate understanding of this space, some monastic cloisters are left out: Santa Catarina de Montemuro, Nossa Senhora da Ajuda de Tavira, São Julião de Alenquer (Figure 3.16).




Figure 3.16 – Ancient cloisters which are nowadays completely adulterated: c) Santa Catarina de Montemuro; n) Nossa Senhora da Ajuda de Tavira; o) São Julião de Alenquer. ©Rolando Volzone, 2020

Regarding Santa Catarina de Montemuro, evidences of what may have been a previous cloister are identified, even if these only include two wings. Similarly to what

[362] Cloisters are associated, in the Christian tradition, to the *hortus conclusus*, the enclosed garden, and simultaneously to the original garden, the space of encounter with God. For this reason, in this space, the presence of water – materialised through the central fountain – is constant, with references to the baptism and to the sources of Christian life. It is a central space for meditation, for silence, and for meeting with the other monks, but also, symbolically, with God.

[363] In addition, other areas can be identified: library, infirmary, archive, and private chapel, among others.

happens in the older convents, despite having a quadrangular shape, cloisters could have only two wings, according to the needs of a small community[364]. By analysing its morphology, it appears that the Santo Antão de Vale da Infante monastery may have never included this element.

Regarding ten case studies, it has been possible to delve deeper into the cloisters in terms of component and dimension. These spaces were organised mainly on one floor; in a single case, around the cloister, two floors developed (Figures 3.18.h). They were mostly covered by a terrace, which created a connection between cells and the other monastic dependencies' floor (Table 3.3).

| Name | Cloister | Sides Dimension | nº floors | Arches |
|---|---|---|---|---|
| | | | | |
| *Santa Cruz de Rio Mourinho* | ● | 16,5X13,0[365] | 1 | 3X2[366] |
| *Nossa Senhora da Consolação de Alferrara* | ● | 17,2X16,9 | 1 | 3X3 |
| *Santa Margarida do Aivado* | ● | 11,1X13,1 | 1 | 3X3 |
| *São Paulo da Serra de Ossa* | ● | 27,5X24,8 | 1 | 5X4 |
| *Nossa Senhora do Amparo de Vila Viçosa* | ● | 38, 6X38,6 | 1 | 6X6 |
| *Nossa Senhora do Socorro de Portel* | ● | 28,6X28,8 | 1 | 5X5 |
| *Nossa Senhora da Luz de Montes Claros* | ● | 15,3X15,3 | 2 | 3X3 |
| *Nossa Senhora dos Remédios de Elvas* | ● | 28,2X27,7 | 1 | 5X5 |
| *Nossa Senhora da Consolação de Serpa* | ● | 15,3X20,7 | n.d. | n.d. |
| *Nossa Senhora da Rosa da Caparica* | ●● | 26,2X26,2<br>26,0X26,5 | n.d. | 3X3<br>3X3 |

n. d. = not detectable

Table 3.3 – Monastic cloisters: dimensional and component data. ©Rolando Volzone, 2020

Cloisters comprised covered galleries on the ground floor, open through arcades – three to six per wing – favouring odd numbers. This way, the cloister was accessed

[364] It is visible in two female convents belonging to the Order of Saint Claire: Madre de Deus de Xabregas (Lisbon, 16th century) and Santa Clara de Portalegre (Portalegre, 14th century). In this last one, two wings are evidently Gothic, and a quadrangular shape was reached only in the following centuries.
[365] The second wing dimension is based on the current evidences.
[366] Probably the original cloister, before the west wing collapse, was formed by 3 arches each.

through the central one. Exceptions exist, such as in Santa Cruz de Rio Mourinho, where the cloister was accessed laterally, as clear by the analysis of the evidences. So, cloisters are not regular in terms of arch numbers, with typology 3X3 and 5X5 prevailing. These are supported by Tuscan columns (Figures 3.18.a,b,d,h) or rectangular pillars (Figures 3.18.e,f,g,i). In Nossa Senhora de Montes Claros de Borba (Figure 3.18.h), the second covered floor has a different rhythm of openings, comprised of six spans supported by small columns.

Regarding the gallery's covering, the cross vault is dominant (Figure 3.17.g), barrel vaults (Figure 3.17.a) or the absence of a vault (Figure 3.17.d) are verified.




Figure 3.17 – Cloisters gallery coverage: g) Nossa Senhora do Socorro de Portel; a) Santa Cruz de Rio Mourinho; d) Santa Margarida do Aivado. ©Rolando Volzone, 2020

The currently observed evidences are the result of renovations that took place at different times, between the 16th and the 18th centuries. Through a composition analysis, cloisters can be grouped in four typologies, according to previous studies (Da Silva 2012). A proto-renaissance cloister – generally with twin arches supported by columns on the ground floor, straight entablature on the first one, and outer buttresses – is individuated in Santa Cruz de Rio Mourinho (Figure 3.18.a), inspired by the model developed in the convent of Saudação. This is a female Dominican convent, located in the same municipality: Montemor-o-novo. Cloisters with Renaissance arches resting on columns (Figures 3.18.b,d,h) are inspired by the Santa Helena do Monte Calvário convent model in Évora (1574). Moreover, continuous arcade cloisters resting on square pillars are identified (Figures 3.18.f,g). Finally, there are cloisters with single arch sections divided by buttresses on the ground floor (Figures 3.18.e,i).

At the cloister's centre, there was often a tank (Figure 3.18.d,i), a marble well (Figure 3.18.h), or a marble fountain (Figure 3.18.e). They were, essentially, water retention's points, from which the monastic dependencies were served. Moreover, according to the chapter 9 of the constitutions, it was used also as a sepulchral space[367].

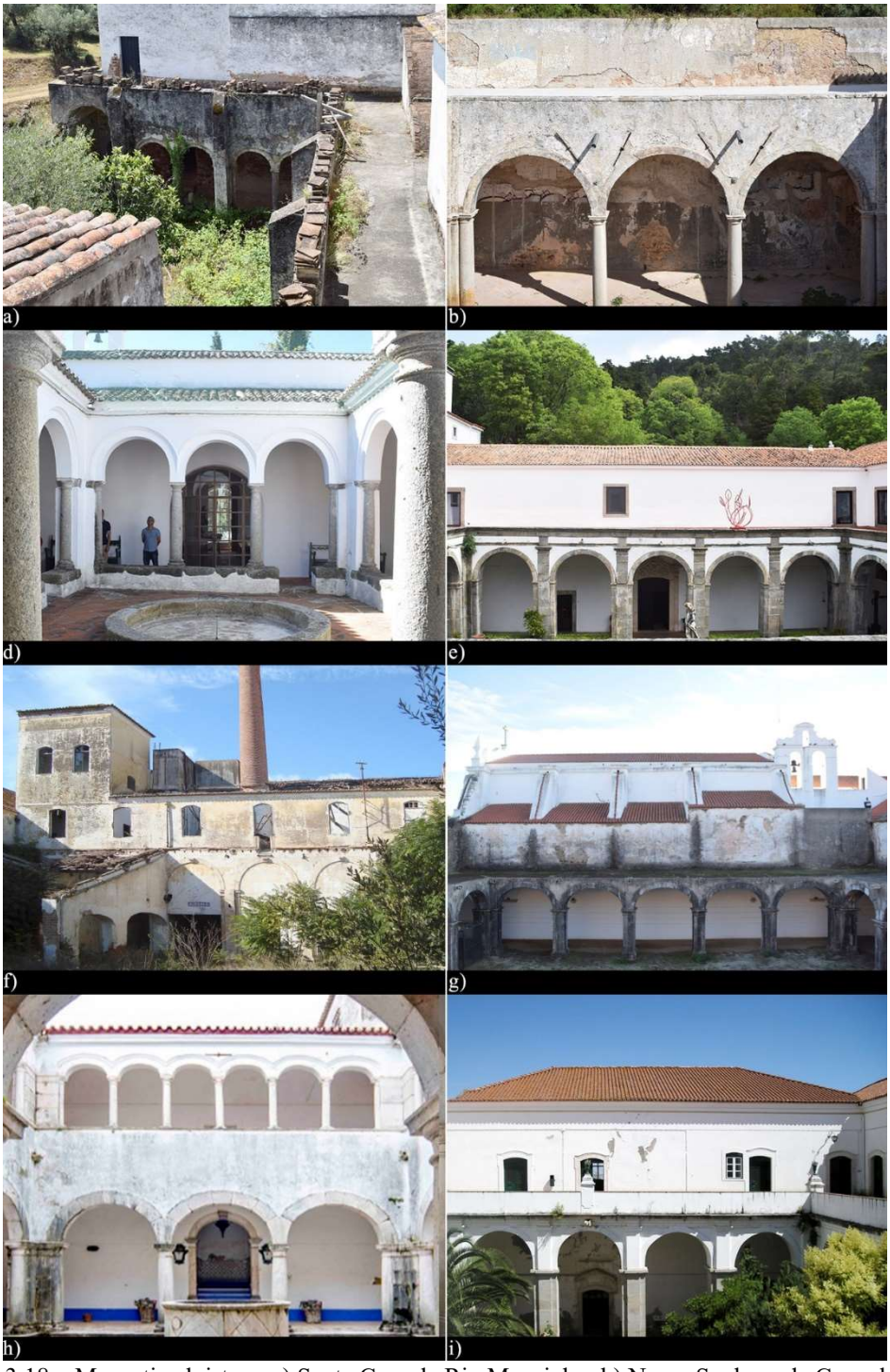



Figure 3.18 – Monastic cloisters: a) Santa Cruz de Rio Mourinho; b) Nossa Senhora da Consolação de Alferrara; d) Santa Margarida do Aivado; e) São Paulo da Serra de Ossa; f) Nossa Senhora do Amparo de Vila Viçosa; g) Nossa Senhora do Socorro de Portel; h) Nossa Senhora da Luz de Montes Claros; i) Nossa Senhora dos Remédios de Elvas. ©Rolando Volzone, 2020

[367] Capitulo Nono. Do Silencio, & dos lugares, & tempos onde se há de guarder", fls. 11-12.

### *3.2.3 Monastic dependencies*

The kitchen, the refectory and the chapter house were typical monastic dependencies located on the main floor. On the second floor, as seen previously, there were dormitories and, exceptionally, dependencies with additional functions, such as chapels, infirmaries, and latrines. Based on the case studies that support this research, it has not been possible to determine which function some dependencies might have had.

Chapter houses represent a community's gathering place to address religious or administrative matters[368]. They have been identified in six case studies (São Paulo da Serra de Ossa, Nossa Senhora da Luz de Montes Claros, Santa Margarida do Aivado, Nossa Senhora da Consolação de Alferrara, Santa Cruz de Rio Mourinho, Nossa Senhora do Socorro de Portel). These are mostly rectangular in shape, with a barrel vault (Alferrara), a cleric beret (Figure 3.19.e) or cloister arch vault (F. P. da Costa 1930) (*barrete de clérigo*), or three-centered arch vault (*abóbada abatida*) (Figure 3.19.a).




Figure 3.19 – Chapter houses: a) Santa Cruz de Rio Mourinho; e) São Paulo da Serra de Ossa. ©Rolando Volzone, 2020

[368] According to the Constitutions of 1594, this space was reserved for administrative matters, as well as the distribution of primary goods – bread, oil, and wine – (fl. 14), or money (fl. 22). During the elections a table was located in the middle of this room or in another when this did not exist (fl. 23). All communities and colleges could participate to the General Chapter with one *vogal* (a Portuguese term used to identify a person with the power to vote), with the exception of Serra de Ossa – represented by three vowels – and Vale da Infante – with two vowels. The Provincial Chapters could take place only in Serra de Ossa, Vale de Infante, Rio Mourinho and Valbom (fl. 35). Moreover, in this space, weekly Chapters took place on Wednesdays or Fridays (fl. 37).

The refectory is a space reserved to the monastic community, in which religious men had their meals, together and in silence. Traces, such as the fireplace, have been identified in six case studies (São Paulo da Serra de Ossa, Nossa Senhora da Luz de Montes Claros, Santa Margarida do Aivado, Nossa Senhora da Consolação de Alferrara, Santa Cruz de Rio Mourinho, Nossa Senhora do Socorro de Portel). This space can be rectangular (Figure 3.20.e) or square in shape (Figure 3.20.a), generally linked to the kitchen space.




Figure 3.20 – Refectories: a) Santa Cruz de Rio Mourinho; e) São Paulo da Serra de Ossa. ©Rolando Volzone, 2020

The dormitory is the dependence welcoming cells, occupying, externally, the entire façade (Figure 3.21). This reflects, through the number of windows, the sum of existing cells. They were mostly rectangular in shape, and, generally, embraced three cloister's wings – the fourth was occupied on both floors by the church. A corridor crossed the entire length and allowed the distribution to the various cells, which were the smallest units of the monastery, its atom, where the religious man lived. Indeed, everyone had his own cell, providing privacy and a space to live, pray, meditate and contemplate. According to this congregation's constitutions, no one could enter the cell without the Prelate's permission.

The cells were rectangular in shape, and approximately 12 square metres – 4,00X3,00 metres – in size. They were accessed through a door located on the left. In line with this door, the presence of a window is verified. This element enabled the entrance of natural light and, at the same time, the contemplation of the surrounding environment. Underneath the window, each cell had a stone bench carved out of the thick wall – e.g. in

the Alcobaça monastery, it was used for reading – and, through the same mechanism, a small niche that would serve as a bookcase was also embedded in the wall. For this reason, the fenestration in the dormitory wings is at a medium height (Figure 3.22).




Figure 3.21 – Dormitories' façades: a) Santa Cruz de Rio Mourinho; b) Nossa Senhora da Consolação de Alferrara (Adelino Chapa, 2006); d) Santa Margarida do Aivado; e) São Paulo da Serra de Ossa; g) Nossa Senhora do Socorro de Portel; h) Nossa Senhora da Luz de Montes Claros; i) Nossa Senhora dos Remédios de Elvas (Nuno Grancho, 2019); p) Santo António do Vale da Infante. ©Rolando Volzone, 2020




Figure 3.22 – Cells' interior: a) Santa Cruz de Rio Mourinho; b) São Paulo da Serra de Ossa. ©Rolando Volzone, 2020

The previously mentioned constitutions do not provide any rule about the dormitories' dimensions or internal disposition. The number of cells was different according to the number of members in the community. A document sent in response to the inquiry ordered by the Pope[369] – drafted between 1573 and 1578 – shows the number of religious men living in monasteries in that decade (Appendix B.2). Serra de Ossa and Vale da Infante stand out for the number of professed men – 14 each – and novices – six each. Indeed, as seen previously, these were the only two monasteries that could receive novices. In the remaining monasteries, between three and seven dwellers are identified.

The dormitory model was adapted to the environmental features and constrains, such as sun exposure, shielding, relationship with the slope, and ventilation, among others. Therefore, cells were the result of an architectural elaboration, searching for a solution to the environmental problems, never forgetting that every single sign in the territory also had spiritual implications.

In Nossa Senhora do Socorro de Portel, the second floor was occupied by three dormitories, one in each cloister wing – excluding the church one – which could also be accessed externally through a balcony linking all of them, and a door located in the middle of each wing. According to previous studies (Patalim 1730), on the second floor there was the library, which was used also as a private oratory for the community, and, with access through an elevated corridor, away from the main building, there were the latrines. According to Ana Pagará (2002), the west wing dormitory – the only one surviving nowadays – although quite modified, allows to identify its internal distribution and two cells still exist. This dormitory had a barrel vault and it was divided in half longitudinally, thus the cells faced the corridor and the cloister.

[369] In: TT, *Convento de São Paulo da Serra de Ossa*, maço 1, nº 5.

In Nossa Senhora da Consolação de Alferrara, dormitories were located in an adjacent building east of the church and parallel to it. This was exceptionally higher than the church, and distributed over three floors. Cells had northeast exposure.

In Santa Cruz de Rio Mourinho, a dormitory was located in the south of the monastic complex. This dependence was accessed through a door and no corridors are detected. Each cell had a rectangular window looking south, marking, externally, the individual cell. It is possible that the northern area was previously another dormitory. In this case, cells were accessed through a distribution space, a larger corridor. The cells had windows facing north.

The São Paulo da Serra de Ossa monastery contained a dormitory similar to the one found in the remaining case studies – here named *grande* or *da carreira*. In addition, there were more dormitories, welcoming other community members: *novo* or *dos Padres Gerais* (General Fathers), *da Serra,* and *noviciado*. Another building, *hospedaria dos leigos*, detached from the main one, was meant for laymen. In the first one, a corridor allowed access to the cells, each one with its own window and facing southwest. The second one, to the east, welcomed General Fathers and the Rector, with a single corridor giving access to south-west/west exposed cells. The novitiate was the only one with a central corridor, giving passage to cells with south-west and north-east exposure, and a second section with lateral corridors and cells with south-east exposure.

In Santa Margarida do Aivado, the dormitory was located in the east. In this dependency a corridor allowed the distribution to cells with windows facing east and west. According to a documentary source[370], drafted between the 17th and 18th centuries, the dormitory included only four cells. The monastery owned an inn, above which there were two houses that served as cells, and, exceptionally, another cell on the main floor.

In Nossa Senhora dos Remédios de Elvas, two dormitories embraced the cloister in the northeast and the southeast. Two corridors with three openings each in the cloister (Figure 3.23) enabled the distribution to the cells, with openings in the northwest and southwest.

[370] "A fabrica deste Convento he mui limitada porque não tem mais que hũ domtitorio de quatro selas e hũa fronteira no mesmo dormitório. Tem hũas hospedarias que mandarão fazer a multidão de Romeiros que a este Convento concorrem da Cidade de Evora a visitar hũa milagrosa Jmagem de N. Senhora da Saude, e sobre a hospedaria tem duas casas com escada pera dentro do Convento que servem de sella a hũ Religioso. Tem o Convento, sem embargo de não ter mais de hũ dormitório, seu claustro no qual está a Sanchristia, e algũas oficinas. Da outra parte do Claustro fronteira ao dormitório esta outra sella, o Refeitório e a Cozinha". In: "Memorias do Convento de Santa Margarida n.9", TT, *Convento de Santa Margarida do Aivado de Évora*, maço único, nº 1 (b).

In Nossa Senhora dos Montes Claros de Borba, two dormitories were located in the south and west cloister wings. They were accessed through a corridor, overlooking the cloister, with three openings. Consequently, cells were exposed to the west and south.

In Santo António do Vale de Infante, the dormitory was located at west of the building, with north-west exposed windows.

In Nossa Senhora do Amparo de Vila Viçosa, according to a documentary source[371], in 1597, the second foundation was built and, 23 years later, by the time it was finished, the monastery included 23 cells.

Starting from the on-site analysis of the permanencies, in most cases it has not been possible to understand the location of other important monastic dependencies, such as kitchens, barns, and cellars. They were surely located around the cloister, at the ground floor, and in relationship with the refectory space. Indeed, through the analysis of the inventory of assets produced after the dissolution of the religious orders, these spaces emerge: e.g. Nossa Senhora da Consolação de Serpa[372], Nossa Senhora da Luz de Montes Claros de Borba[373], Nossa Senhora do Amparo de Vila Viçosa[374].

Moreover, the main floor plan of the monastery of Nossa Senhora da Rosa da Caparica (Figure 3.3) confirms this supposition, despite its different spatial configuration, if compared with the other monasteries. Here, the barn and the cellar are located side by side and in communication with the exterior space. The same happens with the kitchen. Indeed these spaces needed a connection with the exterior without penetrating the more intimate space. The kitchen was aligned with the refectory in the same wing, only separated by the *De Profundis*[375] – with an opening on the cloister. It would be interesting to take into consideration an in-depth analysis of these technical drawings, in order to provide more comprehensive comparative studies with the remaining monasteries.

[371] "Memórias diversas do mosteiro de Nossa Senhora do Amparo de Vila Viçosa", in: BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 11, fls. 62v-64.
[372] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de Nossa Senhora da Consolação de Serpa*, cx. 2251, nº 365.
[373] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento Extinto de Nossa Senhora da Luz da Ordem de São Paulo Primeiro Eremita*, cx. 2239, nº 274.
[374] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, cx. 2264, nº 436.
[375] In the analysed plan, the term used is "poyo", a Portuguese word for the room before the refectory in which the community recites the psalm before every meal.




Figure 3.23 – Nossa Senhora dos Remédios de Elvas: cell door, ©Nuno Grancho, 2019

### 3.3 Final Comments

The examination of the seventeen settlements that are still standing in southern Portugal – although sometimes only their traces remain – has been carried out through a literature review, an archival dataset and an on-site spatial and morphological analysis. This was intended as an attempt to fill in the gaps found in the study of the materiality of the eremitical congregation of São Paulo da Serra de Ossa, by integrating previous studies carried out in the field of medieval history.

Starting as settlements in rural spaces – at a relative distance from urban centres – some communities gradually moved towards cities or ended up being absorbed by their territorial expansion. This started happening mostly in 1578, when the congregation of Serra de Ossa was officially integrated into the religious order of Hermits of Saint Paul the First Hermit and recognised as an autonomous congregation. On the one hand, it has been verified that some peripheral or rural communities moved to new locations; on the other, an architectural evolution from a hermitage to a monastery is also noticeable.

A spatial analysis has shown how physical geography dictated the selection of areas for the implantation, the settlement's design and the space-functional distribution. However, the selection of specific places depended firstly on the ideals of solitude and poverty. A set of conditions for the communities' self-subsistence includes: i) relative distance from the urban centres – at least in the first stage of the analysed case studies; ii) presence of abundant water; iii) rich soil for the manual labours. All these conditions are complemented by the authorities' support. Additionally, the analysis of identifiable evidences allows us to outline the initial interpretations. A reconfiguration of the first monastic plans has been hampered by the lack of graphic documentation and the deep changes undergone by these buildings along decades. The only exception, in this set, is the Nossa Senhora da Rosa da Caparica monastery – paradoxically, the only one of which no trace exists. Through a morphological and space-functional analysis, the use of an archetypical model, based on other monastic-conventual experiences, is deductible.

Hieronymites, Secular Canons of St. John the Evangelist, Franciscans in all their branches present a similar scheme comprised of the church – which was the morphogenerator of the space – and a cloister – which had wings the same length as the body of the church, and was a distributor of the monastic dependencies. The common spaces were positioned on the main floor – kitchen, refectory, and chapter room, among

others. These rooms were located on this level in order to be as close as possible to the well, generally in the centre of the cloister.

The dormitories were located on the first floor. These were spaces of isolation, consisting of single cells, in which religious men lived, according to their constitutions.

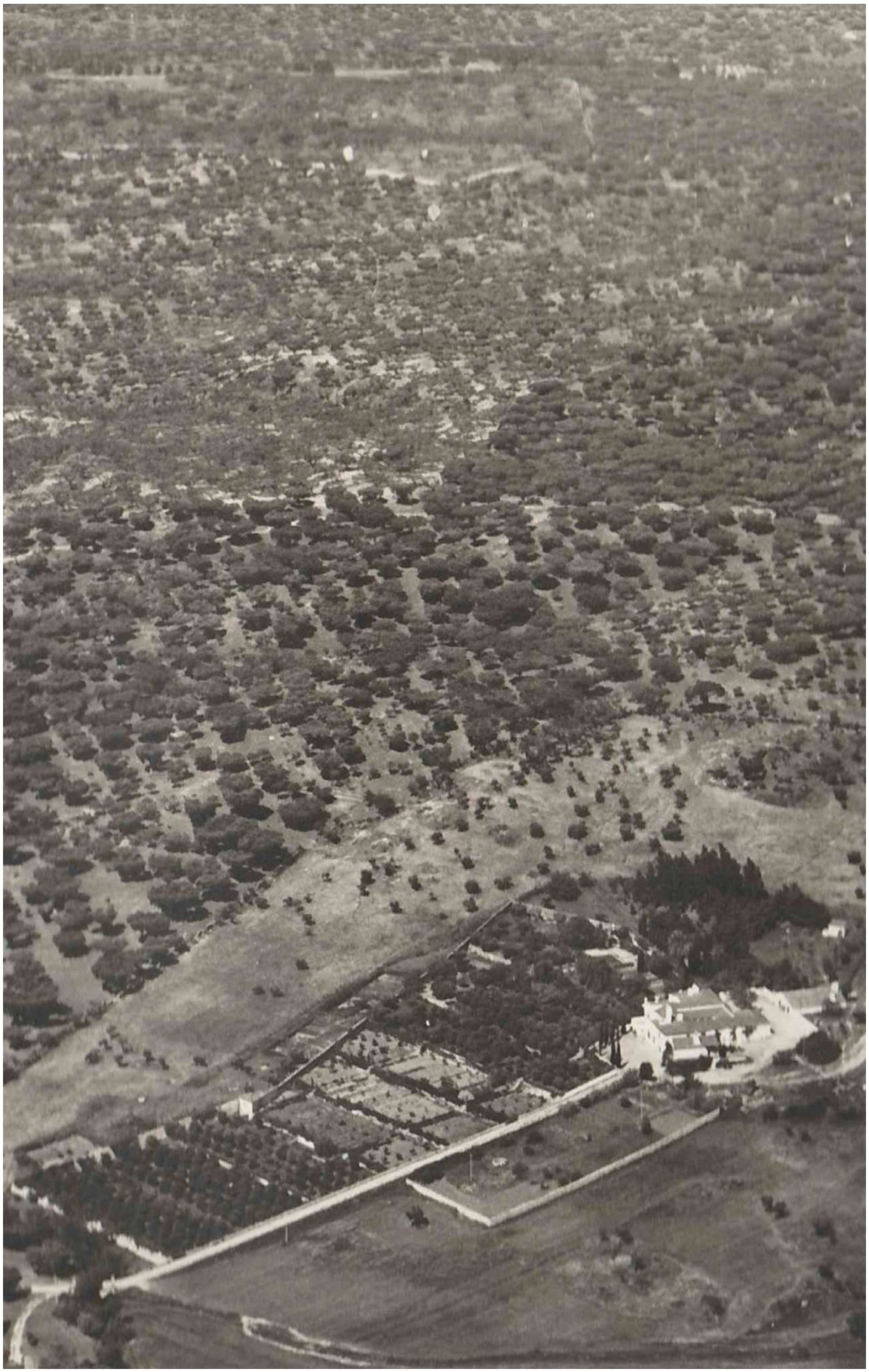
Clear analogies emerge in the distribution system and the architectural solutions. It seems that an ordering concept determinated a symbolic spatiality, but not a formal one. The typological spatiality does not occur through an architectural construction but through the congregation's values. A typology is not identifiable, unlike for the Carthusian, Franciscan, or Benedictine experiences. The architecture of the analysed monasteries recuperates, with some variations, the mendicant orders' model, in particular the Franciscan's one, modulated on the Cistercian example.

In the analysed case studies, it is not possible to make a typological comparison: temporal and spatial coordinates dictate these communities' materiality. It seems more the result of a synthesis made according to time and space. The popular architectural features of the south of Portugal – strongly marked by the buildings' horizontality, whitewashed walls, sober and austere appearance – impregnate these settlements. Chromatic (usually blue) or other details may occur, although rarely, and characterise buildings, especially in the main façade. This is the case of the *sgraffito* in the Santa Cruz de Rio Mourinho monastery. Moreover, climatic factors, such as the strong southern insolation index and the high temperatures, typical of these southern areas, determined a reduced window size.

With regard to the materials used for construction, it has been confirmed that local resources, recovered and worked on site, were used.

After identifying the principal components – church, cloister, and monastic dependencies – it is evident that there is a considerable lack of uniformity. It becomes impossible to speak about a unique aesthetic referring to the eremitical congregation of São Paulo da Serra de Ossa. At the same time, the spatial distribution is, mainly, constant. Monastic churches do not repeat compositional or dimensional metrics and, consequently, they do not generate similar measures in the remaining parts of the building; moreover, the cloister's wing length corresponds to the one observed in the church.

These settlements have mostly been secularised due to the decree of dissolution of the religious orders in 1834. Their function has changed, and they have been converted. Others, however, have been abandoned, leading to their increasing degradation and ruin. In some cases, the architectural features have been completely lost.



**Cover Image 4** - Oblique aerial picture. Property of Luís Torres (unknown author, 1960s)

# 4. Post-Monastic Landscape (1834-nowadays): the loss of symbolic values. Application of knowledge-based methodologies to heritage valorisation: Santa Margarida do Aivado de Évora monastery

The concept of "post-monastic" in this research is used to define the landscape-architecture complexes – the monastic building and the surrounding enclosured space – after the Portuguese monasteries' dissolution decree, in the second quarter of the 19th century. In several European countries, the dissolution of religious orders occurred from the last quarter of the 18th century, mostly influenced by liberal ideals (Soares 2017)[376]. In Portugal, the dissolution decree was enacted by Joaquim António de Aguiar on 28 May 1834[377], at the end of the Portuguese Civil War (1828-1834). According to the decree, all convents, monasteries, colleges, hospices and any other regular religious houses were abolished. Consequently, their assets were secularised and incorporated into the National Treasury – *Fazenda Nacional*. The male religious orders had to leave the houses immediately; the female ones could not admit novices since 21 August of 1822. Moreover, their convents were to be suppressed only after the death of the last nun, as established by the decree and instruction of 31 May of 1862. The decree application intended: i) to weaken the Catholic Church faction closer to the absolutist regimes; ii) to

[376] Clara Maria Martins de Moura Soares (2017), in her PhD thesis in "História da Arte-Ciências do Património e Teoria do Restauro" entitled *Entre a salvaguarda e a destruição: a extinção das ordens religiosas em Portugal e as suas consequências para o património artístico dos conventos (1834-1868)*, focuses on the decree consequences on artistic heritage.

[377] Actually, the dissolution of religous orders began with the Portuguese dissolution of the Jesuits with the Alvará (Licence) on 3 September of 1759 (to which followed France in 1764, the Two Sicilies, Malta, Parma, the Spanish Empire in 1767 and Austria and Hungary in 1782). Moreover, the decree of 18 October of 1822, prohibited the admission of novices and reduced the number of conventual houses, although both are suspended, respectively in 1829 (in continental Portugal, by Miguel I of Portugal) and in 1823. About the portuguese dissolution, among others, see: Miguel Sottomayor (1889), *História da Extinção das Ordens Religiosas em Portugal*, Braga: Typographia Lusitana; Fernando Jasmins Pereira (1983), "Destruição dos patrimónios eclesiais. O caso das ordens religiosas", in *Dicionário de História da Igreja em Portugal*, vol. 2, pp. 54-61, Lisboa: Editorial Resistência; Luís Silveira (1988), *Revolução liberal e propriedade: a venda dos bens nacionais no distrito de Évora (1834-1852)*, PhD Thesis in History, Lisboa: Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa; António Martins da Silva (1990) *Desamortização e venda dos bens nacionais em Portugal na primeira metade do século XIX*, PhD Thesis in Modern and Contemporary History, Coimbra: Faculdade de Letras da Universidade de Coimbra. Another interesting study has been carried out by Vitor Neto (1996), who analyses the relationship between the Church and the State between 1832 and 1911, including the legal production concerning the religious orders, among others.

promote the new regime through the redistribution of properties among the population; iii) to solve the financial crisis through the sale of monastic possessions.

The forced abandonment of the monastic settlements caused, on the one hand, the loss of their symbolic meaning. The monastic buildings went from sacred to profane places: they were abandoned or transformed into private residences, factories, police headquarters or other public facilities. On the other hand, it led to cultural loss, mostly in terms of architecture and landscape.

Moreover, the process of dissolution and the consequent secularization of the religious orders led to a disjunction of the three main components of the monastic complexes: the church, the monastic dependencies, and the enclosure. The church, in the most of the cases, is better protected and safeguarded when compared with the other components.

The process is carried out with many hesitations. Indeed, on the one hand, it is in progress, in legal terms, leading to many losses – more evident when it comes to the destiny of implements, assets of libraries and archives, artworks. On the other hand, the quality of the inventories depends on the officers who carried out that task. Indeed, when comparing the inventories of the case studies, a disparity in terms of quantity and accuracy of the information is verified.

Actually, there is a loss of the original unity and the perception of the monastery as a whole, as it has been analysed in the Chapter 3.

The process of dissolution disarticulates this ensamble. Firstly, by separating the church from the rest of the components, which are several times adapted to new communitarian functions. Secondly, the monastic enclosures are mainly altered: the lands are mostly sold for the urbanisation or for agricultural purposes.

## 4.1 The legacy of the eremitical congregation of São Paulo da Serra de Ossa: an *excursus* along the last two centuries. Identity and memory of a reformed landscape

In this chapter, the development of the monasteries after 1834 is analysed. When examining the dissolution of monasteries, a discontinuity concerning their dates emerges. Some communities had been effectively suppressed at the end of the 16th century (Santa Catarina de Montemuro and the first foundation of Nossa Senhora da Consolação de Serpa); others in the first half of the 17th century (Nossa Senhora da Azambujeira de Fonte Arcada, Santo António do Vale da Infante, Santa Maria da Junqueria); and only one at the end of the 18th century (Santa Margarida do Aivado); finally, a larger number in the 19th century, also before 1834 (Appendix D.1). The progressive dissolutions – mostly in the 16th century – were aimed to annex the communities' assets to the new "projects" of the congregation, supporting the new motherhouse – the monastery of Santíssimo Sacramento in Lisbon –, and the college of Coimbra. In other occasions communities were dissolved because their sustenance didn't seem justified, therefore they were transformed into agricultural exploitations for raising a revenue for other commumities.

Once the dissolution decree was promulgated, possessions were secularised and appropriated by the National Treasury, and instructions for the implementation of the decree were published.

In this research, the possessions inventories of the religious orders are analysed. In particular, the focus is on rustic and urban buildings, and enclosures[378]. Despite being very different in terms of content, and presenting variable dimensions and accuracy – generally depending on the author – these inventories represent a significant written source for the understanding of the possessions of these communities at the moment of the orders' dissolution, as they include asset descriptions and their valuations.

[378] These items belong to the last group of religious possessions listed in the dissolution decree: "1º Vasos sagrados e paramentos. 2º Objectos preciosos não sagrados. 3º Objectos de refeitório, cozinha, enfermaria, e mais mobília do comum. 4º Livrarias, e manuscriptos. 5º Finalmente, casco, cerca, prédios rústicos e urbanos, foros, pensões, títulos de juros, dinheiro, e outros quaisquer efeitos de valor", in: *Chronica Constitucional de Lisboa*, 6 junho 1834:544. See additionally: *Situação dos edifícios de Institutos Religiosos ao Serviço do Estado e das Corporações*, vol. 2, *Arquivo Histórico do Ministério das Finanças*, 1941, pp. 352-353. António Martins da Silva (1982) "A venda dos bens nacionais: a Carta de Lei de 15 de Abril de 1835: I. Aspectos Introdutórios e gerais", in: *Revista Portuguesa de História*. Tomo XIX, pp. 59-115. Coimbra: Universidade de Coimbra.

In order to comparatively analyse the monastic complexes, three components are considered: enclosure, church, monastery – including the monastic dependencies and the cloister. Other elements, such as mills, oil presses, kitchen gardens or olive groves, are analysed too, but always keeping the focus on the monastic core.

Among the analysed monasteries, nine inventories and valuations have been identified. They include the group which was dissolved in 1834, with the addition of Santa Cruz de Rio Mourinho and Nossa Senhora da Consolação de Alferrara, suppressed respectively one and two decades before – 1823 and 1813. These last two were found in the inventories of Colégio de São Paulo de Coimbra and Santissimo Sacramento in Lisbon – therefore they were already abandoned at the time of dissolution. A discrepancy emerges in terms of described components and their values (Appendix D.1).

Nossa Senhora da Ajuda de Tavira monastery's inventory is the only one to differentiate the three components – church, monastery, enclosure. The latter consists of kitchen garden, harvest lands, orchards – almond and fig trees –, as already seen in the analysis in Chapter 2. The inventory includes houses near the monastery and farms. In this case, the highest value is assigned to the church[379].

In Nossa Senhora da Consolação de Serpa, in addition to the monastic building, an estate – *quinta da Provença* – is identified. It corresponds, probably, to the first eremitical community settlement, located near the Guadiana River. Kitchen gardens, olive groves, and hydric elements, such as wells and springs, are described in the inventory[380].

According to the inventory, the built monastery of Nossa Senhora de Montes Claros de Borba, composed of church, sacristy, cloister and dormitories had not been valued, because it was unknown whether the church was in a good state of conservation. On the other hand, the enclosure – containing seed fruit trees, vineyards, kitchen garden, a large pond, olive trees and orchards – stands out for being among the highest valued. Moreover, the document includes several descriptions of olive trees and oil presses, watermills, estates, kermes trees[381].

[379] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de Nossa Senhora da Ajuda*, cx. 2255, nº 386.
[380] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de Nossa Senhora da Consolação de Serpa*, cx. 2251, nº 365.
[381] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento Extinto de Nossa Senhora da Luz da Ordem de São Paulo Primeiro Eremita*, cx. 2239, nº 274.

In Nossa Senhora da Consolação de Palmela, the monastery – including the church and the sacristy – and the enclosure are assessed separately. The latter contains components that are contiguous to the enclosure: pine forest, cereal land, olive trees, pear trees[382].

In Santa Cruz de Rio Mourinho's inventory, the monastery, the enclosure and the oil press face a joint valuation. Mills and orchards outside the enclosure are mentioned, increasing the final value. It is interesting to note that several toponyms, previously identified in the medieval charters (see Chapter 2), still persist.

In Nossa Senhora do Amparo de Vila Viçosa, the enclosure was the only identified value, with no indications referring the church or the monastic dependencies. Furthermore, as in most cases, the inventory includes orchards, olive trees and oil press[383].

For Nossa Senhora do Socorro de Portel, a description of the spaces inside the monastic building is provided – three dormitories with 21 cells, refectory, kitchen, workshops, cloister, church with its altar, sacristy and a tower with two bells –, together with olive groves, an oil press adjacent to the monastery and vineyards. The monastery had a valuation seven times higher than the enclosure – which includes the oil press too[384].

In São Paulo da Serra de Ossa monastery, two separate enclosures were valued, defined as *cerca de sima* – upper enclosure – and *cerca de baixo* – lower enclosure. The first one presents the highest value among the analysed inventories[385].

Nossa Senhora dos Remédios is the monastery with the highest valuation. Furthermore, olive groves and oil press stand out in the set of the described items[386].

By comparing the value of the enclosures – when present as a separate item – it is interesting to confirm that the urban ones, located in Vila Viçosa, Portel and Tavira – with smaller areas – have similar values, but lower than those located in rural areas. Conversely, the largest and richest churches, generally located in the urban centres, reach higher values, compared to the rural ones. Moreover, data extracted through the inventories' analysis show a scenario quite similar to the one revealed by the interpretation of the medieval charters (see Chapter 2), with a persistence of toponyms.

[382] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de São Paulo de Palmela*, cx. 2242, nº 296.
[383] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, cx. 2264, nº 436.
[384] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de São Paulo de Portel*, cx. 2245, nº 318.
[385] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de Nossa Senhora d'Ossa da Ordem de São Paulo Primeiro Eremita*, cx. 2251, nº 367.
[386] TT, *Arquivo Histórico do Ministério das Finanças*, *Convento de Nossa Senhora dos Remédios de Elvas*, cx. 2235, nº 135.

Along the centuries, even when communities became "richer", and the buildings acquired a monastic typology, the congregation adopted the same strategy, by accumulating, either in the city or in the rural areas, possessions around the monastery and creating a compact sacred core.

After the dissolution decree of 1834 – and sometimes before, as seen previously – the architectural-landscape complexes entered a new phase. They lost their original function and symbolism, taking on a new identity, according to the new political and cultural guidelines. Multiple paths and new applications are identified when it comes to these dissolved monasteries. Several times, their principal components are broken into three main parts: enclosure, monastic dependencies, church. The identification of their *iter* from the dissolution to present day seems necessary in order to understand the role of monasteries after the monastic life.

Santa Cruz de Rio Mourinho, according to the assets' valuation made in 1835, was in a ruinous state[387]. In 1875 it was a private property (T. Espanca 1975), remaining in ruins. In 1888 the main façade *sgraffitos* (Figure 3.15) were restored (M. Fernandes 1991). Through the decades, until 1970, it was inhabited by different owners. Its main function has been residential, but at a given moment it had a sawmill established on the ground floor.

Nossa Senhora da Consolação de Alferrara was sold at a public auction in 1837 – the same year of its assets' valuation – to the O'Neill family. During his visit to Portugal in 1866, the Danish writer Hans Christian Andersen describes the building's partial state of abandonment (Andersen 2015). The state of disrepair accelerated over the last century (Vítor Serrão and Meco 2007), and only stopped since 1984, thanks to the AMRS-Association of Setúbal Region Municipalities – *Associação de Municípios da Região de Setúbal* –, whose restoration work, with the collaboration of an interdisciplinary team, has been very careful.

Santa Catarina de Montemuro has served residential purposes through many decades, but it currently does not have a specific function; only the surrounding land is cultivated.

Santa Margarida do Aivado, according to the current owners, was acquired by a local family between the end of the 19th and the beginning of the 20th century. It belongs to the same family since then, with residential functions. The building was restored in

[387] The monastery is defined as "demolished" – *demolido* –, in: TT, *Arquivo Histórico do Ministério das Finanças*, *Colégio de S. Paulo de Coimbra*, cx. 2209, nº 119, fl. 4.

1960 and again in the beginning of 2020, this time adapting the building to touristic purposes.

São Paulo da Serra de Ossa monastery was sold in 1872, 38 years after the religious orders' dissolution. This contributed to its decay. The only inhabited area was the south wing. Other spaces have been used as facilities for agriculture and resident workers housing. The monastery, from 1975 to 1984, was occupied by the socialist *Cooperativa Agrícola da Serra* (Arruda and Coelho 2004). The third and last type of function has been a hotel, opened in 1993. Since 2000, the Henrique Leote Foundation is based in the monastic building, with the aim to study, recover and preserve the cultural identity of *raian* populations[388].

In the case of Nossa Senhora do Amparo de Vila Viçosa, the building first housed a theater, then an Infantry Regiment. It was transferred to the municipal property in 1867, (P. J. da R. Espanca 1892). The enclosure was sold in 1885 and, in 1919, the church with the cloister and the monastic dependencies were sold to Salvador Lourenço Torrinha. In 1920 he sold the asset to the future owners of Sofal-Sociedade Fabril Alentejana Lda., founded in 1921 (Quintas 2014), who installed an oil press and a flour mill there. In 1936 the *Asilo de Inválidos António Reixa Lobo* was constituted, administrated by Santa Casa da Misericordia de Vila Viçosa, and located in the eastern enclosure part, donated by the previous owner. The Sofal factory entered a slow decay process until its closure in the 1980s. Since then, the building went into an advanced state of degradation and in recent years it was taken by a Portuguese bank and sold in 2019, with the aim to convert it into the "Royal S. Paulo Hotel Resort"[389].

Nossa Senhora do Socorro de Portel was definitively abandoned in 1834: the parish took care of the church and the sacristy, and the rest was sold at a public auction to the family Gil Borja de Menezes (T. Espanca 1975; Pagará 2002). The ancient monastic dependencies have been exploited for storage, bullfights have taken place within the cloister, and the enclosure underwent profound changes, mostly when it was transformed into a private garden. Between the end of the 19th and the beginning of the 20th century, the refectory was used as a public theatre. Then, in the 1980s, the construction of the municipal swimming pool and the transformation of the green space into a public garden,

[388] "Raia" is the Portugal-Spain border, it also defines the geographic space on both sides of the political frontier where people share historical, linguistic, cultural and economic elements.
[389] Concerning the on-going project, see: https://www.investaureum.com/project/royal-s-paulo-hotel-resort/.

led to the damage of the ancient hydraulic system and the landscape architecture *intra-muros*. Nowadays, the church and the attached sacristy are under the protection of the Portel parish, while the monastic dependencies and the enclosure are owned by the Portel Municipality.

Nossa Senhora da Luz de Montes Claros was abandoned for a few years, until the sale by public auction. According to Túlio Espanca (1975), between 1883 and 1884 the owners adapted it to a summer residence. Over the decades, it was passed down to another family, the current owners, keeping the same function.

In Nossa Senhora dos Remédios de Elvas, the church remained in the possession of the Third Order of São Domingos Brotherhood until 1886 and was, in the following year, handed over to the Ministry of War (Grancho 2009), which installed the military court there. The monastic dependencies, between 1834 and 1847, were used as: electric telegraph station, City Customs, theatre, circus[390]. Between 1847 and 1848 the Ministry of War carried out renovation works to adapt the building to its new usage as military barracks[391]. In the 2010s the complex was assigned to the Municipality of Elvas, and on the 3rd of August of 2016, a protocol was signed with the Ministry of Economy, for an exploitation licence, integrated into the Program of Heritage Valorisation – *Programa de Valorização do Património*. As a consequence, the building has been converted into a hotel.

Nossa Senhora da Rosa da Caparica was dissolved in 1808. The structures were in a complete state of neglect and ruin at the end of the 19th century. Evidences were still found at the beginning of the 20th century, as confirmed by the picture published by Manuel Pinheiro Chagas (1899). Nowadays, building remains are incorporated in private residences, some stones and fountains are scattered over the surrounding farms (R. M. M. Mendes 2017).

After the dissolution, Nossa Senhora da Ajuda de Tavira was divided in parts: the church was assigned to the Confraria de Nossa Senhora da Ajuda, and later to the Santa Maria parish; the rest was sold at a public auction (Marado 2007). The *iter* of the ancient monastic dependencies that nowadays belong to private owners is unknown. The church still maintains its function.

[390] See: José Saraiva (dir.) (1941*), Livro de Indices: Situação dos Edfricios ao Serviço do Estado e das Corporações*. Lisboa: Torre do Tombo.
[391] See: *O Jornal de Elvas*, ano 24, nº 1082 de 2 de Junho de 1949.

São Julião de Alenquer monastery was converted into the *Quinta de São Paulo*, belonging to different owners since 1873 (Melo, Guapo, and Martins 1985). Presently, due to the several changes and its abandoned state, its spatial and morphological analysis is hampered.

The history of Santo Antão do Vale da Infante, after its dissolution, is unknown. Today it is used as a residence.

Nossa Senhora da Azambujeira de Fonte Arcada still remains a mistery. Indeed, no data has been collected about this building. To date it seems to be abandoned.

Since the 19th century, Santa Maria da Junqueira had a residential use. A picture dating from the second half of the 20th century (Soledade 1973) shows the house in a good state of conservation, but a recent on-site visit, in 2019, revealed the squatting of the space by a local community.

The monastery of Nossa Senhora da Consolação de Serpa was dissolved in 1834. In 1840, the monastic building and the church became property of Santa Casa da Misericórdia de Serpa, in exchange for buildings in which the institution was based. The ancient monastery was renovated in order to adapt the structure to the new hospital function. The hospital is still working. The church returned to the ownership of the Parish of Serpa, but the religious service ended about 40 years ago, and it is nowadays abandoned.

## 4.2 Digital documentation as a basis for the heritage knowledge and valorisation: the case study of Santa Margarida do Aivado in Évora

Through the analysis of the change processes and of the spatial transformation, it is evident how monastic typologies have been converted into spaces with new functions, such as industrial spaces, military quarters, and, more recently, tourist facilities. Few monasteries have resisted the changes due to touristic exploitation, even fewer have undergone consistent restoration works. All the rest are abandoned buildings, still representing their potential as a spiritual place and standing as the last evidence of their past.

Portuguese and Spanish researchers linked to the project "De ora a labora"[392] underline how the recently established paradigm implies the equation monastery-factory-hospitality. In Italy (Bartolomei et al. 2017; Ribera, Manfrotto, and De Guglielmo 2018) and in the rest of Europe (Poloz 2017) only a small number of researchers are carrying out studies and censuses of disused monastic complexes in order to define reuse strategies in line with the places' identity.

This research rests on the idea that good practices for managing and valorising the architectural-landscape complexes can promote an increased awareness by nearby communities and public administrations, contributing to recognise the importance of this cultural heritage. This is linked to the creation of reliable and updatable support tools. Indeed, reality-based methodologies, combined with the historical records, represents a knowledge basis for the monasteries' monitoring, in terms of material and spatial features. This will lead to the establishment of an unprecedented archive, constantly updated, for studying the buildings' aspects – morphology, constructive systems, diachronic evolution, state of conservation – in relation with the monasteries of other eremitical congregations, with the aim of creating a support for the valorisation of the monastic architecture and its surrounding landscape. In this regard, Santa Margarida do Aivado

[392] "De Ora a Labora. Los procesos de cambio y las transformaciones espaciales en las tipologías religiosas (eclesiales, monásticas y conventuales) reconvertidas en espacios de la producción" is a research project carried out by Universidad de Sevilla and Universidade de Évora. It aims to study the changes that industrial implementations have brought to religious spaces in Portugal, Spain and their overseas territories. More info are available at: https://www.cidehus.uevora.pt/investigacao/projetos/Outros-Projetos/De-Ora-a-Labora.-Los-procesos-de-cambio-y-las-transformaciones-espaciales-en-las-tipologias-religiosas-eclesiales-monasticas-y-conventuales-reconvertidas-en-espacios-de-la-produccion.

monastery is the pilot case in the definition of a methodology for the systematisation of information obtained through digital surveying.

The monastery of Santa Margarida do Aivado is located in the central Alentejo region, about 8 km from Évora. Its origins are based on the Aivado hermitage. In this area, an eremitical community is documented since 1406 (see Chapter 2). After the dissolution in 1797 and the subsequent sale, its function has been essentially residential (see Chapter 3).

Similarly to the other monasteries of the eremitical congregation of São Paulo da Serra de Ossa – with the exception of Nossa Senhora da Rosa da Caparica monastery (Figure 3.3) – no documented graphic surveys have been found about the monastery of Santa Margarida do Aivado (Figure 4.1)



Figure 4.1 – Santa Margarida do Aivado: South view, ©Rolando Volzone, June 2018

Historical charters provide only partial knowledge of the vegetation cover and hydrography. The document *Mémorias do Convento de Santa Margarida do Aivado de Évora nº 9*[393], produced between the 17th and the 18th century, is the only known source with a functional space description.

[393] TT, *Convento de Santa Margarida de Évora*, maço único, n.1 (b).

In-depth studies about the spatiality of this monastery are scarce and generally contain few details regarding the architectural features (A. F. Barata 1904; 1909; Eborense 1934; T. Espanca & Silva 1957; T. Espanca 1975, 1980). Furthermore, only a few photographic records, dated 1967, allow to visualise the space in the 1960s and 70s (Figure 4.2)[394].



Figure 4.2 – Oblique aerial pictures. Property of Luís Torres. Unknown author (above and below)

These pictures show the monastery after the restoration of 1962, with several alterations that have compromised, in some parts, the primitive layout. At the same time, these records are relevant in order to understand the surrounding landscape, as they highlight, for example, the location's isolation. Finally, a set of pictures belonging to the owner's archive show the architectural features before the renovation[395].

[394] According to José Sousa Uva (ICNF- Instituto da Conservação da Natureza e das Florestas), it is possible that the photos belong to the series named "Fotografia aérea vertical pancromática-missão D.G.S.F.A.", dated of 1967, nowadays available in *Centro de Operações Florestais* (Lousã).
[395] The information has been obtained through interviews made to the current owners, who generously shared the pictures.

When compared with recent pictures, it is evident that the building has been altered, mostly in the Southern and Western façades (Figure 4.3).



Figure 4.3 – Comparison between photos dated of the 1950s and the beginning of the 1960s and recent ones. Southern, Western and North façades (from left to right). Luís Torres personal archive, unknown author (above). Pictures captured by drone, ©Pietro Becherini, June 2018 (below)

As seen previously, the eremitical congregation of São Paulo da Serra de Ossa has been analysed from a historical point of view, essentially by medievalists. However, a study that complements these data with the analysis of the architectural permanence and its correlation with the place's physical geography has not yet been carried out. This research work aims to address this gap.

The first step of the work was the consultation of archival sources and the systematic review of the state of the art. Subsequently, a study of the materiality of the space was carried out through the production of digital documentation. This highlights the current state of the building and can act as a support for, among others: i) future conservation and restoration interventions in order to safeguard its heritage values; ii) typological comparison between the congregation's monasteries and those belonging to other monastic or mendicant orders at a local, regional or national level; iii) reconstruction of the buildings' primordial state – and its diachronic evolution – made through the use, for instance, of reverse design methodologies (Adembri et al. 2015; Verdiani 2015 and 2017), at the level of building morphology.

### *4.2.1 Reality based survey: integrated methodologies to digital documentation*

A digital survey campaign, through reality-based methodologies, was required in order to provide morphological data and information about the material features. For this reason, the International Conference and Summer School *Digital Survey in Religious Architecture*[396] was organised, taking place in Lisbon and Évora (Figure 4.4).



Figure 4.4 – Summer School Digital Suvery in Religious Architecture: professors and participants during the on-site survey. ©Rolando Volzone, 2018

The survey campaign was carried out by integrating two methodologies for data acquisition: Terrestrial Laser Scanner (TLS) and Automatic Digital Photogrammetry

[396] The International Conference and Summer School "Digital Survey in Religious Architecture" has been organised within the presented research by DINÂMIA'CET-ISCTE-IUL (Instituto Universitário de Lisboa), CHAIA (Centro de História de Arte e Investigação Artística) of the University of Évora, the IEM (Instituto de Estudos Medievais) of the Faculdade de Ciências Sociais e Humanas of the University Nova of Lisbon, the CEHR (Centro de Estudos de História Religiosa) of Universidade Católica Portuguesa, in partnership with the CIAUD (Centro de investigação em Arquitetura, Urbanismo e Design) of the FA-ULisboa (Faculdade de Arquitetura da Universidade de Lisboa), the DIDALABS (Laboratories of the Architecture Department) of the University of Florence, the ISTAR-IUL (Information Sciences and Technologies and Architecture Research), the Vitruvius FabLab, and supported by ICOMOS Portugal and OASRS-Ordem dos Arquitectos Secção Regional Sul. The purpose of the course was to provide the participants with the knowledge and skills necessary to conduct digital surveys in religious heritage sites through theoretical classes and practical activities.

(ADP). The first allows to generate highly accurate data in terms of metrics and morphology; the second contains additional colorimetric information related to the building materials[397]. Research advances in this field go hand in hand with the technical development of the equipment, thus allowing more integrated and complete data. Consequently, this generates databases which require a complex management in order not to lose the amount of information acquired (Bertocci and Parrinello 2012).

The laser scanner survey was achieved with a Faro Focus M70. The photogrammetric one was accomplished with a drone Mavic Pro DJI to obtain data about the interior of the enclosure through a higher flight, and with a DJI-Spark drone to obtain data about the monastery, through lower flights (Figure 4.5).



Figure 4.5 – Digital survey campaigns and equipments: laser scanning (left), drone acquisition (rigth).
©Rolando Volzone, 2018

[397] In the 3d survey of Santa Margarida do Aivado monastery, integrated in the Summer School "Digital Survey in Religious Architecture" the students João Puga Alves (Faculdade de Ciências da Universidade de Lisboa), Jorge Lopes (ISCTE-IUL), Iryna Poloz (FAUL), have been guided by Professor Luís Cotrim Mateus (CIAUD-Centro de investigação em Arquitetura, Urbanismo, Faculdade de Arquitetura da Universidade de Lisboa), who gently provided the 3D laser scanner for the survey activities; additionally the Professor Pedro Sebastião (Instituto de Telecomunicações, ISCTE-Instituto Universitário de Lisboa) and Pietro Becherini (Università degli Studi di Firenze) provided drones for the photographic survey. They have been supported by the tutors Victor Manuel Mota Ferreira (CIAUD-Centro de investigação em Arquitetura, Urbanismo, Faculdade de Arquitetura da Universidade de Lisboa) and António Raimundo (Instituto de Telecomunicações, ISCTE-Instituto Universitário de Lisboa and Skyverse).

The intrinsic characteristics of the monastery forced the integration of the different techniques in order to overcome their weaknesses. For example, since the building is still protected by a white plaster layer – typical in the South of Portugal – using only ADP would have resulted in the reconstruction of a three-dimensional model with high presence of digital noise. Indeed, the algorithms of Structure from Motion (SfM) softwares ground their operation on the spatial alignment of frame shooting positions, by analysing the chromatic contrast points – key points – in two photos in sequence. In this case, the monochrome surfaces would have hindered the correct reconstruction. Furthermore, the exterior lighting condition – stronger during the summer, even more in the Alentejo region – and the reflectance index of the white walls further complicate this operation. On the other hand, using only TLS techniques, in this specific case, not provided the collection of data on the roof system – due to its inaccessibility. This task was facilitated by the use of drones.

Laser acquisitions were concentrated only on the monastic building, avoiding the enclosure area around the building, mostly due to factors such as: i) time limitation; ii) the dense vegetation that demanded a previous topographical base or, at least, a network of fixed targets for the subsequent data reassembly (Bertocci, Bigongiari, and Ricciarini 2019). For these reasons, the building's surrounding territory – inside the ancient monastic enclosure – was achieved through photography by drones.

By focusing on the architecture, it was possible to design the survey acquisition phase without the use of targets for the subsequent point clouds; the stations were carried out maintaining a high overlap *ratio*, in order to achieve the most of *cloud-to-cloud* registrations, avoiding the use of targets to reach the point clouds matching. This was previously planned through a preliminary traditional survey, by drawings, without measuring instruments. This represents the first approach to the examined object to outline a draft for the planning of survey operations and the relative timeline of activities (Figure 4.6).

Moreover, the traditional survey was necessary in order to understand the building's morphology, structure, materials and its relation with the surrounding space, from its main volumetry all the way to the details (Bertocci and Bini 2012). In the survey planning, verification stages were foreseen in order to optimise the operations.

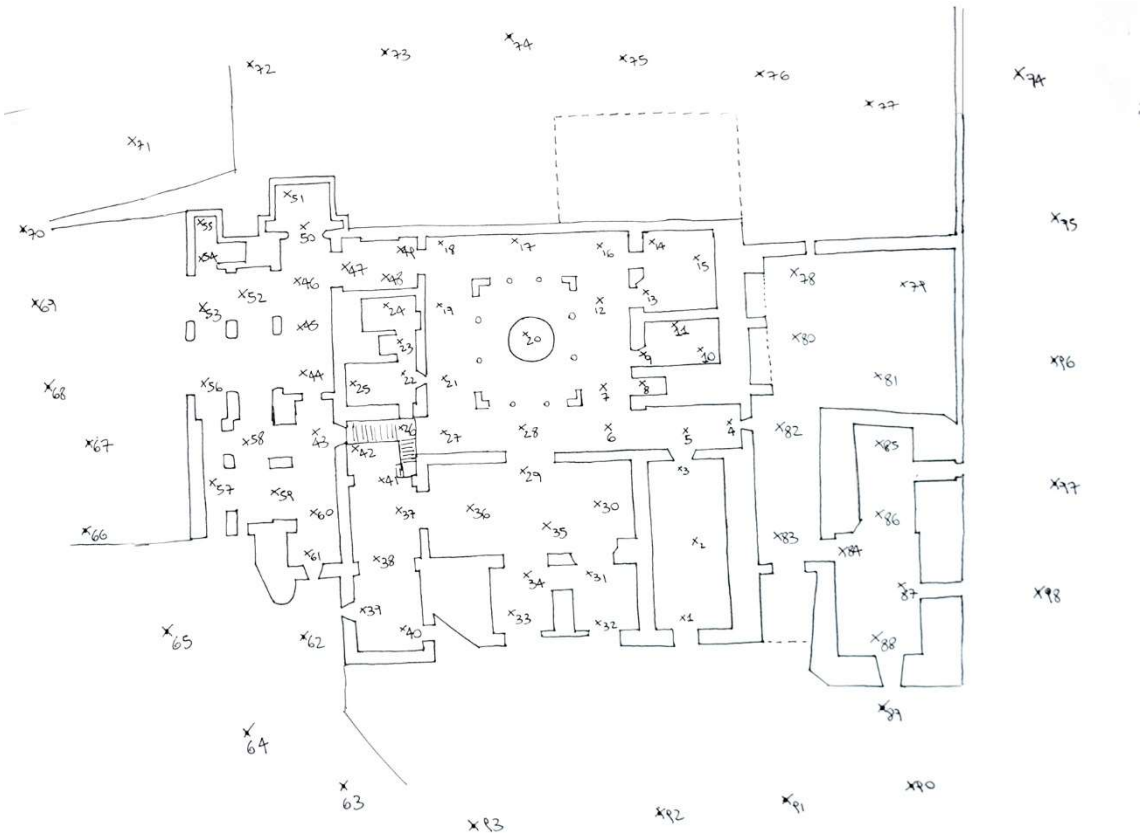


Figure 4.6 – Sketch of the monastery with the preliminary indication of the scan stations at the main floor, ©Rolando Volzone, 2018

Through the laser scanning, a digital model was produced: the point cloud. Each point is defined by spatial coordinates – x, y, z – and a colour value corresponding to its reflectance value – RGB.

The used equipment holds an integrated camera, so the captured data is richer. In this specific case, it was decided to proceed with the colour data only outside, while the interior, essentially in white and without interesting coloured parts, did not need it; this resulted in a reduction in terms of execution time.

Once the scan phase was complete, the acquired data was processed, semi-automatically, leading to the recomposition of accurate and reliable data. Each scan partially describes the three-dimensional object. They can be matched, according to GPS coordinates, to obtain a unified and complex point cloud (Figure 4.7)[398].

[398] The presence of dense vegetation creating a mass of unreliable points – from a metric and morphological point of view – has exponentially raised the average error expressed by the cloud constraints in registration phase. In order to assess the reliability of the registered model made of several point clouds, it was necessary to perform some survey test procedures. Due to the complexity in understanding the error through the numerical values obtained by the software recording – which express a global error calculated by performing the deviation average of all points of the cloud – it was necessary to section the building and check the scans alignment; in this case it was assessed that wireframe sections' deviations never exceeded 1 cm.



Figure 4.7 – Laser scanning planning; point clouds view and reconstruction phase of the final point cloud; general view of the point cloud, by laser scanner, coloured with monastery RGB data (from the top), ©Rolando Volzone, 2020

The final point cloud is a database, collecting several information. The model can be sectioned, in order to redraw and produce 2D documentation (Figure 4.8).



Figure 4.8 – Final point cloud sectioned in different points, showing interior building features. ©Rolando Volzone, 2020

The point cloud was used, firstly, to create traditional architectural drawings: plans, sections and elevations. To proceed with the digital data redrawing, the point cloud was exported into a CAD software, according to tested procedures (Pancani 2017).

From a graphic point of view, the three-dimensional database's management enables, thanks to specific software usage that exploit the GPU graphic acceleration, the virtual display and real-time model's navigation with extremely detailed quality. Hardware progress allows 3D navigation and information management directly on CAD, enabling optimal data management and rapid information visualisation, and the wireframe drawings restitution (Figure 4.9 and 4.10)[399]. This procedure is relatively easy, but a careful process is required in order to move from the comprehensiveness of the 3D point cloud to the 2D drawings schematisation.

[399] These drawings can be accompanied by the reconstruction of orthophoto, in order to describe the architecture materiality, obtained from SfM photographic acquisition procedures (Figure 4.14).



Figure 4.9 – From point cloud to 2D drawings: the point cloud is managed directly in CAD; the drawing made from the point cloud data with a millimetric exactness; the 2D plan of the monastery floor 0 (from above to below). ©Rolando Volzone, 2020

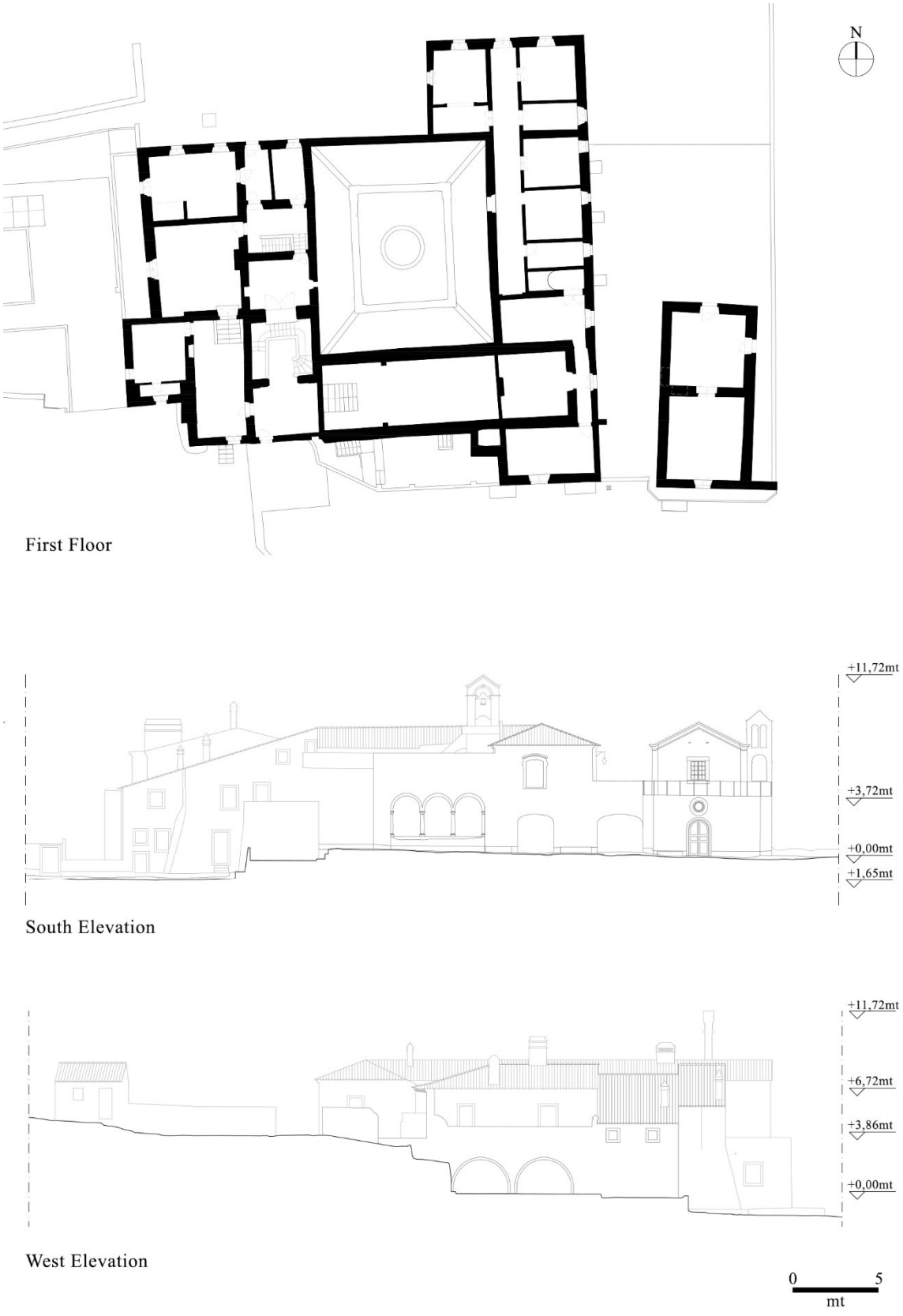



Figure 4.10 – 2D Survey Drawings: Plan and Elevations (from above to below). ©Rolando Volzone, 2020

With the introduction of unmanned aerial vehicles (UAV), commonly known as drones, the territorial image acquisition method has been revolutionised, considering the progressive improvement in the quality of captured images and software. The choice of a SfM methodology from UAV was made in order to obtain data otherwise impossible to gather when resorting to TLS instrumentation and, consequently, to experiment the integration of both methods to evaluate the output quality and precision.

The photogrammetric acquisition phase by drone was organised in two campaigns. The first was directed to the territorial survey, focused on the space inside the ancient monastic enclosure, with an area of 2,21 hectares; the second was focused on the monastic building, in order to obtain a point cloud with the highest data quality and density to generate a 3D model and provide the basis for an exhaustive building analysis.

To run the SfM aerial photographic campaign, drones and their relative smartphone apps were used, contributing to a better signal reception and a more fluid UAV maneuverability. After checking the multiple parameters to be taken into consideration in each flight mission, and after studying the best settings for collecting data on the building, four different types of flight were planned. The first one, focused on the largest portion of territory for surveying, maintained the camera's inclination axis perpendicular to the ground surface – a so called nadiral shooting axis. In the other three flights, focused on the monastery, the camera was inclined in three directions – downwards, left and right – to improve the acquisition of all the building's façades (Figure 4.11).



Figure 4.11 – UAV survey and different shooting directions. ©Pietro Becherini, 2018

In this way, according to the principles of SfM photogrammetry, data acquisition was optimised and the successive geometric reconstruction was simplyfied. Problems and constraints were considered within the flight planning phase for a correct execution: physical obstacles, such as trees, hampered the drone's free movement and prevented a better image capture. On the contrary, the mostly flat terrain, the height and the visibility gave no problems. Through this methodology, it was possible to cover the entire object without a photographic acquisition from the ground, by using an SLR camera.

The entire workflow follows six steps. After the acquisition by drone, pictures were selected and grouped based on the different flights. Each group was imported into appropriate software and formed a "chunk", in order to facilitate and optimise the next step: the photos' alignment. On the basis of at least 9 homologous points, identified between each pair of adjacent areas, a sparse point cloud was reconstructed. The next step consisted in building a dense cloud and, finally, a mesh surface and a textured one (Rahaman and Champion 2019).

Regarding the first flight – the territorial one – the resulting model was made up of 1242 photographic images: the sparse point cloud includes 113 thousand points, the dense point cloud is constituted by 180 million points and 90 thousand polygonal faces (Figure 4.12)[400]. The remaining chunks generated a model which is made up of 869 photographic images: the dense point cloud is constituted by 71 million points and 35 thousand polygonal faces (Figure 4.13)[401].

Once the model was properly scaled and oriented through the insertion of the markers, which referred to the spatial coordinates obtained from the laser scanner survey, it was possible to set the orthogonal views for extracting orthomosaics (Figure 4.14). These contain several elements about the construction materials and the conservation state.

[400] UAV survey have been carried out in collaboration with Prof. Pedro Sebastião (ISCTE-IUL) and António Raimundo (Skyverse and ISCTE-IUL).
[401] UAV survey and the SfM restitution have been carried out in collaboration with Prof. Stefano Bertocci and Pietro Becherini (UNIFI).



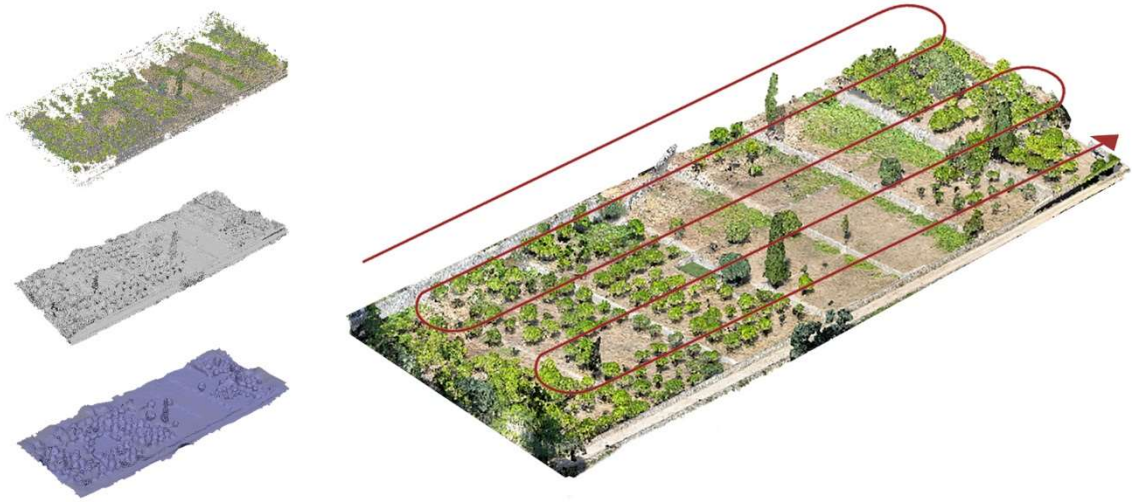





Figure 4.12 – Interior Enclosure SfM process: part of the photos (totally 1369) captured during the higher flight; general view of the dense cloud representing the interior enclosure; detail of the dense cloud, in which it is possible to recognise structuring elements of the landscape – terrace cultivation, vegetation, irrigation system (from the top). ©Rolando Volzone, 2020




Figure 4.13 – Results of diferent flight chunks; final results of the textured model and the identification of the flights typologies; passage from the dense cloud to the mesh, and, finally, the textured model (from the top), ©Rolando Volzone, 2020




Figure 4.14 – Orthomosaics elevations. ©Rolando Volzone, 2020

The photographic survey, as aforementioned, presented some operational problems owing to the materiality of the external surfaces.

Nowadays it is possible, thanks to software development, to align data obtained from SfM procedures with those obtained via laser scanner. In order to achieve a reliable model, and to take advantage of each technique, it was decided to integrate both models. This allowed to simultaneously manage laser scans and photographic data, through consolidated methodologies for the virtual reconstruction (C. Balletti et al., 2015;), for planned conservation (Cardaci, Mirabella Roberti, and Versaci 2019), for 3D data recording, etc.[402]

The software imported data from both scans, previously filtered and recorded, and the pictures. Afterwards it semi-automatically aligned data, which is possible because laser data can be assimilated to frames. Indeed, each scan can be considered as a panoramic view that is decomposed into a cube, corresponding to six frames; thus, tracing the scan position to the shooting point of six photographs. These can be combined either automatically or through the identification of homologous points among the photographic shoots. Depending on the software used, the data coming from the laser scanner point cloud is taken as the starting point, due to its reliability. The three-dimensional points reconstructed in space by the photographs are used to fill in the gap between the scans' shadow cones[403], and the laser scanner point cloud integrates the missing data captured by drone. Indeed, the union between the two acquisition systems leads to great improvements in terms of a final model, by integrating both data missing from the correspondent methodology of acquisition (Bigongiari 2018).

The model obtained with this combined method avoids the irregularity and the morphological error caused by the surfaces which hamper 3D reconstruction, resulting in a morphologically reliable texture. Moreover, it does not need any other measures for setting the scale: thanks to the use of laser data, the model is already scaled in metres on

[402] Before proceeding with the integration, metric tests between the different outputs, originated by the acquisition tools – laser scanner and drone – were performed. In order to check geometric and metric errors between the TLS point cloud, assumed as the reliable basis, and the output obtained by drone, the related files were imported into the open source CloudCompare software. So, they were recorded to obtain a single reference database. Homologous points were identifiable thanks to the specific targets' application during the acquisition campaigns. In this occasion, due to the lack of targets, homologous points of the analysed structure were determined.

[403] The surfaces irregularity problem recreated by the photographic data appeared since the first software applications. Although nowadays the mesh management tools within the programs have improved, the problem due to the chromatic recognition of the points cannot be solved. Indeed, while photos could be aligned through the use of specific targets, the recreated surfaces were still noisy.

the basis of its reference system[404]. Through this operation, the covering parts missing in the first cloud were perfectly collected by the second one (Figure 4.15)[405].

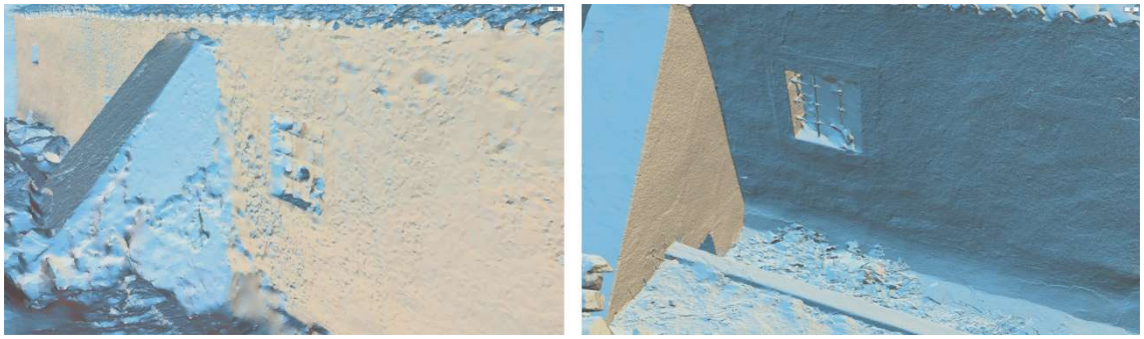


Figure 4.15 – Model detail before the integration process (left). The result after applying it (right), in which it is possible to verify the improvement of the photogrammetric model with the laser scanner data. ©Rolando Volzone, 2020

Research is rapidly moving towards an integration of methodologies and data obtained from TLS and short-range UAVs. In this case study, the goal was to obtain a metric, reliable and structured 3D model of the building. These methodologies can be easily replicated on a large scale. Therefore, the potential of each acquisition method has been exploited, resulting in a digital database, which can be enriched and updated over time with other kinds of information and digital data.

According to the International Council of Monuments and Sites (ICOMOS), interventions on Cultural Heritage need to be based on seven principles, the first of which is that they have to be "Knowledge-Based". The research and the surveys carried out for this thesis respond to this principle[406].

Indeed, the production of digital documentation through integrated survey methods developed in this research contributes to the scientific knowledge of the eremitical congregation of São Paulo da Serra de Ossa, creating novel contents that may result in a support tool for the conservation, protection, enhancement, restoration and new uses of this heritage, which, in most cases, is in a state of abandonment, ruin, or it is profoundly altered.

[404] The complementarity of the two clouds was verified through appropriate commands that check the distance between the values of the cloud used as a reference – the one by the laser scanner – with the one produced by drones.
[405] The main detected problem has been the lack of geometric correspondence in some corners and edges, which determined a loss of precision. This occurred where the drone was unable to approach the monastery due to the dense trees crown.
[406] In the document *European Quality Principles for EU-funded Interventions with Potential Impact upon Cultural Heritage* (ICOMOS - International Council of Monuments and Sites 2019). Available at: http://openarchive.icomos.org/2083/1/European_Quality_Principles_2019_EN.PDF.

### *4.2.2 Cultural Heritage Access for All: Manufacturing 3D Models, Knowledge and other potential outputs*

Digital survey methods have become a standard practice of documenting and researching Cultural Heritage (CH), even more because they permit to conduct non-intrusive and remote research, enabling the dissemination of knowledge to a wider audience by increasing access to CH. The availability of virtual data, previously analysed, enabled the potential in the use of digital fabrication to (re)produce original cultural artefacts for a range of intents[407]. The recourse to 3D printing, in particular, in the field of CH has been motivated by the contribution it can bring to the preservation, valorisation, communication and fruition of these shared assets (Caterina Balletti, Ballarin, and Guerra 2017). In this work, starting from the 3D digital model, several outputs have been produced. A particular focus was put on 3D prototype outputs, due to their potential in terms of accessibility, with the aim to analyse the contribution of the manufacturing of a 3D physical model to knowledge "manufacturing".

3D printing can be used in several ways in CH (Scopigno et al. 2017; Caterina Balletti, Ballarin, and Guerra 2017), which can be summarised as: reproduction, reconstruction and transformation. With regard to reproduction, the goals can be to create replicas, also for exhibition, which may include tactile pieces for the visually impaired (Neumüller et al. 2014); to conduct research without the risk of damaging originals (Wachowiak and Karas 2009); to produce a copy of a missing artefact from archival photography; to use scale models for research purposes or demonstration of unbuilt versions (C. Balletti et al. 2016). In terms of reconstruction, 3D printing could be helpful in processes such as repairing damaged artefacts or components (planning and production of replacement parts) and developing non-intrusive support structures for display or transport (Arbace et al. 2013; Sá et al. 2012). Regarding transformation, it may be useful

[407] This research is ongoing, through a partnership between Università degli Studi di Firenze, and VFALAB at ISCTE-IUL. The researchers involved in this project are: Professor Alexandra Paio, Filipe Brandão, Rolando Volzone (ISCTE-IUL), Prof. Stefano Bertocci and Matteo Bigongiari (Università degli Studi di Firenze). A reconstruction of the ancient monastery morphology is proposed, and it allows a comparison between the monasteries of the same eremitical congregation and others standing in the same region and built in the same century. The access to the case study for research activities has been provided by its current owners.

in cases including the creation of derivative works either for artistical purposes or exhibition support (Balzani et al. 2004; D'Agnano et al. 2015).

These examples of potential uses are aimed at restoration, education, creativity, dissemination or research purposes. Moreover, the construction of a physical model represents a critical synthesis between the historical analysis and the architectural survey, which allows to understand the diachronic evolution of a building and to delve further into the relationship with the surrounding landscape – rural or urban.

The digital 3D model obtained from the survey data of the monastery Santa Margarida do Aivado was converted in a surface – mesh – through its points' triangulation[408]. A common difficulty in this transformation derives from the passive detection methods. The nature of these methods does not provide an option to choose the spatial portion to be detected.

Therefore, surfaces to be shaped cannot be selected. Indeed, point clouds contain several data, but not all are correct in terms of morphology: e.g. digital noise adversely affects the triangulation model process, leaving either erroneous or incomplete surfaces. As a consequence, the complex modelling of the monastery – based on 154 scans with about 3 billion points – required an initial definition concerning both outcome quality and which surfaces would be shaped, depending on the model's final destination, taking into consideration also the time processing and the available hardware[409]. Moreover, it was important to define the final dimension – the scale representation – because it has a significant impact on the model details.

In addition to intrinsic defects, such as digital noise, the survey model also had innumerable imperfections that derived from the data registration phase: every single recording creates errors, which are accumulated every time a new process takes place. This affects the quality of points' triangulation, leading to defective surfaces (Figure 4.16).

In the specific case of Santa Margarida do Aivado monastery, strategies have been adopted to prevent the creation of a defective mesh which would have been morphologically inaccurate.

[408] This is the same process taking place in SfM software, after the preliminary frames' alignment and the point cloud construction.
[409] The model has been developed with the support of Prof. Stefano Bertocci, together with the collaboration of Matteo Bigongiari, Postdoctoral researcher at Università degli Studi di Firenze, as part of a collaboration for a scientific article.

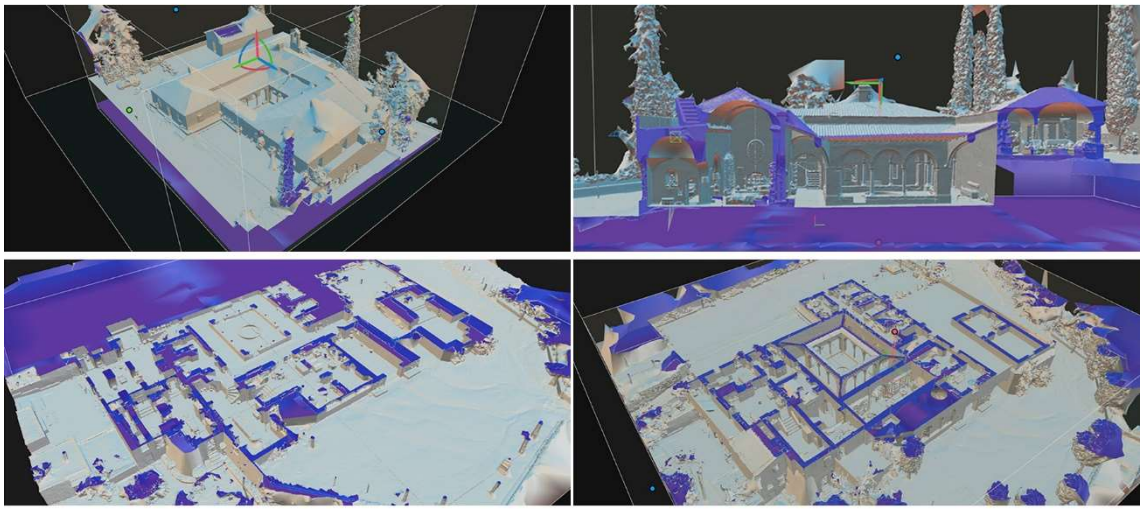


Figure 4.16 – Mesh model view obtained by the transformation of the point cloud. ©Rolando Volzone, 2020

First of all, 1:100 was set as the model's representation scale. This allowed to set the minimum size that each single triangle had to maintain, corresponding to 3 cm. The mesh was then imported into a three-dimensional modeling software, with the aim of creating a solid volume starting from this surface. The process enabled the model's introduction into the dedicated 3D printer software, the computer-aided manufacturing (CAM) (Figure 4.17).

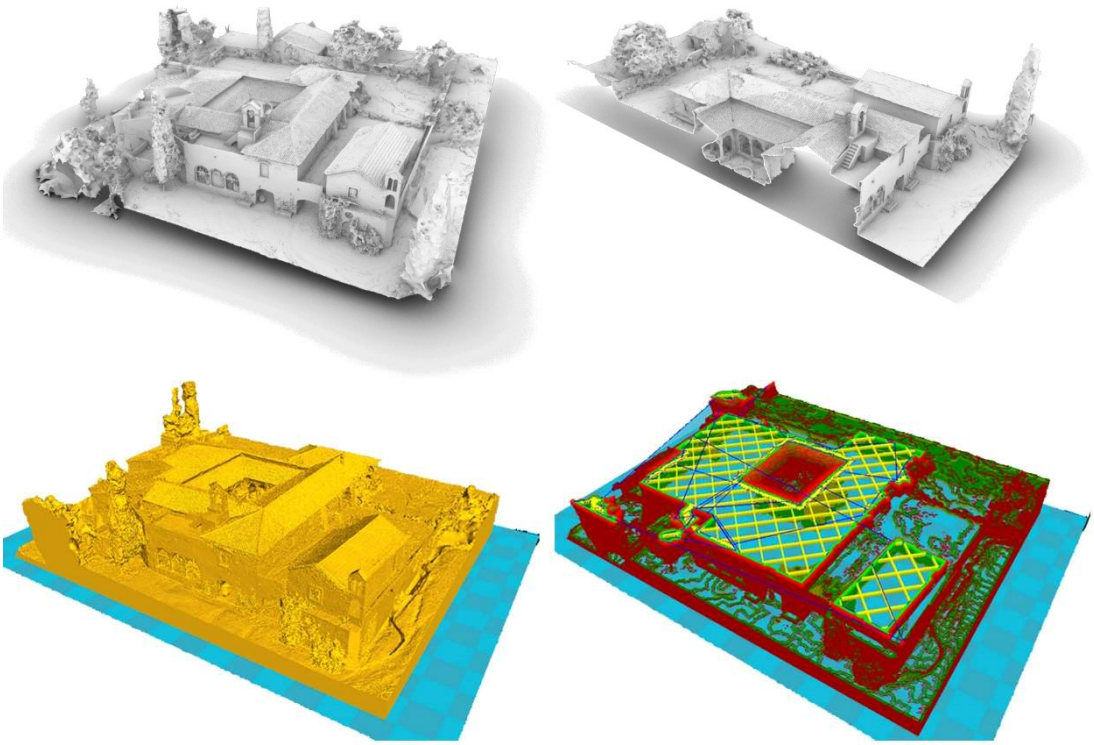


Figure 4.17 – From mesh to solid models for 3D printing. ©Rolando Volzone, 2020

3D printing, also known as additive manufacturing, was used to produce a physical object by layering materials on the basis of a digital model[410]. The selected technology for the printing is FDM (Fused Deposition Modeling). In this way, 3D physical models are built layer-by-layer, through the heating and the extruding of thermoplastic filaments. In this case, the filament thickness was of 1,75 mm. The time for the printing was about 8 hours[411]. The same process was used for the cases of Santa Cruz de Rio Mourinho – with a mesh obtained from the UAV survey – and Santa Catarina de Montemuro (Figure 4.18)[412].

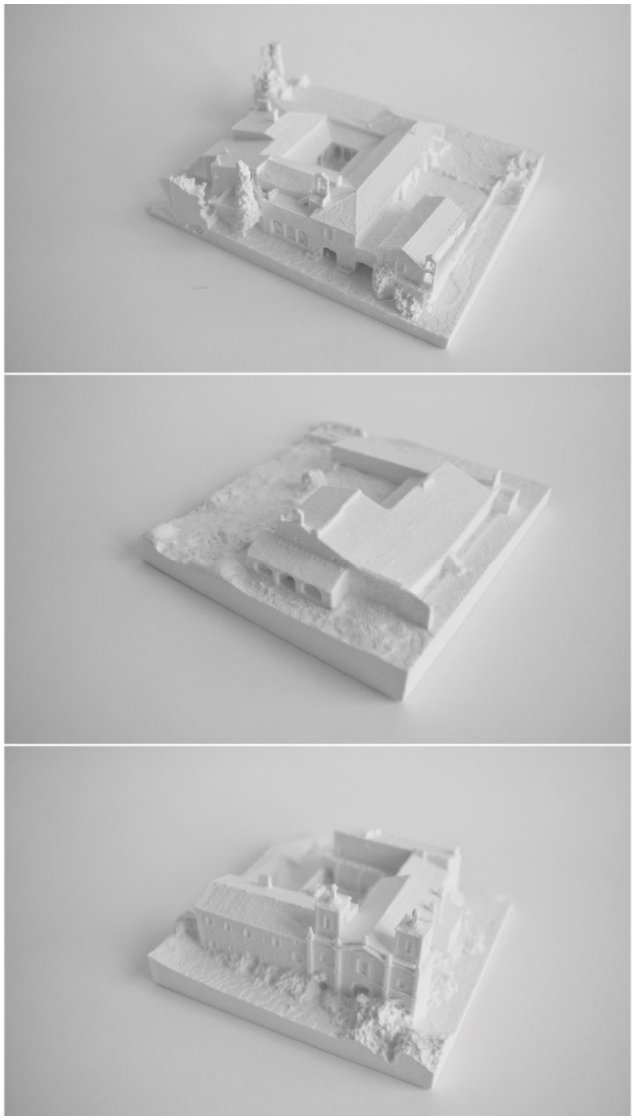


Figure 4.18 – 3D physical models: Santa Margarida do Aivado, Santa Catarina de Montemuro, and Santa Cruz de Rio Mourinho (from the top). ©Rolando Volzone, 2020

[410] This process is opposite to the subtractive manufacturing that creates its final product by cutting away from a block of material. Instead, additive manufacturing adds parts to form its final product.
[411] The 3D physical models have been produced thanks to Vitruvius FabLab (ISCTE-IUL), the support of Professor Alexandra Paio and the collaboration of João Pedro Sousa.
[412] A first 3D prototype of Santa Caratina de Montemuro was produced during the Summer School "Digital Survey in Religious Architecture". In this case, the limited available time led to an unsatisfactory final result.

The scale of representation of 1:100 has been useful for the first approach to a reverse architecture process, with the aim of a preliminary reconstruction of the ancient monastery. Reverse architecture has its roots in the reverse engineering process. It consists in reconstructing the original design of a disappeared or altered building by observing its current state. Reverse design (Adembri et al. 2015), digital reconstruction (C. Balletti et al. 2016), or *retroprogettazione* (Verdiani 2017), are different names for the same process. Starting from current evidences, it is possible to retrace the building's diachronic evolution. It is a process *in itinere*, never ending, and open to new data introduction that could make it closer to the original project or building. 3D digital modelling represents a valid tool for this purpose, as it allows a continuous manipulation of the virtual building, which can be enriched in time. The increasing precision, reducing costs and expanding palette of 3D printing materials have led to a wider scope of application in CH (Scopigno et al. 2017).

The possibility of manufacturing 3D models, by using the adequate printing process, further enables the dissemination of knowledge to a wider audience, increasing access to Cultural Heritage for minority groups – visually impaired or blind, children, among others. Physical models can be used for tactile exhibitions, for research purposes, or in reverse architectural design, as seen previously. They have an important role also in engaging users in research, education and training. The 3D printing application in the field of CH has been driven by the contribution it can bring to the preservation, valorisation, communication and fruition of these shared assets. This output can complement others derived by 3D models, providing access for all to heritage buildings, being it in a virtual or physical way.

### *4.2.3 Cultural Routes: Towards a cultural heritage valorisation*

Cultural heritage (CH) is a society's legacy – with its tangible and intangible values – which is retained from the past, protected and conserved in the present, transmitted to future generations, and which encloses a community's identity – its culture and history (Council of Europe 2005). CH is simultaneously knowledge, a cultural product and a political resource (Graham 2002). It crosses several scientific areas: art, architecture, tourism, sociology, anthropology, geography, landscape, among others. Nowadays, the development of information and communications technology (ICT) makes sharing knowledge and values ever more sustainable and accessible (Empler 2017; Ippolito and Cigola 2017). Emerging technologies for digital preservation and information modelling are creating frameworks for access to CH, its management, interpretation and protection. Knowledge and innovation increase the access and enjoyment around heritage, contributing to lifelong education and training and encouraging interdisciplinary research, innovation and networking. The easy access to cultural heritage and the resulting benefits are factors to take into account.

Most of the analysed monasteries have been abandoned – this led to degradation and their features have been often lost –, others have no longer their original function and values. Accurate digital surveying operations have been indispensable for their documentation: a useful basis for diagnostics focused on recovery and consolidation interventions; a monitoring tool for the built heritage and its surrounding space; a support for site management; a tool to outline the evolution of the monastic architecture's characteristics at local, regional, national, and international level. To date, beyond Santa Margarida do Aivado, data about Santa Catarina de Montemuro and Santa Cruz de Rio Mourinho[413] have been collected (Figure 4.19), laying the foundations for a first database. The outputs resultant from the 3D digital campaign are displayed in the Appedix C.2.

[413] A special thanks to the current owners of the ancient monastery in providing free access to the building. The UAV survey has been developed with the collaboration of João Marques (GEODRONE). Final data have been obtained with the help of Carlos Carpetudo (Morbase and Montemor-o-Novo municipality).



Figure 4.19 – Digital survey campaigns of two additional case studies: Santa Catarina de Montemuro 3D laser scanner model (above) and Santa Cruz de Rio Mourinho photogrammetric model (below). ©Rolando Volzone, 2020

Two-dimensional drawings, images and videos can be created for documentation and for educational purposes, alongside 3D models for virtual visualisation and real-time navigation – e.g. through virtual reality (VR), augmented reality (AR) and mixed reality (MR). In this way, remote accessibility can be guaranteed to people with disabilities, through, for example, virtual tours. Moreover, serious games (SGs) applied to heritage sites enhancement (Bercigli 2019) represent a learning tool in the CH field (Bellotti et al. 2012; Mortara et al. 2014).

The 3D digital models can be included in a georeferenced database – Geographic Information System, also known as GIS – integrating other heterogeneous data, such as historical documents, photos, technical drawings, maps, into a unique dynamic system, which can be managed, updated and shared[414]. The GIS database can be considered an exemplary tool to show the eremitical congregation of São Paulo da Serra de Ossa

[414] Several project have been developed in the last years, including different data into a map, with exception of the 3D models. See: LxConventos (http://lxconventos.cm-lisboa.pt/), and "Spiritual Landscapes. A Spatial Approach to the Transformations of Medieval Female Religiosity in the Iberian Peninsular Kingdoms in the Middle Ages (12th-16th centuries)" (http://www.ub.edu/proyectopaisajes/index.php/es/).

monasteries, but also to analyse all the collected information, contributing to a centralised knowledge. All data – information about the monasteries, location, historical description, pictures and 3D renders – can be structured in several layers, and organised into GIS maps[415]. Digital maps can be designed and accessible online – via websites or smartphone apps (Figure 4.20). Maps can be easily customised and adapted to different targets, by overlapping data layers – depending on the personal interests – providing a complete experience that will encourage virtual or physical visitors.




Figure 4.20 – App simulation, developed from a GIS System Map. ©Rolando Volzone, 2020

The use of ICT technologies enables the creation of a network of itineraries that can be virtual and remotely accessible, but that can enrich the physical ones as well, thus stimulating the tourism development in heritage sites and, consequently, in the nearby communities.

[415] GIS platform enables to use, create and share maps, but also scenes, applications, layers, analytic and data, among others.

In line with the scientific community interests, landscape and cultural routes represent a tool to protect and safeguard cultural heritage by exploring its potential through usage, identity discovery and heritage enhancement. The Cultural Routes of the Council of Europe programme, launched in 1987, includes almost 40 cultural routes. The first to be certified in 1987 was the well-known "Santiago de Compostela Pilgrim Routes". Within this research, and due to the case studies, it is interesting to highlight the existence of the "European Route of Cistercian Abbeys", since 2010, aimed at the preservation of the tangible and intangible Cistercian heritage[416]. The widespread heritage of eremitical and monastic architecture is a cross-cutting issue on the European panorama that falls within the ICOMOS directives on Cultural Routes[417].

Cultural routes can be a response to the need of protecting and safeguarding both tangible and intangible cultural heritage components, and a good practice for the sustainable regeneration or development of rural and small settlements, as in the case of the analysed monasteries, for the present and the future: urban regeneration, economic growth and cultural development are all linked. Cultural Routes are crucial for the sharing of European culture, history and memory.

The data collected in this research can be the starting point to develop a design proposal for a cultural route, connecting the case studies with the surrounding territory and cities. Starting from the existing routes, new itineraries can be identified, promoting cultural and sustainable tourism systems through the development of thematic CO2-friendly and eco-friendly routes (e.g. hiking and cycling paths), by involving stakeholders.

These itineraries may encourage new business locally[418], with the purposes: i) to create, organise and share knowledge; ii) to safeguard cultural heritage resources; iii) to connect people with heritage. In this way, all collected data, from the interpreted medieval charters (Chapter 2) to the analysis of the monastic physical settlements (Chapter 3), to the digital documentation and its outputs (Chapter 4), converge towards one single goal: the valorisation of the eremitical congregation of São Paulo da Serra de Ossa. This can be achieved, for example, by creating cultural routes in which all this knowledge can be

[416] More info at: https://www.coe.int/en/web/cultural-routes/the-european-route-of-cistercian-abbeys.
[417] ICOMOS Charter on Cultural Routes (2008).
[418] A first draft of the Congregation of São Paulo da Serra de Ossa itinerary has been developed in 2016, as a final project of the course "Cultural Projects and Heritage" – *Projetos Culturais de Património* – with the Professor José Soares Neves, integrated in the course "Empreendedorismo e Estudos da Cultura", at ISCTE-IUL.

combined. Starting from a real case study – Santa Margarida do Aivado – the workflow from the historical study, to the production of digital documentation, and, finally, the several outputs, is exemplified here (Table 4.1).

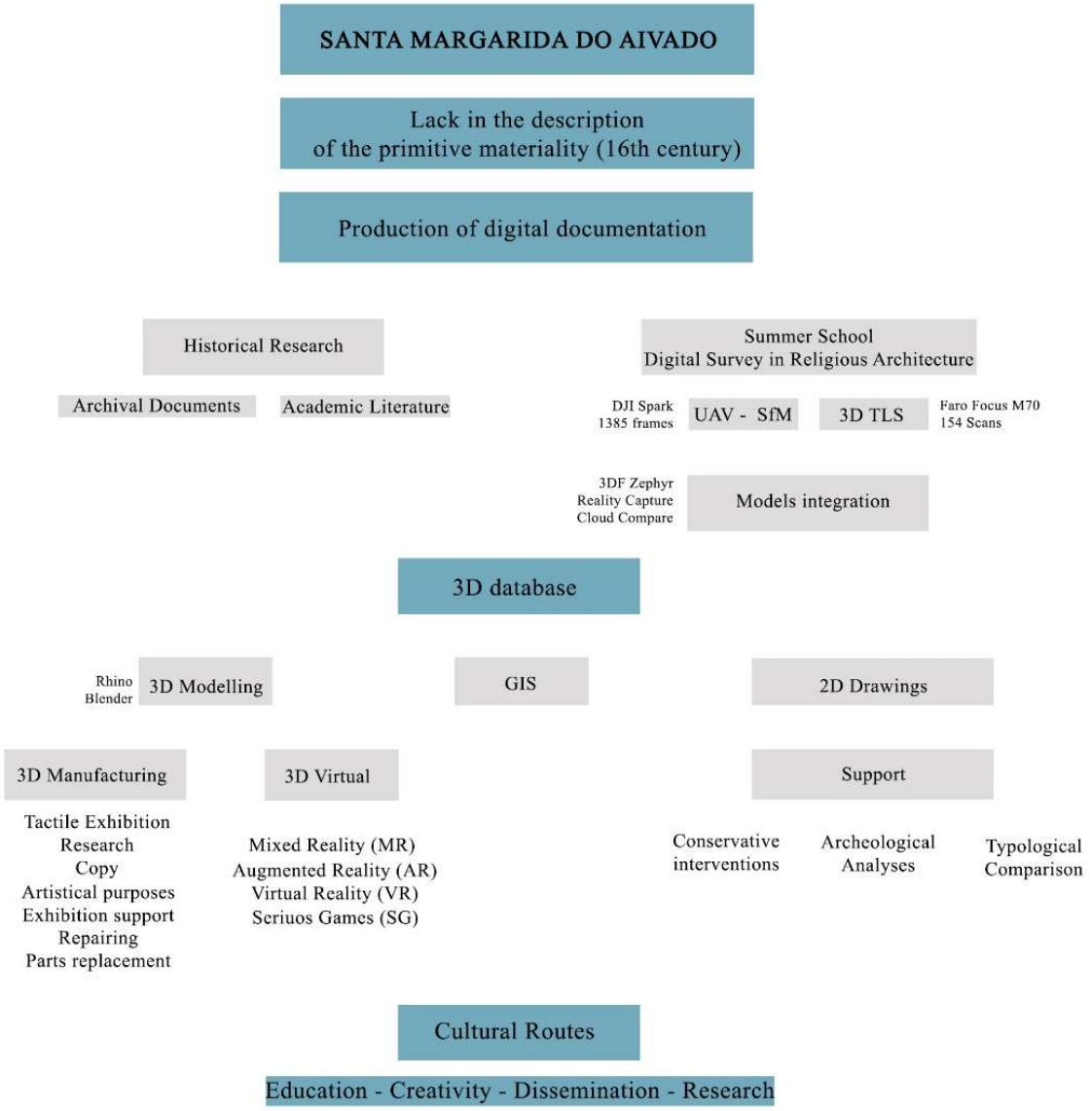



Table 4.1 – Monastery of Santa Margarida do Aivado and the workflow for its valorisation. ©Rolando Volzone, 2020

### 4.3 Final Comments

Post-Monastic landscapes represent the legacy of the ancient monastic physical structures. After the decree of dissolution of religious orders in 1834, they were abandoned by religious men, losing their original function and symbolic values.

The inventory assets, despite their lack of homogeneity in terms of contents and accuracy, embody a significant written source for understanding these communities' possessions, once secularised. Through their analysis, a scenario similar to the one resulting from the interpretation of medieval charters is revealed. Mills, oil presses, kitchen gardens, olive groves and orchards composed this reality, revealing the adoption of the same implantation strategy of the medieval phase. Communities continued to accumulate possessions around the monastery – either in the city or in the rural areas – and to create a compact sacred core. In urban centres, enclosures were smaller and had lower values, while churches were much larger and richer than their rural counterparts.

In most cases, decades go by between the secularisation and the sale by the State. Therefore, structures are left in a state of neglect and degradation, exposed to the weather and, in some cases, valuable elements are lost. It has been interesting to understand their metamorphosis once they were sold – in terms of architecture and enclosured surrounding space – from the 19th century to present day. The way a monastery is organised, by reflecting the religious *modus vivendi*, shows great flexibility in terms of spatial adaptation to new usages. Some have been transformed into factories, but most have been used as accomodation, such as private residences or military quarters, taking advantage of the internal monasteries' organisation. Even Le Corbusier, among other revolutionary architects from the early 20th century, was inspired by monastic structures, mainly Charterhouses, to design his *machine à habiter*, such as the well-known Immeuble-Villa.

In the last decades, a tendency to rethink functions for tourism purposes is impacting the monasteries and, consequently, the surrounding space. The functional alteration leads to building adaptation. Generally, the dormitories and their cells – too small for current tourism standards – undergo expansions. This is paradigmatic when it comes to the analysed congregation but also in others, either in Portugal and in the Iberian Peninsula, or even in the rest of Mediterranean Europe. Here, the intention is not to judge the current refunctionalisation choices, but it is important to think of alternatives that are more respectful of the *genius* that was built in this *locus*, avoiding the transformation of

old monasteries devoted to poor life into, for example, yet another extra-luxury hotel, leading to the loss of material and spiritual values.

Generally, no adequate analysis has been carried out before proceeding with works that profoundly transform the ancient monastic structures. Thus, there is a lack of in-depth studies from a historical and artistic point of view, as well as a lack of analysis of these structures in terms of in-depth architectural surveys. For this reason, the definition of a multidisciplinary research group is therefore indispensable, as happened in the recent enhancement work of the ancient monastery of Nossa Senhora da Consolação de Palmela.

When interviewing some private owners of these monasteries, it was clear that even they had perplexities about the refunctionalisation of these spaces and their future destination. Thanks to three of them, it has been possible to analyse the architectural features of the eremitical congregation's legacy, and, simultaneously, to create a record of the current state of these structures, through digital documentation produced with 3D digital survey campaigns. Integrated methodologies enabled the reconstruction of 3D models that contain enrichable and updatable data. To date, these operations have been limited to Santa Margarida do Aivado – analysed in depth in this research –, Santa Catarina de Montemuro, and Santa Cruz de Rio Mourinho.

The amount of collected information allowed the virtual reconstruction of 3D spaces, forming an extremely detailed database for the in-depth knowledge of the analysed architectural-landscape ensemble. This enabled the representation of spatial features in a way accessible to different kinds of users – expert professionals as well as laymen. Indeed, these processes have strongly developed in recent times, in order to create virtual models for augmented, virtual or mixed reality applications, but also for virtual museums, and to create physical 3D prototypes. Systematised information, coming from heterogeneous sources, has been gathered into a rich database to be used for comparative analysis, for the definition of monitoring, protection and conservation measures, as well as for the development of rehabilitation programmes for the architectural-landscape ensemble.

The production of digital documentation can constitute the basis for a first step, in enhancing monastic vulnerable heritage, achieved through knowledge. Monastic life was closely connected to the surrounding area, exploited by hermits in a sustainable way. The attention paid to the area around the Alentejo religious complexes highlights a strong link between these architectures and the landscape in which they are inserted. The landscape,

as well as the architecture, is modeled in accord with the environmental context, taking advantage of the resources without impacting the territory. It is a landscape heritage to be safeguarded. Architecture and territory, when combined, constitute a dialogue. This dialogue establishes a thematic network that can act as a starting point for the development of alternative cultural tourism itineraries aimed at enhancing and promoting the peripheral areas of Alentejo. Moreover, the creation of cultural heritage routes allows to identify, interpret, study and promote heritage, and to make access to it easier, either remotely or on site, by developing a familiarity with it, and encouraging interactivity through both virtual and physical experiences.

## Conclusions

In this thesis, the Portuguese eremitical congregation of São Paulo da Serra de Ossa has been studied in terms of spatiality and morphology, with a focus on the diachronic evolution of its architectural and landscape features since the 14th century, by analysing the historical records and the remaining evidences of the ancient monastic settlements.

The research considered the topic from multiple points of view, establishing relationships between the different settlements, in order to obtain a more comprehensive understanding of this eremitical congregation – since its genesis – and how this translates in terms of space. Indeed, the thesis led to the creation of a support tool grounded in the systematisation of heterogeneous data from multiple sources. Based on the collected data, the eremitical medieval settlements and their transformation into monastic and post-monastic ones were examined and, despite differences in the settlements' typologies, a close link has been identified between the buildings and the physical geography of their location, as well as their chronological coordinates. Moreover, a survey of the material legacy of the congregation of São Paulo da Serra de Ossa has been carried out, thus contributing to knowledge dissemination and to the possibility of outlining further policies to protect, conserve, restore, and value these buildings.

Based on the analysis, it is possible to draw conclusions in response to the research questions:

• Do these eremitical settlements bring something new to the spatial framework of the late Middle Ages in Southern Portugal? By virtue of their spirituality, do these communities change the space or have they adapted to it?

• What are the factors leading to the increasing prevalence of eremitical and monastic settlements in the South of Portugal?

• What is the impact of the transition from eremitical to monastic and, lastly, post-monastic settlements?

• Is it possible to recognise similarities in the analysed settlements, considering the formulation of a typological definition?

Firstly, the eremitical settlements transformed the spatial framework of Southern Portugal in the late Middle Ages. Indeed, the spatial strategy of occupation of these communities changed the environment through a typical process of humanisation.

Despite the spiritual character of their practices, hermits need to create the physical conditions for their self-subsistence. The criteria underlying their settlement are similar to other kinds of human occupation, but hermits adapt to the place in a more sustainable way.

Secondly, by analysing the establishment of the eremitical congregation of São Paulo da Serra de Ossa in all the Portuguese territory, and comparing it with other religious orders, the factors that led to the increasing prevalence of their settlements in the Alentejo region have been identified as political, economic, socio-cultural, historical and edapho-climatic.

Thirdly, in the transition from eremitical to monastic and post-monastic settlements, alterations in the communities' *modus vivendi* and, consequently, in the features of the physical spaces have been identified. The transition from precarious constructions – or even rupestrian ones, by taking advantage from caves –, to hermitage and, lastly, to monastery, is complemented by a movement from rural towards urban areas. Indeed, throughout the centuries the settlements choose secluded location not too far from the urban centres, so as to develop a dialectical relationship with them. After the dissolution of religious orders of 1834, it took years or even decades for most of the monasteries to be sold at public auctions, sometimes causing their ruin. The abandonment of these buildings often gave way to their refunctionalisation as barracks, hospitals, and later as tourist accommodation.

Through a comparative analysis, it was not possible to consider the formulation of a typological definition. Indeed, there was no evidence of the existence of a model in terms of morphology. However, similarities are recognised on the basis of the construction period and the geographical area. Moreover, the concept of poverty and despoliation is found in all the architectural structures, and the buildings seem related to the mendicant model and the regional plain architecture. Concluding, the eremitical landscape is a spiritual model, not a physical one. It is an interior landscape, more than an exterior one.

Contributions

The novelty of this thesis arises from the scarcity of studies embracing a multi-disciplinary methodology in approaching the legacy of religious houses.

Particularly, this research about the eremitical congregation of São Paulo da Serra de Ossa fills in the gaps in the general unawareness of local populations with regard to the architectural-landscape complexes. This contributes to recognising the importance of

cultural heritage related to the analysed congregation, at local, regional and national level. Findings can promote an increased awareness by nearby communities and public administrations, and, consequently, stimulate their interest in understanding the meaning these spaces have or had, even after the secularisation, and encourage initiatives of heritage rehabilitation. Indeed, degradation often arises from this: the lack of use.

The creation of a census of the case studies contributes to a fuller understanding of the Portuguese cultural heritage, and in a more extensive way, of the Iberian Peninsula and, consequently, of the Mediterranean area. Moreover, it can prevent further loss in terms of cultural tangible and intangible heritage, significantly moving toward a cultural Europeanisation.

This work complements previous researches, contributing to the knowledge dissemination regarding this congregation's network, and creating the basis for future protective policies. Indeed, the poor conditions of some buildings require the definition of strategies for the preservation and management of this vulnerable heritage.

The 3D surveys allowed the creation of a metric and descriptive database of the religious architectures, in order to understand the features and the state of conservation of these buildings and their relationship with the environment. A documentation process consisting of explorative survey methods was developed in order to complete the existing documentation.

Finally, this thesis proposes a definition of eremitical-monastic landscape as cultural heritage. It is important to emphasize that it is not about the single case, but about the network they constitute, comprising the two inseparable entities of architecture and landscape: hermitage-monastery, enclosure, and the surrounding landscape. Proposals for the valorisation of this cultural heritage as a coherent system have to be developed.

Future research lines

Despite the documentary gaps, the thesis addressed all the main aspects of the case study. However, the research on this topic is still open, and this work, by establishing a dialogue with existing studies, can serve as a starting point for future research. Indeed, the complexity and comprehensiveness of the analysed theme in terms of chronology and geographic area, leaves open questions, and the accomplishment of this work suggests and motivates the elaboration of further specific and detailed studies.

Ideas for future work can be grouped into three categories.

Possible future research can be developed in the archaeological field, as the first in cave eremitical settlements can be further analysed. In Vale da Infante, for example,

three caves have been identified, pointing towards the fact that other caves must have certainly punctuated the hill chains described by the historical documentation – Ossa, Arrabida, Monfurado, Portel. Their identification, spatial analysis and survey would allow to understand their relationship with the network they formed and with the whole territory, and to overcome the scarcity of information provided by the available documentation. Similarly, future research should focus on the archaeological study of evidences of medieval settlements, at least to understand if these still exist. Moreover, it would be interesting to analyse these communities' land properties in the Portuguese territory, transposing data into a georeferenced system, aimed at the understanding of the real extension and the diachronic expansion of their assets.

Another promising line of research is related to the application of the multi-disciplinary methodology developed in this thesis to potentially all the religious houses standing in Portugal. Digital architectural surveys and the production of digital documentation can be extended, indeed, to the remaining case studies of the eremitical congregation of São Paulo da Serra de Ossa, in order to constitute a broader dataset, and ideally to all Portuguese religious houses. Moreover, it would be interesting to delve further in the mobile heritage – artworks, furniture, assets of libraries and archives – which has not been addressed in this study, except for the analysis of the retables and of the written heritage. These research lines could test relationships between these eremitical congregation and others, through specific comparative studies that can group settlements based on topics such as: geography, chronology, etc.

Finally, it would be important to implement cultural routes, in collaboration with local authorities, public administrations, private owners and other stakeholders. This would contribute to the preservation of this priceless heritage and to the creation of new experiences, taking into account the cultural touristic potential. The understanding of the evolution that led to the development of the eremitical architecture and landscape can be the starting point for the establishment of cultural itineraries that highlight their importance and promote their knowledge. They can drive a sustainable local development, through new strategies for layered experiences, including ICT and innovative methods to explore and interact with CH. The attention is focused on the peripheral areas of Alentejo and other remote areas in order to preserve historical features and demo-ethno-anthropological testimony, which are an integral part of the European culture. This could incentivise the inhabitants to remain in the area and would promote the permanence of traditions. Moreover, potential market opportunities could arise.

**References**

Abreu, Alexandre Cancela d', Teresa Pinto Correia, and Rosário Oliveira. 2004. *Contributos Para a Identificacão e Caracterizacão Da Paisagem Em Portugal Continental*. Queluz: Direcção Geral do Ordenamento do Território [u.a.].

Adembri, Benedetta, Luca Cipriani, Filippo Fantini, and Silvia Bertacchi. 2015. 'Reverse Designing: An Integrated Method for Interpreting Ancient Architecture'. *SCIRES-IT - SCIentific RESearch and Information Technology* 5 (2). https://doi.org/10.2423/i22394303v5n2p15.

Allemand, Sylvie. 2003. 'Observances Franciscaines et Fondations Èrémitiques, Le Cas de La Province de Bourgogne'. *Ermites de France et d'Italie*, 2003, École française de Rome edition.

Alonso, Carlos Vañes. 2003. *Os agostinhos em Portugal*. Madrid: Ediciones Religión y Cultura.

Alves, Cristina Paula Vinagre. 2011. *A Propriedade Da Ordem de Santiago Em Palmela: As Visitações de 1510 e 1534*. Câmara Municipal de Palmela / Gabinete de Estudos sobre a Ordem de Santiago. Palmela.

Andersen, Hans Christian. 2015. *Uma Visita a Portugal Em 1866*. Translated by Silva Duarte. Viagens & Literatura. Feitoria dos Livros.

Andrade, Maria Filomena Pimentel de Carvalho. 2011. 'In Oboedientia, Sine Proprio, et in Castitate, Sub Clausura: A Ordem de Santa Clara Em Portugal (Séc. Xiii-Xiv)'. PhD Thesis in History (Medieval Economic and Social History), Lisboa: Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa.

Arbace, Lucia, Elisabetta Sonnino, Marco Callieri, Matteo Dellepiane, Matteo Fabbri, Antonio Iaccarino Idelson, and Roberto Scopigno. 2013. 'Innovative Uses of 3D Digital Technologies to Assist the Restoration of a Fragmented Terracotta Statue'. *Journal of Cultural Heritage* 14 (4): 332–45. https://doi.org/10.1016/j.culher.2012.06.008.

Arruda, Luísa, and Teresa de Campos Coelho. 2004. *Convento de S. Paulo de Serra de Ossa*. Lisboa: Inapa.

August Meinardus, Otto Friedrich. 1980. *Notes on the Laurae and Monasteries of the Wilderness of Judaea*. Jerusalem.

Azambuja, Sónia Tahlé. 2009. *A Linguagem Simbólica Da Natureza: A Flora e a Fauna Na Pintura Seiscentista Portuguesa*. 1a ed. Artes/História. Lisboa: Nova Vega.

Bachelard, Gaston. 1957. *The poetics of space=La poetiquede l'espace*. Paris: Les Presses universitaires de France.

Balletti, C., F. D'Agnano, F. Guerra, and P. Vernier. 2016. 'FROM POINT CLOUD TO DIGITAL FABRICATION: A TANGIBLE RECONSTRUCTION OF CA' VENIER DEI LEONI, THE GUGGENHEIM MUSEUM IN VENICE'. *ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences* III–5 (June): 43–49. https://doi.org/10.5194/isprs-annals-III-5-43-2016.

Balletti, C., F. Guerra, V. Scocca, and C. Gottardi. 2015. '3D INTEGRATED METHODOLOGIES FOR THE DOCUMENTATION AND THE VIRTUAL RECONSTRUCTION OF AN ARCHAEOLOGICAL SITE'. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* XL-5/W4 (February): 215–22. https://doi.org/10.5194/isprsarchives-XL-5-W4-215-2015.

Balletti, Caterina, Martina Ballarin, and Francesco Guerra. 2017. '3D Printing: State of the Art and Future Perspectives'. *Journal of Cultural Heritage* 26 (July): 172–82. https://doi.org/10.1016/j.culher.2017.02.010.

Balzani, M., M. Callieri, M. Fabbri, A. Fasano, C. Montani, P. Pingi, N. Santopuoli, R. Scopigno, F. Uccelli, and A. Varone. 2004. 'Digital Representation and Multimodal Presentation of Archeological Graffiti at Pompei'. The Eurographics Association. https://doi.org/10.2312/VAST/VAST04/093-103.

Barata, António Francisco. 1904. 'Convento de Santa Margarida'. In *Évora e Seus Arredores*, 15–17. Typ. do 'Noticias d'Évora'.

———. 1909. *Évora Antiga*. Évora: Minerva Commercial.

Barata, Filipe Themudo, and A. M. Almeida Leite. 1996. 'Coberto Vegetal e Paisagens Alentejanas: Esboço Da Linha Evolutiva Desde a Idade Média'. In *Actas Do I Colóquio Internacional de Ecologia Da Vegetação*, 141–53. Évora: Universidade de Évora.

Barata, Filipe Themudo, José Manuel Mascarenhas, and Gonçalo Ribeiro Telles. 2002. *Preservando a memória do territorio: o Parque Cultural de Tourega/Valverde // Preserving the land's memories: the Tourega/Valverde Cultural Park*. Cadernos do Centro de Estudos de Ecossistemas Mediterrânicos, nº 1. Évora: Universidade de Évora, CEEM-Centro de Estudos de Ecossistemas Medeiterrânicos.

Bartolomei, Luigi, Andrea Longhi, Flavia Radice, and Chiara Tinoca. 2017. 'Italian dibates, studies and experiences concerning reuse project of dismissed religious heritage'. In *Wandel und Wertschätzung: Synergien für die Zukunft von Kirchenräumen*. Bild - Raum - Feier Studien zu Kirche und Kunst$lBand 17. Regensburg: Schnell & Steiner.

Bayón, Balbino Velasco. 2001. *História Da Ordem Do Carmo Em Portugal*. Lisboa: Paulinas.

Beirante, Maria Ângela. 1985. 'Eremitérios Da Pobre Vida No Alentejo Dos Séculos XIV–XV'. In *Actas Das Jornadas de História Medieval, 1383–1385 e a Crise Geral Dos Séculos XIV–XV*, 257–66. Lisbon: História & Crítica.

———. 1995a. *Évora Na Idade Média*. Fundação Calouste Gulbenkian : Junta Nacional de Investigação Científica e Tecnológica.

———. 1995b. 'La "Herdade" Alentejane Au Moyen Âge'. In *Actes de La Table Ronde Internationale Du CNRS Organisée à l'Université Michel de Montaigne - Bordeaux III, Les 17 - 19 Décembre 1992*. Bordeaux: Centre Pierre Paris.

———. 2000. 'Eremitismo'. In *Dicionário de História Religiosa de Portugal*, edited by Carlos A. Moreira Azevedo, 2:149–54. Lisbon: Círculo de Leitores.

———. 2008. 'O Alentejo Na Segunda Metade Do Século XV. Évora Na Crise de 1383-1385'. In *O Ar Da Cidade. Estudos de História Medieval e Moderna,* Edições Colibri, 263–94. Lisboa.

Belli, Gianluca. 2015. 'Problemi e Indirizzi Dell'architettura Camaldolese in Età Moderna'. In *Atti Del II Convegno Di Studi in Occasione Del Millenario Di Camaldoli (1012-2012)*, 705–28. Monastero di Camaldoli: Centro Storico Benedettino Italiano.

Bellotti, Francesco, Riccardo Berta, Alessandro De Gloria, Annamaria D'ursi, and Valentina Fiore. 2012. 'A Serious Game Model for Cultural Heritage'. *Journal on Computing and Cultural Heritage* 5 (4): 1–27. https://doi.org/10.1145/2399180.2399185.

Benvenuti, Anna. 1990. *'In Castro Poenitentiae': Santità e Società Femminile Nell'Italia Medievale*. Italia Sacra 45. Roma: Herder.

Bercigli, Monica. 2019. 'Sistemi Di Fruizione Virtuale e Serious Game per La Valorizzazione e La Divulgazione Del Patrimonio. Masada: La Fortezza Del Deserto'. PhD Thesis in Architecture, Florence: Università degli Studi di Firenze.

Bertocci, Stefano, Matteo Bigongiari, and Marco Ricciarini. 2019. 'Digital Survey for Landscape Knowledge: The Garfagnana Case Studies, for Tourism Development and the Versilia Case Study, for Hydraulic Analysis'. *DISEGNARECON* 12 (22).

Bertocci, Stefano, and Marco Bini. 2012. *Manuale di rilievo architettonico e urbano*. Torino: Città studi.

Bertocci, Stefano, Federico Cioli, and Eugenia Bordini. 2018. 'Virtual Models for the Valorisation and Promotion of the Business Heritage in the Historic Centre of Florence'. *DISEGNARECON* 11 (21).

Bertocci, Stefano, and Sandro Parrinello. 2012. 'Le chiese del Sacro Eremo e del Monastero di Camaldoli: rilievo e documentazione per la costruzione di un "sistema" delle conoscenze'. In *Architettura eremitica: sistemi progettuali e paesaggi culturali: atti del terzo Convegno internazionale di studi, Camaldoli, 21-23 settembre 2012*, 54–63. Firenze: Edifir.

———, eds. 2013. *Architettura Eremitica: sistemi progettuali e paesaggi culturali ; atti del quarto convegno internazionale di studi, La Verna, 20-22 settembre 2013*. Firenze: Edifir.

Betjeman, John. 1947. *Slick but Not Streamlined. Poems and Short Pieces*. Doubleday & Company Inc.

Bigongiari, Matteo. 2018. 'The Digital Documentation of the Florentine Complex of Santa Maria Maddalena De' Pazzi'. In *Putting Tradition into Practice: Heritage, Place and Design*, edited by Giuseppe Amoruso, 3:508–15. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-57937-5_53.

Bilou, Francisco. 2005. *O sistema viário antigo na região de Évora*. Lisboa: Colibri.

Boissellier, Stéphane. 2003. *Le peuplement médiéval dans le sud du Portugal: constitution et fonctionnement d'un réseau d'habitats et de territoires, XIIe - XVe siècles*. Collection Publications du Centre Culturel Calouste Gulbenkian. Paris: Centre Culturel Calouste Gulbenkian.

Borges, Nelson Correia. 1998. 'Arquitectura Monástica Portuguesa Na Época Moderna'. *Revista Museu*, IV série, , no. 7: 31–59.

Braga, Mafalda. 2015. *Alenquer, Vinhos & Quintas.* Arruda dos Vinhos: Arruda Editora.

Braga, Paulo Drumond. 1998. *Setúbal mediaval, séculos XIII a XV*. Setúbal: Câmara Municipal.

Byassee, Jason. 2007. *An Introduction to the Desert Fathers*. Eugene, OR: Cascade Books.

Cabral, Francisco Manuel Caldeira, and Gonçalo Ribeiro Telles. 1999. *A árvore em Portugal*. Deméter 1. Lisboa: Assírio & Alvim.

Caby, Cécile. 1999. *De l'éremitisme Rural Au Monachisme Urbain. Le Camaldules En Italie à La Fin Du Moyen Âge*. Ecole Française de Rome. Roma.

Cappelli, Biagio. 1959. 'Il Monachesimo Basiliano e La Grecità Medievale Nel Mezzogiorno d'Italia'. *Rassegna Storica Salernitana* 20: 1-16A.

Carapinha, Aurora. 1995. 'Da Essência Do Jardim Português'. Universidade de Évora.

———. 2002. 'Paisagem e Espiritualidade'. In *Conversas à Volta Dos Conventos*, Virgínia Fróis, 109–13. Évora: Casa Sul Editora.

———. 2015. 'Do Topus e do Locus'. *FAZER PAISAGEM. Making Landscape*, 2015.

Cardaci, A., G. Mirabella Roberti, and A. Versaci. 2019. 'THE INTEGRATED 3D SURVEY FOR PLANNED CONSERVATION: THE FORMER CHURCH AND CONVENT OF SANT'AGOSTINO IN BERGAMO'. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* XLII-2/W9 (January): 235–42. https://doi.org/10.5194/isprs-archives-XLII-2-W9-235-2019.

Cardoso, José Carvalho. 1965. *Os Solos de Portugal: Sua Classificação, Caracterização e Génese*. Secretaría de Estado da Agricultura. Direcç o-Geral dos Serviços Agrícolas. Vol. 1-A sul do rio Tejo. Lisboa.

Carneiro, André. 2010. *Itinerários romanos do Alentejo: uma releitura de 'As grandes vias da Lusitânia : o itinerário de António Pio' de Mario Saa, cinquenta anos depois*. Lisboa: Edições Colibri.

Castro, Armando. 1978. *História Económica de Portugal*. Vol. 2. 2 vols. Lisboa: Editorial Caminho.

Cavicchioli, S. 2002. *I Sensi, Lo Spazio, Gli Umori e Altri Saggi*. 1. ed. Studi Bompiani. Studi Bompiani. Milano: Bompiani.

Chagas, Manuel Pinheiro. 1899. *História de Portugal, Popular e Ilustrada*. Vol. 3, p.349. Lisboa: Empreza da Historia de Portugal.

Chambel, António. 1990. 'Hidrogeologia Da Região de Évora'. Master in Applied Economic Geology, Lisboa: Universidade de Lisboa.

Chitty, Derwas James. 1966. *The Desert a City : An Introduction to the Study of Egyptian and Palestinian Monasticism under the Christian Empire*. Oxford: Blackwell Pub.

Chryssavgis, John, and Zosimas. 2008. *In the Heart of the Desert: The Spirituality of the Desert Fathers and Mothers: With a Translation of Abba Zosimas' Reflections*.

Rev. ed. Treasures of the World's Religions. Bloomington, Ind: World Wisdom, Inc.

Ciampa, Serena. 2014. 'Eremi e Luoghi Di Culto Della Majella: Indagini Ai Fini Della Candidatura a Sito UNESCO'. Master degree, Chieti-Pescara: Università degli studi G. D'annunzio.

Clemente, Paolo, Giuseppe Delmonaco, Luca Maria Puzzilli, and Fernando Saitta. 2019. 'STABILITY AND SEISMIC VULNERABILITY OF THE STYLITE TOWER AT UMM AR-RASAS'. *Annals of Geophysics* 61 (Vol 61 (2018)): 1. https://doi.org/10.4401/ag-8004.

Coelho, Maria Helena da Cruz. 1989. *O Baixo Mondego Dos Finais Da Idade Média*. Estudos Gerais / Série Universitária. INCM – Imprensa Nacional Casa da Moeda.

Colombás, García M. 1974. *El Monacato Primitivo*. Biblioteca de Autores Cristianos, 351, 376. Madrid: Edit. Católica.

Comes, Federica. 2014. 'L'Architettura Eremitica in Costiera Amalfitana. Specificità e Problemi Di Conservazione'. PhD thesis, Naples: Università degli Studi di Napoli Federico II.

———. 2015. 'Gli Spazi Dell'Eremitismo Basiliano in Costiera Amalfitana Fra Storia Ed Architettura.' *Rassegna Del Centro Di Cultura e Storia Amalfitana*, Gennaio-Dicembre 2015.

Conde, Antónia Fialho. 2009. *Cister a Sul Do Tejo: O Mosteiro de S. Bento de Cástris e a Congregação Autónoma de Alcobaça (1567-1776)*. Lisboa: Edições Colibri.

Conde, Manuel Sílvio. 2000. *Uma paisagem humanizada: o médio Tejo nos finais da Idade Média*. Patrimonia historica. Série Dissertações. Cascais [Portugal] : Lisboa: Patrimonia ; Audil [distributor].

Correia, Fernando Branco. 2013. *Elvas Na Idade Média*. Biblioteca Estudos e Colóquios 32. Lisboa: Edições Colibri : CIDEHUS, Universidade de Évora.

Costa, B. da, and D. Luís de Castro. 1900. *Le Portugal Au Point de Vue Agricole*. Lisboa: Imprimerie National.

Costa, F. Pereira da. 1930. 'Arcos e Abóbadas'. In *Enciclopédia Da Construção Civil*. Vol. 15. Lisboa: Portugalia Editora.

Costa, Paula Pinto. 2006. 'Ordens Militares e Fronteira: Um Desempenho Militar, Jurisdicional e Político Em Tempos Medievais'. *Revista Da Faculdade de Letras HISTÓRIA.*, 3, 7: 79–91.

Council of Europe. 2005. ‘Council of Europe Framework Convention on the Value of Cultural Heritage for Society’.

D’Agnano, F., C. Balletti, F. Guerra, and P. Vernier. 2015. ‘TOOTEKO: A CASE STUDY OF AUGMENTED REALITY FOR AN ACCESSIBLE CULTURAL HERITAGE. DIGITIZATION, 3D PRINTING AND SENSORS FOR AN AUDIO-TACTILE EXPERIENCE’. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* XL-5/W4 (February): 207–13. https://doi.org/10.5194/isprsarchives-XL-5-W4-207-2015.

Damásio, Fr. Manuel de S. Caetano. 1793. ‘Thebaida Portugueza. Compendio Historico Da Congregação Dos Monges Pobres de Jesu Christo Da Serra de Ossa, Chamada Depois de S. Paulo I Eremita, Em Portugal, Vol. 1-2’. Lisboa: Na Officina de Simão Thaddeo Ferreira.

Daveau, Suzanne. 1995. *Portugal Geográfico*. 1a. ed. Lisboa: Edições J. Sá da Costa.

De Carlo, Franco. 2016. *Vangelo secondo Matteo*. Milano: Paoline.

Delaplace, Christine. 2005. ‘Aux Origines Du “Desert” En Occident. Eremistisme et Premières Foundations Monastiques En Gaule et En Italie Aux Ve-Vie Siècles’. In *Montagnes Sacrées d’Europe: Actes Du Colloque ‘Religion et Montagnes’, Tarbes, 30 Mai-2 Juin 2002*, edited by Serge Brunet, Dominique Julia, and Nicole Lemaître. Histoire Moderne 49. Paris: Publications de la Sorbonne.

Dias, Paula Cristina Barata. 2008. *Os Textos Monásticos de Ambiente Frutuosiano*. Coimbra: Fundação Mariana Seixas.

Dominguez, Gregoria Cavero. 2010. *Inclusa Intra Parietes. La Reclusion Volontaria En La Espana Medieval*. Toulouse: Editions Meridiennes.

Dunn, Marilyn. 2003. *The Emergence of Monasticism: From the Desert Fathers to the Early Middle Ages*. Oxford: Blackwell.

Eborense, Tito Livio. 1934. ‘Quinta de Santa Margarida e Herdade Do Esborrondadouro’. *Revista Alentejana Ilustrada*, 1934.

Eliade, Mircea. 1952. *Images and Symbols: Studies in Religious Symbolism*. Philip Mairet. London: Sheed & Ward.

———. 1961. *The Sacred and the Profane : The Nature of Religion*. New York: Harper & Brothers.

Empler, Tommaso. 2017. *ICT per Il Cultural Heritage – Rappresentare, Comunicare, Divulgare*. Roma: dei - Tipografia del Genio Civile.

*España Eremitica. Actas de La VI Semana de Estudios Monásticos (Abadía de San Salvador de Leyre, 15-20 de Septiembre de 1963),*. 1970. Analecta Legerensia 1. Pamplona: Editorial Aranzadi.

Espanca, Padre Joaquim da Rocha. 1892. *Compêndio de Notícias de Villa Viçosa. Concelho Da Província Do Alentejo e Reino de Portugal*. Redondo: Typ. de Francisco de Paula Oliveira de Carvalho.

Espanca, Túlio. 1975. *Inventário Artístico de Portugal*. Vol. tomo VIII-Distrito de Évora. Concelhos de Arraiolos, Estremoz, Montemor-o-Novo, Mora e Vendas Novas. Lisboa: Academia Nacional de Belas-Artes.

———. 1980. *Évora Arte e História*. Câmara Municipal de Évora. Évora.

Espanca, Túlio, and João Luís Graça Zagalo Vieira da Silva. 1957. *Património Artístico Do Concelho de Évora : Arrolamento Das Freguesias Rurais*. Câmara Municipal de Évora. Évora.

Féderlin, R.P. 1902. 'Recherches Sur Les Lauras et Monastères de La Plaine de Jordain et Du Désert de Jerusalem'. *Terre Sante*, 1902.

Feio, Jorge. 2010. 'Marcas Arquitectónico-Artísticas Da Cristianização Do Território Entre Évora e Beja'. Master degree, Lisboa: Universidade Nova de Lisboa.

Feio, Mariano. 1949. *Les Bas Alentejo et L'Algarve*. Lisboa: Union Geographique International.

Fernandes, Hermenegildo Nuno Goinhas. 1991. 'Organização Do Espaço e Sistema Social No Alentejo Medievo. O Caso de Beja.' Master's degree in Medieval History. School of Social Sciences and Humanities - Universidade Nova de Lisboa, Lisboa.

Fernandes, Isabela Cristina Ferreira. 2015. 'Do Ribat à Comenda: Marcas Ideológicas e Doutrinais Na Organização Territorial e Dos Espaços Fortificados Da Península Da Arrábida'. In *Cristãos Contra Muçulmanos Na Idade Média Peninsular: Bases Ideológicas e Doutrinais de Um Confronto (Séculos X-XIV)*, 75–92. Lisboa: Colibri-Universidad Autónoma de Madrid.

Fernandes, Maria. 1991. 'Inventário de Protecção Do Património Cultural Europeu – IPCE.' Ministério das Obras Públicas. Direcção Geral dos Edifícios e Monumentos Nacionais.

Ferrero, F. 1974. 'Eremitismo individuale in Occidente (dal sec. XV)'. In *Dizionario degli Istituti di Perfezione*, Edizioni Paoline, 3:1246–58. Roma.

Ferro, João Pedro. 1996. *Alenquer Medieval: Séculos XII-XV: Subsídios Para o Seu Estudo*. Patrimonia Historica. Cascais [Portugal]: Patrimonia.

Festugière, Will E. A. J. 1962. 'Antioche Païenne et Chrétienne. Libanius, Chrysostome et Les Moines de Syrie.' *Revue d'Art Oriental Et d'Archéologie*, 1962, Librairie Orientaliste Paul Geuthner edition.

Figueiredo, Ana Paula Valente. 2008. 'Os Conventos Franciscanos Da Real Província Da Conceição : Análise Histórica, Tipológica, Artística e Iconográfica'. PhD Thesis in História (Arte, Património e Restauro), Faculdade de Letras - Universidade de Lisboa.

Fonseca, Ana. 2004. *O Montado No Alentejo: Séculos XV a XVIII*. Lisboa: Colibri.

Fonseca, Jorge. 1998. *Montemor-o-novo no século XV*. Cámara Municipal de Montemor-o-Novo.

———. 2008. 'A Cultura Da Vinha Em Montemor-o-Novo'. *Revista Almansor*, 2008.

Fonseca, Luís. 2001. 'Ordens Militares'. In *Dicionário de História Religiosa de Portugal*, edited by Carlos A. Moreira Azevedo, 3:334–45. Lisboa: Círculo de Leitores.

Fontes, João Luís. 2005. 'Cavaleiros de Cristo, Monges, Frades e Eremitas: Um Percurso Pelas Formas de Vida Religiosa Em Évora Durante a Idade Média (Sécs. XII a XV).' *Lusitânia Sacra* 17 (2): 39–61.

———. 2009. 'Percursos de um antigo ermitério medieval: o oratório do Alentejo, no termo de Óbidos'. In *Olhares sobre a HIstória. Estudos oferecidos a Iria Gonçalves.*, 233–51. Casa de Cambra: Caleidoscópio.

———. 2012. 'Da «pobre vida» à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)'.

Foucault, Michel. 1967. 'Des Espaces Autres, Hétérotopies'. In *Architecture, Mouvement, Continuité*, 5:46–49. Cercle d'études architecturales.

Fra Paleo, Urbano. 2010. 'The Dehesa/Mantado Landscape'. In *Sustainable Use of Biological Diversity in Socio-Ecological Production Landscapes: Background to the "Satoyama Initiative for the Benefit of Biodiversity and Human Well-Being.*, Secretariat of the Convention on Biological Diversity, 149–51. CBD Technical Series 52. Montreal. http://www.deslibris.ca/ID/242845.

Gajano, Sofia Boesch, and Odile Redon. 1982. 'La Legenda Maior Di Raimondo Da Capua, Costruzione Di Una Santa'. In *Atti Del Simposio Internazionale Cateriniano-Bernardiniano*, edited by Domenico Maffei and Paolo Nardi, 15–36. Siena: Accademia Senese degli Intronati.

Garcia, João Carlos. 1986. *O Espaço Medieval Da Reconquista No Sudoeste Da Península Ibérica*. Centro de Estudos Geográficos. Lisboa.

Gimpel, Jean. 1977. *The Medieval Machine: The Industrial Revolution of the Middle Ages*. Reprint. A Penguin Book. Harmondsworth/Middlesex New York/N.Y.: Penguin Books.

Gonçalves, Iria. 1989. *O Património Do Mosteiro de Alcobaça Nos Séculos XIV e XV*. Faculdade de Ciências Sociais e Humanas. Universidade Nova de Lisboa. Lisboa.

———. 2013. 'Delimitar, Demarcar e Apropriar o Espaço: Terras Da Ordem de Cristo Na Beira Interior Nos Alvores Da Modernidade'. In *Paisagens Rurais e Urbanas: Fontes, Metodologias e Problemáticas.*, Centro de Estudos Históricos-Universidade Nova de Lisboa, 31–59. V. Lisboa.

Grado Merlo, Giovanni. 1991. 'Eremitismo nel francescanesimo medievale'. In *Eremitismo nel francescanesimo medievale: atti del XVII convegno internazionale, Assisi, 12-13-14 ottobre 1989*. Perugia: Università di Perugia.

Graham, Brian. 2002. 'Heritage as Knowledge: Capital or Culture?' *Urban Studies* 39 (5–6): 1003–17. https://doi.org/10.1080/00420980220128426.

Grancho, Nuno. 2009. 'O Convento de Nossa Senhora Dos Remédios, Da Ordem de S. Paulo, Em Elvas: Diálogos Fraguementados'. *ELVAS Caia – Revista Internacional de Cultura e Ciência*, 2009, Colibri/Câmara Municipal de Elvas edition.

Gribomont, Jean. 1974. 'Eremitismo'. In *Dizionario degli Istituti di Perfezione*, Edizioni Paoline, 3:1224–30. Roma.

Hammad, Manar. 2006. *Lire l'espace, comprendre l'architecture: essais sémiotiques/ Manar Hammad*. Limoges: Pulim [u.a.].

Herrera, Gabriel Alonso de. 1513. 'Agricultura General Que Trata de La Labranza Del Campo y Sus Particularidades, ... Crianza de Animales, Propiedades de Las Plantas Que En Ella Se Contienen y Virtudes Provechosas a La Salud Humana'. Madrid.

Hess-Lüttich, Ernest W. B., Jürgen E. Müller, Aart van Zoest, and International Conference on the Semiotics of Space and Culture, eds. 1998. *Signs & space =: Raum & Zeichen ; an International Conference on the Semiotics of Space and Culture in Amsterdam*. Kodikas Supplement 23. Tübingen: Narr.

Hirschfeld, Yizhar. 1987. 'The Judaean Desert Monasteries in the Byzantine Period, Their Development and Internal Organisation in the Light of Archaeological Research'. PhD thesis, Jerusalem: Hebrew University of Jerusalem.

Hunziker, Marcel, Matthias Buchecker, and Terry Hartig. 2007. 'Space and Place – Two Aspects of the Human-Landscape Relationship'. In *A Changing World*, edited by Felix Kienast, Otto Wildi, and Sucharita Ghosh, 8:47–62. Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-1-4020-4436-6_5.

Ioannides, Fotios. 2011. 'Il Monachesimo Primitivo in Siria e in Palestina'.

Ippolito, Alfonso, and Michela Cigola, eds. 2017. *Handbook of Research on Emerging Technologies for Digital Preservation and Information Modeling*. Advances in Library and Information Science (ALIS) Book Series. Hershey, PA: Information Science Reference.

Joffre, Richard, Jean Vacher, Carlos de los Llanos, and Gilbert Long. 1988. 'The Dehesa: An Agrosilvopastoral System of the Mediterranean Region with Special Reference to the Sierra Morena Area of Spain'. *Agroforestry Systems* 6 (1–3): 71–96. https://doi.org/10.1007/BF02344747.

José Antonio Molina Gómez. 1998. 'EL MONACATO CRISTIANO EN SIRIA. INTRODUCCIÓN, PROBLEMAS Y PROPUESTAS'. *Antigüedad y Cristianismo* 0 (15). https://revistas.um.es/ayc/article/view/66611.

Kubler, George. 1988. *A Arquitectura Portuguesa Chã. Entre as Especiarias e Os Diamantes: 1521 - 1706*. Lisboa: Editorial Vega.

Langhans, Franz Paul. 1970. *Antropologia Luso-Atlântica. Estudo Das Maneiras de Viver Do Homem Português.* Lisboa: Parceria António Maria Pereira.

Lawrence, Clifford Hugh. 1987. *Medieval Monasticism: Forms of Religious Life in Western Europe in the Middle Ages*. London: Longman.

Lefort, Louis Théophile. 1939. 'Les Premiers Monastères Pachômiens (Exploration Topographique)'. *Le Muséon*, 1939, Imprimerie Orientaliste L. Durbecq edition.

Leoncini, Giovanni. 1980. *La Certosa Di Firenze Nei Suoi Rapporto Con l'architettura Certosina*. Edited by James Hogg. Institut für Anglistik und Amerikanistik-Universität Salzburg. Anacleta Cartusiana 71. Salzburg - Austria.

*L'eremitismo in Occidente Nei Secoli XI e XII : Atti Della Seconda Settimana Internazionale Di Studio, Mendola, 30 Agosto-6 Settembre 1962*. 1965. Vol. 4. Miscellanea Del Centro Di Studi Medioevali. Milano: Società editrice Vita e pensiero.

Link, Heinrich Friedrich. 1801. *Bemerkungen Auf Einer Reise Durch Frankreich, Spanien, Und Vorzüglich Portugal*. Kiel: Der Neuen Akademischen Buchhandlung.

Longo, Umberto. 2011. 'Religione e territorio. Lo spazio e il sacro tra rappresentazioni e pratiche sociali'. In *Il paesaggio agrario italiano medievale: storia e didattica : Summer school Emilio Sereni, II edizione, 24-29 agosto 2010*, 47–64. Gattatico (Reggio Emilia): Istituto Alcide Cervi.

Machado, José Pedro. 1956. 'Eremo'. In *Dicionário etimológico da língua portuguesa: com a mais antiga documentação escrita e conhecida de muitos dos vocábulos estudados*. Lisboa: Editorial Confluência.

———. 2003. 'Aivado'. In *Dicionário Onomástico Etimológico Da Língua Portuguesa*, 3rd ed. Vol. 1. Livros Horizonte.

Magalhães, Joaquim Antero Romero. 1974. *Para o Estudo Do Algarve Economico Durante o Seculo 16*. Cosmos. Lisboa.

Magalhães, Manuela Raposo. 1996. *Morfologia Da Paisagem*. Universidade Técnica de Lisboa, Instituto Superior de Agronomia. Lisboa.

Malquori, Alessandra, ed. 2012. *Il giardino dell'anima: ascesi e propaganda nelle Tebaidi fiorentine del Quattrocento*. Gli Uffizi : studi e ricerche 23. Firenze: Centro Di.

Marado, Ana Catarina Graça de Almeida. 2007. 'Patrimonio Conventual y Periferia Urbana. La Salvaguardia de Los Antiguos Espacios Conventuales Del Algarve.' PhD Thesis in Architecture, Sevilla: ETSArquitectura . Departamento de Urbanística y Ordenación del Territorio - Universidad de Sevilla.

Marçal, Ramiro Larcher. 1900. 'L'Olivier et Les Huiles d'Olive'. In *Le Portugal Au Point de Vue Agricole*. Lisboa: Imprimerie National.

Marques, André Evangelista. 2014. 'Da representação documental a materialidade do espaço: território da Diocese de Braga (séculos IX-XI)'. Porto: Edições Afrontamento : CITCEM, Centro de Investigação Transdiciplinar.

Marques, António Oliveira. 1978. *Introdução à História Da Agricultura Em Portugal*. 3ª. Lisboa: Edições Cosmos.

Martín, Francisco José Moreno. 2006. 'Arquitectura y Usos Monásticos En El Siglo VII. De La Recreación Textual a La Invisibilidad Material'. In , 275–308. Merida: Consejo Superior de Investigaciones Científicas, CSIC.

Martín, Francisco José Moreno, and Luís Caballero Zoreda. 2013. 'Balatalmelc. Santa María de Melque. Un Monasterio Del Siglo VIII En Territorio Toledano'. *Lo Que Vino de Oriente. Horizontes, Praxis y Dimensión Material de Los Sistemas de Dominación Fiscal En Al-Andalus, (Ss. VII-IX). Limina. Limites Archeologie, Storie, Isole e Frontiere Nel Mediterraneo (365-1556*, 2013, British Archaeological Reports International Series, Archaeopress edition.

Mascarenhas, José Manuel, and Virgolino Ferreira Jorge, eds. 1996. *Actas do Simpósio Internacional Hidráulica Monástica Medieval e Moderna: Convento da Arrábida, 15-17 de Novembro de 1993*. Lisboa: Fundaçao Oriente.

Mattoso, José. 1972. 'Eremitas Portugueses No Século XII'. *Lusitania Sacra* 1 (IX): 1–40.

———. 2002. 'O Enquadramento Social e Económico Das Primeiras Fundações Franciscanas'. In *Portugal Medieval: Novas Interpretações*, 8:243–54. Obras Completas. Lisbon: Círculo de Leitores.

Mazoyer, Marcel, and Laurence Roudart. 2001. *História das agriculturas do mundo: do neolítico à crise contemporânea*. Lisboa: Instituto Piaget.

Medinas, Victor Joaquim Fialho. 1994. 'A Arquitectura Capucha Da Província Da Piedade'. Master's degree in History of Art, Faculdade de Ciências Sociais e Humanas - Universidade Nova de Lisboa.

Melo, António de Oliveira, António Rodrigues Guapo, and José Eduardo Martins. 1985. *O Concelho de Alenquer : Subsídios Para Um Roteiro de Arte e Etnografia*. Câmara Municipal de Alenquer-Associação para Estudo e Defesa do Património de Alenquer. Vol. 2. Alenquer.

Mendes, Francisco José dos Santos. 2010. 'A Criação Da Rede Paroquial Na Península de Setúbal: 1147-1385'. Tese de Mestrado em História Medieval, Lisboa: , Universidade de Lisboa, Faculdade de Letra.

Mendes, Rui Manuel Mesquita. 2017. 'Os Desenhos Do Mosteiro de Nossa Senhora de Caparica (1593/1630) e o Arquitecto Régio Luís de Frias Pereira'. *ARTIS: Revista de História de Arte e Ciências Do Património*, 43–52.

Mendoça, Nuno José de Noronha. 1989. 'Para Uma Poética Da Paisagem'. PhD, Universidade de Évora.

Merlo, Giovanni Grado. 1991. *Tra Ermo e Città. Studi Sur Francesco d'Assisi e Sul Francescanesimo Medievale*. Assisi: Edizioni Porziuncola.

Merriman, Peter, Martin Jones, Gunnar Olsson, Eric Sheppard, Nigel Thrift, and Yi-Fu Tuan. 2012. 'Space and Spatiality in Theory'. *Dialogues in Human Geography* 2 (1): 3–22. https://doi.org/10.1177/2043820611434864.

Micati, Edoardo. 1990. *Eremi Della Maiella e Del Morrone e Luoghi Di Culto Rupestri*. Pescara: Carsa.

Morais, J. A. David. 1998. *A Transumância de Gados Serranos e o Alentejo*. Évora: Câmara Municipal de Évora.

Mortara, Michela, Chiara Eva Catalano, Francesco Bellotti, Giusy Fiucci, Minica Houry-Panchetti, and Panagiotis Petridis. 2014. 'Learning Cultural Heritage by Serious Games'. *Journal of Cultural Heritage* 15 (3): 318–25. https://doi.org/10.1016/j.culher.2013.04.004.

Mundò, Anscari. 1957. 'Il Monachesimo Nella Penisola Iberica Fino al Sec. VII. Questioni Ideologiche e Letterarie'. In *Il Monachesimo Nell'Alto Medioevo e La Formazione Della Civiltà Occidentale*, 73–117. Spoleto: Fondazione CISAM.

Neto, Vítor Manuel Pereira. 1996. 'O Estado, a Igreja e a Sociedade Em Portugal : 1832-1911'. PhD Thesis in Modern and Contemporary History, Coimbra: Faculdade de Letras da Universidade de Coimbra.

Neumüller, Moritz, Andreas Reichinger, Florian Rist, and Christian Kern. 2014. '3D Printing for Cultural Heritage: Preservation, Accessibility, Research and Education'. In *3D Research Challenges in Cultural Heritage*, edited by Marinos Ioannides and Ewald Quak, 8355:119–34. Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-662-44630-0_9.

Neves, Carlos Manuel Leitão Baeta de, ed. 1980. *História Florestal Aquícola e Cinegética (HFAC). Collectânea de Documentos Existentes No Arquivo Nacional Da Torre Do Tombo. Chancelarias Reais.* Ministério da Agricultura e Pescas. Direcção Geral do Ordenamento e Gestão Florestal. Lisboa.

Norberg-Schulz, Christian. 1980. *Genius Loci: Towards a Phenomenology of Architecture*. New York: Rizzoli.

Olaia, Inês Sofia Lourenço. 2019. 'Território e Poder Entre Duas Vilas Da Estremadura : Aldeia Galega e Alenquer Na Idade Média'. Master's degree, Lisboa: Faculdade de Letras, Universidade de Lisboa.

Oliveira, Ernesto Veiga de, and Fernando Galhano. 1977. *Tecnologia Tradicional: Pisões Portugueses*. Lisbon: Instituto Nacional de Investigação Científica.

Oliveira, Ernesto Veiga de, Fernando Galhano, Manuela Costa, and Luís Ferrand de Almeida. 1983. *Tecnologia Tradicional Portuguesa : Sistemas de Moagem*. Lisboa: INIC-Centro de Estudos de Etnologia.

Oliveira, José Augusto. 2013. 'Na península de Setúbal, em finais da Idade Média: organização do espaço, aproveitamento dos recursos e exercício do poder'.

Oliveira, Luís Filipe. 2016. 'Ordens Militares'. In *Ordens Religiosas Em Portugal: Das Origens a Trento. Guia Histórico.*, edited by Bernardo Vasconcelos e Sousa, 453–502.

Pacheco, Pedro, and José Adrião. 2000. 'Gonçalo Ribeiro Telles, in , Vol. 3, Pp. 31-63'. *Documentos de Arquitectura*, 2000.

Pagano, Andrea. 2013. 'Metodologie Di Rilievo per l'analisi Dell'architettura Storica a Camaldoli'. Ph.D. Thesis, Firenze: Università degli Studi di Firenze - Dipartimento di Architettura: Disegno, Storia, Progetto.

Pagará, Ana. 2002. 'O Convento da Ordem de São Paulo em Portel'. In *Conversas á volta dos conventos*, by Virgínia Fróis, 207–22. Évora: Casa do Sul.

Paixão, Vasco Correia. 1969. *A Oliveira e as Abelhas*. Vol. 77. Boletim Da Junta Nacional Do Azeite, XXIV. Lisboa.

Pancani, Giovanni. 2017. *La città dei Guidi: Poppi : il costruito del centro storico, rilievi e indagini diagnostiche*. Firenze: Edifir.

Papola, Grazia, ed. 2011. *Deuteronomio: introduzione, traduzione e commento*. Nuova versione della Bibbia dai testi antichi 5. Cinisello Balsamo (Milano): San Paolo.

Parsons, James J. 1962. 'The Acorn-Hog Economy of the Oak Woodlands of Southwestern Spain'. *Geographical Review* 52 (2): 211. https://doi.org/10.2307/212957.

Patalim, Francisco de Macedo Pina. 1730. *Relação Histórica Da Nobre Vila de Portel*. Portel: Junta de Freguesia de Portel. Câmara Municipal de Portel.

Pellegrini, Luigi. 1977. 'L'esperienza Eremitica Di Francesco e Dei Primi Francescani'. In *Francesco d'Assisi e Francescanesimo Dal 1216 al 1226*, 279–313. Assisi.

Peña, Ignacio, Pascal Castellana, and Romuald Fernandez. 1980. *Les Reclus Syriens : Recherches Sur Les Anciennes Formes de Vie Solitaire En Syrie*. Collectio Minor (Studium Biblicum Franciscanum) 23. Milano: Franciscan Printing Press.

Penco, Gregorio. 1985. 'L'eremitismo Irregolare in Italia Nei Secoli XI-XII'. *Benedictina*, 1985.

Picard, Christoph. 2002. 'Les ribats au Portugal à l'epoque musulmane: sources et définitions'. In *Mil anos de fortificações na Península Ibérica e no Magreb, 500-1500: actas do Simpósio Internacional sobre Castelos*, edited by Isabela Cristina Ferreira Fernandes. Lisboa] : [Pamela: Edições Colibri ; Câmara Municipal de Palmela.

Picchio, Francesca, Federico Cioli, and Rolando Volzone. 2018. 'Il Rilievo Della Certosa Di Firenze. Catalogazione e Analisi Delle Celle Del Chiostro Grande per La Gestione e La Valorizzazione Del Complesso Certosino'. In *VI Convegno Internazionale Sulla Documentazione, Conservazione e Recupero Del Patrimonio Architettonico e Sulla Tutela Paesaggistica, ReUSO 2018*. Gangemi Editore.

Pina, Maria Isabel Pessoa Castro. 2011. 'Os Loios Em Portugal: Origens e Primórdios Da Congregação Dos Cónegos Seculares de São João Evangelista'. PhD in Medieval History, Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa.

Poloz, Iryna. 2017. 'Adaptive Reuse as Revitalization of Historical Monasteries.' In *The Book of Heritage Vs Tourism International Point of View*, Fundação para a Ciência e a Tecnologia, 2:64–68.

Portalegre, Paulo de, Cristina Sobral, and José Mattoso. 2007. *Novo memorial do Estado Apostólico: primeira crónica dos Lóios*. Lisboa: Roma Editora.

Proença, Raul. 1927. *Guia de Portugal II: Estremadura, Alentejo, Algarve*. Biblioteca Nacional. Vol. 2. 3 vols.

Proja, Giovanni Battista. 2005. *Immagini, reliquie e benedizioni: I gesti della fede e il loro significato*. Roma: Citta Nuova.

Quintas, Armando. 2014. 'A Fábrica e a Sociedade Sofal de Vila Viçosa – o Processo de Constituição e Seus Intervenientes'. *Callipole, Revista de Cultura*, 2014.

Quiroga, Jorge López. 2017. 'Late Antique and Early Medieval Rupestrian Monasticism in the Iberian Peninsula. Landscapes and Material Contexts of the Rupestrian Settlements'. *Hortus Artium Medievalium* 23 (1): 77–95. https://doi.org/10.1484/J.HAM.5.113708.

Radice, Roberto. 1983. *Filone di Alessandria: Bibliografia generale ; 1937-1982*. Elenchos 8. Napoli: Bibliopolis.

Rahaman, Hafizur, and Erik Champion. 2019. 'To 3D or Not 3D: Choosing a Photogrammetry Workflow for Cultural Heritage Groups'. *Heritage* 2 (3): 1835–51. https://doi.org/10.3390/heritage2030112.

Rau, Virgínia. 1965. 'A Grande Exploração Agrária Em Portugal a Partir Dos Fins Da Idade Média'. *Revista de História* 30 (61): 65. https://doi.org/10.11606/issn.2316-9141.rh.1965.123304.

———. 1982. *Sesmarias Medievais Portuguesas*. Lisboa: Editorial Presença.

Renano, Henriques. 1992. *Alentejo Que Futuro? História Agrária Do Alentejo.* Associação de Municípios do Distrito de Beja. Beja.

Řezáč, Jan. 1974. 'Laura'. In *Dizionario degli Istituti di perfezione*, Edizioni Paoline. Roma.

Ribeiro, Orlando, ed. 1996. *Portugal o Mediterrâneo e o Atlântico*. Lisboa: Ed. Sá da Costa.

Ribera, Federica, aría Belén Manfrotto, and Fabio De Guglielmo. 2018. 'Fruition and Reuse for the Rehabilitation of Dismissed Historical Areas: A Future for the Abandoned Monasteries in Salerno'. In *Conference Proceedings of the REHABEND 2018 Congress on Construction Pathology, Rehabilitation Technology and Heritage Management*, 2719–26. Cáceres, Spain: University of Cantabria - Building Technology R&D Group.

Rodley, Lyn. 2010. *Cave Monasteries of Byzantine Cappadocia*. Cambridge: Cambridge University Press.

Rosa, Maria de Lurdes. 2000. 'A religião no século: Vivências e devoções dos leigos'. In *História religiosa de Portugal*, Azevedo, Carlos A. Moreira, 1:423–510. Lisbon: Círculo de Leitores – Centro de Estudos de História Religiosa da Universidade Católica Portuguesa.

Ruiz, Julio Campos, and Ismael Roca Melia. 1971. *Santos Padres Españoles II. San Leandro, San Isidoro, San Fructuoso. Reglas Monásticas de La España Visigoda. Los Tres Libros de Las 'Sentencias'.* Biblioteca de Autores Cristianos (BAC). Madrid.

Sá, Asla M., Karina Rodriguez Echavarria, Martin Griffin, Derek Covill, Jaime Kaminski, and David Arnold. 2012. 'Parametric 3D-Fitted Frames for Packaging Heritage Artefacts'. The Eurographics Association. https://doi.org/10.2312/VAST/VAST12/105-112.

Saldanha, José Luis Possolo de. 2003. *Azeites e olivais no Alentejo: montes com lagar na provincia transtagana*. S.l.: s.n.

Santo António, Fr. Henrique de. 1745. 'Chronica Dos Eremitas Da Serra de Ossa No Reyno de Portugal, e Dos Que Floresceram Em Todos Os Mais Ermos Da

Christandade; Dos Quaes Nos Seguintes Séculos Se Formou a Congregação Dos Pobres de Jesu Christo; e Muitos Depois a Sagrada de S. Paulo Primeiro Eremita, Chamada Dos Eremitas Da Serra de Ossa, Tomo I – Que Contêm a Historia Anachoretica, e Cenobitica Dos Primeiros Cinco Séculos Do Mundo Christão; Tomo II – Que Contêm a Historia Anachoretica, e Cenobitica Dos Seculos Sexto, Settimo, Oitavo e Nono'. Lisboa: Officina de Francisco da Sylva.

Santos, Cândido Dias dos. 1980. *Os Jerónimos Em Portugal: Das Origens Aos Fins Do Século XVII*. Porto: Instituto Nacional de Investigação Científica: Centro de História da Universidade do Porto.

Santos, Maria Leonor Ferraz. 2009. 'As Ordens Religiosas Na Diocese de Évora: 1165–1540'. *Medievalista* 7.

São Jozé, Frei João de. 1577. 'Coreografia Do Reino Do Algarve Dividida Em Quatro Livros Por Declaração Da Obra Escrita Pelo R. P. Frei João de S. José Da Ordem Dos Eremitas de S. Agostinho Da Provincia de Portugal No Ano de 1577'.

Schama, Simon. 1995. *Landscape and Memory*. New York: Knopf.

Scopigno, R., P. Cignoni, N. Pietroni, M. Callieri, and M. Dellepiane. 2017. 'Digital Fabrication Techniques for Cultural Heritage: A Survey: Fabrication Techniques for Cultural Heritage'. *Computer Graphics Forum* 36 (1): 6–21. https://doi.org/10.1111/cgf.12781.

Sensi, Mario. 1985. *Le Osservanze Francescane Nell'Italia Centrale (Secoli XIV–XV).* Roma: Collegio San Lorenzo da Brindisi – Istituto Storico dei Cappuccini.

Serini, Emilio. 1961. *Storia Del Paesaggio Agrario Italiano*. Bari: Laterza.

Serra, Joaquim Bastos. 2006a. 'O Espaço Periurbano de Évora Nos Finais Da Idade Média. Uma Aproximação Ao Seu Estudo.' *Media Aetas. Revista de Estudos Medievais*, Paisagens Medievais, 2: 116–32.

———. 2006b. 'Santa Maria Do Espinheiro: Um Mosteiro Na Periferia Urbana de Évora. Apropriação e Organização Do Espaço.' In *Actas Das II Jornadas*, 161–79. Lisboa: Centro de Estudos Históricos/Universidade Nova de Lisboa.

Serrão, Joel, and António Oliveira Marques, eds. 1987. *Nova História de Portugal*. 1a. ed. Lisboa: Editorial Presença.

Serrão, Vitor. 2016. 'Frei Pedro da Cruz e o pintor fresquista José de Escovar: uma relação de trabalho em São Bento de Cástris em Outubro de 1605'. In *Do Espírito do Lugar - Música, Estética, Silêncio, Espaço, Luz: I e II Residências Cistercienses de São Bento de Cástris (2013, 2014)*, edited by Antónia Fialho

Conde and António Camões Gouveia. Publicações do Cidehus. https://doi.org/10.4000/books.cidehus.1934.

Serrão, Vítor, and José Meco. 2007. *Palmela Histórico-Artística: Um Inventário Do Património Artístico Concelhio*. Lisboa : Palmela: Edições Colibri ; Câmara Municipal de Pamela.

Shoorcheh, Mahmood. 2019. 'On the Spatiality of Geographic Knowledge'. *Asian Geographer* 36 (1): 63–80. https://doi.org/10.1080/10225706.2018.1463854.

Silva, António Martins da. 1990. 'Desamortização e Venda Dos Bens Nacionais Em Portugal Na Primeira Metade Do Século XIX'. PhD Thesis in Modern and Contemporary History, Coimbra: Faculdade de Letras da Universidade de Coimbra.

Silva, Manuela Santos. 1994. *A Região de Obidos Na Época Medieval: Estudos*. 1a. ed. Colecção P.H. Estudos e Documentos. Caldas da Rainha, Portugal: Património Histórico, Grupo de Estudos.

Silveira, Luís Espinha da. 1988. 'Revolução Liberal e Propriedade: A Venda Dos Bens Nacionais No Distrito de Évora (1834-1852)'. PhD Thesis in History, Lisboa: Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa.

Soares, Clara Maria Martins de Moura. 2017. 'Entre a Salvaguarda e a Destruição: A Extinção Das Ordens Religiosas Em Portugal e as Suas Consequências Para o Património Artístico Dos Conventos (1834-1868)'. PhD Thesis in História da Arte / Ciências do Património e Teoria do Restauro, Faculdade de Letras da Universidade de Lisboa.

Soledade, Arnaldo Ferreira da. 1973. *Sines, Terra de Vasco Da Gama*. Junta Distrital de Setúbal. Setúbal.

Sottomayor, Miguel. 1889. *História Da Extinção Das Ordens Religiosas Em Portugal*. Braga: Typographia Lusitana.

Sousa, Bernardo Vasconcelos e. 1988. 'Paisagem Agrária e Organização Social Do Espaço No Alentejo Medieval (Séculos XII a XV)'. *Economia e Sociologia*, 1988.

———, ed. 2016. 'Congregação Dos Cónegos Seculares de São João Evangelista'. In *Ordens Religiosas Em Portugal: Das Origens a Trento. Guia Histórico.*, 3rd ed., 235–47.

Sowers, Ossa Raymond. 1951. 'Medieval Monastic Planning: Its Origins in the Christian East and Later Development in Western Europe'. Columbia University.

Špidlík, Tomáš. 1974. ‘Stiliti’. In *Dizionario degli Istituti di Perfezione*, Edizioni Paoline, 246. Roma.

St Athanasius of Alexandria. 2019. *The Life of St. Anthony*. Edited by D.P. Curtin. Translated by H. Ellershaw. Independently Published.

Tavares, Pedro Vilas Boas. 2001. ‘Lóios’. In *Dicionário de História Religiosa de Portugal*, edited by Carlos A. Moreira Azevedo, 3:149–57.

Teixeira, Vítor Gomes. 2004. ‘O Movimento Da Observância Franciscana Em Portugal, 1392-1517 : História, Património e Cultura de Uma Experiência de Reforma Religiosa’. PhD Thesis in History of Art, Porto: Faculdade de Letras da Universidade do Porto.

Tejera, Artemio Manuel Martínez. 2007. ‘El Hábitat “Cenobítico” En Hispania : Organización y Dependencias de Un Espacio Elitista En La Antigüedad Tardía y Alta Edad Media (Siglos V-X)’. In *Archaeological Studies on Late Antiquity and Early Medieval Europe (400-100 A. D.)*, 19–76. Oxford: British Archaeological Reports (BAR).

Tejera, Artemio Manuel Martinez. 2017. ‘Monasticism in Late Antique Iberia: Its Origins and Influences’. In *Visigothic Symposium 2*.

Tuan, Yi-fu. 1974. *Topophilia: A Study of Environmental Perception, Attitudes, and Values*. Englewood Cliffs, N.J: Prentice-Hall.

Tuan, Yi-Fu. 1977. *Space and Place: The Perspective of Experience*. Minneapolis, Minn.: Univ. of Minnesota Press.

———. 1979. ‘Space and Place : Humanistic Perspective’. In *Philosophy in Geography*, 387–427. Theory and Decision Library 20. Dordrecht: Reidel.

Turbessi, Giuseppe, ed. 1990. *Regole monastiche antiche*. Religione e società ; Storia della Chiesa e dei movimenti cattolici 15. Roma: Studium.

Turiel, Juan Antonio Testón. 2008. ‘El Monacato En La Diócesis de Astorga En Los Periodos Antiguo y Medieval. La Tebaida Berciana.’ *Cuadernos de Estudios Gallegos*, 2008.

Tzaferis, Vassilios. 1989. ‘Early Monks and Monasteries in the Holyland.’ *Deltionchae*, 90 1989.

Vauchez, André. 1994. *La spiritualité du Moyen âge occidental: VIIIe-XIIIe siècle*. Éditions du Seuil. Paris.

———. 2003. *Ermites de France et d’Italie (XIe-XVe Siècles)*. École Française de Rome. Roma.

———. 2010. *Francesco d'Assisi: tra storia e memoria*. Torino: Einaudi.

———. 2018. *Catherine of Siena: A Life of Passion and Purpose*. New York: Paulist Press.

Verdiani, Giorgio. 2017. *Retroprogettazione Metodologie ed esperienze di ricostruzione 3D digitale per il Patrimonio Costruito*. Ricerche | architettura, design, territorio. Firenze: didapress - Dipartimento di Architettura Università degli Studi di Firenze.

Viana, Mário. 1998. *Vinhedos medievais de Santarém*. Cascais: Patrimonia Associação de Projetos Culturais e Formação Turística.

Vilar, Hermínia Vasconcelos. 1999. *As Dimensões de Um Poder: A Diocese de Évora Na Idade Média*. 1. ed. Histórias de Portugal 44. Lisboa: Editorial Estampa.

———. 2002. 'Réseau paroissial et droit de patronage dans le diocèse d'Évora (xiiie-xive siècles)'. In *L'espace rural au Moyen Âge*, edited by Monique Bourin and Stéphane Boisselier, 125–40. Presses universitaires de Rennes. https://doi.org/10.4000/books.pur.19898.

Vincent, Jeanne-Françoise, ed. 1995. *La construction religieuse du territoire: cet ouvrage est l'aboutissement d'un réflexion commencée lors du Colloque 'Religions et Territoires', organisé à Clermont-Ferrand en novembre 1993*. Connaissance des hommes. Paris: L'Harmattan.

Viollet-le-Duc, Eugène. 1854. 'Reclusoir'. In *Dictionnaire Raisonné de l'architecture Française Du XIe Au XVIe Siècle*, B. Bance, 8:4–5. Paris.

Volzone, Rolando. 2017. 'Os Eremitas Da Pobre Vida e a Construção Da Paisagem Da Serra de Ossa'. In *Estudos de Paisagem*, edited by Pedro Fidalgo, 4:198–219. Lisboa: Instituto de História Contemporânea – NOVA FCSH.

Volzone, Rolando, and João Luís Fontes. 2020. 'The Portuguese Eremitical Congregation of the Serra de Ossa: Spatial Analysis of the Monastic Settlements'. *Journal of Medieval Iberian Studies* 12 (1): 84–105. https://doi.org/10.1080/17546559.2019.1652838.

Wachowiak, Melvin J., and Basiliki Vicky Karas. 2009. '3d Scanning and Replication for Museum and Cultural Heritage Applications'. *Journal of the American Institute for Conservation* 48 (2): 141–58. https://doi.org/10.1179/019713609804516992.

Ward, Benedicta, ed. 1984. *The Sayings of the Desert Fathers: The Alphabetical Collection*. Kalamazoo, Mich: Cistercian Publ.

White, Lynn, and Martine Lejeune. 1969. *Technologie Médiévale et Transformations Sociales*. Berlin: De Gruyter Mouton [Imprint] Walter de Gruyter GmbH. https://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=5156787.

Xavier, António Manuel. 2004. *Das Cercas Dos Conventos Capuchos Da Província Da Piedade*. Évora: Casa do Sul.

———. 2011. *Das cercas dos conventos capuchos: da província da Soledade*. Eívora, Portugal: Licorne.

**Appendix A**

## A.1 Glossary of charters typologies (included in the analysed documents) and translation from Portuguese to English

| Portuguese | English |
|---|---|
| Acordo / carta de composição | Agreement charter |
| Acta de vereação | Council minute |
| Alvará | License |
| Carta de arrendamento | Rent charter |
| Carta de confirmação | Confirmation charter |
| Carta de coutada / Encoutos | Encoutos charter |
| Carta de demarcação / Carta de partição de propriedade | Demarcation charter |
| Carta de doação | Donation charter |
| Carta de escambo | Exchange charter |
| Carta de esmola | Alms charter |
| Carta de foro / Aforamento / Emprazamento | Emphyteusis charter |
| Carta de proteção | Protection charter |
| Carta do rei | Royal charter |
| Carta de Sesmaria | Sesmaria charter |
| Carta de súplica | Supplication charter |
| Carta de venda | Sale charter |
| Instrumento de posse | Possession instrument |
| Pedido | Request |
| Sentença | Sentence |
| Testamento | Testament |
| Tombo / Inventário de Posse | Assets Inventory |
| Visitação | Visitation |

## A.2 Glossary of cultural and ecological components (included in the analysed documents) and their translation from Portuguese to English

| Portuguese | English |
|---|---|
| Albufeira / Aljube / Lagoa | Reservoir |
| Água do alto | Water from above |
| Águas vertentes / águas correntes | Running water |
| Arneiro | Sandy ground |
| Azenha | Watermill |
| Cabeço | Hill top |
| Centeio | Rye |
| Cerca | Enclosure |
| Cevada | Barley |
| Cume | Ridge |
| Cumeada | Crest line |
| Espigão | Crest |
| Fonte | Spring |
| Forno de cal | Lime kiln |
| Forno de vidro | Glass furnace |
| Gado | Livestock |
| Horta | Kitchen garden |
| Marcos fronteiriços | Boundary markers |
| Mata | Wood |
| Mato | Bush |
| Moinho | Mill |
| Oratorio | Oratory |
| Pego | Pond |
| Pinhal | Pine forest |
| Pisão | Trip hammer mills |
| Poço | Well |
| Portela | Mountain pass |
| Ribeira | Stream |
| Ribeiro | Brook |
| Rio | River |
| Serra | Hill chain |
| Trigo | Wheat |

## A.3 Glossary of mentioned trees (traditional and not) in Portugal[419]

| Spontaneous trees in the Portuguese landscape | | | | |
|---|---|---|---|---|
| **Common designations** | | **Species** | **Location in Portugal** | |
| **Portuguese** | **English** | | **Habitat/Ecology*** | **Region** |
| Amieiro | Alder Tree | *Alnus glutinosa* | Riparian | North, Centre West and South West |
| Azinheira | Holm Oak | *Quercus rotundifera* | Bush - Wood | All Portugal, except North West |
| Carrasco | Kermes Oak | *Quercus coccifera* | Wood | South and Centre |
| Carvalho-negral | Pyrenean Oak | *Quercus pyrenaica* | Bush | Mostly centre and North, including the northern Alentejo |
| Catapereiro | Iberian Pear | *Pyrus communis ssp. piraster* | Bush | North and Centre |
| Cerejeira-brava | Wild cherry | *Prunus avium var. actiana* | Bush | North East and Centre East |
| Freixo | Ash | *Fraxinus angustifólia* | Bush | All Portugal |
| Sobreiro | Cork Oak | *Quercus suber* | Bush | All Portugal |
| Zambujeiro | Wild Olive | *Olea europea var. sylvestris* | Bush - Uncultivated land Rupicolous - Ornamental | Mostly South East |

[419] Data about the trees' location in Portugal (in terms of habitat/ecology and region) have been adapted from the database "Flora Digital de Portugal" carried out by ardim Botânico da Universidade de Trás-os-Montes e Alto Douro (JBUTAD). Available at: https://jb.utad.pt/flora

| Traditional non-autochthonous trees in the Portuguese landscape | | | | |
|---|---|---|---|---|
| **Common designations** | | **Species** | **Location in Portugal** | |
| **Portuguese** | **English** | | **Habitat/Ecology*** | **Region** |
| Castanheiro | Chestnut | *Castanea Sativa* | Bush - Uncultivated land | North, northern South-East, South-West |
| Esteva | Rockrose | *Cistus ladanifer* | Bush - Wood | All Portugal |
| Figueira | Fig tree | *Ficus carica* | Ruderal - Rupicolous | All Portugal |
| Laranjeira | Orange tree | *Citrus x sinensis* | / | All Portugal |
| Limoeiro | Lemon tree | *Citrus limon* | / | All Portugal |
| Macieira | Apple tree | *Malus domestica* | Uncultivated land - Ruderal | North and Centre |
| Milho (painço) | Millet | *Panicum miliaceum* | Cultivated and uncultivated land Rupicolous | / |
| Murteira / Murta | Myrtle | *Myrtus communis* | Bush - Rupicolous | South and Centre |
| Oliveira | Olive tree | *Olea europea* | Bush - Uncultivated land Rupicolous - Ornamental | Mostly South and South-East |
| Pinheiro-bravo | Maritime pine | *Pinus pinaster* | Bush - Wood Uncultivated land | All Portugal |

***Habitat/Ecology: place in which the plant grows**

**Bush**: forest plant communities with a more or less dense and continuous arboreal mantle;
**Wood**: shrub communities in which the tree layer is non-existent or not significant;
**Cultivated land**: set of arable communities in which different cultures are developed (e.g. vineyards, orchards, olive groves, kitchen gardens);
**Uncultivated land**: characteristical herbaceous communities, with undeveloped or even non-existent shrub layer;
**Ruderal**: communities linked to the anthropogenic activity. It corresponds to spaces that are periodically altered but not farmed (e.g. on the edges of roads);
**Rupicolous**: vegetation on rocky substrate, on outcrops of fragmented (or not) rock;
**Riparian**: vegetation developed along riparian galleries, watercourses, lakes or reservoirs;
**Ornamental**: currently used for non-agroforestry purposes or with high landscape potential.

## A.4 Landscape data in the historical records of each settlement (land use)

| Água das Infantes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Confirmation | 16/06/1445 | | | | | | | | | TT, *Colecção Especial* , cx. 72, mç. 14, doc. Único |
| Donation | 16/07/1445 | | | | ● | | | | | TT, *Colégio de São Paulo de Portel* , lv. 1, nº 4 |
| Royal | 06/02/1448 | | | | | | ● | ● | | BPE, *Pergaminhos Avulsos* , pasta 6, (*Pergaminhos dos Conventos* ), *Convento de São Paulo de Portel* , nº 17;<br>TT, *Leitura Nova* , *Odiana* , lv. 3, fls. 186v-187 |
| Donation | 10/04/1448 | | | | | | | | ● | BPE, *Pergaminhos Avulsos* , pasta 6, (*Pergaminhos dos Conventos* ), *Convento de São Paulo de Portel* , nº 17;<br>TT, *Leitura Nova* , *Odiana* , lv. 3, fls. 186v-187 |
| Sentence | 17/04/1486 | | | | | | ● | | | TT, *Colégio de São Paulo de Portel* , lv. 8, nº 17 |

| Aivado | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 06/04/1385 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 90 |
| Donation | 14/09/1406 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 81 |
| Donation | 14/09/1406 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 82 |
| Donation | 26/09/1406 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 80 |
| Donation | 03/10/1406 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 78 |
| Donation | 27/01/1416 | | ● | | | ● | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 77 |
| Possession Instrument | 19/05/1418 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 84 |
| Testament | 01/06/1418 | | | | | | ● | ● | ● | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 72 |
| Sales | 22/12/1427 | | | | | | ● | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 68 |
| Sales | 03/01/1428 | | | | | | ● | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 96 |
| License | 26/05/1436 | | ● | | | | | | | TT, *Chancelaria de D. Afonso V* , lv. 23, fl. 14<br>TT, *Leitura Nova* , *Odiana* , lv. 6, fl. 124 |
| Donation | 26/03/1437 | | | | | | ● | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 88 |
| Donation | 02/08/1442 | | | | | | ● | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 97 |
| Sales | 22/09/1442 | | | | | | ● | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 76 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Royal | 26/11/1449 | | ● | | | | | | | TT, *Leitura Nova* , *Odiana* , lv. 3, fl. 233v |
| Sales | 28/07/1450 | | | | | | ● | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 75 (1) |
| Sales | 28/07/1450 | | | | | | ● | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 75 (2) |
| Demarcation | 22/04/1464 | | | ● | | | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 99 |
| Sales | 18/01/1475 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 94-95 |
| Sales | 08/08/1489 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 92-93 |
| Donation | 26/03/1521 | | | | ● | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 74 |
| Possession Instrument | 25/06/1521 | | | | | ● | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 75 |

| **Alferrara** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 03/12/1385 | | ● | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 3 |
| Sales | 18/05/1392 | | | | | | | ● | | TT, *Documentação de Conventos por identificar* , caixa 3, maço 1, nº 30 |
| Donation | 24/02/1426 | | | | | ● | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 11 |
| Donation | 01/12/1427 | | ● | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 6 |
| Possession Instrument | 01/02/1434 | | ● | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 7 |
| Sales | 05/08/1462 | | | | | ● | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 27 |
| Sales | 05/10/1462 | | ● | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 28 |
| Sesmaria | 30/06/1463 | | ● | | | ● | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 30 |
| Donation | 27/03/1465 | | | | | ● | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 31 |
| Donation | 07/04/1465 | | | | | ● | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 32 |
| Donation | 23/12/1465 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 26 |
| Emphyteusis | 14/04/1470 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 38 |
| Sales | 11/03/1471 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 39 |
| Sales | 12/01/1475 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 49 |
| Sales | 27/11/1476 | | | | | ● | ● | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 52 |
| Sales | 03/05/1485 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 53 |
| Sales | 18/01/1491 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 61 |
| Sales | 06/04/1494 | | | | ● | ● | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 64 |
| Sales | 23/04/1520 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 73 |
| Sales | 03/04/1522 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 78 |
| Sales | 15/12/1529 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 81-100, fls. 21-21v, 23v-25 |
| Tombo | 07/05/1544 | | ● | ● | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 81-100 |

| Azambujeira | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 05/03/1371 | | | | | | | | ● | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 20 |
| Donation | 05/03/1371 | | | | | | | | ● | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 20 |
| Encoutos | 12/07/1424 | | | | | ● | | | | TT, *Chancelaria de D. Afonso V* , lv. 31, fl. 135<br>TT, *Chancelaria de D. João II* , lv. 21, fls. 118-119<br>TT, *Leitura Nova, Odiana* , lv. 2, fls. 167v-169v |

| Cela Nova | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 29/09/1445 | | | | | | ● | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , maço 2 de pergaminhos, nº 34 |
| Royal | 17/02/1449 | | | | | | ● | | | TT, *Chancelaria de D. Afonso V* , lv. 34, fl. 80 |
| Donation | 26/11/1451 | | ● | | | | ● | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , maço 2 de pergaminhos, nº 44 |
| Donation | 03/05/1453 | | ● | | | | ● | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , maço 2 de pergaminhos, nº 39 |
| Sales | 24/08/1470 | | | | | | ● | ● | | TT, *Documentação de Conventos por identificar* , caixa 19, *Pergaminhos* , nº - |
| Sales | 19/02/1516 | | | | ● | | ● | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , mç. 2 de pergaminhos, nº 45 |
| Sales | 11/03/1516 | | ● | | | | ● | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , mç. 2 de pergaminhos, nº 36 |
| Visitation | 24/01/1527 | | | | | | ● | ● | | TT, *M.C.O* ., *O.S./C.P.* , livro 177, fls. 12v-13v |
| Royal | 07/02/1562 | | | | | | ● | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , mç. 3 de pergaminhos, nº 3 |

| Junqueira | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Sesmaria | 20/06/1447 | | ● | | ● | | ● | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 21 |
| Sales | 18/01/1473 | | | | ● | ● | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 41 |
| Exchange | 07/06/1473 | | ● | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 42 |
| Sales | 27/07/1473 | | ● | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 43 |
| Sales | 27/01/1474 | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 45 |
| Sesmaria | 18/10/1480 | | ● | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 57 |
| Sentence | 14/02/1485 | | | | | | ● | ● | | TT, *Convento de São Paulo da Junqueira* , mç. único, nº 3 |
| Donation | 30/07/1490 | | | | | | ● | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 21 |

| Montemuro | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 30/06/1421 | | ● | | | | | | | Arquivo Distrital de Évora, *Arquivo Municipal de Évora,* lv. nº 67, fls. 67v-68v<br>Arquivo Distrital de Évora, Arquivo Municipal de Évora, lv. nº 145, fls. 121-122<br>TT, *Chancelaria de D. Duarte* , lv. 1, fls. 175-175v<br>TT, *Leitura Nova* , *Odiana* , lv. 6, fls. 225-225 |
| Royal | 15/07/1421 | | ● | | | | ● | ● | | TT, *Chancelaria de D. João I* , lv. 4, fls. 16v-17<br>TT, *Chancelaria de D. Duarte* , lv. 1, fls. 174-175<br>TT, *Chancelaria de D. Afonso V* , lv. 18, fl. 16<br>TT, *Leitura Nova, Odiana* , lv. 4, fls. 227-228 |
| Sentence | 24/12/1483 | | | | ● | | | | | BPE, *Convento de Santa Catarina de Sena de Évora* , lv. 86, nº 28 |
| Royal | 27/03/1497 | | ● | | | | | | | Arquivo Distrital de Évora, *Arquivo Municipal de Évora* , lv. nº 71, fl. 41<br>Arquivo Distrital de Évora, *Arquivo Municipal de Évora* , lv. nº 145, fls. 19v-20 |
| Tombo | 12/02/1536 | | ● | | ● | | ● | | | TT, *Núcleo Antigo* , nº 286 |

| Montes Claros | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 31/10/1407 | | ● | | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Sales | 06/01/1421 | | ● | | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº3 [8]<br>BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Sesmaria | 23/05/1421 | | ● | | | | ● | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Donation | 02/10/1425 | | ● | | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Protection | 09/12/1425 | | ● | ● | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº3 [9]<br>BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Royal | 22/01/1427 | | | | | | ● | ● | | TT, *Chancelaria de D. João I* , lv. 4, fls. 108v-109 |
| Donation | 30/11/1427 | | | | | | ● | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [6] |
| Donation | 21/02/1441 | | | ● | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº11 [18] |
| Sales | 16/09/1450 | | | | ● | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº7 [13] |

| Rio Mourinho | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 01/06/1369 | | | | | | ● | ● | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 20 |
| Donation | 14/10/1377 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 57 |
| Emphyteusis | 05/02/1399 | | | | | ● | | | | BPE, *Pergaminhos Avulsos* , pasta 21 (*Pergaminhos Vários, 77* ), nº 21 |
| Donation | 08/12/1401 | | | | | ● | ● | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 51 |
| Sales | 07/08/1430 | | | | ● | | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 32 |
| License | 20/02/1434 | ● | | | | | | | | TT, *Chancelaria de D. Afonso V* , lv. 19, fl. 38v<br>TT, *Leitura Nova* , *Odiana* , lv. 4, fls. 250-250v |
| Sales | 30/06/1434 | | | | | | | ● | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 58 |
| Sales | 25/10/1438 | | | ● | | | | ● | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 20 |
| Sentence | 26/06/1447 | | | | ● | | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 14 |
| Royal | 27/10/1449 | ● | | | | | | | | TT, *Leitura Nova* , *Odiana* , lv. 2, fl. 176 |
| Royal | 17/01/1457 | | | | ● | | | | | TT, *Leitura Nova* , *Odiana* , lv. 2, fls. 213-213v |
| Alms | 12/06/1458 | | | | | | | ● | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 52 |
| Sentence | 18/05/1463 | | | | | | | ● | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 46<br>TT, *Colégio de São Paulo de Coimbra* , lv. 1, nº 57 |
| Sales | 08/01/1471 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 17 |
| Sales | 04/02/1471 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 23 |
| Demarcation | 02/09/1475 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 2<br>TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 42 |
| Confirmation | 07/09/1478 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 68K |
| Sentence | 05/02/1483 | | | | | ● | ● | ● | ● | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 3<br>TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 68J |
| Sales | 12/01/1488 | | | | ● | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 6 |
| Sales | 31/01/1489 | | | | ● | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 59 |
| Sales | 23/02/1516 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 34 |
| Sales | 02/09/1527 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 18 |
| Sales | 08/10/1527 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 16B |
| Sales | 08/10/1527 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 16C |
| Sales | 18/01/1528 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 16A |
| Sales | 04/02/1529 | | | | ● | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 23 |
| Sales | 30/04/1529 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 21 |
| Sales | 24/01/1533 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 36 |
| Emphyteusis | 21/08/1534 | | | | | | | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 7 |

| Rio Torto | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 03/06/1380 | | | ● | | ● | | | | ADPTG, *Convento de S. Paulo de Elvas* , CVSPELV/TB nº28 - cx.10 (*Tombo das capelas e títulos de propriedades* 1664-1781), fls. 17-17v |
| Donation | 19/10/1481 | | | | | ● | | | | ADPTG, *Convento de S. Paulo de Elvas* , *Colecção de Pergaminhos* , nº 6 |

| São Julião de Alenquer | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 27/04/1459 | | ● | | | ● | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 102 |
| Donation | 03/06/1465 | | | | | ● | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 111 |
| Sales | 26/10/1468 | | | | | ● | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 98 |
| Emphyteusis | 26/10/1480 | | ● | | | ● | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 101 |
| Sentence | 15/03/1481 | | | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 63 |
| Emphyteusis | 16/01/1485 | | ● | | | ● | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 108 |
| Possession Instrument | 13/08/1490 | | ● | | | ● | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 104 |
| Sales | 02/03/1491 | | | | | ● | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 106 |
| Sesmaria | 08/05/1502 | | ● | | | ● | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 105 |
| Sales | 30/01/1510 | | ● | | | | ● | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 81A |
| License | 14/12/1521 | | | | | | ● | ● | ● | TT, *Confirmações Gerais* , lv. 5, fl. 40 TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 82 |

| Serpa | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Sales | 16/03/1491 | | | | | ● | ● | | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 3 |
| Sales | 05/11/1494 | | ● | | ● | | | ● | ● | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 13 |
| Sales | 20/11/1494 | | | | | | | ● | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 23 |
| Donation | 04/04/1496 | | | | | | | ● | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 4 |
| Donation | 25/01/1496 | | | | | | ● | | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 18 BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. E3 |
| Donation | 15/07/1498 | | | | | ● | | | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 10 |
| Royal | 27/02/1501 | | | | ● | | | | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 7 |
| License | 13/08/1503 | | | | | | ● | ● | ● | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 49 |

| Serra de Ossa | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Sales | 23/05/1378 | | | | | | | ● | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 20 |
| Sales | 12/09/1378 | | | | | | | ● | ● | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 19<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 8, fl. 36 |
| Sales | 27/04/1383 | | ● | | | | ● | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 7 |
| Sesmaria | 03/12/1385 | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 36, nº 115 |
| Sesmaria | 22/05/1387 | | | | | | ● | ● | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 8, fl. 37 |
| Sesmaria | 22/05/1390 | | | ● | | | ● | ● | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 10 |
| Sesmaria | 13/11/1390 | | ● | | ● | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 27 |
| Sesmaria | 18/05/1393 | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 40, macete 1 (Pergaminhos), nº 31 |
| Exchange | 06/01/1394 | | ● | | | | ● | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 5 |
| Sales | 06/01/1394 | | ● | | | | ● | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 9 |
| Donation | 19/03/1396 | | | | | | ● | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 13 |
| Donation | 19/09/1399 | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 26 |
| Royal | 24/04/1406 | | | | | | ● | | | BPE, *Pergaminhos Avulso* , pasta 7<br>(*Pergaminhos do Convento de S. Paulo da Serra de Ossa, sécs. XIV-XV)* , nº 18 |
| Testament | 02/10/1413 | | | | | | ● | | | BPE, *Pergaminhos Avulsos* , pasta 16 (*Pergaminhos Avulsos, 98)* , nº 5 |
| Sesmaria | 10/09/1425 | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº10 |
| Demarcation | 13/12/1428 | | | | ● | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 6<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 9, fls. 27-27v |
| Sesmaria | 03/03/1463 | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 28 |
| Sales | 08/04/1467 | | ● | | | | ● | ● | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 7<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 8, fls. 49-50 |
| Donation | 22/01/1470 | | | | | | ● | ● | ● | TT, *Documentação de Conventos por identificar* , caixa 19, Pergaminhos, nº - |
| Sales | 12/02/1526 | | | | | | ● | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 37, nº 45 |

| Vale Formoso | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Donation | 08/04/1401 | | | | | | | | ● | TT, *Convento de Nossa Senhora da Ajuda de Tavira* , mç. Único, nº 2 |
| Donation | 19/12/1406 | | | | | | | | ● | TT, *Convento de Nossa Senhora da Ajuda de Tavira* , mç. único, nº 5, fls. 1v-2 |

| Valbom | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Sesmaria | 20/10/1416 | | ● | ● | | | | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 103 |
| Donation | 08/04/1439 | | | | ● | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D9<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. A4<br>TT, *Chancelaria de D. Afonso V* , lv. 19, fls. 59-59v<br>TT, *Leitura Nova* , *Odiana* , lv. 4, fls. 229v-230v<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 110v-111 |
| Donation | 09/12/1443 | | ● | | | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G5 |
| Sales | 20/01/1455 | | | | | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G2 |
| Donation | 05/07/1456 | | | ● | | ● | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D7<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 113v-114 |
| Donation | 10/02/1479 | | | | | ● | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G3 |
| Sales | 03/01/1482 | | | | ● | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G9 |
| Donation | 25/08/1492 | | ● | | | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D2, nº 5 |
| Sales | 01/11/1493 | | | | ● | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. E10<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 108v-109 |
| Donation | 11/07/1502 | | | | ● | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D3<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 106-107 |
| Sentence | 14/10/1502 | | | | ● | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 3, nº 30, doc. 2 |
| Royal | 23/02/1503 | | ● | | ● | | ● | ● | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. H1, fls. 4-11 |
| Donation | 16/11/1504 | | ● | | | ● | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. F1<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fl. 112 |
| Demarcation | 15/11/1505 | | ● | ● | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 2, nº 64 |
| Testament | 01/07/1512 | | | | ● | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. C8 |
| Donation | 04/01/1515 | | | | | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 2, nº 49 |
| Sales | 20/09/1515 | | ● | | | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. A10 |
| Sales | 10/04/1518 | | | | | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G1 |
| Sentence | 27/01/1529 | | | | | ● | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D2, nº 2 |

| Vale Abraão | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| License | 03/04/1459 | | ● | | | | | | | BPE, *Pergaminhos Avulsos* , pasta 7, nº66 |
| Sales | 04/02/1479 | | | | ● | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 39, nº 21 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Donation | 18/02/1502 | | | | | ● | ● | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 39, nº 8 |
| License | 25/06/1515 | | ● | | | | | | | BPE, *Pergaminhos Avulsos* , pasta 8, nº 99 |
| Royal | 10/03/1517 | | ● | | | | | | | BPE, *Cód. CLXIX/10* , nº 2 |

| **Vale da Infante** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Wood** | **Bush** | **Oaks and forest trees** | **Harvest land** | **Olive** | **Vineyards** | **Orchard** | **Kitchen gardens** | **Documental Source** |
| | | | | | | | | | | |
| Sesmaria | 01/05/1379 | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº6<br>BPE, *Convento de Nossa Senhora de Amparo de Vila Viçosa* , lv. 8, fls 36v-37 |
| Encoutos | 17/03/1437 | | | ● | | | | | | TT, *Convento de Santo Antão de Vale de Infante* , mç. 1, nº 9 (2) |
| Royal | 19/01/1465 | | | | ● | | | | | BPE, *Colecção Especial,* cx. 35, nº 34 |
| Donation | 15/11/1465 | | | | | ● | | | | BPE, *Pergaminhos Avulsos,* pasta 13 (*Pergaminhos Avulsos* , *200* ), nº 150<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 91v-93 |
| Composition | 30/03/1471 | | | | ● | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. C5<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 38v-40 |
| Royal | 19/01/1475 | | | ● | ● | | | | | TT, *Chancelaria de D. Afonso V* , lv. 30, fl. 141<br>TT, *Leitura Nova, Odiana* , lv. 2, fls. 188-189 |
| Royal | 08/02/1475 | | | | | | ● | ● | | TT, *Chancelaria de D. Afonso V* , lv. 30, fl. 173<br>BPE, *Pergaminhos Avulsos* , pasta 7, nº 84<br>TT, *Leitura Nova, Odiana* , lv. 2, fls. 185v-186 |
| Donation | 25/10/1479 | | | | | ● | | ● | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 15 |
| Sales | 21/09/1484 | | | | | ● | | | | TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 1<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 66-70 |
| Sales | 27/05/1491 | | | | ● | | | | | TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 3<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 75-77 |
| Demarcation | 11/02/1492 | | | ● | | | | | ● | TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 4<br>TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 5<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 70-72 e 77-79 |
| Sales | 15/09/1503 | | | | ● | | | | | TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 7<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 88v-90v |
| Royal | 12/04/1519 | | ● | | ● | | | ● | ● | TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 14<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 180-191v |
| Sales | 04/01/1520 | | | | | | | ● | | TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 16<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 1, fls. 17v-18v<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 84-85 |
| Sales | 13/01/1534 | | | | ● | | | ● | | TT, *Convento de Santo Antão de Vale de Infante* , lv. 1, fls. 18v-20v |
| Confirmation | 13/01/1535 | | | | ● | | | | | TT, *Convento de Santo Antão de Vale de Infante* , mç. 2, nº 19<br>TT, *Convento de Santo Antão de Vale de Infante* , lv. 2, fls. 85v-87 |

## A.5 Landscape data in the historical records of each settlement (water system and mills)

| Água das Infantes | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 05/12/1405 | | | | ● | | ● | | | | | BPE, *Convento de São Paulo de Portel* , lv. 1, nº 53, doc. A<br>BPE, *Convento de São Paulo de Portel* , lv. 1, nº 48 |
| Donation | 06/01/1406 | | | | ● | | ● | | | | | BPE, *Convento de São Paulo de Portel* , lv. 1, nº53, doc. B |
| Donation | 14/03/1440 | | | | ● | | | | | | | TT, *Colégio de São Paulo de Portel* , lv. 1, nº 30<br>TT, *Colégio de São Paulo de Portel* , lv. 1, nº 62 |
| Royal | 06/02/1448 | | | | ● | | | | | | | BPE, *Pergaminhos Avulsos* , pasta 6, (*Pergaminhos dos Conventos* ),<br>*Convento de São Paulo de Portel* , nº 17<br>TT, *Leitura Nova* , *Odiana* , lv. 3, fls. 186v-187 |
| Donation | 10/04/1448 | | | | ● | | | | | | | BPE, *Pergaminhos Avulsos* , pasta 6, (*Pergaminhos dos Conventos* ),<br>*Convento de São Paulo de Portel* , nº 17<br>TT, *Leitura Nova* , *Odiana* , lv. 3, fls. 186v-187 |

| Aivado | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 09/09/1406 | | | | | ● | ● | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 100 |
| Donation | 26/09/1406 | | | | | | ● | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 79 |
| Donation | 26/09/1406 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 80 |
| Demarcation | 22/04/1464 | ● | | | ● | | ● | | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 99 |
| Sales | 18/01/1475 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 94-95 |

| Alferrara | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 05/10/1380 | | | | ● | | ● | | | | | BPE, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 2 |
| Donation | 13/03/1381 | | | | | | ● | | | | | BPE, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 9 |
| Possession Instrument | 20/08/1418 | | | | ● | | ● | | | | | TT, M.C.O., O.S./C.P., *Documentos Particulares* (*Antiga Colecçao Especial* ), maço 2, nº 10 |
| Donation | 23/12/1465 | | | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 26 |
| Sales | 11/03/1471 | ● | | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 39 |
| Sales | 14/02/1497 | | | | ● | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 65 |
| Sales | 21/12/1521 | | | | ● | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 76 |
| Sales | 15/12/1529 | | | | ● | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 81-100, fls. 21-21v, 23v-25 |
| Tombo | 07/05/1544 | ● | | | ● | ● | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 81-100 |
| Tombo | 1543-1544 | ● | | ● | ● | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 81-100 |

| Azambujeira | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 05/03/1371 | ● | | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 20 |
| Donation | 05/03/1371 | ● | | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 20 |
| Encoutos | 12/07/1424 | ● | | | ● | | | | | | | TT, *Chancelaria de D. Afonso V* , lv. 31, fl. 135<br>TT, *Chancelaria de D. João II* , lv. 21, fls. 118-119<br>TT, *Leitura Nova, Odiana* , lv. 2, fls. 167v-169v |
| Royal | 27/01/1475 | | ● | | | | | | | | | TT, *Chancelaria de D. Afonso V* , lv. 30, fl. 142<br>TT, *Chancelaria de D. João II* , lv. 21, fl. 117v<br>TT, *Leitura Nova, Odiana* , lv. 2, fls. 188-189 |

| Cela Nova | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 26/11/1451 | | | | | | ● | | | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , maço 2 de pergaminhos, nº 44 |
| Donation | 03/05/1453 | | | | | | ● | | | | | TT, *Convento de Nossa Senhora da Rosa da Caparica* , maço 2 de pergaminhos, nº 39 |

| Junqueira | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Sales | 01/07/1463 | | | | | | ● | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 44 |
| Sales | 27/07/1473 | | | | | | | | ● | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 43 |
| Sales | 09/05/1474 | | | | | | | | ● | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 47 |
| Sales | 06/09/1474 | ● | | | | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 48 |
| Sales | 06/09/1475 | ● | | | | | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 51 |
| Sesmaria | 18/10/1480 | | | | | ● | | | | | | TT, *Convento de Nossa Senhora da Consolação de Alferrara,* mc. 3, nº 57 |

| Montemuro | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 25/02/1415 | | | | | | ● | | | | | BNP, *Coleção de Pergaminhos* , *Série Vermelha* , *PGS 37V*<br>TT, *Chancelaria de D. Duarte* , lv. 1, fls. 104-105<br>TT, *Leitura Nova* , *Odiana* , lv. 6, fls. 159v-161 |
| Donation | 06/04/1415 | | | | | | ● | | | | | BNP, Coleção de Pergaminhos, Série Roxa, PGS 3R<br>ADE, Arquivo Municipal de Évora, lv. nº 67, fls. 69-69v<br>ADE, Arquivo Municipal de Évora, lv. nº 145, fls. 122v-123<br>ADE, Arquivo Municipal de Évora, lv. nº 146, fls. 82v-83v<br>TT, Chancelaria de D. Duarte, lv. 1, fls. 104-105<br>TT, Leitura Nova, Odiana, lv. 6, fls. 159v-161 |
| Donation | 30/06/1421 | ● | | | | | | | | | | ADE, Arquivo Municipal de Évora, lv. nº 67, fls. 67v-68v<br>ADE, Arquivo Municipal de Évora, lv. nº 145, fls. 121-122<br>TT, Chancelaria de D. Duarte, lv. 1, fls. 175-175v<br>TT, Leitura Nova, Odiana, lv. 6, fls. 225-225 |
| Sales | 28/02/1429 | | ● | | | | | | ● | ● | | BNP, Coleção de Pergaminhos, Série Azul (no number) |
| Donation | 20/12/1432 | | ● | | | | | | ● | | | BN, Reservados, Mss. 141, doc. nº 31<br>TT, *Chancelaria de D. Duarte* , lv. 1, fls. 104-105<br>TT, *Leitura Nova* , *Odiana* , lv. 6, fls. 159v-161<br>BPE, *Convento de Santa Catarina de Sena de Évora* , lv. 86, nº 1 |
| Sales | 13/07/1433 | | ● | | | | | | | | | BPE, *Convento de Santa Catarina de Sena de Évora* , lv. 86, nº 1 |
| Donation | 30/08/1434 | | | | | | | | ● | | | BNP, Coleção de Pergaminhos, Série Vermelha, PGS 46V<br>TT, Chancelaria de D. Duarte, lv. 1, fls. 104-105<br>TT, Leitura Nova, Odiana, lv. 6, fls. 159v-161<br>BPE, Convento de Santa Catarina de Sena de Évora, lv. 86, nº 1 |
| Demarcation | 20/02/1450 | | ● | | | | | | | | | BNP, Coleção de Pergaminhos, Série Roxa, no nº |
| Sentence | 24/12/1483 | | | | | ● | | | | | | BPE, *Convento de Santa Catarina de Sena de Évora* , lv. 86, nº 28 |
| Tombo | 12/02/1536 | | ● | | | | | | ● | | | TT, *Núcleo Antigo* , nº 286 |

| Montes Claros | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Sesmaria | 23/05/1421 | | | | ● | | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Donation | 02/10/1425 | | | | ● | ● | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Protection | 09/12/1425 | | | | | ● | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº3 [9]<br>BPE, *Convento de S. Paulo de Borba* , lv. 7, nº1 [4] |
| Royal | 22/01/1427 | | | | | ● | | | | | | TT, *Chancelaria de D. João I* , lv. 4, fls. 108v-109 |
| Donation | 21/02/1441 | | | | | ● | | | | | | BPE, *Convento de S. Paulo de Borba* , lv. 7, nº11 [18] |

| Rio Mourinho | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 01/06/1369 | | | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 20 |
| Donation | 14/10/1377 | | | | ● | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 57 |
| Donation | 08/12/1401 | | ● | | ● | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 51 |
| Sales | 07/08/1430 | | ● | | | | | | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 32 |
| Sales | 26/08/1432 | | ● | | | | | | ● | | ● | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 65 |
| License | 20/02/1434 | | ● | | | | | | ● | | ● | TT, *Chancelaria de D. Afonso V* , lv. 19, fl. 38v<br>TT, *Leitura Nova* , *Odiana* , lv. 4, fls. 250-250v |
| Royal | 30/01/1436 | | | | | | | | ● | | ● | TT, *Chancelaria de D. Duarte* , lv. 1, fls. 213v-214<br>TT, *Leitura Nova* , *Odiana* , lv. 6, fls. 229v-230v |
| Sentence | 29/01/1439 | | | | ● | | | | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 10 |
| Donation | 05/08/1445 | | | | ● | | ● | | | | | TT, *Colégio de São Paulo de Coimbra* , lv. 2, nº 48<br>TT, *Colégio de São Paulo de Coimbra* , lv. 1, nº 42 |
| Royal | 27/10/1449 | | ● | | | | | | ● | | ● | TT, *Leitura Nova* , *Odiana* , lv. 2, fl. 176 |
| Royal | 17/01/1457 | | | | | | | | ● | | | TT, *Leitura Nova* , *Odiana* , lv. 2, fls. 213-213v |
| Exchange | 30/01/1468 | ● | ● | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 35 |
| Sales | 16/09/1469 | | | ● | ● | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 19 |
| Sales | 25/09/1469 | | | ● | ● | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , livro 2, nº 61 |
| Demarcation | 02/09/1475 | | ● | | ● | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 2<br>TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 42 |
| Confirmation | 07/09/1478 | | | | | | | | ● | ● | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 68K |
| Sentence | 05/02/1483 | | | | | | | | ● | ● | ● | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 3<br>TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 68J |
| Sales | 31/01/1489 | | ● | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 59 |
| Sales | 04/02/1529 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 23 |
| Emphyteusis | 21/08/1534 | | | | ● | | ● | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 7 |

| Rio Torto | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 03/06/1380 | | | | | | ● | | | | | ADPTG, *Convento de S. Paulo de Elvas* , CVSPELV/TB nº28 - cx.10<br>(*Tombo das capelas e títulos de propriedades* 1664-1781), fls. 17-17v |
| Composition | 19/10/1481 | | ● | | | | ● | | ● | | | ADPTG, *Convento de S. Paulo de Elvas* , *Colecção de Pergaminhos* , nº 6 |

| São Julião de Alenquer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Emphyteusis | 26/10/1480 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 101 |
| Sales | 09/02/1484 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 104 |
| Emphyteusis | 16/01/1485 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 108 |
| Sesmaria | 08/05/1502 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 2, nº 105 |
| Sales | 30/01/1510 | ● | | | | | | | | | | TT, *Colégio de S. Paulo de Coimbra* , lv. 1, nº 81A |

| Serpa | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Sales | 05/11/1494 | ● | ● | | ● | | | | | | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 13 |
| Donation | 04/04/1496 | | ● | | | | | | | | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 4 |
| Royal | 27/02/1501 | | ● | | | | | | ● | ● | | ADB, *Convento de São Paulo de Serpa* , lv. 1, doc. nº 7 |

| Serra de Ossa | | | | | | | | | | | | |
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| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Donation | 09/03/1366 | | | | | | | ● | | ● | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 40, macete 1 (Pergaminhos), nº 36<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 8, fls. 34v-35 |
| Sesmaria | 03/12/1385 | ● | | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 36, nº 115 |
| Sesmaria | 22/05/1387 | ● | | | ● | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 8, fl. 37 |
| Sesmaria | 22/05/1390 | | ● | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 10 |
| Sesmaria | 13/11/1390 | | | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 35, nº 27 |
| Sesmaria | 18/05/1393 | ● | | | ● | | ● | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 40, macete 1 (Pergaminhos), nº 31 |
| Donation | 19/09/1399 | | | | | | | | | ● | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 26 |
| Donation | 06/07/1404 | | | | | | ● | | | | | BPE, *Pergaminhos Avulso* , pasta 15 (*Pergaminhos Avulsos* , 80), nº 68 |
| Sesmaria | 10/09/1425 | ● | | | ● | | ● | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº10 |
| License | 23/02/1435 | | | | | | | | | ● | | TT, *Chancelaria de D. Afonso V* , lv. 19, fl. 84<br>TT, *Chancelaria de D. Afonso V* , lv. 34, fl. 44<br>TT, *Leitura Nova* , *Odiana* , lv. 4, fls. 232-232v<br>TT, *Leitura Nova* , *Odiana* , lv. 3, fls. 258v-259 |
| Sesmaria | 02/07/1441 | | | | ● | ● | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 40, macete 1 (Pergaminhos), nº 32 |
| Sentence | 27/12/1450 | | ● | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 39, nº 20<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 9, fls. 25-27 |
| Composition | 10/04/1455 | | ● | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 36, nº 3<br>BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 40, macete 2-3, nº 95<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 9, fls. 23v-25 |
| Royal | 12/12/1462 | | | | | | | | | ● | | TT, *Chancelaria de D. Afonso V* , lv. 1, fl. 128 |
| Sesmaria | 03/03/1463 | ● | | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 28 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sales | 08/04/1467 | ● | | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 7<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 8, fls. 49-50 |
| Sales | 02/11/1468 | | | | ● | ● | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 39, nº 24 |
| Royal | 27/02/1469 | | | | | | | | | ● | | TT, *Chancelaria de D. Afonso V* , lv. 31, fl. 1<br>TT, *Leitura Nova, Odiana* , lv. 3, fls. 8v-9v |
| Possession Instrument | 14/03/1469 | | | | | | | | | ● | | BPE, *Pergaminhos Avulsos,* pasta 15 (*Pergaminhos Avulsos* , *80* ), nº 29 |
| Donation | 22/01/1470 | ● | | | ● | | ● | | | | | TT, *Documentação de Conventos por identificar* , caixa 19, Pergaminhos, no nº |
| Royal | 28/03/1482 | | | ● | | | | | | | | BPE, *Pergaminhos Avulsos,* pasta 7, nº 87 |
| Sentence | 19/11/1493 | | ● | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 44, nº 30 |
| Composition | 14/05/1522 | | | | ● | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. C7<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 9, fls. 27v-28v |
| Sales | 23/10/1523 | | ● | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa* , lv. 40, macete 1. nº 34<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 8, fls. 69-70v |

**Vale Formoso**

| Document typology | Date | Brook | Stream | River | Water | Reservoir | Spring | Well | Mill | Watermill | Trip hammer mill | Documental Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Donation | 08/04/1401 | | | | | | | | | | ● | TT, *Convento de Nossa Senhora da Ajuda de Tavira* , mç. Único, nº 2 |
| Donation | 19/12/1406 | | | | | | | | | | ● | TT, *Convento de Nossa Senhora da Ajuda de Tavira* , mç. único, nº 5, fls. 1v-2 |

**Valbom**

| Document typology | Date | Brook | Stream | River | Water | Reservoir | Spring | Well | Mill | Watermill | Trip hammer mill | Documental Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Donation | 08/04/1439 | | ● | | | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D9<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. A4<br>TT, *Chancelaria de D. Afonso V* , lv. 19, fls. 59-59v<br>TT, *Leitura Nova* , *Odiana* , lv. 4, fls. 229v-230v<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 110v-111 |
| Donation | 05/07/1456 | | ● | | | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D7<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 113v-114 |
| Sales | 21/12/1479 | | ● | | | | | | ● | ● | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. B6<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 1, nº 95 |
| Sales | 03/01/1482 | | ● | | ● | | | | ● | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G9 |
| Sales | 01/11/1493 | | ● | | | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. E10<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 108v-109 |
| Royal | 14/12/1493 | | ● | | | | | | ● | ● | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G10 |
| Royal | 23/02/1503 | | | | ● | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. H1, fls. 4-11 |
| Demarcation | 15/11/1505 | ● | | | | ● | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 2, nº 64 |
| Emphyteusis | 11/10/1516 | | ● | | | | | | ● | ● | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. G8<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 1, nº 93 |
| Sales | 27/09/1524 | | ● | | | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. B7<br>BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 6, nº 78, fls. 114-115 |
| Sentence | 27/01/1529 | | ● | | | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa* , lv. 7, doc. D2, nº 2 |

| Vale Abraão | | | | | | | | | | | | |
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| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Sales | 04/02/1479 | | ● | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 39, nº 21 |
| Royal | 10/03/1517 | | | | ● | | | | | | | BPE, *Cód. CLXIX/10*, nº 2 |

| Vale da Infante | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Document typology** | **Date** | **Brook** | **Stream** | **River** | **Water** | **Reservoir** | **Spring** | **Well** | **Mill** | **Watermill** | **Trip hammer mill** | **Documental Source** |
| | | | | | | | | | | | | |
| Sesmaria | 01/05/1379 | | | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 35, nº6<br>BPE, *Convento de Nossa Senhora de Amparo de Vila Viçosa*, lv. 8, fls 36v-37 |
| Sesmaria | 17/03/1437 | ● | | | | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 9 |
| Encoutos | 17/03/1437 | ● | | | ● | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 9 (2) |
| Possession Instrument | 23/04/1460 | | | | ● | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 36, nº 1 |
| Sales | 10/02/1462 | | ● | | | | ● | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. A7<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 36v-37v |
| Testament | 18/10/1462 | | ● | | ● | ● | ● | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. B5<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 32v-33v |
| Exchange | 27/10/1462 | | ● | | | | | | | | | BPE, *Convento de S. Paulo da Serra de Ossa*, lv. 39, nº 9<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 33v-35 |
| Sales | 01/03/1463 | | ● | | | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, lv. 1, nº 16<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 51v-52v |
| Sales | 28/03/1463 | | ● | | | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. F3<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 50-51 |
| Sales | 08/05/1463 | | ● | | | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. F4<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 40-41 |
| Royal | 19/01/1465 | | | | | | ● | | | | | BPE, *Colecção Especial,* cx. 35, nº 34 |
| Sales | 17/07/1465 | ● | | | | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mc. 2, nº 35<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 64-66 |
| Possession Instrument | 18/04/1470 | | | | ● | | | | | | | BPE, *Convento de Nossa Senhora do Amparo de Vila Viçosa*, lv. 7, doc. F7 |
| Sales | 07/08/1470 | | ● | | | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 37v-38v |
| Sentence | 11/07/1471 | | | | ● | | ● | | | | | BPE, *Pergaminhos Avulsos*, pasta 9 (*Pergaminhos Vários, 50*), nº26, doc. 1<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 95-96 |
| Sales | 11/04/1472 | ● | ● | | | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 1, nº 18<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 53v-55v |
| Sales | 21/09/1484 | ● | | | | | ● | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 1<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 66-70 |
| Sales | 30/12/1484 | ● | | | | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 2<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 63-63v |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Demarcation | 11/02/1492 | • | | | • | | • | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 4<br>TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 5<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 70-72 e 77-79 |
| Sales | 15/09/1503 | | | | | | • | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 7<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 88v-90v |
| Demarcation | 15/12/1512 | • | | | • | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 12 |
| Sales | 05/02/1518 | | | | • | | | | | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 13<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 79-80v |
| Royal | 12/04/1519 | • | | | • | | | | • | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 14<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 180-191v |
| Confirmation | 13/01/1535 | | | | | | | | • | | | TT, *Convento de Santo Antão de Vale de Infante*, mç. 2, nº 19<br>TT, *Convento de Santo Antão de Vale de Infante*, lv. 2, fls. 85v-87 |

## A.6 Eremitical settlements and soil typologies[420]

| | Hermitage Designation | Soil Type |
|---|---|---|
| 1 | **Serra de Ossa** | Lithosols of Sub-humid and Semi-arid climates |
| 2 | **Felgueira** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 3 | **Azambujeira** | Calcareous soils |
| 4 | **Vale da Infante** | Lithosols of Sub-humid and Semi-arid climates |
| 5 | **Arraiolos** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 6 | **Cabeço de Vide** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 7 | **São Domingos de Brunheda** | Regosols of Sub-humid and Semi-arid climates |
| 8 | **Mata de Serpa** | Dark Reddish-Brown "Barros" Calcareous |
| 9 | **Alferrara** | Podzolized |
| 10 | **Rio Torto** | Red-Yellow Mediterranean Soils from Non-Calcareous Rocks |
| 11 | **Vale de Flores** | Non-Humic Litholic Soils |
| 12 | **Penha Longa** | Red Calcareous Soils |
| 13 | **Vale Abraão** | Lithosols of Sub-humid and Semi-arid climates |
| 14 | **São Pedro de Bencatel** | Lithosols of Sub-humid and Semi-arid climates |
| 15 | **Santa Maria de Monte Virgem** | Lithosols of Sub-humid and Semi-arid climates |
| 16 | **São Jerónimo do Mato** | Red Non-Humic Litholic Soils |
| 17 | **Vale Formoso** | Lithosols of Sub-humid and Semi-arid climates |
| 18 | **Água das Infantes** | Red-Yellow Mediterranean Soils from Non-Calcareous Rocks |
| 19 | **Santa Margarida do Aivado** | Non-Humic Litholic Soils |
| 20 | **Montes Claros** | Red-Yellow Mediterranean Soils from Calcareous Rocks |
| 21 | **Alentejo, termo de Óbidos** | Podzolized |
| 22 | **Ameal do Gorjão** | Lithosols of Sub-humid and Semi-arid climates |
| 23 | **São Brissos de Xarrama** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 24 | **Ervedeira** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 25 | **Flor da Rosa** | Non-Humic Litholic Soils |
| 26 | **Cela Nova / Barriga** | Regosols of Sub-humid and Semi-arid climates |
| 27 | **Montemuro** | Non-Humic Litholic Soils |
| 28 | **Olho Marinho** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 29 | **Santa Maria de Azambuja** | Non-Humic Litholic Soils |
| 30 | **Valbom** | Lithosols of Sub-humid and Semi-arid climates |
| 31 | **Mendoliva** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 32 | **Rio Mourinho** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 33 | **Zarco** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 34 | **Amieira (Estremoz)** | Red-Yellow Mediterranean Soils from Calcareous Rocks |
| 35 | **Franqueira** | Humic Litholic Soils of Mountainous climates |
| 36 | **Espadaneira** | Red-Yellow Mediterranean Soils from Non-Calcareous Rocks |
| 37 | **Santa Catarina de Vale de Mourol** | Brown Calcareous Soils |
| 38 | **Viana do Alentejo** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 39 | **Santa Maria do Espinheiro** | Non-Humic Litholic Soils |
| 40 | **Junqueira** | Non-Humic Litholic Soils |
| 41 | **Amieira (Figueiró)** | Lithosols of Sub-humid and Semi-arid climates |
| 42 | **Santa Maria de Sertã** | Lithosols of Sub-humid and Semi-arid climates |
| 43 | **São Julião de Alenquer** | Red Calcareous Soils |
| 44 | **Alcácer do Sal** | Halomorphic Soils |
| 45 | **Pó** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 46 | **Asseiceira** | Lithosols of Sub-humid and Semi-arid climates |
| 47 | **Alcanhões** | Brown Calcareous Soils |
| 48 | **Santa Maria da Pena** | Red Calcareous Soils |
| 49 | **Moutelas, Vale de Ramada** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 50 | **Vale do Bispo** | Brown Mediterranean Soils from Non-Calcareous Rocks |
| 51 | **Serpa, Nossa Senhora da Consolação** | Dark Reddish-Brown "Barros" Calcareous |
| 52 | **São Miguel o Anjo** | Brown Mediterranean Soils from Non-Para-Barros |

[420] Data about the soil's classification in Portugal have been obtained from: Cardoso (1965)

**Appendix B**

## B.1 Extracts from the constitutions of the eremitical congregation of São Paulo da Serra de Ossa, which include data about the spatial organisation[421]

| **Chapter 1** |
| --- |
| *Do Officio diuino, das sete horas Canonicas: & das ceremonias de que hão de usar no culto diuino* |
| "Auendo cellas na casa, desse aos sacerdotes por suas antiguidades(…)" |

| **Chapter 6** |
| --- |
| *Dos exercícios corporaes, & a que hora se farão* |
| *"*Conformandonos com a sobredita Bulla da confirmação de nossa ordem: Mandamos que se guarde o que ella ordena acerca dos exercícios corporaes. Primeiramente, Nenhus religiosos iram fazer os exercícios corporaes fora das cercas de nossas casas: mas pera euitar a ociosidade inimiga da alma, em qualquer serviço da casa, nos pumares, laranjais, hortas, & outras cousas que estão da cerca pera dentro, farão tudo o que os prelados lhes mandarem, cultiuandoas, & grangeandoas por suas maõs". |

| **Chapter 7** |
| --- |
| *Dos jejus da Igreja sob pena de pecado mortal, & dos particulares da da ordem, & de outras cousas de comer em certos dias defesos* |
| "Nos dias de jejum da Igreja, he peccado mortal comer ouos, ou leyte, ou queijo, ou manteiga, ou outras cousas de leyte, tirando nos Bispados onde o Bispo declarar que nam he isto pecado mortal". |

| **Chapter 8** |
| --- |
| *Doscomer, & da liçam da mesa, & bençam, & graças* |
| *"*Todos os nossos religiosos, de qualquer qualidade que sejam, comam no Refectorio, tirando quando algua ora pera agasalhar algum hospede secular, ou religioso doutra ordem, for necessário comer em outro lugar. Nas cidades & villas, onde temos casa da ordem, nenhum religioso comerá, nem dormirà fora della, sem licença particular do Prouincial, ou do seu Reytor, a qual não daram sem causa justa. Quem fizer o contrario, comerá três dias em terra sem vinho". |

[421] From: Liuro da Regra de Sancto Agostinho e das Constituições perpetuas dos religiosos pobres hermitãos da serra Dossa, da ordem de S. Paulo primeiro hermitão. Feitas & confirmadas com autoridade Apostolica. [Lisboa?]: por Manoel de Lyra, 1594. Available also online at Biblioteca Nacional Digital: http://purl.pt/14777

| **Chapter 9** |
| --- |
| *Do Silencio, & dos lugares, & tempos onde se há de guardar* |
| "A Diuina Escriptura nos auisa, que no muito falar não faltarão pecados, & que a religião onde se não refrea a lingoa, he sem proveito, & que em poder da mesma lingoa estão postas nossa vida & morte. Por tanto conforme a isto, & ao direito Canonico, mandamos a todos os nossos religiosos, que em todo o tempo tenhão silencio na Igreja, & no choro, excepto quando estão confessando, no dormitório, na mesa do Refectorio, & na crasta, onde estiuerem enterrados defunctos, & nas cellas, & na sanchristia, atè acabadas as missas. Sendo necessario em algum destes lugares falar, seja có muito breues palavras, bayxas, & imperfeitas. Na mesa só o prelado que nella presidir, poderá falar, pera correição de alguas cousas, & pera emendar o que lee a mesa, vendo que erra". |
| "Nos dormitórios do Conuento, & da casa de nouiços, aja toda a noite lâmpada acesa nelles. Nenhum poderá entrar com o outro na cella sem licença do prelado". |

| **Chapter 10** |
| --- |
| *Dos enfermos, & das enfermarias* |
| "Mandamos (& da parte do Senhor obrigamos) aos prelados que prouejam as enfermarias das cousas necessárias pera a cura dos enfermos, conuem a saber, camas, lançoes, camisas, carapuças, toalhas de mesa, & outras miudezas necessárias pera o serviço dos enfermos. Tambem se prouejam de açucar rosado, & açucar branco, & ameyxas passadas, & alguas agoas estiladas, & as cousas necessarias pera o comer dos enfermos, de modo que nenhua cousa lhes falte: & auendo de auer falta, antes seja nas cousas necessarias aos sãos, que nas dos enfermos". |
| "Nas casas onde ouuer ao menos oyto pobres, faça o Rector hum enfermeyro, o qual tenha particular cuydado de seruir com muita charidade a cada hu dos enfermos, & aos velhos da casa, & procurarlhes todo o necessário". |

| **Chapter 12** |
| --- |
| *Da charidade, & dos hospedes, & pessoas q ve a nossas casas: & que se fechem de noite as portas da clausura* |
| "Conformandonos com os Motus próprios que os Papas passarão, em que defendem com penna de excomunhão ipso facto incurrenda, a todas as molheres, q nam entrem no recolhimento, & oficinas dos Mosteiros dos religiosos: aos prelados que as consentirem, suspendem dos officios. Mandamos a todos os religiosos de nossa ordem, assi prelados, como subditos, em virtude do Spiritusancto, e da sancta obediência professa com preceyto formal, que não co sintão, nem deixem entrar molher algua em nossos recolhimentos, & oficinas de nossas casas, nem em nossos pomares & hortas, nem fontes. Poderão somete entrar a apanhar azeitona, nas cercas onde ouuer outra diuisam de parede, ou valado, antre os religiosos, & os oliuais em que se ouuer de apanhar: a qual estará fechada, de modo que a esse tempo nam possam la entrar os religiosos. Nas nossas igrejas poderã entrar molheres a ouuir missa, pregação, & orar, & receber sacramentos da confissam e comunhão. Na capella mor somente a comungar entrem (inda que ahi esté o choro) acabádo de comungar sayaose logo. Na sanchristia njunca poderão entrar. Seguindo a declaração que o Papa Pio V deu aos sobreditos Motus próprios: permitimos, fazendo-se em nossas casas procissam solene polla crasta, com os homes que andao nella, poderão também entrar molheres, & acabando a procissam sairsehão logo todas. Mandamos sobpena de suspensam do officio por huma nno, ipso facto incurrenda, a todos os Reitores, que tenhão os religiosos de noite fechados em clausura, & que as chaues de todas as portas que vam pera fora, estejam na cella do Reitor, de modo que de noite nam possam os Religiosos sair fora da clausura, nem yr aos pomares". |

| **Chapter 13** |
| --- |
| *Do recebimento dos Noviços, em que casas, & como os receberão: & os impedimentos* |
| *"*Mandamos que não se recebão nouiços em mais casas q na serra Dossa, & na de Val de Iffante, nas quais se criarão, & professarão os q forem aptos". |

| **Chapter 20** |
| --- |
| *Do Capitulo Provincial, quando & como se celebrará* |
| "Mandamos que aja hum Capitulo Prouincial no meo dos três anos, por dia de todos os Sanctos, o qual se celebrará na Serra Dossa, & em Val de Iffante, & no mosteiro de Valbom: & nas ordenações que fizerem em cada hum deles poram o lugar onde se há de celebrar o seguinte Capitulo géral, pera saberem os Capitulares a qual casa hão de yr". |

| **Chapter 22** |
| --- |
| *Do officio do Prouincial, & de seu companheiro Escrivão da Ordem* |
| "O escriuão seruirá ao Prouincial de escreuer o q lhe mandar, & os liuros, assi das visitações q faze por as casas, & os das ordenações q se faze em cada hu dos Capitulos, como outras cousas necessárias ao géral governo de toda nossa ordem: & a chaue terá sempre o Prouincial". |
| "Ordenamos q no officio de Prouincial aja dous sellos, hu grade, no qual esteja isculpida a image de nosso Padre S. Paulo primeiro hermitão, com túnica, manto, & capello, & em hua mão o Rosario, & na outra hu cajado, & hua letra por derredor. Q diga, Louuado seja Iesu X po. Outro pequeno cõ as cinco chagas, & a cruz encima, & hua letra por derredor que diga, Orde de S. Paulo primeiro hermitão: do primeiro sello vsará nas cousas de substancia como sam confirmações de Rectores, licenças para ordes, cartas de irmandade, licenças, & outras cousas pera fora do Reino. Do segundo sello vsará nas cousas de menos substancia, & commuas. Cada hua das casas de nossa ordem teraa sello particular, em que esteja esculpida a imagem da inuocaçam da casa, & por derredor hua letra que diga o nome da casa, pera se conhecer de que casa he, do qual vsará cada hua nas cousas que hão de fazer fé, como he a patente que a voz companheito leua a Capitulo, & outras cousas que requerem autoridade". |

| **Chapter 27** |
| --- |
| *Da eleiçãm, & officio do presidente* |
| "O officio do presidente he ajudar o Rector no temporal da casa, no adubio & repayro das propriedades, & das oficinas della, & olhar pelos religiosos, & dar penitencia aos que em sua presença, & ausencia do Rector cometem defeiros, inda que esteja o Rector no conuento, & olhar os officiaes como fazem seus officios, tirando o mestre de nouiços". |

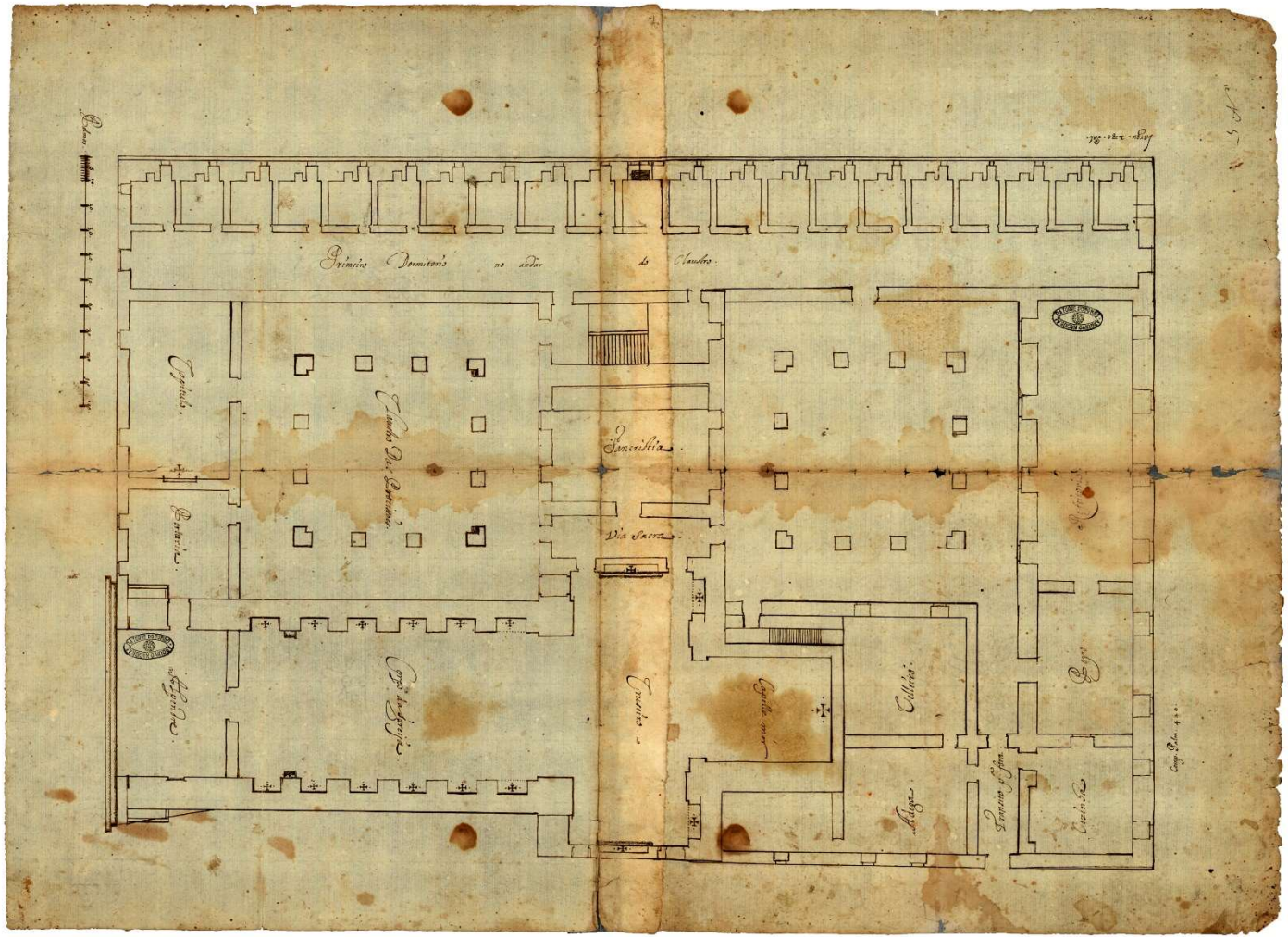
## B.2 Monasteries and number of community members in 1573-1578.

| Name | Nº members | Additional info |
|---|---|---|
| | | |
| Santa Cruz de Rio Mourinho | 6 | |
| Nossa Senhora da Consolação de Alferrara | 5[422] | |
| Santa Catarina de Montemuro | 5 | |
| Santa Margarida do Aivado | 7 | |
| São Paulo da Serra de Ossa | 20 | 16 professed + 4 novices |
| Nossa Senhora do Amparo de Vila Viçosa | 7 | |
| Nossa Senhora do Socorro de Portel | 6 | |
| Nossa Senhora da Luz de Montes Claros | 5 | |
| Nossa Senhora dos Remédios de Elvas | 4 | |
| Nossa Senhora da Consolação de Serpa | 3 | |
| Nossa Senhora da Rosa da Caparica | 4[423] | |
| Nossa Senhora da Ajuda de São Marcos de Tavira | 4 | |
| São Julião de Alenquer | 4 | |
| Santo António do Vale da Infante | 20 | 14 professed + 6 novices |
| Santo Onofre do Vale de Abraão | 7 | |
| Junqueira | 4 | |
| Azambujeira | 5 | |

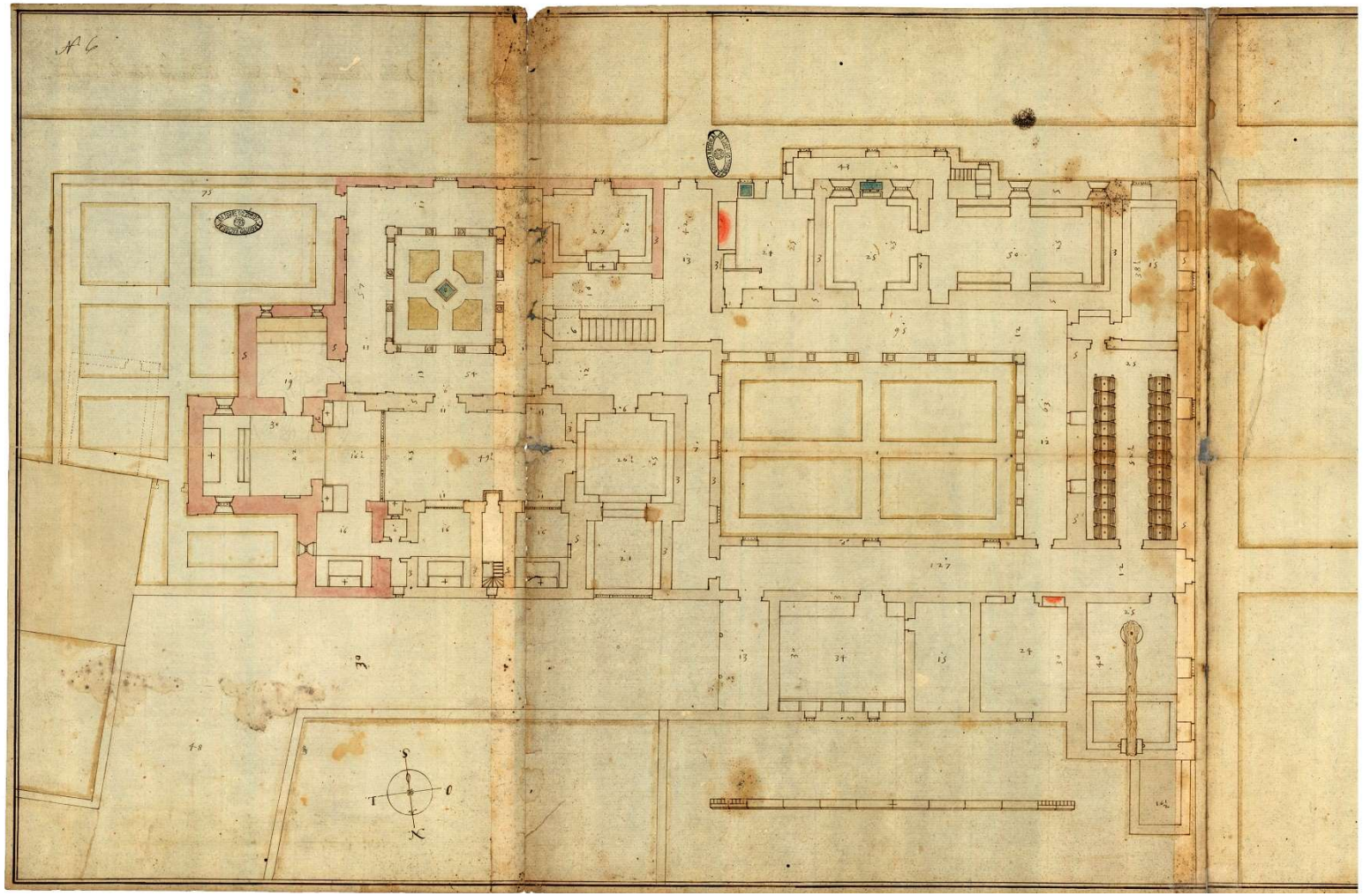
[422] According to Fr. Nicolau de Oliveira «Livro das Grandezas» de Lx. P.163, in the monastery lived previously 25 religious, and in 1804 just 9 to 11 religious.

[423] The information is confirmed by the document "Vesitação da prouemcia de nosa Senhora da Rossa" of 1527: «E ha na dita casa tres proves e huum crerigo com eles que lhes diz misa e huum deles tem cargo de maioral dos outros os quaees vivem d'esmollas e tem seu apousemtamemto e casas pegadas com a dita igreja e a redor dellas huma vinha gramde com huum pequeno pumar». In: TT, *M.C.O.*, *O.S./C.P.*, livro 177, fls. 12v-13v. The document has been Published in: Rui Miguel Costa Pinto - "A Igreja de Santiago de Almada, alguns contributos para o seu estudo", *As ordens militares e as ordens de cavalaria na construção do mundo ocidental: Encontro sobre Ordens Militares 4*, 2002, Palmela, Portugal, ISBN 9727725287, pp. 951-980, 2005.

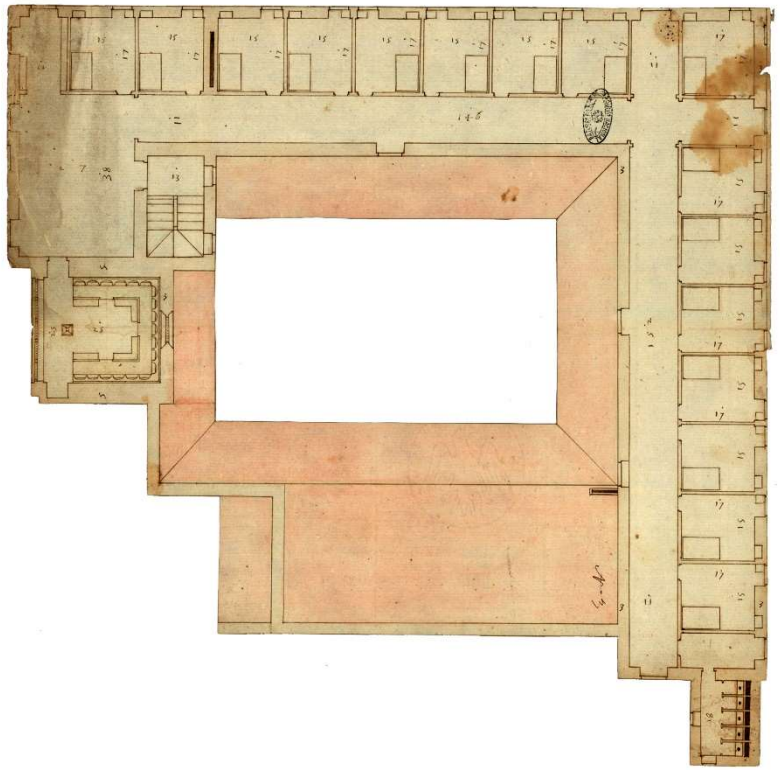
## B.3 Technical drawings of the monastery of Nossa Senhora da Rosa da Caparica



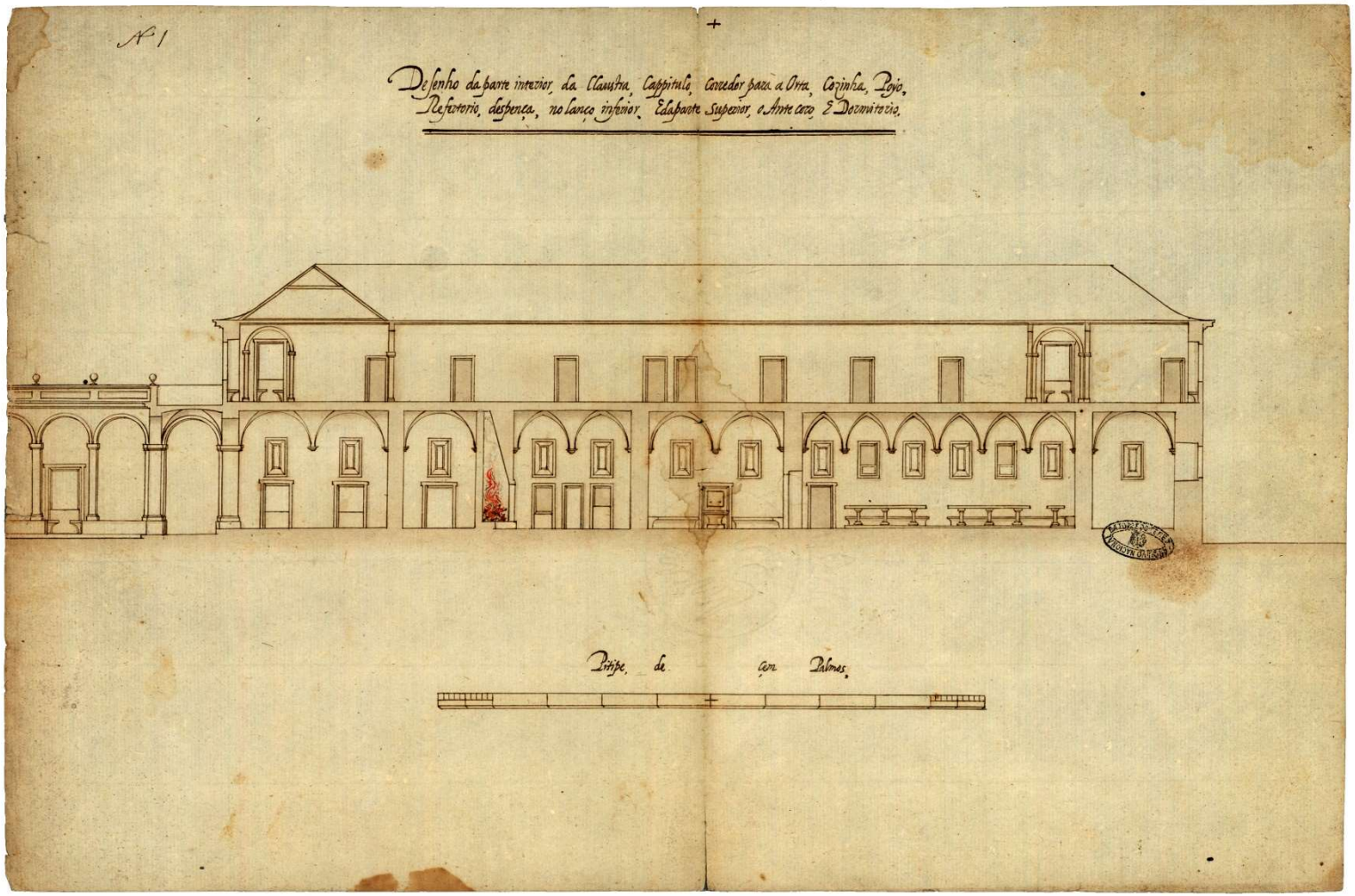

Plan of the Monastery (nº 5). In: TT, *Mosteiro do Santissimo Sacramento de Lisboa*, mç 11, nº 6, fl. 5



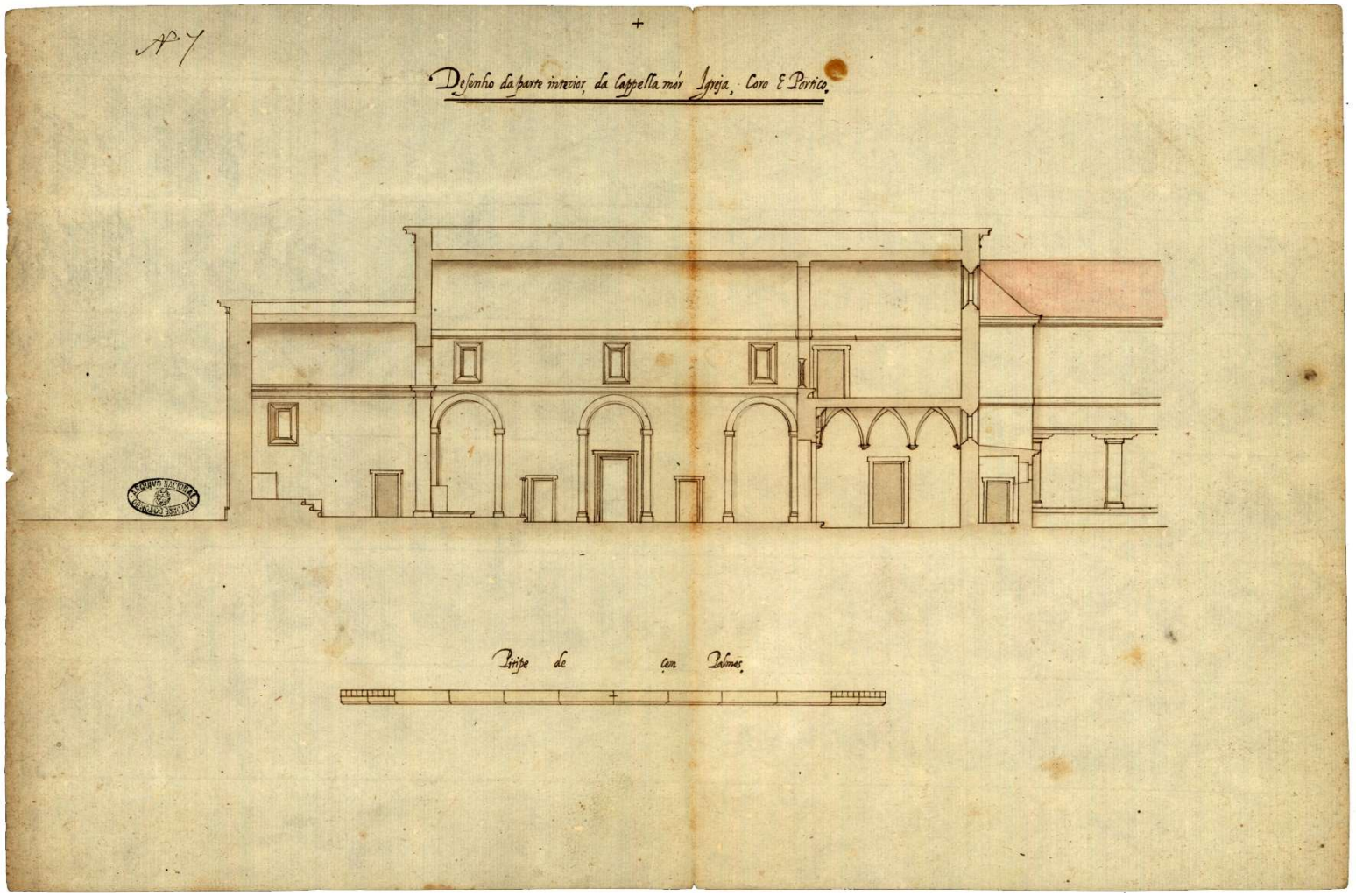
Plan of the main floor of the monastery (nº 6). In: TT, *Mosteiro do Santissimo Sacramento de Lisboa*, mç 11, nº 6, fl. 6



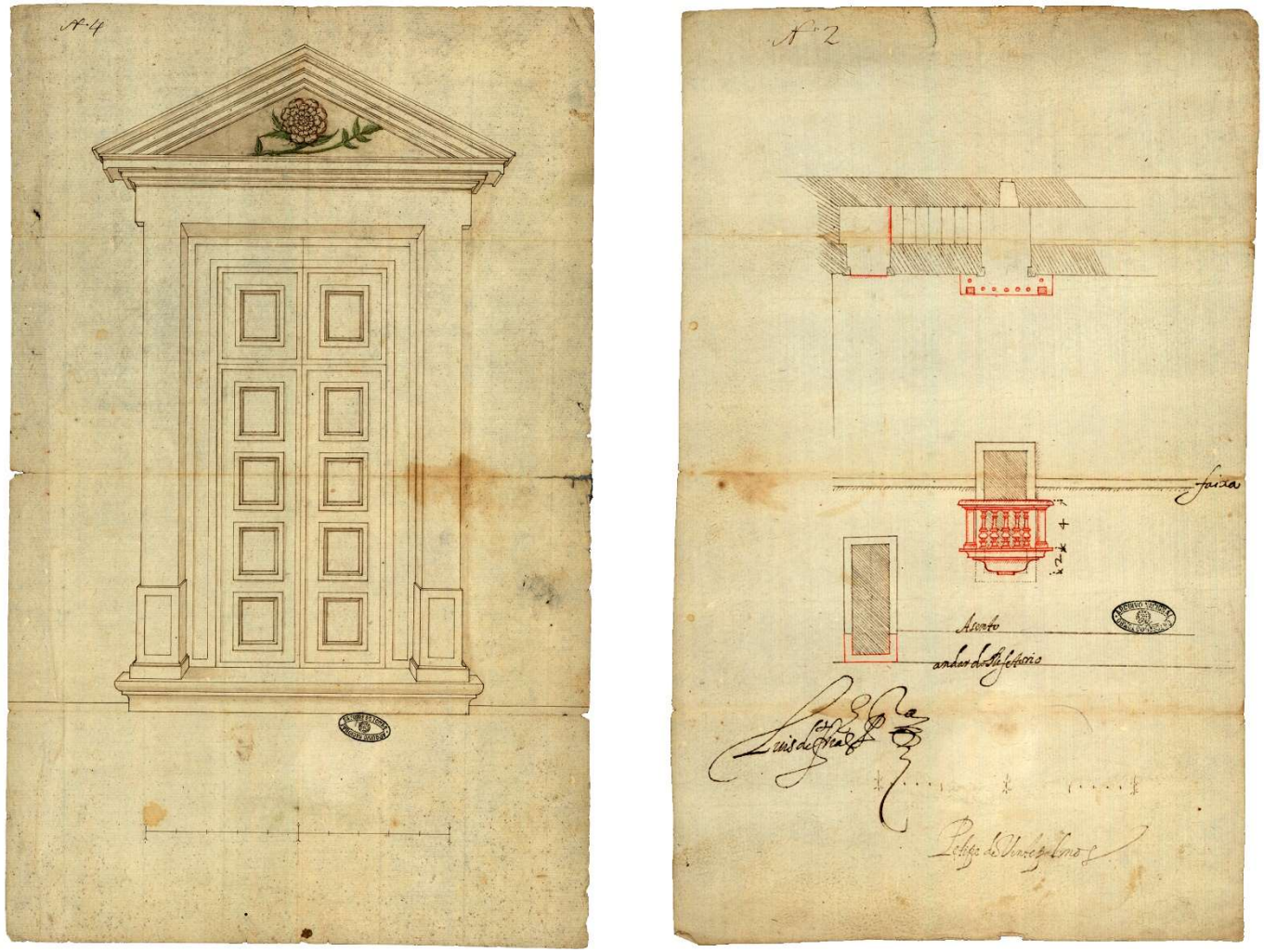
Plan of the first floor of the monastery (nº 3). In: TT, *Mosteiro do Santissimo Sacramento de Lisboa*, mç 11, nº 6, fl. 3




Longitudinal section of the monastery (nº 1). In: TT, *Mosteiro do Santissimo Sacramento de Lisboa*, mç 11, nº 6, fl. 1



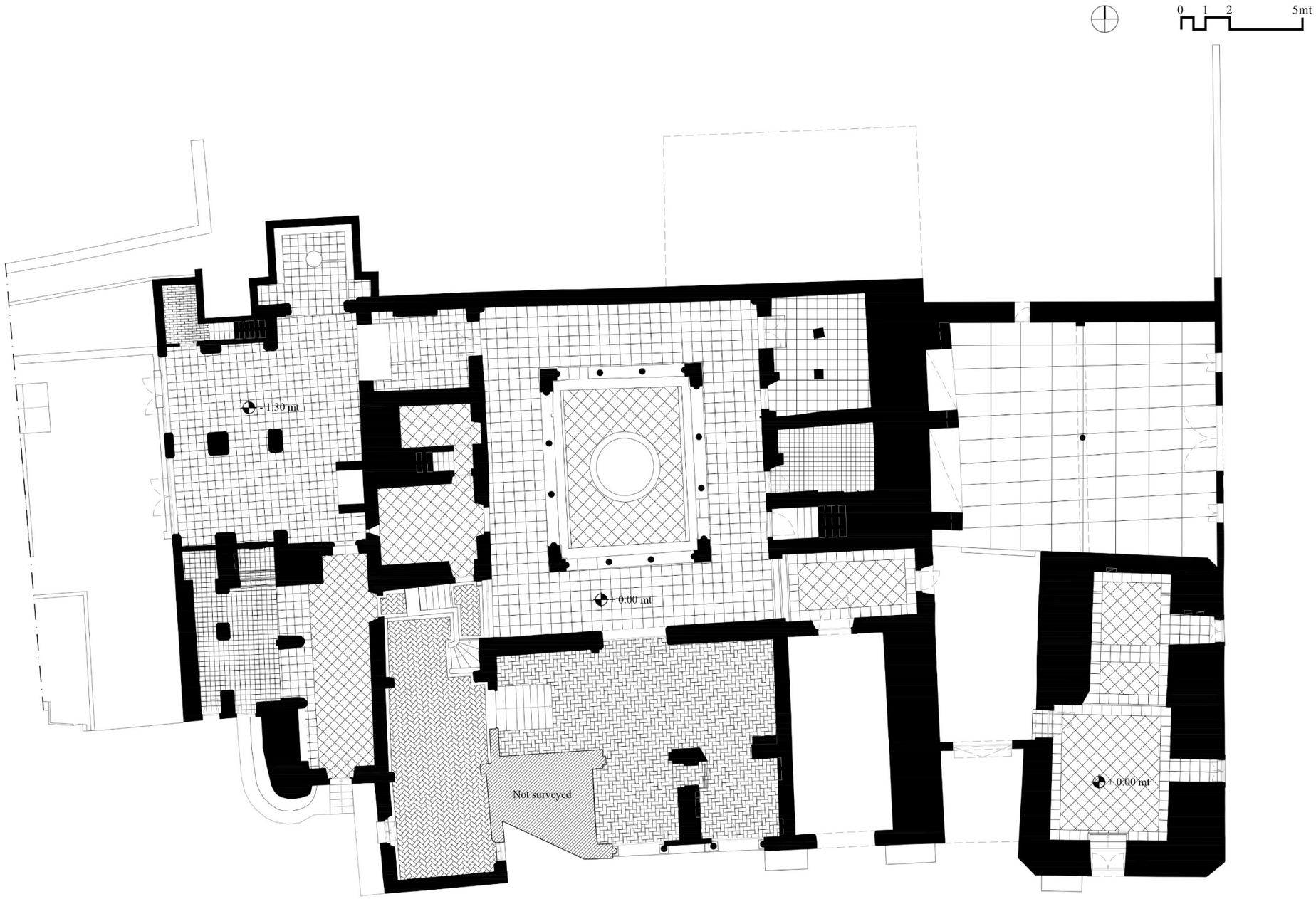

Transverse section of the monastery (nº 3). In: TT, *Mosteiro do Santissimo Sacramento de Lisboa*, mç 11, nº 6, fl. 7



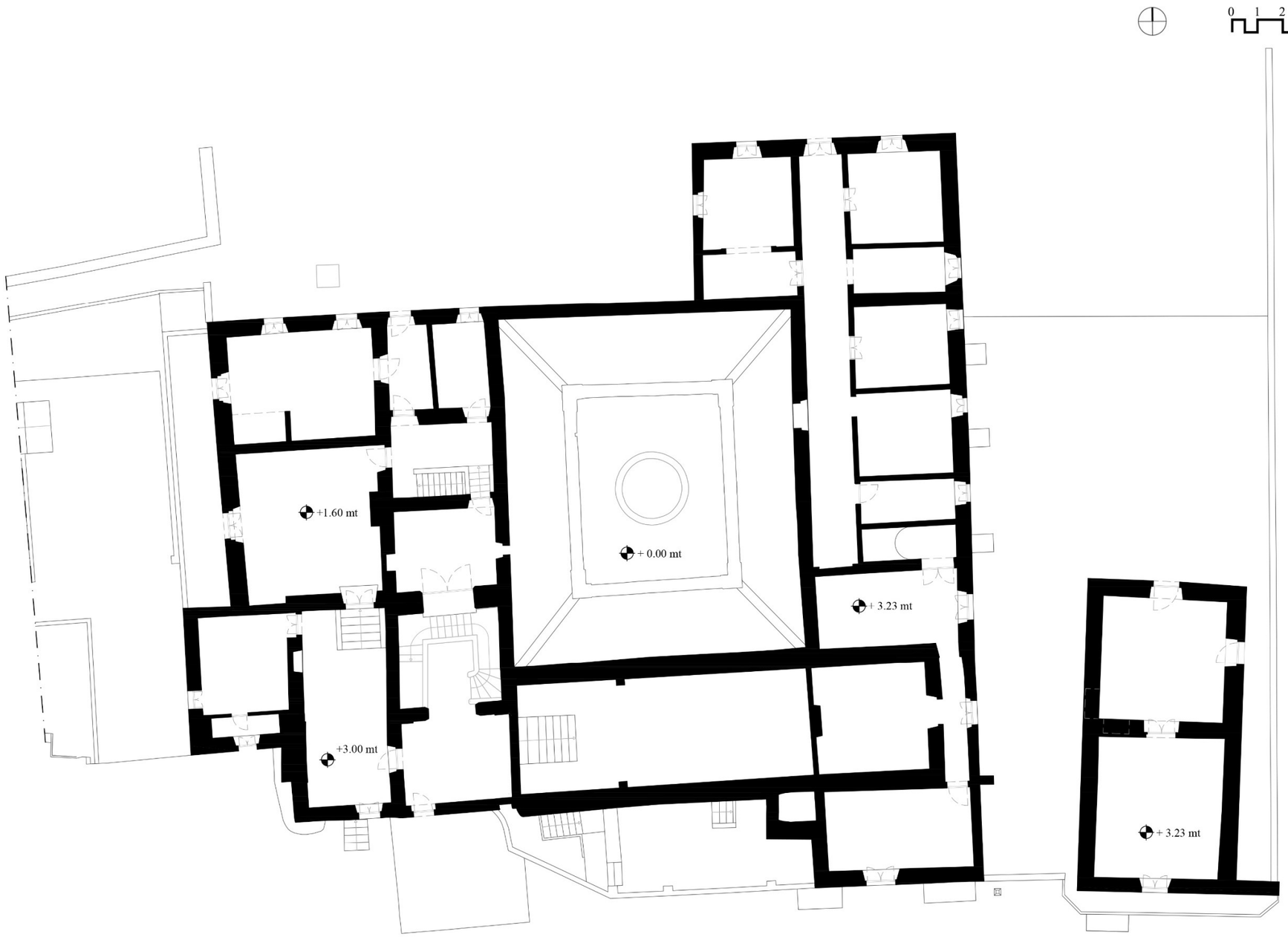
Details of the monastery (nº 4 and nº 2). In: TT, *Mosteiro do Santissimo Sacramento de Lisboa*, mç 11, nº 6, fl. 4 (left) and fl. 2 (right)

**Appendix C**

## C.1 Technical drawings of the monastery of Santa Margarida do Aivado starting from the digital surveys campaigns



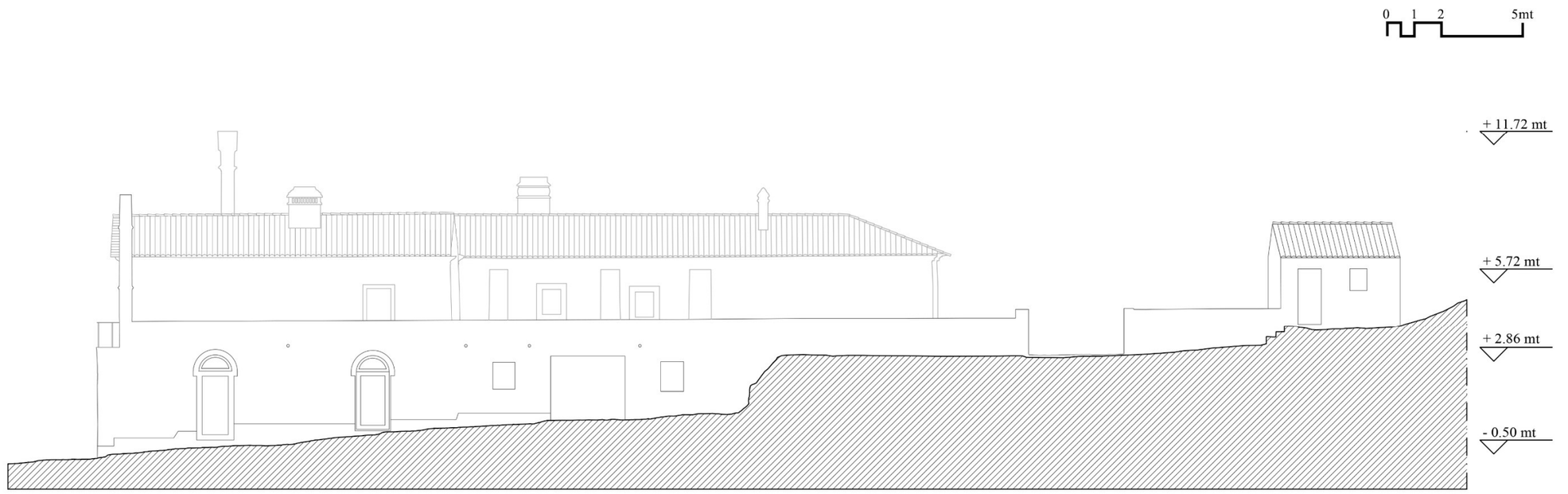

Floor 0 Plan



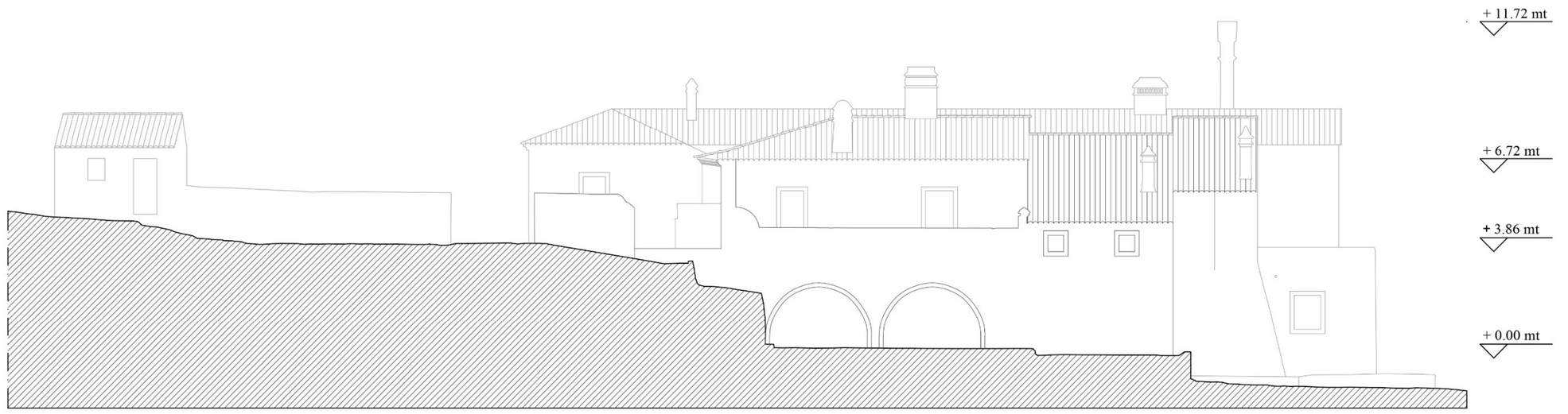

Floor 1 Plan



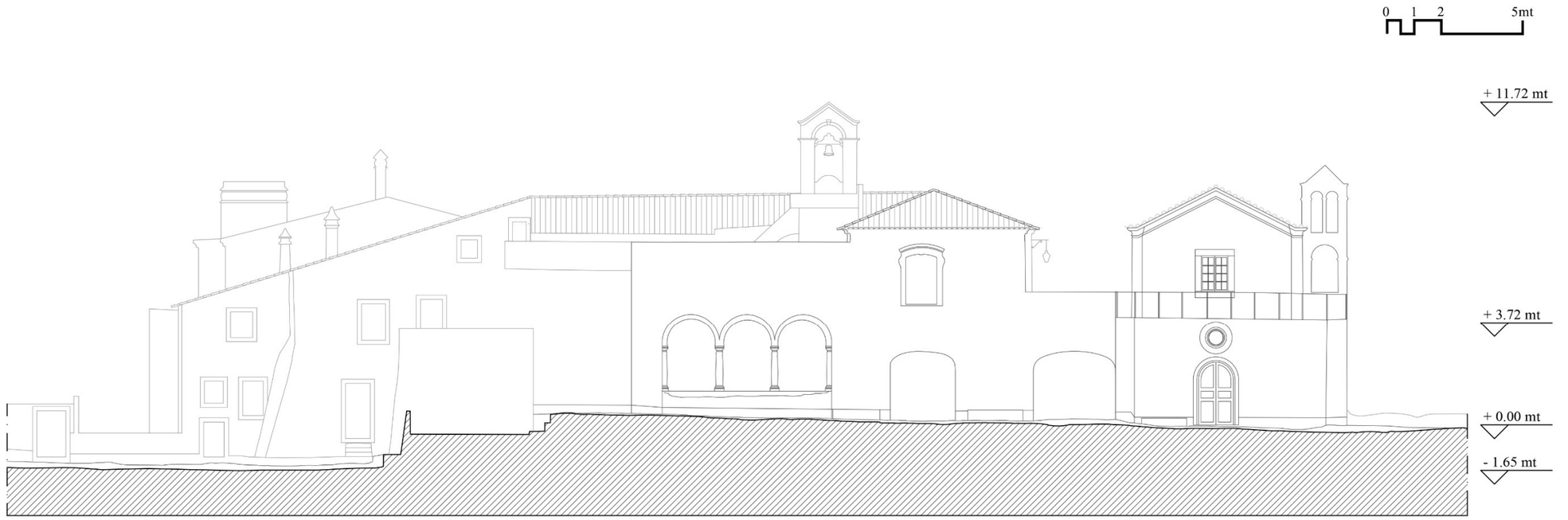

Covering Floor Plan



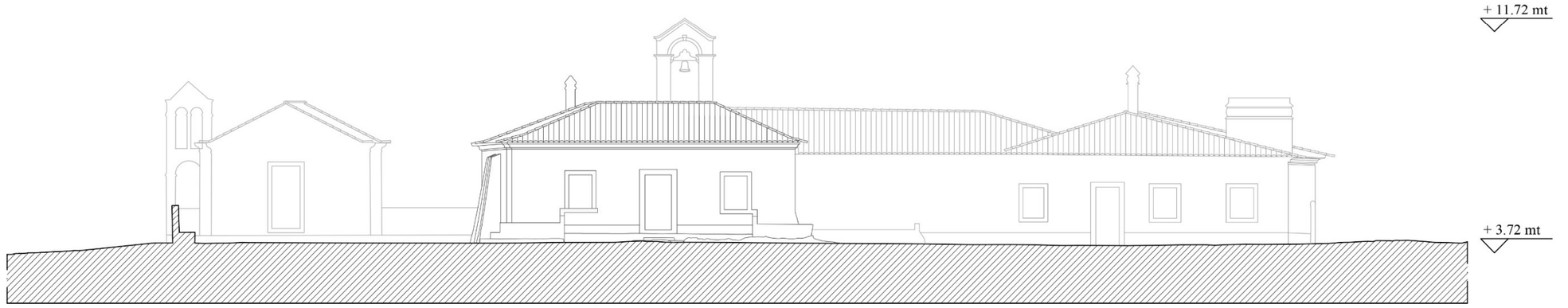

East Elevation




West Elevation




South Elevation




North Elevation

## C.2 Ortophotos (elevations and planimetric views) from the photogrammetric surveys

### *C.2.1 Monastery of Santa Margarida do Aivado*




Covering Floor Plan




South Elevation




North Elevation




East Elevation




West Elevation

### *C.2.2 Monastery of Santa Catarina de Montemuro*




Covering Floor Plan


0 1 2 5mt
North Elevation
East Elevation




South Elevation



West Elevation

### *C.2.3 Monastery of Santa Cruz de Rio Mourinho*




Covering Floor Plan




North Elevation

West Elevation




South Elevation



East Elevation

## C.3 Monastery's documentary sheets[424]

[424] Historical frameworks related to the 17 monasteries, with regards to the Medieval and Modern period, have been adapted by the monasteries' datasheets elaborated by Fontes, João Luís Inglês. 2016, in *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 137-151. Lisboa: Livros Horizonte.

## *C.3.1 Monastery of São Paulo da Serra de Ossa*

Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 01
38°43'34.20"N, 7°34'41.86"W

**Denominations**

1. Hermitage Serra de Ossa
2. Monastery of São Paulo da Serra de Ossa

**Location**

Ossa Hill chain (Redondo Civil Parish , Redondo Municipality , Évora District).

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1366

**Dissolution**

1834

Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 02
38°43'34.20"N, 7°34'41.86"W

### Historical Frameworks

The Order's chronicles traced the origins of the eremitical life in the Ossa Hill chain, since the 12th century. However, the first documental references regarding the presence of men of poor life in this place dated back only to 1366. In that year, Gil Afonso, vassal of the Prince Fernando, and Maria Afonso, his wife, residents in Estremoz, donated several houses and lands to Mateus and his poor companions in the Ossa Hill chain. In 1374, King Fernando I issued a protection charter to João Fernandes and all the other poor people who lived in the Ossa Hill chain. João Fernandes assumed a fundamental role in the consolidation of the hermitage Serra de Ossa. He received several sesmaria charters from the municipality of Redondo, attracted donations from private individuals and obtained the renovation of protection and privilege charters from the Kings Fernando I, João I and Duarte I. In 1378, the Ossa Hill chain was inhabited by several hermits, who lived in groups of four and probably encompassed the hermitages of Vale Abraão and Vale da Infante. In 1397, the community of Serra de Ossa received the chapel of Santa Maria de Monte Virgem as a donation from Frei Rodrigo Fulcaz. The hermitage underwent several improvements and extensions since 1400, which continued during the reign of King Duarte I. In 1426, Pope Martin V, at the request of King João I, granted the hermits several privileges, namely the possibility of having a portable altar, of choosing a confessor, of being buried in this oratory and not paying the tithes of what they cultivated. Slightly before 1476, the Hieronymites moved to Ossa Hill chain with the support of Bishop Garcia de Meneses and a minority group of hermits, but they were forced to leave the same year. The monastery was rebuilt and expanded in 1578, and took the current aspect. Other works were carried out along the 18th century, leading to the renovation of the monastic dependencies and of the church. The monastery was dissolved in 1834 and sold only in 1872, contributing to its decay. The only inhabited area was the south wing. Other spaces have been used as facilities for agriculture and resident workers housing. The monastery, from 1975 to 1984, was occupied by the socialist *Cooperativa Agrícola da Serra*. The third and last type of function has been a hotel, opened in 1993. Since 2000, the Henrique Leote Foundation is based in the monastic building, with the aim to study, recover and preserve the cultural identity of *raian* populations.

### Current state of occupation

| | |
|---|---|
| Church | occupied |
| Monastic Dependences | occupied |
| Enclosure | occupied |

### Current uses

| | |
|---|---|
| Church | multipurpose room |
| Monastic Dependences | accommodation facility |
| Enclosure | agricultural production |

### Property

| | |
|---|---|
| Church | Private foundation |
| Monastic Dependences | Private foundation |
| Enclosure | Private foundation |

### Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | good |
| Enclosure | moderate |

### Permanences

| | |
|---|---|
| Church | altered |
| Monastic Dependences | altered |
| Enclosure | mostly maintained |

### Recent Interventions

| | |
|---|---|
| Church | 1991-1993 |
| Monastic Dependences | 1991-1993 |
| Enclosure | 1991-1993 |

### Heritage Classification

Classified

### Protection

IIP - Imóvel de Interesse Público (Building of Public Interest)

Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 03
38°43'34.20"N, 7°34'41.86"W

**Specific bibliographic references**


Arruda, Luísa, and Teresa de Campos Coelho. 2004. *Convento de S. Paulo de Serra de Ossa.* Lisboa: Inapa. ISBN: 972-797-076-1.

Arruda, Luísa. 2015. "The Convent of Saint Paul at Serra de Ossa (Ossa Mountains). Baroque Gardens". In: Ana Duarte Rodrigues (ed.) *Cloister Gardens, courtyards and monastic enclosures.* Centro de História da Arte e Investigação Artística da Universidade de Évora and Centro Interuniversitário de História das Ciências e da Tecnologia, vol. 3, pp. 136-154. ISBN: 978-989-99083-7-6.

Barata, António Francisco. 1898. *Carta a um kleptomano que fôra á Serra d'Ossa por D. Bruno.*

Chaves, Luís. "O Mosteiro da Serra de Ossa". In: *O Arqueólogo Português*, col. XXI, pp. 239-244. Lisboa: Museu Nacional de Arqueologia.

Cidade, Hernâni. 1959. "A Serra d'Ossa e o seu convento". In: *Separata do Boletim da Junta de Provincia do Alto Alentejo.* Évora: Minerva Comercial.

Coelho, Teresa de Campos. 2015. "The Convent of Saint Paul of Serra de Ossa: the integration in the landscape and Nature's presence in its primitive gardens". In: Ana Duarte Rodrigues (ed.) *Cloister Gardens, courtyards and monastic enclosures.* Centro de História da Arte e Investigação Artística da Universidade de Évora and Centro Interuniversitário de História das Ciências e da Tecnologia, vol. 3, pp. 121-136. ISBN: 978-989-99083-7-6.

Espanca, Túlio. 1972. "Convento de S. Paulo da Serra de Ossa". In: *A Cidade de Évora: Boletim de Cultura da Câmara Municipal*, nº 55, pp. 149-171. Évora

Espanca, Túlio. 1978. *Inventário Artístico de Portugal. Distrito de Évora. Concelhos de Alandroal, Borba, Mourão, Portel, Redondo, Reguengos de Monsaraz, Viana do Alentejo e Vila Viçosa.* vol. IX-I, pp. 306-321. Lisboa: Academia Nacional de Belas-Artes.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 583-586. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de São Paulo da Serra de Ossa". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 137-139. Lisboa: Livros Horizonte.

Meco, José. 1991. "Azulejos de Policarpo de Oliveira Bernardes em São Paulo da Serra de Ossa". In: *Azulejo*, nº 1, pp. 44-52. Lisboa: Museu Nacional do Azulejo.

Pereira, Gabriel. 1934. *Estudos diversos: arqueologia, história, arte, etnografia: colectânea*, pp. 360-367. Coimbra: Imprensa da Universidade.

Rosa, João. 1926. *Iconografia artística eborense. Subsídios para a história da arte no Distrito de Évora,* pp. 127-130. Lisboa: Imprensa Nacional.

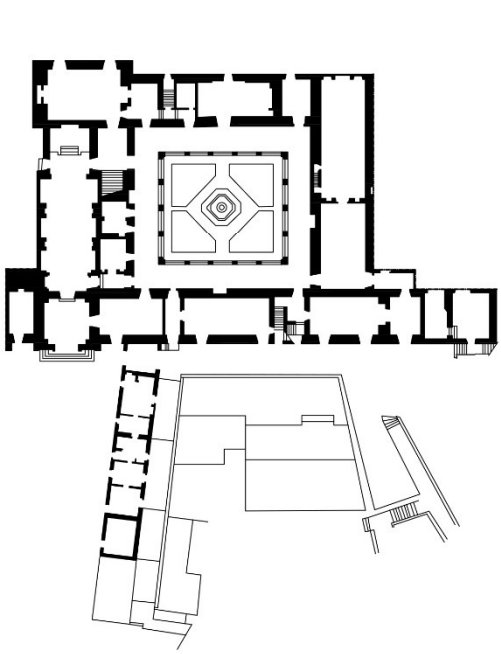
Volzone, Rolando. 2017. "Os eremitas da pobre vida e a construção da paisagem da Serra de Ossa". In: *Estudos de Paisagem* (ed. Pedro Fidalgo), vol. 4, pp. 198-219. Lisboa: Instituto de História Contemporânea-NOVA FCSH.

Volzone, Rolando, and João Luís Fontes. 2020. "The Portuguese Eremitical Congregation of the Serra de Ossa: Spatial Analysis of the Monastic Settlements". In: *Journal of Medieval Iberian Studies* 12 (1), pp. 84-105. https://doi.org/10.1080/17546559.2019.1652838.

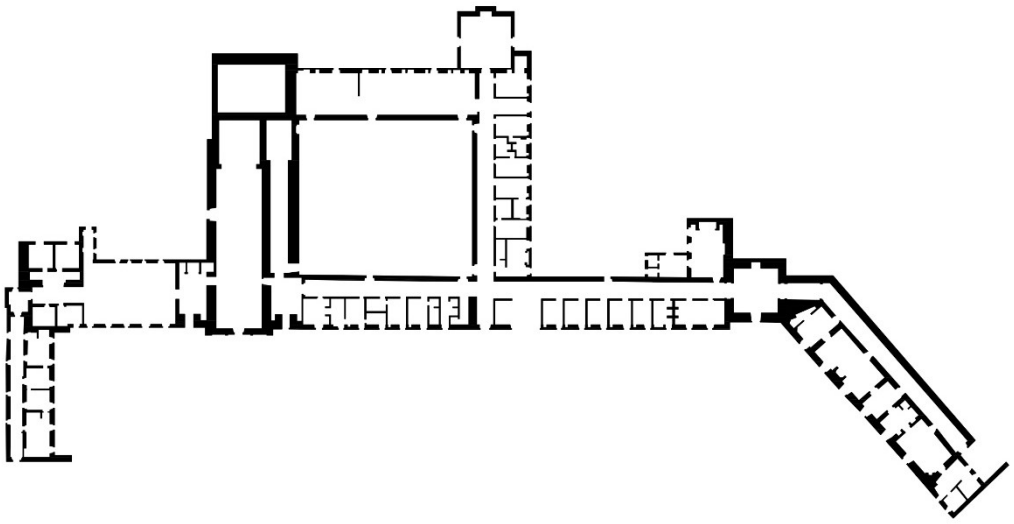
Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 04
38°43'34.20"N, 7°34'41.86"W

**Technical Drawings**




Floor 0 Plan. ©Rolando Volzone, 2020



Floor 1 Plan. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 05
38°43'34.20"N, 7°34'41.86"W

**Pictures**



South view of the enclosure. ©Rolando Volzone, 2018



View of the monastery from North-East. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 06
38°43'34.20"N, 7°34'41.86"W

Pictures



View of the South façade. ©Rolando Volzone, 2018



View of the cloister north wing. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 07
38°43'34.20"N, 7°34'41.86"W

Pictures



View of the ancient church. ©Rolando Volzone, 2018



View of the ancient high choir. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of São Paulo da Serra de Ossa** SP - SPSO - 08
38°43'34.20"N, 7°34'41.86"W

Pictures



View of the corridor in the dormitory of the Carreira. ©Rolando Volzone, 2018



View of the Novice's Tank. ©Rolando Volzone, 2018

## *C.3.2 Monastery of Santo Onofre de Vale de Abraão*

Monastic Complex Technical Datasheet

**Monastery of Santo Onofre de Vale Abraão** SP - SOVA - 01
38°42'50.35"N, 7°32'24.00"W

**Denominations**

1. Hermitage São Gens Hill chain
2. Monastery of Santo Onofre de Vale Abraão

**Location**

Abraão Valley (Redondo Civil Parish , Redondo Municipality, Évora District)

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1390

**Dissolution**

1593

Monastic Complex Technical Datasheet

**Monastery of Santo Onofre de Vale Abraão** SP - SOVA - 02
38°42'50.35"N, 7°32'24.00"W

## Historical Frameworks

This monastery was originated from a hermitage which was part of the group located in the Ossa Hill chain, together with the hermitages of Vale da Infante and Serra de Ossa. However, it is possible that its foundation dated back to 1371, as suggested by the Order's chronicles. Vale de Abraão emerged autonomously only in the documentation dated from 1425, in which it is linked to two hermits, Álvaro Martins and Afonsilho. The eremitical lifes of these men are documented since 1390, the year in which it is possible to lay the foundation of the hermitage.
After the approval of the eremitical congregation of São Paulo da Serra de Ossa, an Order's Chapter was gathered in 1592, and the monastery of Santo Onofre do Vale de Abraão was included among the houses to be suppressed, due to unhealthy reasons or scarcity of rents. Its attachment to Serra de Ossa was determined in the same year. The decision was ratified by Clement VIII the following year. Nowadays, few ruins of the ancient monastic complex are still visible in the homonymous valley.

## Current state of occupation

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

## Conservation state

| | |
|---|---|
| Church | bad |
| Monastic Dependences | bad |
| Enclosure | bad |

## Permanences

| | |
|---|---|
| Church | ruin |
| Monastic Dependences | ruin |
| Enclosure | ruin |

## Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Heritage Classification

Not classified

## Protection

Not protected

Monastic Complex Technical Datasheet

Monastery of Santo Onofre de Vale Abraão SP - SOVA - 03
38°42'50.35"N, 7°32'24.00"W

**Specific bibliographic references**

Barata, António Francisco. 1898. *Carta a um kleptomano que fôra á Serra d'Ossa por D. Bruno.*

Chaves, Luís. "O Mosteiro da Serra de Ossa". In: *O Arqueólogo Português*, col. XXI, pp. 239-244. Lisboa: Museu Nacional de Arqueologia.

Cidade, Hernâni. 1959. "A Serra d'Ossa e o seu convento". In: *Separata do Boletim da Junta de Provincia do Alto Alentejo.* Évora: Minerva Comercial.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 587-588. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Santo Onofre de Vale Abraão". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, p. 143. Lisboa: Livros Horizonte.

Pereira, Gabriel. 1934. *Estudos diversos: arqueologia, história, arte, etnografia: colectânea*, pp. 360-367. Coimbra: Imprensa da Universidade.

Volzone, Rolando. 2017. "Os eremitas da pobre vida e a construção da paisagem da Serra de Ossa". In: *Estudos de Paisagem* (ed. Pedro Fidalgo), vol. 4, pp. 198-219. Lisboa: Instituto de História Contemporânea-NOVA FCSH.

Monastic Complex Technical Datasheet

**Monastery of Santo Onofre de Vale Abraão** SP - SOVA - 04
38°42'50.35"N, 7°32'24.00"W

**Pictures**



East façade. ©Rolando Volzone, 2016



View of the South façade (left) and North façade (right). ©Rolando Volzone, 2016

## *C.3.3 Monastery of Santo Antão de Vale da Infante*

Monastic Complex Technical Datasheet

**Monastery of Santo Antão de Vale da Infante** SP - SAVI - 01
39° 3'12.36"N, 7°48'22.57"W

**Denominations**

1. Hermitage São Gens Hill chain
2. Hermitage Vale da Infante
3. Monastery of Santo Antão de Vale da Infante

**Location**

Ossa Hill chain (Glória Civil Parish, Estremoz Municipality, Évora District)

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1374

**Dissolution**

1642

Monastic Complex Technical Datasheet

Monastery of Santo Antão de Vale da Infante SP - SAVI - 02
39° 3'12.36"N, 7°48'22.57"W

### Historical Frameworks

The monastery originated from a hermitage documented since 1372. In that year the Princess Beatriz, daughter of the King Pedro I and widow of the Count Sancho, lord of Albuquerque, donated all their lands located in the São Gens Hill chain, more precisely in the Canal surroundings, to Mateus Fróis and his companions. This is the reason why the place was initially called Vale da Infanta ("infanta" means princess in Portuguese), and later known as Vale da Infante. However, the Order's Chronicles mentioned that hermits lived in that region since 1370. The hermitage, belonging to the primitive group located in the Ossa Hill chain, received from King João I, in 1410, the privilege of payment exemption of taxes and toll resulting from the spoons and fruit sale. The same monarch extended to this community the equal privileges and freedoms granted to Serra de Ossa. According to the Order's chroniclers, few hermits lived in that settlement until 1642, the year in which the monastery was dissolved and its registry was integrated into the monastery of Santíssimo Sacramento in Lisbon, and the friars probably moved too. The history of Santo Antão do Vale da Infante, after its dissolution, is unknown. Today it is used as a residence.

### Current state of occupation

| | |
|---|---|
| Church | occupied |
| Monastic Dependences | occupied |
| Enclosure | occupied |

### Current uses

| | |
|---|---|
| Church | residential |
| Monastic Dependences | residential |
| Enclosure | agricultural production |

### Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

### Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | moderate |
| Enclosure | moderate |

### Permanences

| | |
|---|---|
| Church | partially altered |
| Monastic Dependences | partially altered |
| Enclosure | mostly maintained |

### Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

### Heritage Classification

Not classified

### Protection

Not protected

Monastic Complex Technical Datasheet

Monastery of Santo Antão de Vale da Infante SP - SAVI - 03
39° 3'12.36"N, 7°48'22.57"W

**Specific bibliographic references**

Barata, António Francisco. 1898. *Carta a um kleptomano que fôra á Serra d'Ossa por D. Bruno.*

Chaves, Luís. "O Mosteiro da Serra de Ossa". In: O Arqueólogo Português, col. XXI, pp. 239-244. Lisboa: Museu Nacional de Arqueologia.

Cidade, Hernâni. 1959. "A Serra d'Ossa e o seu convento". In: *Separata do Boletim da Junta de Provincia do Alto Alentejo.* Évora: Minerva Comercial.

Espanca, Túlio. 1978. *Inventário Artístico de Portugal. Distrito de Évora. Concelhos de Alandroal, Borba, Mourão, Portel, Redondo, Reguengos de Monsaraz, Viana do Alentejo e Vila Viçosa.* vol. IX-I, pp. 245-246. Lisboa: Academia Nacional de Belas-Artes.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 589-590. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Santo Antão de Vale de Infante". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 141. Lisboa: Livros Horizonte.

Pereira, Gabriel. 1934. *Estudos diversos: arqueologia, história, arte, etnografia: colectânea*, pp. 360-367. Coimbra: Imprensa da Universidade.

Volzone, Rolando. 2017. "Os eremitas da pobre vida e a construção da paisagem da Serra de Ossa". In *Estudos de Paisagem* (ed. Pedro Fidalgo), vol. 4, pp. 198-219. Lisboa: Instituto de História Contemporânea-NOVA FCSH.

Volzone, Rolando, and João Luís Fontes. 2020. "The Portuguese Eremitical Congregation of the Serra de Ossa: Spatial Analysis of the Monastic Settlements". In: *Journal of Medieval Iberian Studies* 12 (1), pp. 84-105. https://doi.org/10.1080/17546559.2019.1652838.

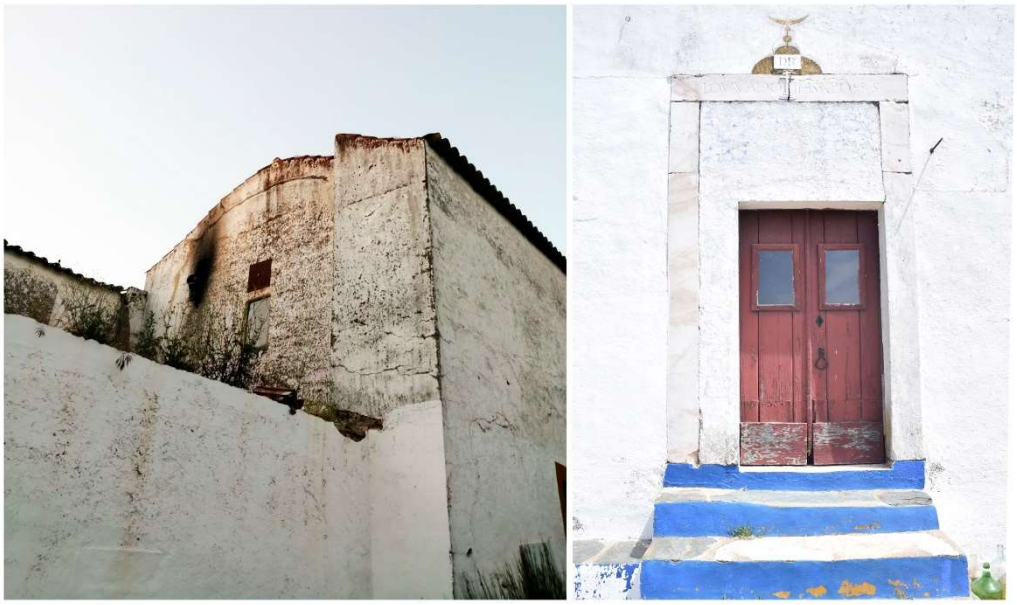
Monastic Complex Technical Datasheet

**Monastery of Santo Antão de Vale da Infante** SP - SAVI - 04
39° 3'12.36"N, 7°48'22.57"W

**Pictures**



View from North-West. ©Rolando Volzone, 2016



View of the church (left), detail of the church entrance door (right). ©Rolando Volzone, 2016

## *C.3.4 Monastery of Nossa Senhora dos Remédios de Elvas*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora dos Remédios** SP - NSR - 01
38°52'50.06"N, 7°10'1.33"W

**Denominations**

1. Hermitage Rio Torto
2. Monastery of Nossa Senhora dos Remédios
3. Monastery of São Paulo de Elvas

**Location**

Elvas (Elvas Civil Parish, Elvas Municipality, Portalegre District)

**General Environment**

Urban area

**Specific environment**

Slope



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1380

**Dissolution**

1834

Monastic Complex Technical Datasheet

Monastery of Nossa Senhora dos Remédios SP - NSR - 02
38°52'50.06"N, 7°10'1.33"W

## Historical Frameworks

This monastery was founded from a hermitage located around Elvas, in a place called Rio Torto, donated to the hermits João Lopes and Lourenço Mateus in 1380. In 1466, the hermitage appeared on the list of houses subordinated to Serra de Ossa. The original monastic building was abandoned in 1593, and the community moved near the chapel of São Sebastião and, in 1603, to the interior of Elvas. The rents from the hermitage Espadaneira, dissolved at the end of the 16th century, were annexed to this monastery. The Restoration wars forced a new reconstruction, which started in 1679 and was completed in 1693. The monastery of Nossa Senhora dos Remédios de Elvas was dissolved in 1834. After that, the church remained in the possession of the Third Order of São Domingos Brotherhood until 1886 and was, in the following year, handed over to the Ministry of War, which installed there the military court. Regarding the monastic dependencies, between 1834 and 1847, several uses have been proposed: hospital, electric telegraph station, City Customs, theatre, circus. Between 1847 and 1848 the Ministry of War carried out renovation works to adapt the building to its new function as military barracks . In the 2010s the complex was assigned to the Municipality of Elvas, and on the 3rd of August of 2016, a protocol was signed with the Ministry of Economy, aiming to grant an exploitation licence, integrated into the Program of Heritage Valorisation-*Programa de Valorização do Património*. As a consequence, the building has been converted into a hotel.

## Current state of occupation

| | |
|---|---|
| Church | occupied |
| Monastic Dependences | occupied |
| Enclosure | occupied |

## Current uses

| | |
|---|---|
| Church | accommodation facility |
| Monastic Dependences | accommodation facility |
| Enclosure | accommodation facility |

## Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

## Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | moderate |
| Enclosure | moderate |

## Permanences

| | |
|---|---|
| Church | very altered |
| Monastic Dependences | altered |
| Enclosure | altered |

## Recent Interventions

| | |
|---|---|
| Church | 2019 |
| Monastic Dependences | 2019 |
| Enclosure | 2019 |

## Heritage Classification

Not classified

## Protection

Included in the Unesco World Heritage Site “Garrison Border Town of Elvas and its Fortifications”

Monastic Complex Technical Datasheet

Monastery of Nossa Senhora dos Remédios SP - NSR - 03
38°52'50.06"N, 7°10'1.33"W

**Specific bibliographic references**

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 561-563. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de São Paulo de Elvas". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 141-142. Lisboa: Livros Horizonte.

Grancho, Nuno. 2009. "O convento de Nossa Senhora dos Remédios, da Ordem de S. Paulo, em Elvas: diálogos fraguementados". In: *ELVAS Caia – Revista Internacional de Cultura e Ciencia*, no 7, pp. 61-86. Lisboa: Edições Colibri/Câmara Municipal de Elvas.

Varela, Aires. 1915. *Theatro das Antiguidades d'Elvas.* Elvas: Editor António José Torres de Carvalho.

Pina, Fernando Correia. 2004. "O Convento de São Paulo de Elvas: breve notícia histórica". In: *Callipole, Revista Cultural*, no 2. Vila Viçosa: Câmara Municipal de Vila Viçosa.

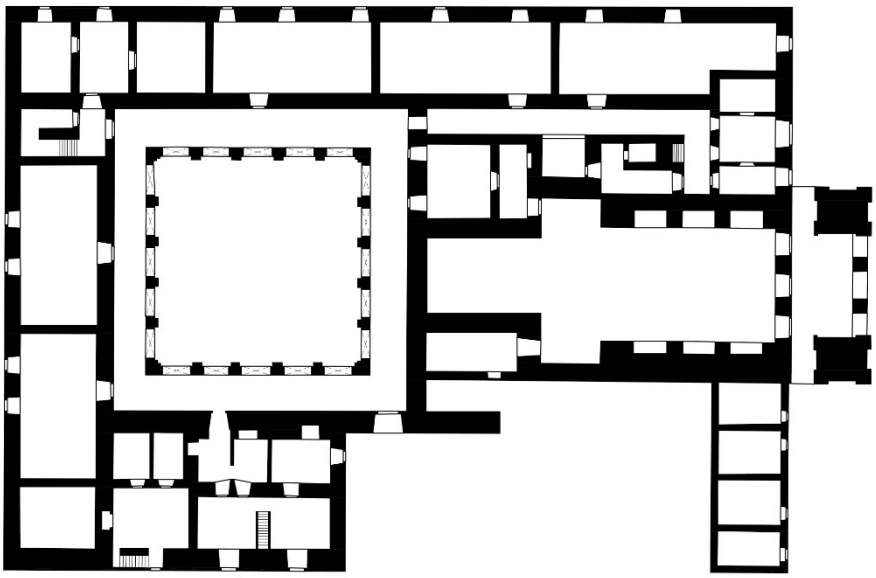
Monastic Complex Technical Datasheet

Monastery of Nossa Senhora dos Remédios
38°52'50.06"N, 7°10'1.33"W

SP - NSR - 04

**Technical Drawings**
Adapted from ©Alberto Martínez Rubio, 2014

0 10
mt



Floor 0 Plan. ©Rolando Volzone, 2020



North-East Elevation. ©Rolando Volzone, 2020

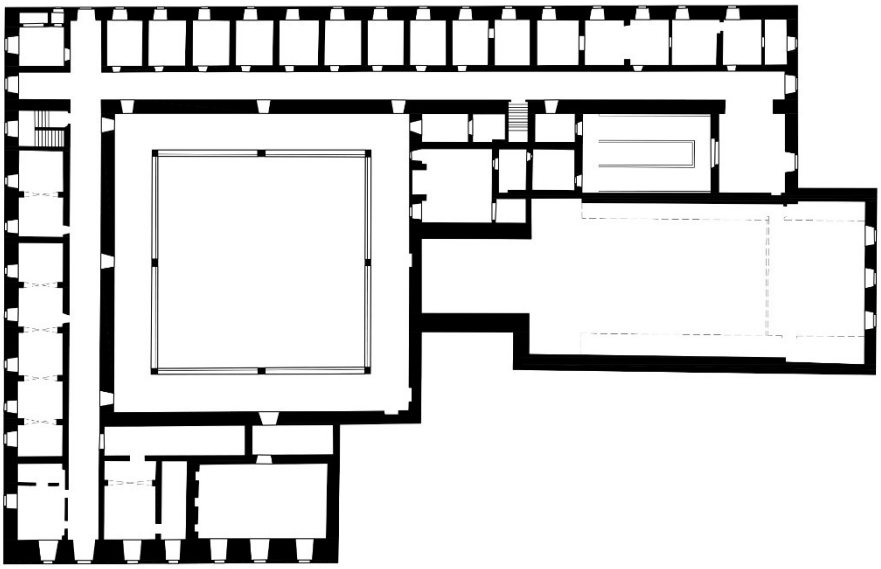
Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora dos Remédios**
38°52'50.06"N, 7°10'1.33"W

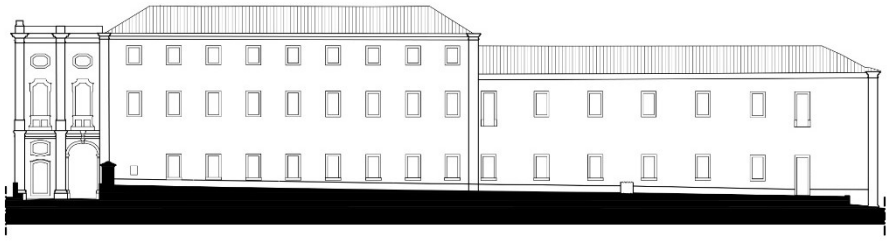
SP - NSR - 05

**Technical Drawings**
Adapted from ©Alberto Martínez Rubio, 2014

0 10
mt



Floor 1 Plan. ©Rolando Volzone, 2020



North-West Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora dos Remédios** SP - NSR - 06
38°52'50.06"N, 7°10'1.33"W

**Pictures**



Aerial view from north-east. ©Vila Galé Collection, 2019



South and West Façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora dos Remédios** SP - NSR - 07
38°52'50.06"N, 7°10'1.33"W

Pictures



View of the cloister. ©Vila Galé Collection, 2019



View of the cloister corridor. ©Vila Galé Collection, 2019

## *C.3.5 Monastery of Nossa Senhora da Consolação de Alferrara*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Alferrara** SP - NSCA - 01
38°32'48.89"N, 8°54'38.18"W

**Denominations**

1. Hermitage Almouquim (Almocim or Almocrim)
2. Hermitage Alferrara
3. Monastery of Nossa Senhora da Consolação de Alferrara

**Location**

Alferrara, Gaiteiros Hill chain (Palmela Civil Parish, Palmela Municipality, Setúbal District)

**General Environment**

Periurban area

**Specific environment**

Slope



©Google Earth View, 2019

0 100
mt

**Foundation**

1st documented reference: 1380

**Dissolution**

1813

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Alferrara** SP - NSCA - 02
38°32'48.89"N, 8°54'38.18"W

### Historical Frameworks

This monastery had its origins in a hermitage documented since 1385, next to Fonte Santa and the Almouquim chapel, in the surroundings of Alferrara and Palmela. The hermitage of Alferrara faced a reforming action carried out by Mendo Seabra. According to his own testimony, dated 1428, the hermitage was early subordinated to Serra de Ossa. When the founder died, the hermitage was handed over to the care of another hermit, the cleric João Eanes, commissioned by Mendo Seabra to govern the Alferrara, Mendoliva and Cela Nova hermitages, and to maintain the connection with Serra de Ossa. In 1454, King Afonso V confirmed the extension to this hermitage of all the privileges granted to Serra de Ossa. In 1458, by the bull Speciali gratia, Pope Pio II conceded to the community exemption from paying tithes on the fruits of the hermitage estates. In 1466, the hermitage appeared on the list of houses subordinated to Serra de Ossa. The rents from Mendoliva's house, abandoned in 1531 due to lack of water, as well as those from Junqueira, were annexed to this coenobium in 1645. The monastic community remained in the place of the medieval hermitage after 1578. However, the building was renovated and expanded, as it was documented from the end of the 16th and the end of the 18th century. The monastery of Nossa Senhora da Consolação de Alferrara was dissolved in 1813 and annexed to the monastery of Santíssimo Sacramento of Lisbon. It was sold at a public auction in 1837 – the same year of its assets' valuation – to the O'Neill family. During his visit to Portugal in 1866, the Danish writer Hans Christian Andersen describes the building partial state of abandonment. The state of disrepair has accelerated over the last century, and only stopped since 1984, thanks to the AMRS-Association of Setúbal Region Municipalities (*Associação de Municípios da Região de Setúbal*), whose restoration work, with the collaboration of an interdisciplinary team, has been very careful.

### Current state of occupation

| | |
|---|---|
| Church | occupied |
| Monastic Dependences | occupied |
| Enclosure | occupied |

### Current uses

| | |
|---|---|
| Church | cultural |
| Monastic Dependences | cultural |
| Enclosure | agricultural production |

### Property

| | |
|---|---|
| Church | Public |
| Monastic Dependences | Public |
| Enclosure | Public |

### Conservation state

| | |
|---|---|
| Church | good |
| Monastic Dependences | good |
| Enclosure | good |

### Permanences

| | |
|---|---|
| Church | altered |
| Monastic Dependences | altered |
| Enclosure | mostly maintained |

### Recent Interventions

| | |
|---|---|
| Church | 2019 |
| Monastic Dependences | 2019 |
| Enclosure | 2019 |

### Heritage Classification

Not classified

### Protection

Not protected

Monastic Complex Technical Datasheet

Monastery of Nossa Senhora da Consolação de Alferrara SP - NSCA - 03
38°32'48.89"N, 8°54'38.18"W

**Specific bibliographic references**

Carvalho, Almeida de. 1970. *Acontecimentos, Lendas e Tradições da Região Setubalense*. Setúbal: Junta Distrital de Setúbal.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 529-530. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Nossa Senhora da Consolação de Alferrara". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 142-143. Lisboa: Livros Horizonte.

Fortuna, A. Matos. 1982. *Monografia de Palmela – Memórias Paroquiais de 1758*. Palmela: Câmara Municipal de Palmela.

Serrão, Vítor, and José Meco. 2007. *Palmela histórico-artística: um inventário do património artístico concelhio*, pp. 277-290. Lisboa: Palmela: Edições Colibri-Câmara Municipal de Pamela

Pessoa, Fernando, J. Delgado Rodrigues, Sofia Aleixo, Telmo Pina, and Victor Mestre. 2017. *Cadernos de Alferrara*. Setúbal: Associação de Municípios da Região de Setúbal.

Pina, Telmo Figueiredo de Albuquerque. 1996. *Análise dos sistemas hidráulicos antigos do convento de S.Paulo e dos Capuchos de Setúbal*. Master's dissertation. Lisboa: Instituto Superior de Agronomia.

Silva, Carlos Tavares da, and Joaquina Soares. 1985. *Quintas de Setúbal – Valores Culturais*. Setúbal: Centro de Estudos e Defesa do Património Histórico do Distrito de Setúbal.

Volzone, Rolando, and João Luís Fontes. 2020. "The Portuguese Eremitical Congregation of the Serra de Ossa: Spatial Analysis of the Monastic Settlements". In: *Journal of Medieval Iberian Studies* 12 (1), pp. 84-105. https://doi.org/10.1080/17546559.2019.1652838.

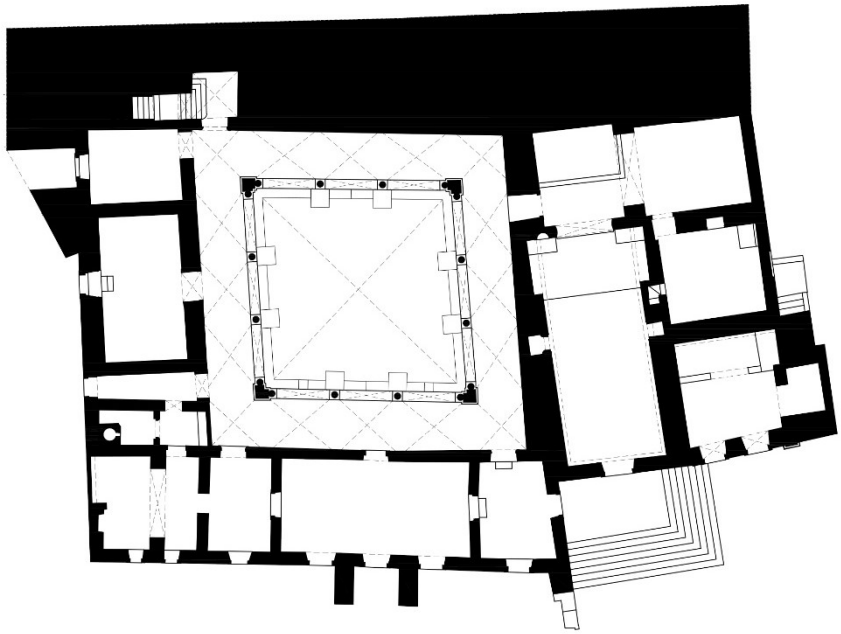
Monastic Complex Technical Datasheet

Monastery of Nossa Senhora da Consolação de Alferrara
38°32'48.89"N, 8°54'38.18"W

SP - NSCA - 04

**Technical Drawings**
Adapted from ©Victor Mestre and Sofia Aleixo Architects, 2016

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Floor 0 Plan. ©Rolando Volzone, 2020



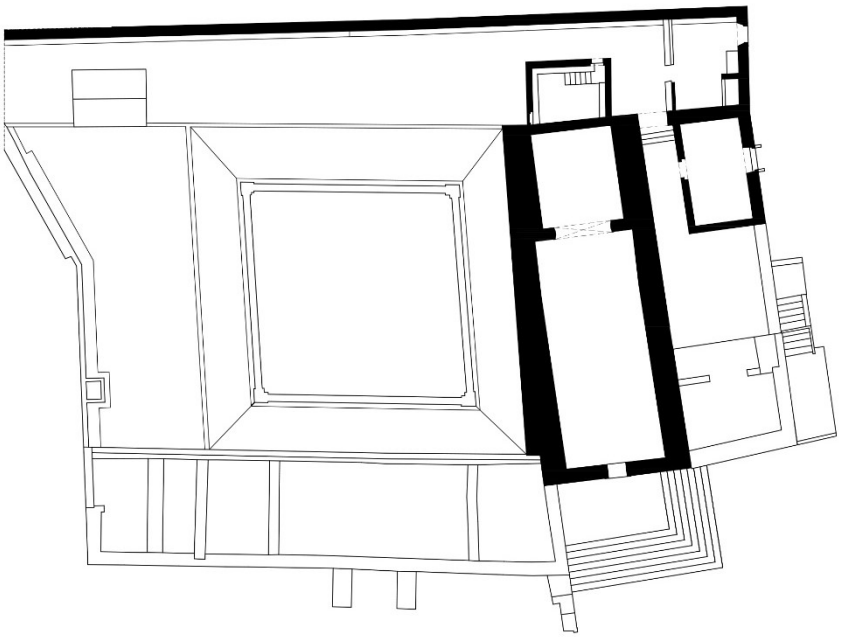
South Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

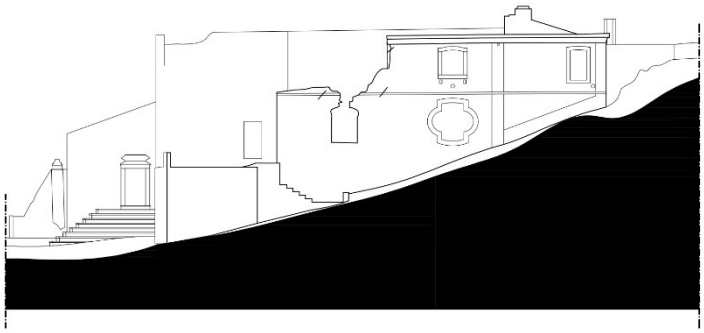
**Monastery of Nossa Senhora da Consolação de Alferrara** SP - NSCA - 05
38°32'48.89"N, 8°54'38.18"W

**Technical Drawings**
Adapted from ©Victor Mestre and Sofia Aleixo Architects, 2016

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Floor 1 Plan. ©Rolando Volzone, 2020



East Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

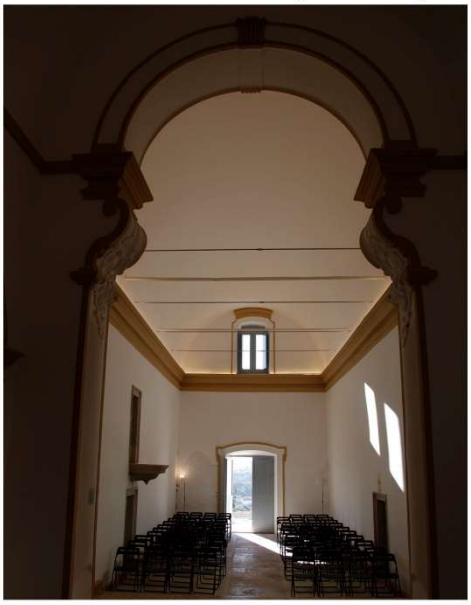
**Monastery of Nossa Senhora da Consolação de Alferrara** SP - NSCA - 06
38°32'48.89"N, 8°54'38.18"W

**Pictures**



View of the South façade. ©VMSA, 2016





View of the church main façade (left), and the interior of the church (left). ©VMSA, 2016

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Alferrara** SP - NSCA - 07
38°32'48.89"N, 8°54'38.18"W

Pictures



View of the cloister. ©VMSA, 2018





Painting details. ©Rolando Volzone, 2018

## *C.3.6 Monastery of Santa Margarida do Aivado*

Monastic Complex Technical Datasheet

**Monastery of Santa Margarida do Aivado** SP - SMA - 01
38°35'37.24"N, 7°57'55.90"W

**Denominations**

1. Hermitage Aivado
2. Monastery of Santa Margarida do Aivado

**Location**

Aivado (Nossa Senhora da Graça do Divor Civil Parish, Évora Municipality, Évora District)

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1406

**Dissolution**

1797

Monastic Complex Technical Datasheet

Monastery of Santa Margarida do Aivado SP - SMA - 02
38°35'37.24"N, 7°57'55.90"W

## Historical Frameworks

This monastery had its origin in a hermitage located in Aivado, around Évora, next to a chapel dedicated to Santa Margarida, and founded about 1385, by Frei Rodrigo Fulcaz, although the Order's Chronicles put this date back to 1376. According to the historical records, the hermitage was reformed around 1406, by João de Lamego and Gomes, "men of the poor life". In 1419, Pope Martin V granted to the hermits in Aivado innumerous privileges, requested by Prince D. Duarte, namely those of having a portable altar, of being able to choose a confessor, the possibility of being buried in this oratory and of not paying tithes about the products they cultivated, ratifying these measures in 1422. In 1426, the community was already subordinated to Serra de Ossa, and King Duarte I, in 1434, confirmed them the same privileges and freedom granted to the motherhouse. The founder of the hermitage tried to convert it into a house of the Secular Canons of St. John the Evangelist in 1460 – involving also the hermitage Montemuro. However, in 1462, handed the place Aivado to its companions, by subordinating it to Serra de Ossa. The monastery remained linked to Serra de Ossa until its dissolution in 1797. In that year it was annexed, with the respective assets and income, to the Colégio de São Paulo de Coimbra. The monastery of Santa Margarida do Aivado, according to the current owners, was acquired by a local family between the end of the 19th and the beginning of the 20th century. It belongs to the same family since then, with residential functions. The building was restored in 1960 and again in the beginning of 2020, this last time adapting the building to touristic purposes.

## Current state of occupation

| | |
|---|---|
| Church | occupied |
| Monastic Dependences | occupied |
| Enclosure | occupied |

## Current uses

| | |
|---|---|
| Church | residential |
| Monastic Dependences | residential |
| Enclosure | agricultural production |

## Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

## Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | moderate |
| Enclosure | moderate |

## Permanences

| | |
|---|---|
| Church | partially altered |
| Monastic Dependences | partially altered |
| Enclosure | partially altered |

## Recent Interventions

| | |
|---|---|
| Church | 2020 |
| Monastic Dependences | 2020 |
| Enclosure | 2020 |

## Heritage Classification

Not classified

## Protection

Not protected

Monastic Complex Technical Datasheet

Monastery of Santa Margarida do Aivado SP - SMA - 03
38°35'37.24"N, 7°57'55.90"W

**Specific bibliographic references**

Barata, António Francisco. 1904. *Évora e seus arredores*, pp. 15-17. Évora : Typ. Notícias de Évora.

Eborense, Tito Livio. 1934. "Quinta de Santa Margarida e Herdade do Esborrondadouro. No passado e no presente". In: *Revista Alentejana Illustrada: documentário da vida alentejana, historia, arte, literatura, actualidadęs, propaganda e turismo*, no 1. Ed. prop. Manuel S. Claro: dir. Mário de Lemos, Carlos de Azevedo. Évora: M.S. Claro, Existência.

Espanca, Túlio. 1957. *Património Artistico do Concelho de Évora*, p. 61. Évora : Câmara Municipal, 1957.

Espanca, Túlio. 1965. "Convento de Santa Margarida, Solares Rústicos da Camoeira Giesteira, Sempre Noiva e Torre de Coelheiros". In: *Lista das Visitas Guiadas - Primeiro Ciclo - 1964-65*, no. 26. Évora: Tipografia Diana-Comissão municipal de turismo de Évora.

Espanca, Túlio. 1966. *Inventário Artístico de Portugal*, Concelho de Évora. vol. VII-I, pp. 318-320. Lisboa: Academia Nacional de Belas-Artes.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 564-566. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Santa Margarida do Aivado de Évora". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 145-146. Lisboa: Livros Horizonte.

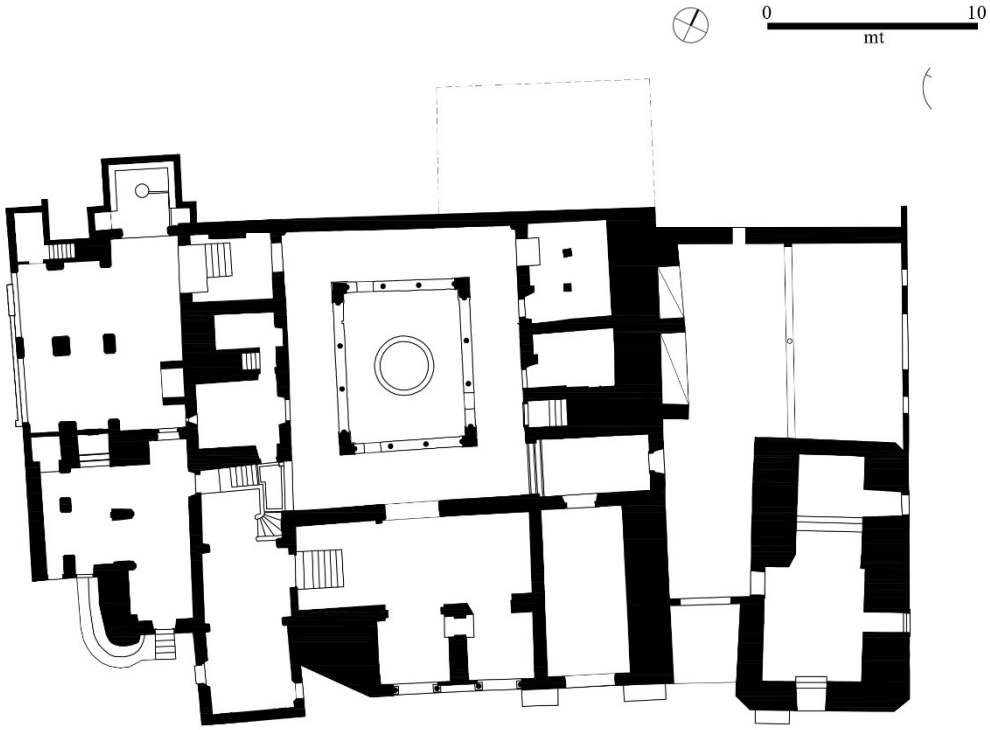
Volzone, Rolando, and João Luís Fontes. 2020. "The Portuguese Eremitical Congregation of the Serra de Ossa: Spatial Analysis of the Monastic Settlements". In: *Journal of Medieval Iberian Studies* 12 (1), pp. 84-105. https://doi.org/10.1080/17546559.2019.1652838.

Monastic Complex Technical Datasheet

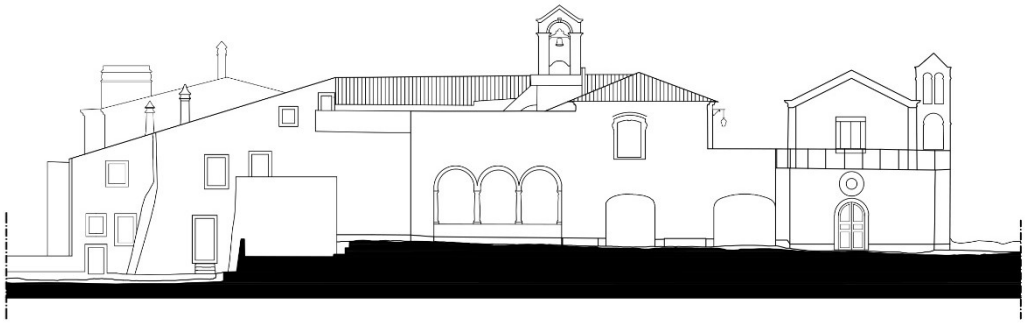
Monastery of Santa Margarida do Aivado
38°35'37.24"N, 7°57'55.90"W

SP - SMA - 04

**Technical Drawings**




Floor 0 Plan. ©Rolando Volzone, 2020

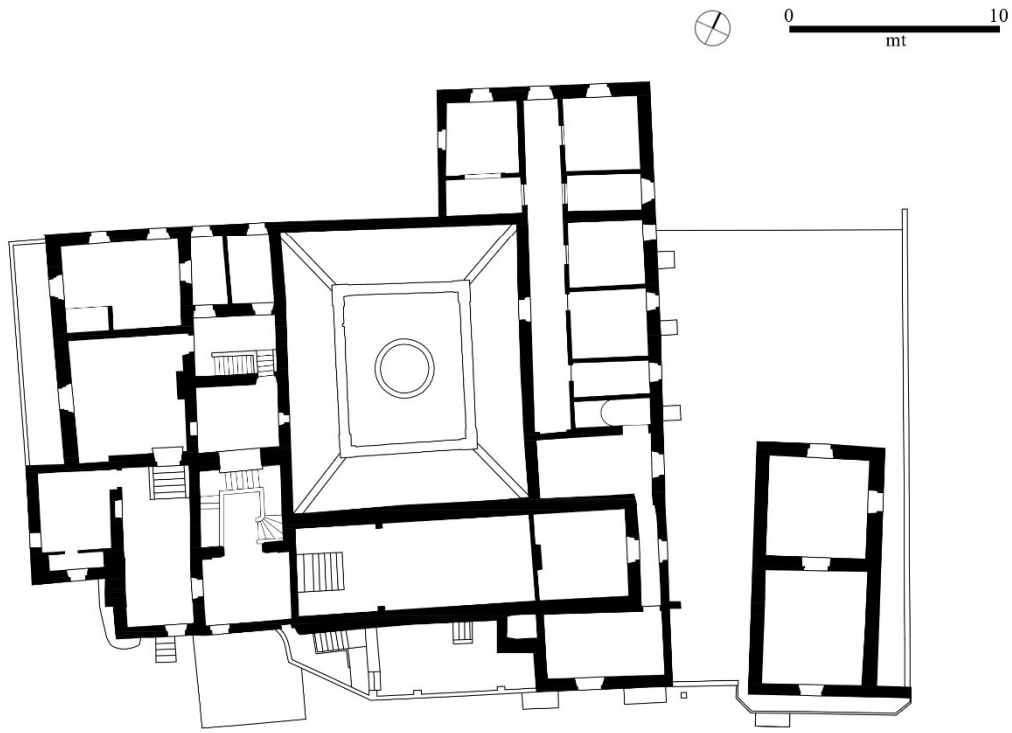


South Elevation. ©Rolando Volzone, 2020

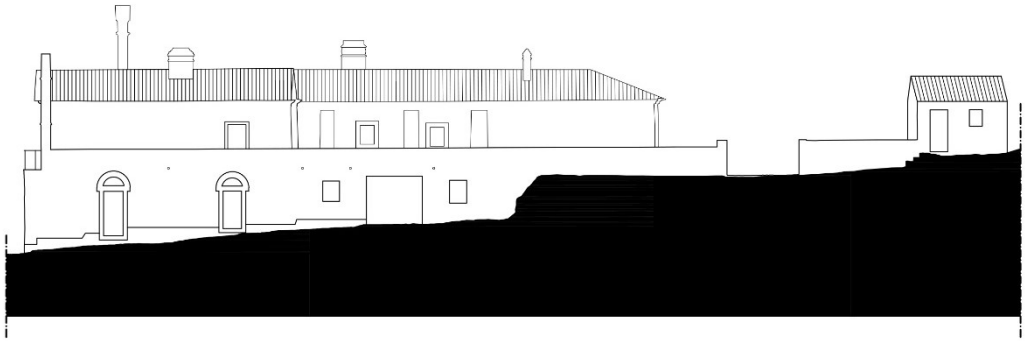
Monastic Complex Technical Datasheet

**Monastery of Santa Margarida do Aivado** SP - SMA - 05
38°35'37.24"N, 7°57'55.90"W

**Technical Drawings**




Floor 1 Plan. ©Rolando Volzone, 2020



East Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Santa Margarida do Aivado** SP - SMA - 06
38°35'37.24"N, 7°57'55.90"W

**Pictures**



View of the East façade. ©Rolando Volzone, 2018



View of the South façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Margarida do Aivado** SP - SMA - 07
38°35'37.24"N, 7°57'55.90"W

Pictures



View of the North façade. ©Rolando Volzone, 2018



View of the West façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Margarida do Aivado** SP - SMA - 08
38°35'37.24"N, 7°57'55.90"W

Pictures



View of the cloister. ©Rolando Volzone, 2018



Cloister gallery (left) detail of the columns' angular solution (right). ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Margarida do Aivado** SP - SMA - 09
38°35'37.24"N, 7°57'55.90"W

Pictures



View of the ancient church (left), possible ancient high choir (right). ©Rolando Volzone, 2018



Detail of a fresco in the chapel. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Margarida do Aivado** SP - SMA - 10
38°35'37.24"N, 7°57'55.90"W

Pictures



Gothic door and window (left), *impluvium* (right). ©Rolando Volzone, 2018



View of the kitchen. ©Rolando Volzone, 2018

## *C.3.7 Monastery of Nossa Senhora do Amparo de Vila Viçosa*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Amparo de Vila Viçosa** SP - NSAV - 01
38°46'33.12"N, 7°25'2.19"W

**Denominations**

1. Hermitage Valbom
2. Monastery of Nossa Senhora do Amparo de Vila Viçosa

**Location**

Vila Viçosa (Vila Viçosa Civil Parish , Vila Viçosa Municipality, Évora District)

**General Environment**

Urban area

**Specific environment**

Plains



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1416

**Dissolution**

1834

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Amparo de Vila Viçosa** SP - NSAV - 02
38°46'33.12"N, 7°25'2.19"W

## Historical Frameworks

This monastery had its origin in a hermitage founded next to the chapel of São Pedro de Bencatel (later dedicated to Nossa Senhora das Mercês), around Vila Viçosa, in a place also called Valbom, already occupied in 1395 by two hermits, Domingos Peres and João Afonso. It was possibly reformed by Bento, around 1412. In 1419, the Pope Martin V granted the hermits of Valbom various privileges, requested by Prince Duarte I, namely those of having a portable altar, of being able to choose a confessor, the possibility of being buried in this oratory and the chance of not paying tithes of what they cultivated, ratified in 1426 by the bulls *Sincere deuotionis affectus*, *Humilibus supplicum* and *Eximie deuotionis affectus*. In 1428, Gonçalo and Afonso, residents in a hermitage between Viana and Alvito, donated to the community a place and a settlement in Ameal do Gorjão, located near Valbom, with an eremitical occupation documented since 1409. In 1466 it appeared on the list of houses subordinate to Serra de Ossa. In 1502, the hermitage of Asseiceira (in Olivença), was donated to this community. In 1585, the house adopted, after the determination of the Order's Chapter, the Marian title of Nossa Senhora do Amparo. In 1590, the community moved into houses near Vila Viçosa, going from there to the newly built monastery in the interior of Vila Viçosa, which was supported by Casa de Bragança and completed in 1613. The monastery of Nossa Senhora do Amparo de Vila Viçosa was dissolved in 1834. After that, the building first housed a theater, then an Infantry Regiment. It was transferred to the municipal property in 1867. The enclosure was sold in 1885 and, in 1919, the church with the cloister and the monastic dependencies were sold to Salvador Lourenço Torrinha. In 1920 he sold the asset to the future owners of Sofal-Sociedade Fabril Alentejana Lda., founded in 1921, who installed an oil press and a flour mill. In 1936 the Asilo de Inválidos António Reixa Lobo was constituted, administrated by Santa Casa da Misericordia de Vila Viçosa, and located in the eastern enclosure part, donated by the previous owner. The Sofal factory entered a slow decay process until its closure in the 1980s. Since then, the building went into an advanced state of degradation and in recent years it has been acquired by a Portuguese bank and sold in 2019, with the aim to convert it into the "Royal S. Paulo Hotel Resort".

## Current state of occupation

| | |
|---|---|
| Church | abandoned |
| Monastic Dependences | abandoned |
| Enclosure | abandoned |

## Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

## Conservation state

| | |
|---|---|
| Church | bad |
| Monastic Dependences | bad |
| Enclosure | bad |

## Permanences

| | |
|---|---|
| Church | very altered |
| Monastic Dependences | very altered |
| Enclosure | very altered |

## Recent Interventions

| | |
|---|---|
| Church | 2020-2021 |
| Monastic Dependences | 2020-2021 |
| Enclosure | 2020-2021 |

## Heritage Classification

Under the process of classification together with other buildings of the urban centre

## Protection

MIM - Monumento de Interesse Municipal (Monument of Municipal Interest)

Monastic Complex Technical Datasheet

Monastery of Nossa Senhora do Amparo de Vila Viçosa SP - NSAV - 03
38°46'33.12"N, 7°25'2.19"W

**Specific bibliographic references**

Espanca, Joaquim José da Rocha. 1970. "Memórias de Vila Viçosa". In: *Cadernos culturais da Câmara Municipal de Vila Viçosa*, IV, pp. 70-90. Vila Viçosa: Câmara Municipal de Vila Viçosa.

Espanca, Joaquim José da Rocha. 1892. *Compêndio de notícias de Vila Viçosa*, pp. 341-345. Redondo: Typ. de Francico de Paula Oliveira de Carvalho.

Espanca, Túlio. 1970. *Mosteiros de Vila Viçosa*, pp. 27-32. Évora: Gráfica Eborense.

Espanca, Túlio. 1978. *Inventário Artístico de Portugal. Distrito de Évora. Concelhos de Alandroal, Borba, Mourão, Portel, Redondo, Reguengos de Monsaraz, Viana do Alentejo e Vila Viçosa.* vol. IX-I, pp. 677-681. Lisboa: Academia Nacional de Belas-Artes.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 586-587. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Nossa Senhora do Amparo de Valbom de Vila Viçosa". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 148-149. Lisboa: Livros Horizonte.

Quintas, Armando. 2014. "A Fábrica e a Sociedade Sofal de Vila Viçosa – o processo de constituição e seus intervenientes". In: *Callipole, Revista de Cultura*, no 21, pp. 221-245. Vila Viçosa: Municipio de Vila Viçosa-Câmara Municipal.

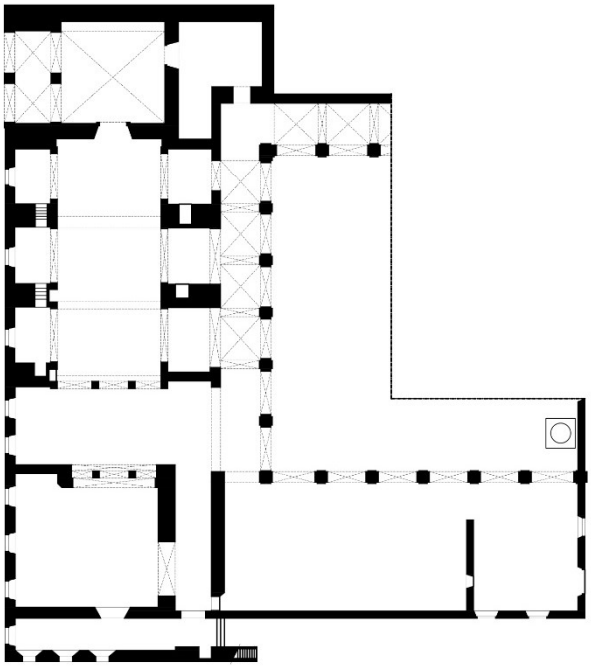
Monastic Complex Technical Datasheet

Monastery of Nossa Senhora do Amparo de Vila Viçosa
38°46'33.12"N, 7°25'2.19"W

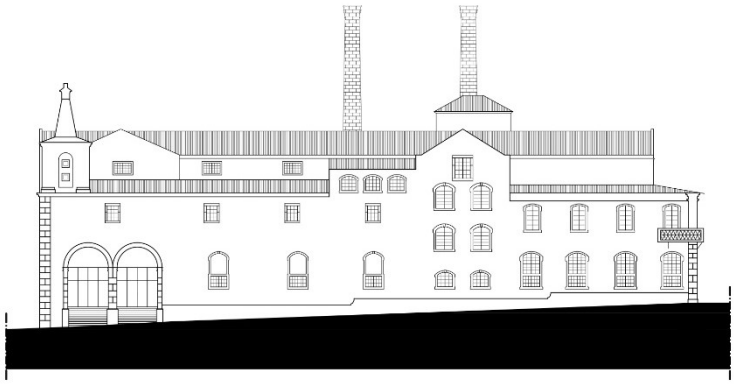
SP - NSAV - 04

**Technical Drawings**
Adapted from ©Inês Galrão, 2011

0 10
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Floor 1 Plan. ©Rolando Volzone, 2020



South-West Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Amparo de Vila Viçosa** SP - NSAV - 05
38°46'33.12"N, 7°25'2.19"W

**Pictures**



North-West and North-East façades. ©Rolando Volzone, 2019




South-West façade. ©Rolando Volzone, 2019

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Amparo de Vila Viçosa** SP - NSAV - 06
38°46'33.12"N, 7°25'2.19"W

Pictures



View of the enclosure. ©Inês Galrão, 2011



North-East wing from the enclosure. ©Inês Galrão, 2011

## *C.3.8 Monastery of Nossa Senhora da Rosa de Caparica*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Rosa de Caparica** SP - NSRC - 01
38°38'17.63"N, 9°12'32.20"W

**Denominations**

1. Hermitage Barriga
2. Hermitage Cela Nova
3. Hermitage Vale de Grou
4. Hermitage Santa Maria de Barriga
5. Hermitage Santa Maria da Rosa

**Location**

Rosa Valley (Charneca da Caparica Civil Parish, Almada Municipality, Setúbal District).

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1414

**Dissolution**

1813

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Rosa de Caparica** SP - NSRC - 02
38°38'17.63"N, 9°12'32.20"W

## Historical Frameworks

The origins of this monastery go back to a hermitage which was probably founded between the end of the 14th century and the beginning of the 15th century, in a place called Barriga, in the vicinity of Almada, also mentioned, in other documents of the 15th century, as Cela Nova. In 1445, according to the testimony of the house's governor, the place, which was inhabited since its foundation by hermits, was renovated by Mendo Seabra with the help of Kings João I, Duarte I and Prince João, Administrator of Santiago's Order. In 1458, through the bull *Speciali gratia*, Pope Pio II granted them exemption from paying tithes on the fruits of the hermitage's estates. In 1466, the hermitage Rosa appeared on the list of houses subordinated the Serra de Ossa. From the first quarter of the century XVI onwards, the house is already referred to as Santa Maria da Rosa. In 1645, the assets of the dissolved Junqueira's monastery were annexed to this monastery. Nossa Senhora da Rosa da Caparica was dissolved in 1808. The structures were in a complete state of neglect and ruin at the end of the 19th century. Evidences were still being found at the beginning of the 20th century, as confirmed by the picture published by Manuel Pinheiro Chagas. Nowadays, building remains are incorporated in private residences, some stones and fountains are scattered over the surrounding farms.

## Current state of occupation

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Property

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Conservation state

| | |
|---|---|
| Church | - |
| Monastic Dependences | ruins |
| Enclosure | ruins |

## Permanences

| | |
|---|---|
| Church | demolished |
| Monastic Dependences | demolished |
| Enclosure | demolished |

## Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Heritage Classification

-

## Protection

-

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Rosa de Caparica** SP - NSRC - 03
38°38'17.63"N, 9°12'32.20"W

**Specific bibliographic references**

António, Telmo and Henriques, Fernando Robles. 2012. "A Ermida do Espírito Santo de Almada: notícia preliminar sobre os testemunhos documentais". In *Al-Madan Online*. IIª Série. 17. Tomo 1 (Junho), pp. 150-154.

Balinha, Hélio. 2001. "Convento de Nossa Senhora da Rosa – anotações históricas", in Anais de Almada, Revista Cultural, n.º 4, pp. 25-62. Almada: Câmara Municipal de Almada.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 541-543. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Nossa Senhora da Rosa de Caparica". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, p. 147. Lisboa: Livros Horizonte.

Mendes, Rui Manuel Mesquita. 2013. "Fenómenos de Religiosidade Popular na Caparica dos Séculos XVIII e XIX". In *Anais de Almada, Revista Cultural*, no. 15-16. Almada: Câmara Municipal de Almada.

Mendes, Rui Manuel Mesquita. 2017. "Os desenhos do mosteiro de Nossa Senhora de Caparica (1593/1630) e o arquitecto régio Luís de Frias Pereira". In: *ARTIS: Revista de História de Arte e Ciências do Património*, pp. 43-52. Lisboa: Faculdade de Letras da Universidade de Lisboa.

Pinto, Rui Miguel Costa. 2001. "As Visitações da Ordem de Santiago em Almada no século XVI". In *Boletim da Sociedade de Geografia de Lisboa*, Série 119, pp. 171-223. Lisboa: Sociedade de Geografia de Lisboa.

Pinto, Rui Miguel Costa. 2005. "A Igreja de Santiago de Almada, alguns contributos para o seu estudo". In *As ordens militares e as ordens de cavalaria na construção do mundo ocidental. Actas do V Encontro sobre Ordens Militares*. Lisboa, Edições Colibri/Câmara Municipal de Palmela.

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Rosa de Caparica** SP - NSRC - 04
38°38'17.63"N, 9°12'32.20"W

**Pictures**



Location of the ancient monastery. ©Viktor Reis, 2010



Evidences of a fountain (left). ©Rolando Volzone, 2016. Evidences of a transept arch (right). ©Viktor Reis, 2010

## *C.3.9 Monastery of Nossa Senhora do Socorro de Portel*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Socorro de Portel** SP - NSS - 01
38°18'37.06"N, 7°42'26.67"W

**Denominations**

1. Hermitage Água das Infantes
2. Monastery of São Paulo de Portel
3. Monastery of Nossa Senhora do Socorro de Portel

**Location**

Portel (Civil Portel Parish, Portel Municipality, Évora District)

**General Environment**

Urban area

**Specific environment**

Plains



©Google Earth View, 2018

0 100
mt

**Foundation**

1st documented reference: 1405

**Dissolution**

1834

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Socorro de Portel** SP - NSS - 02
38°18'37.06"N, 7°42'26.67"W

### Historical Frameworks

This monastery had its origin in a hermitage founded around Portel, in a place called Águas das Infantes, next to the chapel of São Lourenço. Historical records attested the presence of the hermitage since 1405. In this year, Vasco, Lourenço and João de Torres "men of poor life", received the estate called Água das Infantes. According to another record, dated back to 1405-1406, it was clear a close connection with Serra de Ossa community. Indeed, the name of João Fernandes (from Serra de Ossa) emerged in the donation charter of 1405. In 1426, Pope Martin V conceded them exemption from paying tithes, the possibility of having a portable altar and suitable priest to administer them the sacraments. In 1434, King Duarte I extended to this community the equal privileges and freedoms granted to Serra de Ossa. In 1466, Água das Infantes appears on the list of houses subordinated to Serra de Ossa. In 1598, Teodósio II, Duke of Bragança granted the licence to build a new monastery next the chapel of São Luís, which was located in the public square inside Portel. In this place the community moved in 1607, and the Duke received the patronage of the new monastic church. Nossa Senhora do Socorro de Portel was dissolved and definitively abandoned in 1834: the parish took care of the church and the sacristy and the rest was sold at a public auction to the family Gil Borja de Menezes. The ancient monastic dependencies have been exploited for storage, bullfights have taken place within the cloister, and the enclosure has undergone profound changes, mostly when it was transformed into a private garden. Between the end of the 19th and the beginning of the 20th century, the refectory was used as a public theatre. Then, in the 1980s, the construction of the municipal swimming pool and the transformation of the green space into a public garden, led to the damage of the ancient hydraulic system and the landscape architecture *intra-muros*. Nowadays, the church and the attached sacristy are under the protection of the Portel parish, while the monastic dependencies and the enclosure are owned by the Portel Municipality.

### Current state of occupation

| | |
|---|---|
| Church | occupied |
| Monastic Dependences | occupied |
| Enclosure | occupied |

### Current uses

| | |
|---|---|
| Church | liturgy |
| Monastic Dependences | library, education |
| Enclosure | public garden |

### Property

| | |
|---|---|
| Church | Parish |
| Monastic Dependences | Public |
| Enclosure | Public |

### Conservation state

| | |
|---|---|
| Church | reasonable |
| Monastic Dependences | moderate |
| Enclosure | moderate |

### Permanences

| | |
|---|---|
| Church | mostly maintained |
| Monastic Dependences | altered |
| Enclosure | altered |

### Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

### Heritage Classification

Not classified

### Protection

Not protected

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Socorro de Portel** SP - NSS - 03
38°18'37.06"N, 7°42'26.67"W

**Specific bibliographic references**

Aguiar, José, and Marta Tavares. 2000. *Convento dos Paulistas - Portel.* Report of the visit to the monastery of Nossa Senhora do Socorro de Portel made by Virgolino Jorge, Maria do Céu Tereno, José Aguiar, Marta Tavares, Ana Pagará and Cláudia Martins.

Espanca, Túlio. 1976. "Convento de Nossa Senhora do Socorro da Vila de Portel". In: *A Cidade de Évora, Boletim de Cultura da Câmara Municipal,* 1ª série, ano XXXIII, no. 59, pp. 243-255. Évora: Câmara Municipal de Évora.

Espanca, Túlio. 1978. *Inventário Artístico de Portugal. Distrito de Évora. Concelhos de Alandroal, Borba, Mourão, Portel, Redondo, Reguengos de Monsaraz, Viana do Alentejo e Vila Viçosa.* vol. IX-I, pp. 209-217. Lisboa: Academia Nacional de Belas-Artes.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 523-525. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de São Paulo de Portel". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 144-145. Lisboa: Livros Horizonte.

Lima, Paulo. 1992. P*atrimónio de Portel. Recenseamento preliminar (áreas rurais)*, vol. I. Portel: Câmara Municipal de Portel.

Pagará, Ana Fátima. 2002. "O Convento da Ordem de S. Paulo, em Portel". In: *Conversas à volta dos conventos* (coord. Virgínia Fróis), pp. 207-227. Évora: Casa do Sul Editora.

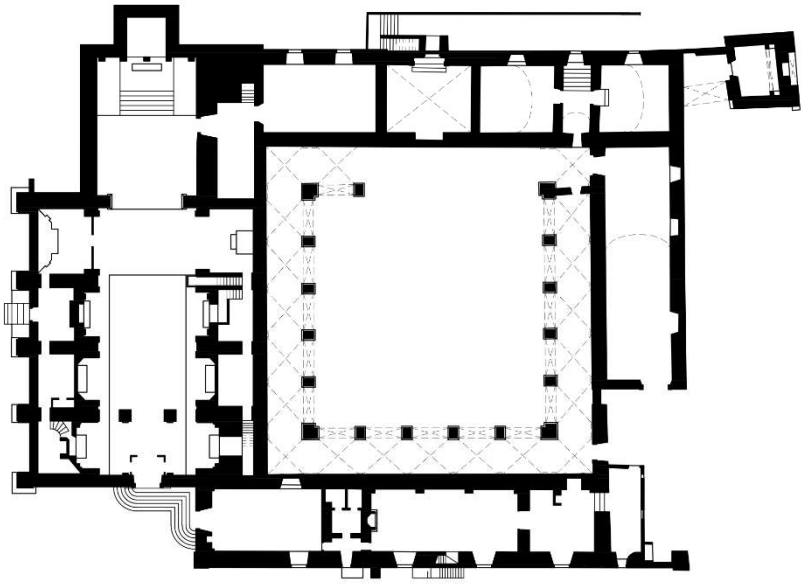
Patalim, Francisco de Macedo Pina. 1992. R*elação histórica da nobre vila de Portel*, facsimile of the manuscript dated 1730. Portel: Junta de Freguesia de Portel-Câmara Municipal de Portel.

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Socorro de Portel** SP - NSS - 04
38°18'37.06"N, 7°42'26.67"W

**Technical Drawings**
Adapted from ©Câmara Municipal de Portel, 1997

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mt



Floor 0 Plan. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Socorro de Portel** SP - NSS - 05
38°18'37.06"N, 7°42'26.67"W

**Pictures**



South and East façades. ©O Mundo da Hortense, 2017



View of the enclosure from North. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Socorro de Portel** SP - NSS - 06
38°18'37.06"N, 7°42'26.67"W

**Pictures**



South wing of the cloister. ©Rolando Volzone, 2018



North wing of the cloister. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora do Socorro de Portel** SP - NSS - 07
38°18'37.06"N, 7°42'26.67"W

**Pictures**



Presbitery (left) and high choir (right). ©Rolando Volzone, 2018



Ancient monastic dependencies and new uses. ©Rolando Volzone, 2018

## *C.3.10 Monastery of Nossa Senhora da Luz de Montes Claros*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Luz de Montes Claros** SP - NSL - 01
38°46'16.54"N, 7°28'49.94"W

**Denominations**

1. Hermitage Montes Claros
2. Monastery of Nossa Senhora da Luz de Montes Claros

**Location**

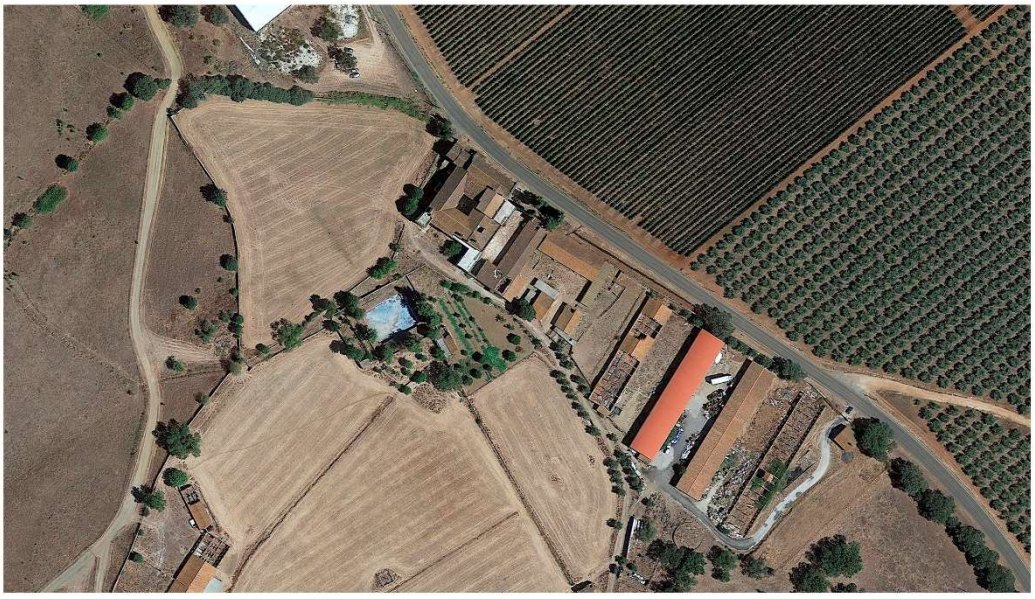
Rio de Moinhos (Rio de Moinhos Civil Parish, Borba Municipality, Évora District)

**General Environment**

Rural area

**Specific environment**

Plains



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1407

**Dissolution**

1834

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Luz de Montes Claros** SP - NSL - 02
38°46'16.54"N, 7°28'49.94"W

### Historical Frameworks

This monastery had its origin in a hermitage founded in 1407 by Gonçalo Neto, in a place called Cabeça do Bravo or Montes Claros, in the vicinity of Borba. Since the first documental references, the hermitage showed a connection with Serra de Ossa. This was attested by the donation dated back of 1407, made to João Fernandes, Álvaro, Gonçalo, Estêvão, and Pedro, "poor men of Serra de Ossa". Donations followed one another during the government of Gonçalo Neto, who confirmed in 1422 that Montes Claros belonged to Serra de Ossa. In 1466, the hermitage appeared on the list of houses subordinated to Serra de Ossa. The monastery was rebuilt between 1564 and 1574, then it was renovated in the beginning of the 17th century and, again, between 1714 and 1742. The monastery of Nossa Senhora da Luz de Montes Claros was dissolved in 1834 and then abandoned for a few years, until the sale by public auction. According to Túlio Espanca, between 1883 and 1884 the owners adapted it to a summer residence. Over the decades, it was passed down to another family, the current owners, keeping the same function.

### Current state of occupation

| | |
|---|---|
| Church | abandoned |
| Monastic Dependences | abandoned |
| Enclosure | abandoned |

### Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

### Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

### Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | moderate |
| Enclosure | moderate |

### Permanences

| | |
|---|---|
| Church | mostly maintained |
| Monastic Dependences | partially altered |
| Enclosure | partially altered |

### Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

### Heritage Classification

Not classified

### Protection

Not protected

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Luz de Montes Claros** SP - NSL - 03
38°46'16.54"N, 7°28'49.94"W

**Specific bibliographic references**

Anselmo, António Joaquim. 1907. *O concelho de Borba.* Elvas: Typographia e Stereotypia Progresso.

Espanca, Túlio. 1978. *Inventário Artístico de Portugal. Distrito de Évora. Concelhos de Alandroal, Borba, Mourão, Portel, Redondo, Reguengos de Monsaraz, Viana do Alentejo e Vila Viçosa.* vol. IX-I, pp. 162-166. Lisboa: Academia Nacional de Belas-Artes.

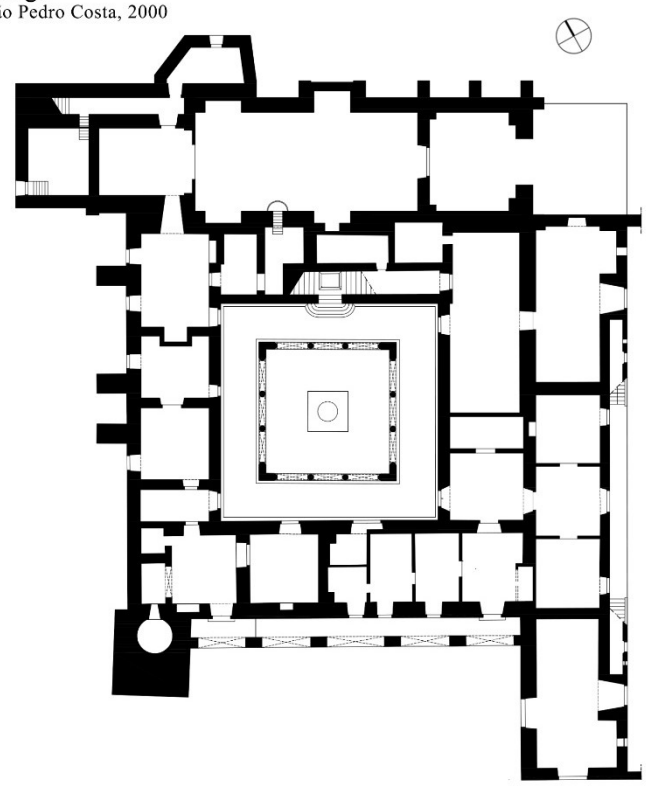
Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 553-555. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Nossa Senhora da Luz de Montes Claros". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, p. 146. Lisboa: Livros Horizonte.

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Luz de Montes Claros** SP - NSL - 04
38°46'16.54"N, 7°28'49.94"W

**Technical Drawings**
Adapted from ©João Pedro Costa, 2000




Floor 0 Plan. ©Rolando Volzone, 2020



South-East Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Luz de Montes Claros** SP - NSL - 05
38°46'16.54"N, 7°28'49.94"W

**Pictures**



North façade. ©Rolando Volzone, 2019



South and West façades. ©Rolando Volzone, 2019

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Luz de Montes Claros** SP - NSL - 06
38°46'16.54"N, 7°28'49.94"W

Pictures



Entrance of the complex ©Rolando Volzone, 2019



South façade. ©Rolando Volzone, 2019

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Luz de Montes Claros** SP - NSL - 07
38°46'16.54"N, 7°28'49.94"W

Pictures



Cloister. ©Rolando Volzone, 2019



Presbytery (left) high choir (right). ©Rolando Volzone, 2019

## *C.3.11 Monastery of Santa Cruz de Rio Mourinho*

Monastic Complex Technical Datasheet

**Monastery of Santa Cruz de Rio Mourinho** SP - SCRM - 01
38°34'55.07"N, 8°13'38.33"W

**Denominations**

1. Hermitage Felgueira
2. Hermitage Ervedeira
3. Hermitage Rio Mourinho
4. Monastery of Santa Cruz de Rio Mourinho

**Location**

Rio Mourinho (Nossa Senhora da Vila Civil Parish, Montemor-o-Novo Municipality, Évora District)

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2019

0 100
mt

**Foundation**

1st documented reference: 1369

**Dissolution**

1823

Monastic Complex Technical Datasheet

Monastery of Santa Cruz de Rio Mourinho SP - SCRM - 02
38°34'55.07"N, 8°13'38.33"W

## Historical Frameworks

This monastery had its origin in a hermitage located in the estate Felgueiras, around Montemor-o-Novo. At the initiative of Mendo Seabra, the hermitage was reformed around 1410, moving to Ervedeira, near Rio Mourinho. In 1422, the Pope Martin V conceded to the hermits the exemption from paying tithes on the fruits of the hermitage estates and the privilege of choosing a confessor and the possibility of having a portable altar. It is possible that the hermitage moved near Felguerias in 1425, as visible through the licence conceded by Pope Martin V to build dwellings in a more healty place. In 1435, Mendo Seabra donated the hermitage to the community who was living in it, by obtaining a confirmation for this donation by King Duarte I. In the previous year, the same king extended to this community the equal privileges granted to Serra de Ossa and, in 1437, at the request of Mendo Seabra, subordinated the community Rio Mourinho to Serra de Ossa. In 1478, the poor men donated their hermitage to the Hieronymites community of Santa Maria do Espinheiro in Évora, after obtaining the consent of the king and of the pope. However, Serra de Ossa appealed to the Holy See and obtained the revocation of the annexation, through the bull *Humilibus supplicum*, by Pope Sixtus IV in 1481. Hence, Santa Maria do Espinheiro was forced to return the hermitage and its assets in 1483. It has been dissolved in 1797 and its assets have been annexed to the college of São Paulo in Coimbra. The monastery of Santa Cruz de Rio Mourinho, according to the assets' valuation made in 1835, was in a ruinous state. In 1875 it was a private property, remaining in ruins. In 1888 the main façade sgraffitos were restored. Through the decades, until 1970, it was inhabited by different owners. Its main function has been residential, but a sawmill has been established on the ground floor.

## Current state of occupation

| | |
|---|---|
| Church | abandoned |
| Monastic Dependences | abandoned |
| Enclosure | abandoned |

## Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

## Conservation state

| | |
|---|---|
| Church | bad |
| Monastic Dependences | bad |
| Enclosure | bad |

## Permanences

| | |
|---|---|
| Church | mostly maintained |
| Monastic Dependences | mostly maintained |
| Enclosure | mostly maintained |

## Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Heritage Classification

Not classified

## Protection

Included in "Plano Sectorial da Rede Natura 2000" Site of Community Interest Monfurado

Monastic Complex Technical Datasheet

Monastery of Santa Cruz de Rio Mourinho SP - SCRM - 03
38°34'55.07"N, 8°13'38.33"W

**Specific bibliographic references**

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 559-561. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Santa Cruz de Rio Mourinho". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 139-140. Lisboa: Livros Horizonte.

Espanca, Túlio. 1975. *Inventário Artístico de Portugal. Distrito de Évora. Concelhos de Arraiolos, Estremoz, Montemor-o-Novo, Mora e Vendas Novas*, vol. VIII-I, pp. 343-345. Lisboa: Academia Nacional de Belas-Artes.

Volzone, Rolando, and João Luís Fontes. 2020. "The Portuguese Eremitical Congregation of the Serra de Ossa: Spatial Analysis of the Monastic Settlements". In: *Journal of Medieval Iberian Studies* 12 (1), pp. 84-105. https://doi.org/10.1080/17546559.2019.1652838.

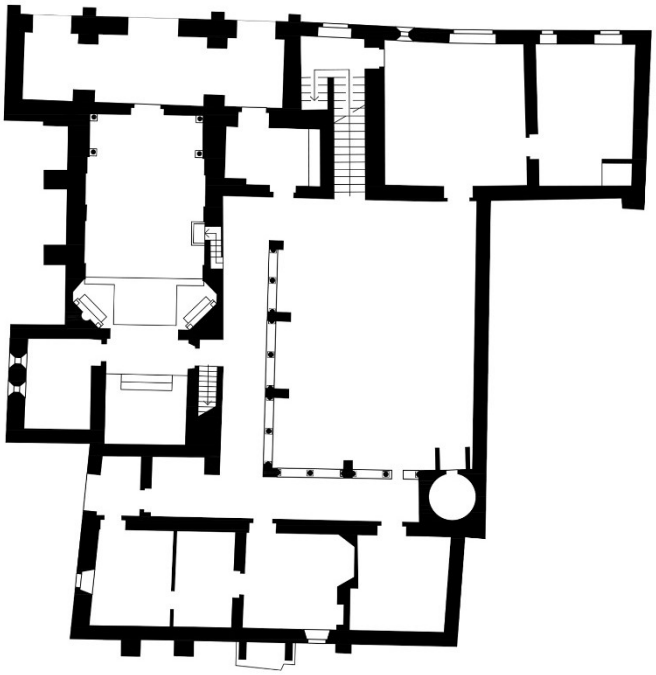
Monastic Complex Technical Datasheet

Monastery of Santa Cruz de Rio Mourinho
38°34'55.07"N, 8°13'38.33"W

SP - SCRM - 04

**Technical Drawings**
Adapted from ©Custódio Barroso, 2008

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Floor 0 Plan. ©Rolando Volzone, 2020



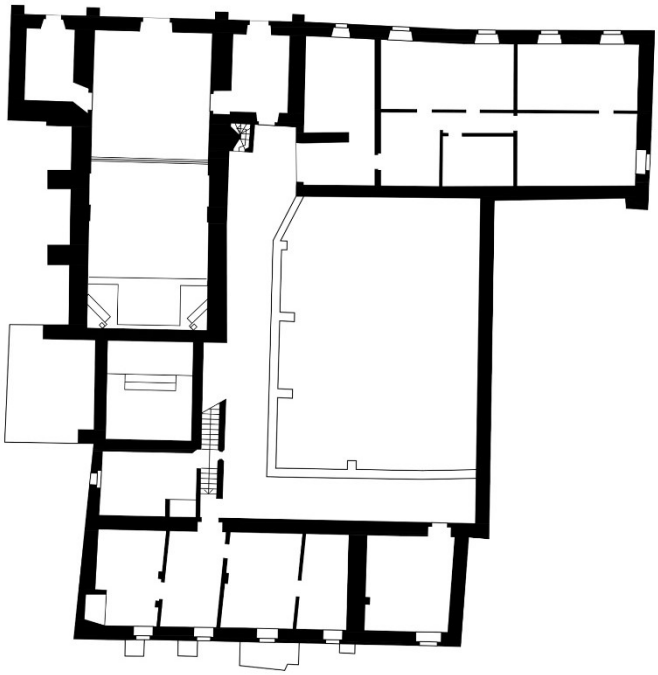
North Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

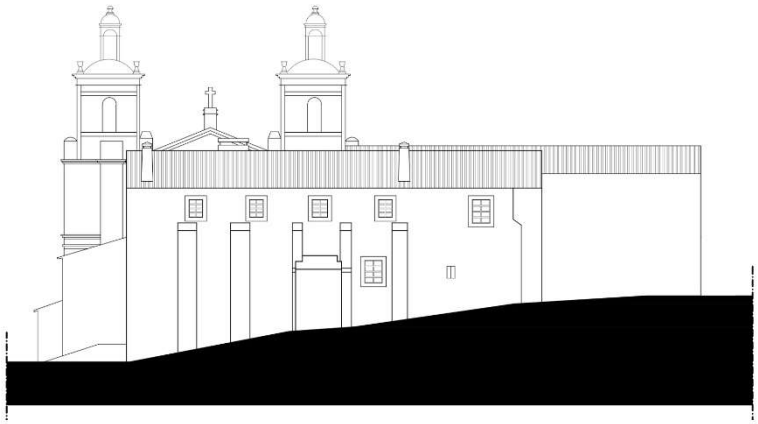
**Monastery of Santa Cruz de Rio Mourinho**
38°34'55.07"N, 8°13'38.33"W

SP - SCRM - 05

**Technical Drawings**
Adapted from ©Custódio Barroso, 2008




Floor 1 Plan. ©Rolando Volzone, 2020



South Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Santa Cruz de Rio Mourinho** SP - SCRM - 06
38°34'55.07"N, 8°13'38.33"W

**Pictures**



East façade. ©Rolando Volzone, 2018



South façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Cruz de Rio Mourinho** SP - SCRM - 07
38°34'55.07"N, 8°13'38.33"W

Pictures



North façade. ©Rolando Volzone, 2018



West Façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Cruz de Rio Mourinho** SP - SCRM - 08
38°34'55.07"N, 8°13'38.33"W

Pictures



Ancient chapter house. ©Rolando Volzone, 2018



Ancient refectory. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Cruz de Rio Mourinho** SP - SCRM - 09
38°34'55.07"N, 8°13'38.33"W

Pictures



Cloister from the first floor (left), cloister vaulted corridor (right). ©Rolando Volzone, 2018



First floor common space (left) cell (right). ©Rolando Volzone, 2018

## *C.3.12 Monastery of Santa Catarina de Montemuro*

Monastic Complex Technical Datasheet

**Monastery of Santa Catarina de Montemuro** SP - SCM - 01
38°32'37.00"N, 8°1'51.89"W

**Denominations**

1. Hermitage Montemuro
2. Monastery of Santa Catarina de Montemuro

**Location**

Montemuro Hill chain (Guadalupe Civil Parish, Évora Municipality, Évora District)

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2019

0 100
mt

**Foundation**

1st documented reference: 1415

**Dissolution**

1593

Monastic Complex Technical Datasheet

Monastery of Santa Catarina de Montemuro SP - SCM - 02
38°32'37.00"N, 8°1'51.89"W

## Historical Frameworks

This monastery had its origin in a hermitage documented since 1415 in Montemuro, in the vicinity of Évora. In that year, the Town Council, at the request of Prince Duarte and other persons, donated to the hermits of this community several lands. In 1425, Pope Martin V conceded, at the request of the King João I, the exemption from paying tithes of the lands the hermits owned, the possibility of having a portable altar, the privilege of choosing a confessor and of receive plenary indulgence in death. Probably the hermitage was founded already subordinated to Serra de Ossa. Montemuro appeared on the list of houses subordinated to Serra de Ossa in 1466. After the approval of the eremitical congregation of São Paulo da Serra de Ossa, the Order's Chapter, gathered in 1592, included the monastery of Santa Catarina de Montemuro among the houses to be suppressed, due to unhealthy reasons or scarcity of rents. Therefore, its attachment to the college of São Paulo of Évora was determined. The decision was ratified by Pope Clement VIII the following year. Since the dissolution, it is known that the monastery has served residential purposes through many decades, but it currently does not have a specific function; only the surrounding land is cultivated.

## Current state of occupation

| | |
|---|---|
| Church | abandoned |
| Monastic Dependences | abandoned |
| Enclosure | occupied |

## Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | agricultural production |

## Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

## Conservation state

| | |
|---|---|
| Church | bad |
| Monastic Dependences | bad |
| Enclosure | bad |

## Permanences

| | |
|---|---|
| Church | mostly maintained |
| Monastic Dependences | partially altered |
| Enclosure | partially altered |

## Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Heritage Classification

Not classified

## Protection

Not protected

Monastic Complex Technical Datasheet

Monastery of Santa Catarina de Montemuro SP - SCM - 03
38°32'37.00"N, 8°1'51.89"W

**Specific bibliographic references**

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 552-553. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Santa Catarina de Montemuro". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 147-148. Lisboa: Livros Horizonte.

Barata, Filipe Themudo, José Manuel Mascarenhas, and Gonçalo Ribeiro Telles. 2002. "Preservando a memória do territorio: o Parque Cultural de Tourega/Valverde. In *Cadernos do Centro de Estudos de Ecossistemas Mediterrânicos*, no. 1. Evora: CEEM Centro de Estudos de Ecossistemas Medeiterrânicos.

Espanca, Túlio. 1966. *Inventário Artístico de Portugal*, Concelho de Évora. vol. VII-I, p. 366. Lisboa: Academia Nacional de Belas-Artes.

Volzone, Rolando, Matteo Bigongiari, Federico Cioli and Pietro Becherini. 2019. "La documentazione digitale dell'antico monastero di Santa Catarina de Montemuro della congregazione eremitica di São Paulo da Serra de Ossa (Évora, Portugal)", in *ReUSO Matera. Patrimonio in Divenire. Conoscere, Valorizzare, Abitare*, pp. 1297-1308. Roma: Gangemi Editore

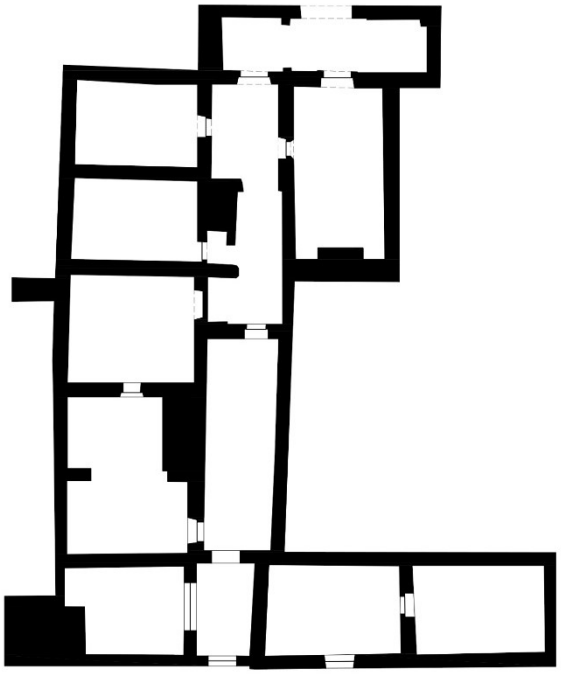
Monastic Complex Technical Datasheet

Monastery of Santa Catarina de Montemuro
38°32'37.00"N, 8°1'51.89"W

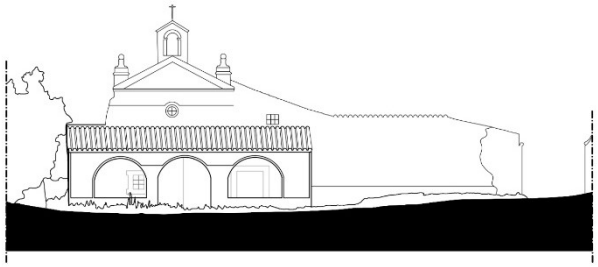
SP - SCM - 04

**Technical Drawings**



Floor 0 Plan. ©Rolando Volzone, 2020



North Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Santa Catarina de Montemuro** SP - SCM - 05
38°32'37.00"N, 8°1'51.89"W

**Pictures**



View of the North façade. ©Rolando Volzone, 2018



View of the South and West façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Catarina de Montemuro** SP - SCM - 06
38°32'37.00"N, 8°1'51.89"W

Pictures



View of the East façade. ©Rolando Volzone, 2018



View of the West façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Catarina de Montemuro** SP - SCM - 07
38°32'37.00"N, 8°1'51.89"W

Pictures



Interior view of the chapel. ©Rolando Volzone, 2018



Detail: Gothic door (left) fresco on the north façade (right). ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of Santa Catarina de Montemuro** SP - SCM - 08
38°32'37.00"N, 8°1'51.89"W

Pictures



Room on the first floor. ©Rolando Volzone, 2018



Interior corridor at the main floor. ©Rolando Volzone, 2018

## *C.3.13 Monastery of São Julião de Alenquer*

Monastic Complex Technical Datasheet

**Monastery of São Julião de Alenquer** SP - SJA - 01
39° 4'18.48"N, 9° 0'13.82"W

**Denominations**

1. Hermitage of São Gião or São Julião de Alenquer
2. Monastey of São Julião de Alenquer

**Location**

São Paulo estate (Santo Estêvão Civil Parish, Alenquer Municipality, Lisboa District)

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2019

0 100
mt

**Foundation**

1st documented reference: 1459

**Dissolution**

1823

Monastic Complex Technical Datasheet

**Monastery of São Julião de Alenquer** SP - SJA - 02
39° 4'18.48"N, 9° 0'13.82"W

### Historical Frameworks

This monastery was founded on a hermitage located around Alenquer, in the civil parish of Santa Maria da Várzea. The oldest documentary reference was dated back of 1422. In that year, the hermitage received, through the bull of Pope Martin V, the exemption from paying tithes of the product cultivated by the hermits. Probably, the foundation of this hermitage was conncected with João de Santa Maria, who emerged as governor in the historical records dated between 1430 and 1484. The dissolution of the monastery of São Julião de Alenquer and its annexation – including assets and incomes – to the college of São Paulo de Coimbra was decreed in 1797. However, this became effective only in 1823. São Julião de Alenquer monastery was converted into the Quinta de São Paulo, belonging to different owners since 1873. Presently, due to the several changes and its abandoned state, its spatial analysis is hampered.

### Current state of occupation

| | |
|---|---|
| Church | abandoned |
| Monastic Dependences | abandoned |
| Enclosure | abandoned |

### Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

### Property

| | |
|---|---|
| Church | Private |
| Monastic Dependences | Private |
| Enclosure | Private |

### Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | moderate |
| Enclosure | moderate |

### Permanences

| | |
|---|---|
| Church | mostly maintained |
| Monastic Dependences | very altered |
| Enclosure | - |

### Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

### Heritage Classification

Not classified

### Protection

Not protected

Monastic Complex Technical Datasheet

**Monastery of São Julião de Alenquer** SP - SJA - 03
39° 4'18.48"N, 9° 0'13.82"W

**Specific bibliographic references**

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 575-577. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de São Julião de Alenquer". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, p. 150. Lisboa: Livros Horizonte.

Melo, António de Oliveira, António Rodrigues Guapo, and José Eduardo Martins. 1986. *O Concelho de Alenquer: subsídios para um roteiro de Arte e Etnografia*, vol. 3, pp. 99-102. Alenquer: Comissão Municipal da Feira da Ascensão de Alenquer-Associação para o Estudos e Defesa do Património de Alenquer.

Monastic Complex Technical Datasheet

**Monastery of São Julião de Alenquer** SP - SJA - 04
39° 4'18.48"N, 9° 0'13.82"W

**Pictures**



View of the West and North façades. ©Rolando Volzone, 2018



View of the East façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of São Julião de Alenquer** SP - SJA - 05
39° 4'18.48"N, 9° 0'13.82"W

Pictures



View of the South façade. ©Rolando Volzone, 2018



View of the West façade. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of São Julião de Alenquer** SP - SJA - 06
39° 4'18.48"N, 9° 0'13.82"W

Pictures



North view of the patio. ©Rolando Volzone, 2018



East view of the patio. ©Rolando Volzone, 2018

Monastic Complex Technical Datasheet

**Monastery of São Julião de Alenquer** SP - SJA - 07
39° 4'18.48"N, 9° 0'13.82"W

Pictures



Interior views of the church: presbitery (left), high choir (right). ©Rolando Volzone, 2018



Details of the church's main façade. ©Rolando Volzone, 2018

## *C.3.14 Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira** SP - NSAT - 01
37°7'43.66"N, 7°38'59.10"W

**Denominations**

1. Hermitage Tavira Hill chain
2. Hermitage Vale Formoso
3. Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira

**Location**

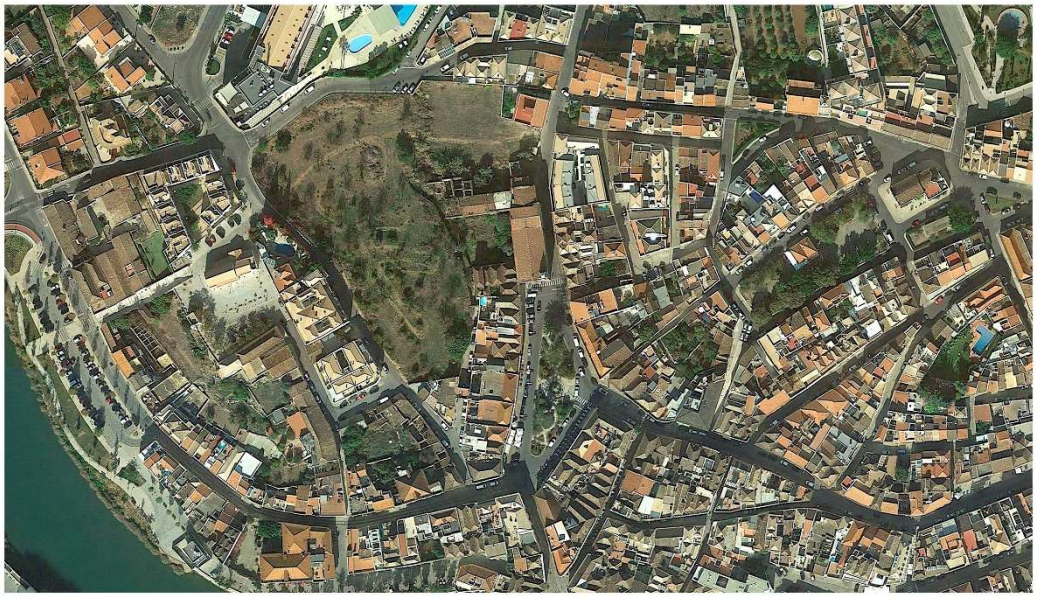
Tavira (Santa Maria de Tavira Civil Parish, Tavira Municipality, Faro District)

**General Environment**

Urban area

**Specific environment**

Plains



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1401

**Dissolution**

1834

Monastic Complex Technical Datasheet

Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira SP - NSAT - 02
37°7'43.66"N, 7°38'59.10"W

## Historical Frameworks

This monastery had its origin in a hermitage located near the chapel of São Marcos, in Vale Formoso, around Tavira. The first documental references to the hermitage were dated back to 1439. In that year, Afonso Pais, keeper of the Royal Warehouses in Tavira, donated a kitchen garden to Joane, a hermit of the poor life who was born in Lamego. In 1466, appeared on the list of houses subordinated to Serra de Ossa. In 1475, Sisto IV extended to this community the equal privileges and freedoms granted to Serra de Ossa. The primitive monastery was abandoned in 1606, and the community moved to a new building in the centre of Tavira. After the dissolution in 1834, Nossa Senhora da Ajuda de Tavira was divided in parts: the church was assigned to the Confraria de Nossa Senhora da Ajuda, and later to the Santa Maria parish; the rest was sold at a public auction. The evolution of the ancient monastic dependencies that nowadays belong to private owners is unknown. The church still maintains its original function.

## Current state of occupation

| | |
|---|---|
| Church | occupied |
| Monastic Dependences | abandoned |
| Enclosure | occupied |

## Current uses

| | |
|---|---|
| Church | liturgy |
| Monastic Dependences | - |
| Enclosure | agricultural production |

## Property

| | |
|---|---|
| Church | Parish |
| Monastic Dependences | Private |
| Enclosure | Private |

## Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | bad |
| Enclosure | moderate |

## Permanences

| | |
|---|---|
| Church | mostly maintained |
| Monastic Dependences | partially demolished |
| Enclosure | partially altered |

## Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

## Heritage Classification

Not classified

## Protection

Not protected

Monastic Complex Technical Datasheet

Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira SP - NSAT - 03
37°7'43.66"N, 7°38'59.10"W

**Specific bibliographic references**

Anica, Arnaldo Casimiro. 1993. *Tavira e o seu termo. Memorando histórico.* Tavira: Câmara Municipal de Tavira.

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 595-596. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Nossa Senhora da Ajuda de São Marcos de Tavira". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 143-144. Lisboa: Livros Horizonte.

Lameira, Francisco Ildefonso. 1991. "O maior entalhador e escultor setecentista algarvio - Manuel Martins". In: *Actas do I Congresso Internacional do Barroco*, vol. I, pp. 481-495. Porto: Universidade do Porto.

Lameira, Francisco Ildefonso. 1996. *Roteiro das igrejas de Tavira.* Faro: Região de Turismo do Algarve, 1996.

Marado, Catarina Almeida. 2006. *Antigos Conventos do Algarve.* Lisboa: Edições Colibri. ISBN: 9789727726318.

Marado, Catarina Almeida. 2007. "Patrimonio conventual y periferia urbana. La salvaguardia de los antiguos espacios conventuales del Algarve". PhD Thesis in Architecture, Departamento de Urbanística y Ordenación del Territorio. Sevilla: Universidad de Sevilla.

Marado, Catarina Almeida. 2010. "A cidade, os conventos e as suas hortas". In: *Cidade e Mundos Rurais. Tavira e as Sociedades Agrárias.* Tavira: Câmara Municipal de Tavira.

Vasconcelos, Damião Augusto de Brito. 1989. *Notícias Históricas de Tavira, 1242-1840.* Tavira: Câmara Municipal de Tavira.

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira** SP - NSAT - 04
37°7'43.66"N, 7°38'59.10"W

**Pictures**



View of the East and North façades. ©Rolando Volzone, 2019



View of the West façade. ©Rolando Volzone, 2019

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira** SP - NSAT - 05
37°7'43.66"N, 7°38'59.10"W

Pictures



East view of the ancient cloister. ©Rolando Volzone, 2019



South view of the ancient cloister. ©Rolando Volzone, 2019

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Ajuda de São Marcos de Tavira** SP - NSAT - 06
37°7'43.66"N, 7°38'59.10"W

Pictures



Church: main façade (left), interior view (right) . ©Rolando Volzone, 2019



View of the North wing of the ancient monastic dependencies. ©Rolando Volzone, 2019

## *C.3.15 Monastery of Nossa Senhora da Junqueira*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Junqueira** SP - NSJ - 01
37°55'39.60"N, 8°46'56.70"W

**Denominations**

1. Hermitage Junqueira
2. Monastery of Santa Maria da Junqueira
3. Monastery of Nossa Senhora da Junqueira

**Location**

Provença (Sines Civil Parish, Sines Municipality, Sétubal District)

**General Environment**

Rural area

**Specific environment**

Slope



©Google Earth View, 2019

0 100
mt

**Foundation**

1st documented reference: 1447

**Dissolution**

1645

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Junqueira** SP - NSJ - 02
37°55'39.60"N, 8°46'56.70"W

### Historical Frameworks

This monastery had its origin in a hermitage founded in 1447. In that year a group of hermis of the poor life, headed João Gonçalves, received in sesmaria an estate located in Junqueira, near Sines. In 1454, the King Afonso V took the hermitage under the royal protection and granted several privileges. Among these, through the bull *Speciali gratia*, the Pope Pio II granted the exemption from paying tithes of the fruits cultivated by the hermits in the hermitage's estate. In 1466, appeared on the list of houses subordinated to Serra de Ossa. The Order's Chapter, gathered in 1592, included the monastery of Nossa Senhora da Junqueira among the houses to be suppressed, due to unhealthy reasons or scarcity of rents. Therefore, its attachment to the monastery of Nossa Senhora da Consolação de Alferrara was determined in 1645. Since the 19th century, Santa Maria da Junqueira had a residential use. A picture dating to the second half of the 20th century shows the house in a good state of conservation, but a recent on-site visit, in 2019, revealed the squatting of the space by a local community.

### Current state of occupation

| | |
|---|---|
| Church | illegally occupied |
| Monastic Dependences | illegally occupied |
| Enclosure | illegally occupied |

### Current uses

| | |
|---|---|
| Church | residential |
| Monastic Dependences | residential |
| Enclosure | agricultural production |

### Property

| | |
|---|---|
| Church | Public |
| Monastic Dependences | Public |
| Enclosure | Public |

### Conservation state

| | |
|---|---|
| Church | bad |
| Monastic Dependences | bad |
| Enclosure | bad |

### Permanences

| | |
|---|---|
| Church | partially demolished |
| Monastic Dependences | partially demolished |
| Enclosure | partially demolished |

### Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | - |
| Enclosure | - |

### Heritage Classification

Not classified

### Protection

Not protected

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Junqueira** SP - NSJ - 03
37°55'39.60"N, 8°46'56.70"W

**Specific bibliographic references**

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 549-550. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Nossa Senhora da Junqueira". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 149-150. Lisboa: Livros Horizonte.

Patrício, Sandra. 2013. *Na villa de Sines e seu termo. Os lugares do concelho de Sines na documentação dos séculos XVII-XIX*. Sines: Câmara Municipal de Sines. ISBN 978-972-8261-10-8

Patrício, Sandra. 2016. *Santa Casa da Misericórdia de Sines: 500 anos da história de uma instituição*. Sines: Santa Casa da Misericórdia de Sines.

Patrício, Sandra and Paula Pereira. 2017. *Sines, a Terra e o Mar*. Sines: Câmara Municipal de Sines. ISBN 978-972-8261-18-4.

Quaresma, António. 2014. "Sines Medieval e Moderna (séculos XIV-XVIII)". In: *O concelho de Sines da fundação à Época Moderna*. Sines: Câmara Municipal de Sines. ISBN 978-972-8261-08-05.

Soledade, Arnaldo. 1999. *Sines Terra de Vasco da Gama*. Sines: Câmara Municipal de Sines.

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Junqueira** SP - NSJ - 04
37°55'39.60"N, 8°46'56.70"W

**Pictures**



View of the North and East façades. ©Rolando Volzone, 2019



View of the North façade. ©Rolando Volzone, 2019

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Junqueira** SP - NSJ - 05
37°55'39.60"N, 8°46'56.70"W

Pictures



View of the South and West façades. ©Rolando Volzone, 2019



View of the East and South façades. ©Rolando Volzone, 2019

## *C.3.16 Monastery of Nossa Senhora da Consolação de Serpa*

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Serpa** SP - NSCS - 01
37°56'39.73"N, 7°35'44.88"W

**Denominations**

1. Hermitage Serpa
2. Monastery of Nossa Senhora da Consolação de Serpa

**Location**

Serpa (Salvador Civil Parish, Serpa Municipality, Beja District)

**General Environment**

Rural area

**Specific environment**

Plains



©Google Earth View, 2017

0 100
mt

**Foundation**

1st documented reference: 1494

**Dissolution**

1834

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Serpa** SP - NSCS - 02
37°56'39.73"N, 7°35'44.88"W

### Historical Frameworks

This monastery had its origin in a hermitage founded in 1494 by Martim Gonçalves Baralho and João Manuel, in the vicinity of Serpa, under the invocation of Santa Maria da Consolação. However, documental references attested eremitical experiences in Serpa since 1378. The hermitage was donated to Serra de Ossa in 1502, to ensure that other men of poor life could live there. After the approval of the eremitical congregation of São Paulo da Serra de Ossa, the Order's Chapter, gathered in 1592, included the monastery of Nossa Senhora da Consolação among the houses to be suppressed, due to unhealthy reasons or scarcity of rents. Therefore, its attachment to the monastery of Nossa Senhora do Socorro in Portel was determined. A license of King Filipe III, with the consent of the municipality, allowed the community to obtain a land, in order to build a new monastery inside Serpa in 1617. The monastery of Nossa Senhora da Consolação de Serpa was dissolved in 1834. In 1840, the monastic building and the church became property of Santa Casa da Misericórdia de Serpa, in exchange for buildings in which the institution was based. The ancient monastery was renovated in order to adapt the structure to the new hospital function. The hospital is still working. The church returned to the ownership of the Parish of Serpa, but the religious service ended about 40 years ago. It is nowadays abandoned.

### Current state of occupation

| | |
|---|---|
| Church | abandoned |
| Monastic Dependences | occupied |
| Enclosure | occupied |

### Current uses

| | |
|---|---|
| Church | - |
| Monastic Dependences | hospital |
| Enclosure | hospital |

### Property

| | |
|---|---|
| Church | Parish |
| Monastic Dependences | Private organisation |
| Enclosure | Private organisation |

### Conservation state

| | |
|---|---|
| Church | moderate |
| Monastic Dependences | moderate |
| Enclosure | moderate |

### Permanences

| | |
|---|---|
| Church | mostly maintained |
| Monastic Dependences | partially altered |
| Enclosure | partially altered |

### Recent Interventions

| | |
|---|---|
| Church | - |
| Monastic Dependences | 1998 |
| Enclosure | - |

### Heritage Classification

Classified

### Protection

Included in the Protected Special Area of Intramural Serpa centre

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Serpa** SP - NSCS - 03
37°56'39.73"N, 7°35'44.88"W

**Specific bibliographic references**

Fontes, João Luís Inglês. 2012. "Da *pobre vida* à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)", pp. 581-583. PhD Thesis in Medieval History. Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa.

Fontes, João Luís Inglês. 2016. "Mosteiro de Nossa Senhora da Consolação de Serpa". In: *Ordens Religiosas em Portugal. Das Origens a Trento. Guia Histórico*, 3rd editon, pp. 150-151. Lisboa: Livros Horizonte.

Junior, Francisco Manuel Abraços. 1956. "Subsídios para a Monografia de Serpa. Conventinho e Horta da Provença". In: *Noticias de Serpa*, no. 29, ano II, Maio de 1956, p. 6.

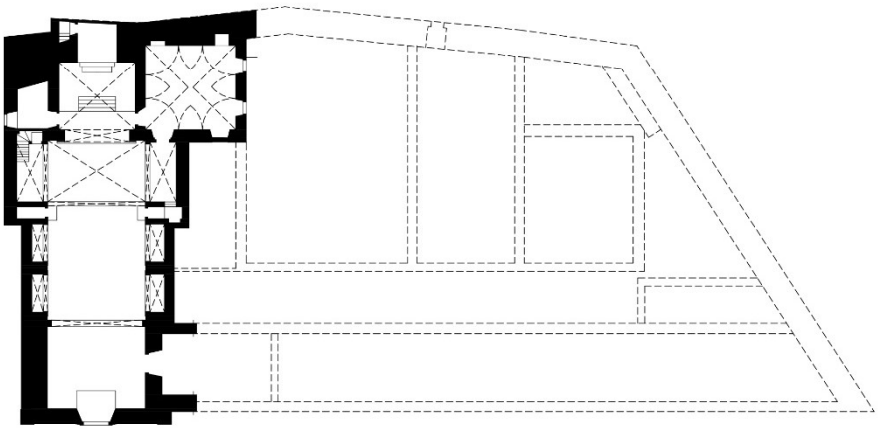
Vieira, Maria João. "De Eremitas a Paulistas. Os frades que vieram da Provença de Serpa". In: *Serpa Informação*, V série, no. 122, março de 2015, p. 8.

Monastic Complex Technical Datasheet

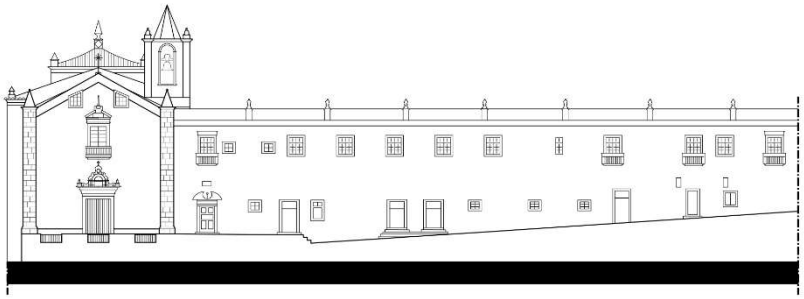
**Monastery of Nossa Senhora da Consolação de Serpa** SP - NSCS - 04
37°56'39.73"N, 7°35'44.88"W

**Technical Drawings**

0 10
mt



Floor 0 Plan. ©Rolando Volzone, 2020



North Elevation. ©Rolando Volzone, 2020

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Serpa** SP - NSCS - 05
37°56'39.73"N, 7°35'44.88"W

**Pictures**



View of the main façade. ©Rolando Volzone, 2017



Interior view of the patio. ©Rolando Volzone, 2017

Monastic Complex Technical Datasheet

**Monastery of Nossa Senhora da Consolação de Serpa** SP - NSCS - 06
37°56'39.73"N, 7°35'44.88"W

Pictures



Interior view of the church: presbitery (left) enrance and high choir (right). ©Rolando Volzone, 2017



View of the high choir. ©Rolando Volzone, 2017

**Appendix D**

## D.1 Monasteries' dissolution: assets inventory and their evaluation

| Name | Dissolution | Assets Inventory | Evaluation | Date | Documental Source |
|---|---|---|---|---|---|
| Santa Cruz de Rio Mourinho | 1823 | ● | Monastery, enclosure, oil press: 1100$000 | 1835 | PT/TT/MF-DGFP/E/001/00118 |
| Nossa Senhora da Consolação de Alferrara | 1813 | ● | *Edificio Urbano* (including church and sacrtisty): 400$000<br>Enclosure: 700$000 | 1837 | PT/TT/MF-DGFP/E/001/00298<br>IV/D/12(5) |
| Santa Catarina de Montemuro | 1593 | n. i. | n. i. | n. i. | n. i. |
| Santa Margarida do Aivado | 1797 | n. i. | n. i. | n. i. | n. i. |
| São Paulo da Serra de Ossa | 1834 | ● | Upper enclosure: 4000$000<br>Lower enclosure: 800$000 | 1834 | PT/TT/MF-DGFP/E/001/00367<br>IV/D/27(7) |
| Nossa Senhora do Amparo de Vila Viçosa | 1834 | ● | Enclosure: 500$000 | 1834 | PT/TT/MF-DGFP/E/001/00436<br>IV/D/44(2) |
| Nossa Senhora do Socorro de Portel | 1834 | ● | Monastery: 2800$000;<br>Enclosure: 400$000 | 1834 | PT/TT/MF-DGFP/E/001/00318<br>IV/D/14 |
| Nossa Senhora da Luz de Montes Claros | 1834 | ● | Enclosure: 2600$000 | 1834 | PT/TT/MF-DGFP/E/001/00276<br>IV/D/10/4(2) |
| Nossa Senhora dos Remédios de Elvas | 1834 | ● | Monastery: 9424$000 | 1834 | PT/TT/MF-DGFP/E/001/00134 |
| Nossa Senhora da Consolação de Serpa | 1592-1834 | ● | Monastery, two enclosures: 2000$000 | 1836 | PT/TT/MF-DGFP/E/001/00365 |
| Nossa Senhora da Rosa da Caparica | 1813 | n. i. | n. i. | | |
| Nossa Senhora da Ajuda de São Marcos de Tavira | 1834 | ● | Church: 1200$000<br>Monastery: 400$000<br>Enclosure: 450$000 | 1839 | PT/TT/MF-DGFP/E/001/00386<br>IV/D/37(4) |
| São Julião de Alenquer | 1823 | n. i. | n. i. | n. i. | n. i. |
| Nossa Senhora da Azambujeira de Fonte Arcada | 1618 | n. i. | n. i. | n. i. | n. i. |
| Santo Antão de Vale da Infante | 1642 | n. i. | n. i. | n. i. | n. i. |
| Santa Maria da Junqueira | 1645 | n. i. | n. i. | n. i. | n. i. |

n.i. = not identified

**Appendix E**

## E.1 Appended Publications

- Volzone, Rolando, e João Luís Fontes. 2020. «The Portuguese Eremitical Congregation of the Serra de Ossa: Spatial Analysis of the Monastic Settlements». Journal of Medieval Iberian Studies 12 (1): 84–105. https://doi.org/10.1080/17546559.2019.1652838.

- Volzone, R., Cioli, F., Bigongiari, M. & Becherini, P. 2019. «La documentazione digitale dell'antico monastero di Santa Catarina de Montemuro della congregazione eremitica di São Paulo da Serra de Ossa (Évora, Portugal)». In *ReUso Matera, Patrimonio in Divenire: Conoscere, Valorizzare, Abitare*. Roma: Gangemi Editore.

- Volzone, R., Cioli, F. & Bigongiari, M. 2019. «The church of St. George in the Kyrenia castle in North Cyprus: bringing out the shape of architecture». In: *CHNT - Conference on Cultural Heritage and New Technologies*. Vienna:

- Picchio, Francesca, Federico Cioli, e Rolando Volzone. 2018. «Il rilievo della Certosa di Firenze. Catalogazione e analisi delle celle del chiostro grande per la gestione e la valorizzazione del complesso certosino». In *VI Convegno Internazionale sulla documentazione, conservazione e recupero del patrimonio architettonico e sulla tutela paesaggistica, ReUSO 2018*. Roma: Gangemi Editore.

- Volzone, Rolando. 2017. «Os eremitas da pobre vida e a construção da paisagem da Serra de Ossa». Em Estudos de Paisagem, editado por Pedro Fidalgo, 4:198–219. Lisboa: Instituto de História Contemporânea – NOVA FCSH.



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# The Portuguese eremitical Congregation of the Serra de Ossa: spatial analysis of the monastic settlements

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# The Portuguese eremitical Congregation of the Serra de Ossa: spatial analysis of the monastic settlements

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**ABSTRACT**

The Portuguese Eremitical Congregation of São Paulo in Serra de Ossa was founded in 1482, combining a large number of eremitical settlements – documented since 1366, mostly in the Alentejo region – under a centralized government. In 1578, an autonomous congregation was set up, and became then affiliated with the Hungarian Order of Saint Paul the First Hermit. Their settlements were turned into monasteries, most of them only extinct due to the decree of dissolution of the religious orders in 1834. This article attempts to fill in the gaps found in the material study of the Congregation's settlements; the authors have carried out an examination of the seventeen examples – sometimes just traces – through a literature review, an archival dataset, on-site morphological and spatial analyses, with a focus on two case studies: *Santa Cruz de Rio Mourinho and Nossa Senhora da Consolação de Alferrara*. This preliminary survey shows continuities in the communities' choices of location, the strategy of occupation, the architectural morphology features. The study aims to contribute to the diffusion of information about this monastic network, and to the creation of protective policies in relation to this cultural heritage, since all these monasteries have lost their original function and values.

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Alentejo (Portugal); monastic and eremitical settlements; morphological and spatial analysis; Serra de Ossa congregation; fourteenth–sixteenth centuries

## Introduction

Eremitical life, as is well known, is one of the most ancient lifestyles in the history of Christian spirituality, and is particularly linked, in its origins, to more eastern regions of the Mediterranean – Egypt, Palestine, and Anatolia. This form of living varied in terms of the people who followed it and the experiences of those people, ranging from the most extreme forms of solitude and penance to semi-eremitical and, finally, coenobitic traditions. In each case, we see the same search for a balance between solitude and communitarian life – a search for personal religion and spiritual guidance, freedom and obedience, personal prayer and liturgy, charisma and written rules.[1]

Alongside the complex and diverse evolution of the different forms of religious life in western Christendom – monastic, canonical, eremitical, mendicant – eremitism retained

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not only its importance as an ideal of monastic life, but also its presence in particular phases of history as an option for those seeking a more perfect form of religious life, or aiming to denounce the sins of their societies, communities, or religious orders, or even proposing a return to a model of life closer to the charisma of their religious families.[2]

In Portuguese territory, the eremitical tradition seems to mark some of the most ancient monastic experiences and monastic reformers, like the saints Martin of Braga (c. 510/5–579/80), Rudesind (907–977), and Frutuoso (595–665).[3] Along with the progress of the Christian conquest of territory (in the eleventh to thirteenth centuries), many hermits established themselves in some of the new, unpopulated areas, contributing to the integration of these territories into the Christian order, populating them and helping to explore their resources.[4]

At the end of the fourteenth century, the new eremitical movement that arose around the Serra de Ossa and spread along the south of Portugal seemed to be linked to spiritual contexts particularly engaged in religious renewal, with strong participation from lay people and a particular accent on voluntary poverty, coupling the search for solitude and prayer with manual labor.[5] It took over a century for the Portuguese hermits to form a congregation (1482) and almost another to transform their settlements into monasteries, along with their integration in 1578, by the papacy, into an already existing religious order – the Hungarian Order of Hermits of Saint Paul the First Hermit – as an autonomous congregation.

These transformations led to deep changes in the materiality and spatiality of such settlements. From more charismatic, poor communities that gave little importance to the clergy and liturgical life and that farmed their own land and exploited their resources, they became organized monastic communities, living according to rules and proper constitutions that enforced more complex liturgical ceremonies and prayers.[6]

Unfortunately, the remaining historical records are not always very generous when giving information about the materiality of the Congregation of the Serra de Ossa, and many of its ancient settlements were converted into to monasteries or even abandoned in favor of new locations during the sixteenth and eighteenth centuries. In many cases, the ancient monasteries were abandoned after their suppression in 1834 or converted into new buildings, from factories to police headquarters or public facilities.

This article intends to supplement the existing historical literature on this religious movement and congregation with a study of the architecture of its monasteries – or what remains of them – and the surrounding landscapes. This gap needs to be filled in order to understand the historical – but also contemporary – value of the buildings that were almost all mostly altered after the decree of dissolution of religious orders in 1834, and to promote and protect this important cultural heritage.

## Historical framework

### *From men of "poor life" to the Congregation of the Serra de Ossa*

The experience of the Congregation of the Serra de Ossa has been studied extensively by historians in Portugal, but there has been no systematic study of the features of the

architectonical landscape that would allow for a more integrated interpretation of this landscape of eremitical heritage.[7]

The historical research on the origins of these eremitical communities clearly shows their early expansion in southern Portugal, from when they first appeared in historical records (1366) until the end of the first half of the fifteenth century, a period during which they were protected by the Portuguese kings, the municipalities, and their inhabitants. The Holy See supported these communities after an enquiry conducted in 1377–1378 that ensured their commitment to the Church and the correctness of their way of life.[8]

Serra de Ossa was home to some of the most ancient communities (Serra de Ossa, Vale de Infante, Vale Abraão, and so on), and therefore all the other "poor life" communities (Figure 1) would live according to these models, even if not all of them immediately accepted the formers' role as overseers of their decisions regarding their government and the control of their assets. This only happened gradually, with support from the royal family, who was engaged in controlling these groups and reinforcing their links to the community of Serra de Ossa, and partially as a result of these hermits' protests against the attempts of other religious orders to take possession of some of their settlements.[9]

Pope Sixtus IV imposed the public profession of a chastity vow on them in 1477, through the papal bull *In suprema militantis ecclesiae*.[10] Five years later, they finally accepted being officially named a congregation with a provincial superior, settled in Serra de Ossa, with the right to visit the other communities and to decide the destiny of each house and their inhabitants.[11]

The number of houses would stabilize by the beginning of the sixteenth century, when other religious movements, this time linked to the Franciscans of Strict Observance, started to attract new men in search of solitude and poverty, denouncing the failure of the ancient observance.

## An eremitic Congregation in the south of Portugal

The region chosen by these men of poor life for their eremitical settlements presented particular natural conditions, along with a peculiar population and a characteristic monastic landscape, clearly different from that of the northern region of the country. The Alentejo region (literally "beyond the Tagus River"),[12] in the south of Portugal, is dominated by the peneplain. The soil is dry compared with the northern regions, with low rainfall, and low to medium agricultural capacity.[13] Here, human occupation has always been sparse, mostly because of the soil's low fertility and historical-political factors.[14] These large uncultivated areas of low population and the consequent shortage of labor have favored extensive cattle farming, an important source of income in the region.[15]

The late conquest of the territory by Christian forces, concluded only in 1259, and the need to assure its defense, population, and economic exploitation, encouraged the Portuguese kings to promote the establishment of several military religious orders, which received important land donations and privileges, and settled their own convents in strategic points of defense. Their presence inhibited that of other religious orders, since they also had a significant number of parishes under their care. In contrast to the northern

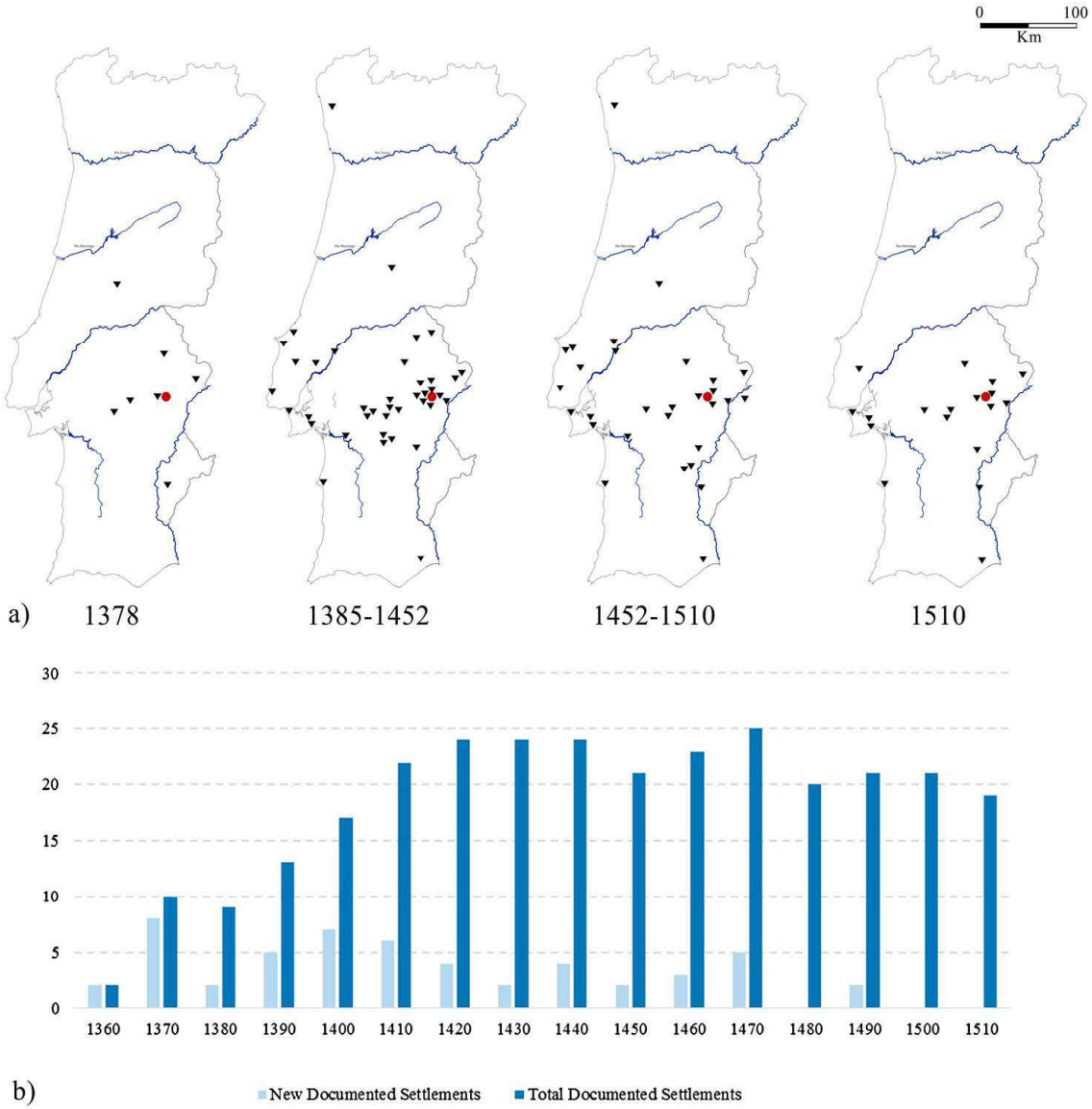



**Figure 1.** The evolution of hermitic foundations: (a) the geography of the "men of poor life" according to a survey taken in 1378, the periods of intense expansion in 1385–1452 and in 1452–1510, and the monasteries of the Congregation in 1510. The role played by Serra de Ossa as the epicenter of this movement is clear in Alentejo. (b) The table shows the new documented settlements (adapted from Fontes, 2012).

regions of the Portuguese realm, the monastic and canonical orders were completely absent from the south until the middle of the fifteenth century, with the sole exception of the Cistercian nunnery of São Bento de Cástris, near Évora.[16] It would be the mendicant orders – the Dominicans and Franciscans still during the first half of the thirteenth century, soon followed by the Hermits of Saint Augustin and the Carmelites – that would provide an answer to the religious needs of the urban nuclei of the south, with their vows of communitarian poverty and brotherhood, their care for the sick and the poor, their openness to lay religious expectations, and their success as preachers, attentive to the new problems that the city posed to Christians.[17] Thus, they set up their convents inside or close to the urban walls, in growing and dynamic areas that would be quickly absorbed by urban expansion.[18] Only in the fifteenth century did new religious houses

– monastic (the Hieronymites), canonical (the Secular Canons of Saint John the Evangelist), and mendicant (the Poor Clares) – arrive in Alentejo, with the support of the bishop of Évora and the Portuguese kings.[19] It is in this natural, human, and monastic landscape that the hermits of Serra de Ossa would increase and form a congregation.

## The distribution of settlements within the Congregation

It is only after the Council of Trent, in 1578, through the bull *Creditum nobis*, that the monastic Congregation of the Serra de Ossa is officially integrated into the religious order of Hermits of Saint Paul the First Hermit and recognized as an autonomous congregation.[20] With its center in the monastery of Serra de Ossa, it encompassed over seventeen male communities established south of Tagus river, with the exception of the monastery of *São Julião*, located in Alenquer.[21] Most of them were located inland in the south of Portugal, with only four communities settled near the coast: the monastery of Nossa Senhora da Consolação of Alferrara in Palmela, the monastery of Nossa Senhora da Rosa in Caparica, the monastery of Santa Maria da Junqueira in Sines, and the monastery of Nossa Senhora da Ajuda in Tavira.

By that time, several eremitical settlements had already disappeared, due to the relocation of their inhabitants or to their donation to another religious order or to other eremitical groups that settled nearby, for example: Alentejo (Óbidos), Ameal do Gorjão and São Pedro de Bencatel (Vila Viçosa), Amieira (Estremoz), Asseiceira (Olivença), São Brissos de Xarrama (Alcáçovas), Vale de Flores (Portalegre), Viana do Alentejo, and Zarco (Viana do Alentejo). In the sixteenth century, the Congregation would decide to extinguish the communities of Mendoliva, one of the three medieval settlements located on the Setúbal peninsula, and Espadaneira, near Estremoz.[22]

This process also affected the remaining settlements profoundly. Along with all the changes in their daily life and discipline, the process also meant that on the one hand there was an architectural evolution, from a hermitage to a monastery, and on the other, it led to a movement of some of the peripheral or rural communities to new locations, near or even inside towns.

For this reason, we can now see two different types of monasteries that resulted from this process (Figure 2): a larger group – of about twelve – settled in rural areas located at a maximum of 15 km from the urban centers, which translates to about three hours on foot. These monasteries can still be found in their original locations, and most maintain some of their eremitical traces. The second group is made up of five monasteries, all located closer to urban environments, which suggests that their former locations were abandoned (Portel, Tavira, Elvas, Vila Viçosa, Serpa).

In both cases, the criteria used to select the most favorable sites in which monasteries would settle were: (1) physiographic characteristics – namely topography and hydrography; (2) the proximity to major roadways; and (3) the influence of the religious, municipal, and regal powers, which determined the access to land, through donations, on which to establish the communities.

This article focuses on the twelve monasteries located in rural settings. These allowed for greater tranquility, which was necessary for the life of seclusion sought in the eremitical tradition.

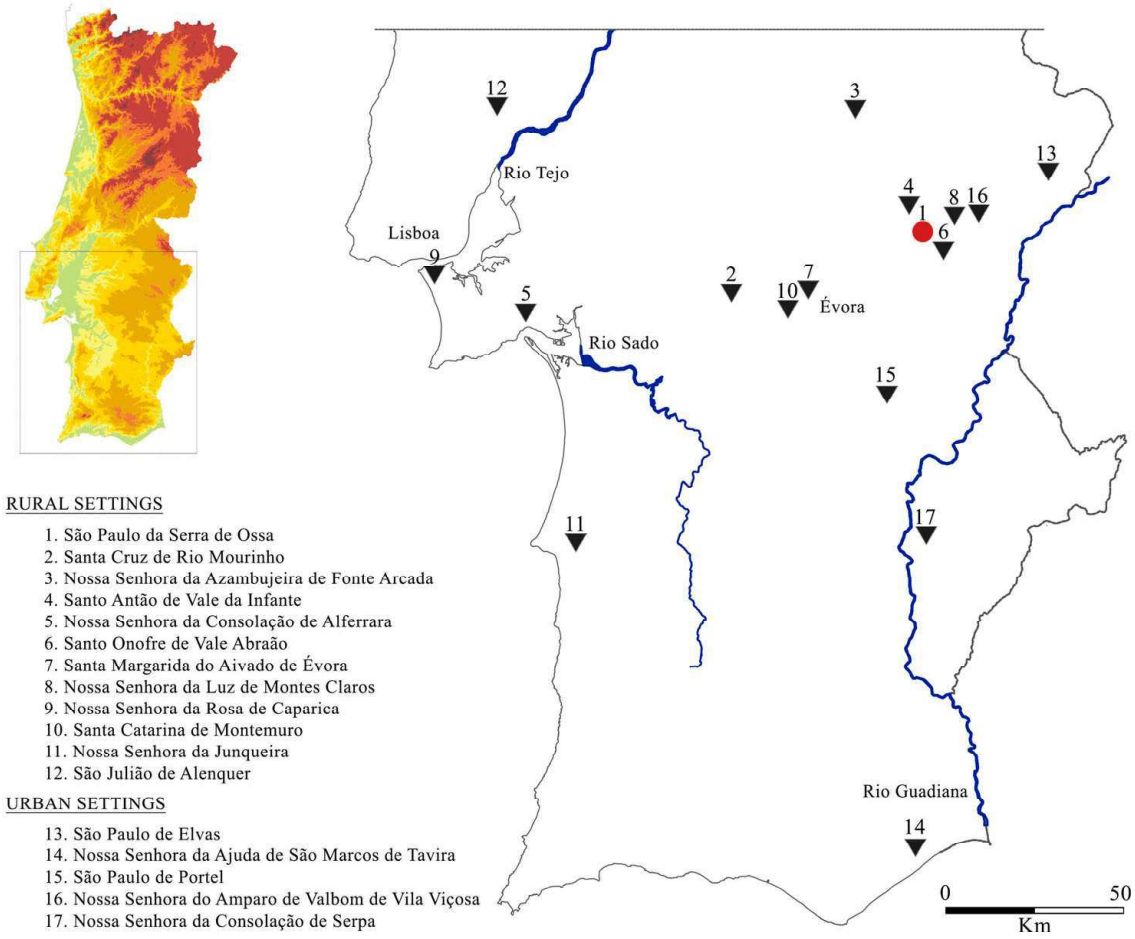



**Figure 2.** Locations of the network of monasteries that made up the Congregation of the Serra de Ossa in Portugal.

## *Characteristics of monastic installations in rural settings*

In rural contexts, hermits needed conditions that allowed for self-sufficiency. This meant that when it came to choosing a site on which to settle, the following conditions were critical: (1) the relative remoteness of the population, (2) the presence of abundant drinking water, (3) the fertility of the soil, and (4) the availability of raw materials for the construction of buildings.

Distance was important – they intended to lead a secluded life – but also relative, as the microcosm constructed by the hermits was not a space of complete isolation. The perimeter, which often surrounded monasteries, welcomed the outside world, since hermit tradition required them to provide hospitality to those who sought it. However, the opposite was also the case: these men appeared to visit and stay in the city whenever possible – when they needed to celebrate a juridical act, to request a copy of a document, or simply to take the products of their labor (fruits or wooden spoons) to women who would sell them.[23] For these reasons, they mostly settled near main roads. This is the case of the monasteries of Santa Margarida do Aivado and Santa Catarina de Montemuro (Figure 3), which are at distances of 7 and 15 km from the city of Évora, respectively. From the results of previous studies that analyzed the old road system in the region of Évora, it is possible to verify that the first

monastery stood at a distance of 0.3 km from the medieval road and 1.2 km from the old Roman road between Ebora and Scalabis (Évora and Santarém), and that the second monastery was built at a distance of 1.5 km from the old Roman road between Évora and Alcácer, which was a part of Itinerary XII, from Olisipo to Mérida (Lisbon to Mérida) (Figure 3(c)).[24]

The wide availability of drinkable water enabled the hermits to carry on their retired life with the necessary autonomy in relation to the closest settlements. The hermits needed a hydraulic system that allowed for water to be collected, transported, stored, and distributed for personal use – for washing and cooking – as well as for the irrigation of crops and for the cattle.[25]




**Figure 3.** The monasteries and their relationship to ancient Roman and medieval roads: (a) a photo of *Santa Catarina de Montemuro*; (b) a photo of *Santa Margarida do Aivado*; (c) a map of the district of Eastern Évora, with the ancient roads and the location of the two monasteries marked on it.

As fertilizer of the earth and, symbolically, its inhabitants, water played a central role in the settling of hermits.[26] It is therefore not surprising that most monasteries were built near springs or important waterlines. The abundance of water also increased the soil's agricultural potential, which was beneficial to the communities. This was the case in the Vale de Infante in Serra de Ossa (Figure 4), where the monastery of *Santo Antão* is located. Vale de Infante is one of the places with the largest availability of hydric resources in Serra de Ossa and is a true oasis in which orange trees, lemon trees, and other fruit plants prosper like they do along the Portuguese coastline.[27]

The accessibility of raw building materials contributed greatly to the choice of location. The use of local materials was preferred for the construction of monasteries, as there were larger quantities of these materials and they were more easily extractable. They therefore led to clear gains in efficiency in costs and in construction time.[28]

The topography of the land dictated the orientation of the settlement. The monasteries analyzed were built on south-facing slopes – mostly southeast and southwest – which provided better sun exposure and protection from northern winds.

Settlements were therefore adapted to the topographical characteristics of the land, taking advantage of the height difference to feed the hydraulic system and to transport construction materials using gravity. The slope was divided into three main parts: upper, middle, and lower thirds (Figure 5). The upper third, close to the mountain ridges, was reserved for the woods, with an organic and irregular structure consisting of spontaneous vegetation, springs, streams, rocky outcrops, pathways and gutters. The middle and lower thirds – naturally flatter or artificially terraced land – were more humid because of the proximity to the water at the bottom of the valley. Consequently, gardens, vegetable patches, and orchards were planted there. Usually, monastery buildings were constructed between the upper and middle thirds of a slope, enabling them to be safeguarded against flooding from the river and from humidity,



**Figure 4.** Photo of the monastery of *Santo Antão do Vale de Infante*.



**Figure 5.** Monastic settlement on a slope: photo of the monastery of *São Paulo da Serra de Ossa*.

and at the same time ensuring better building salubrity. Because of these factors, monasteries were built in locations with sweeping views, enabling contemplation at various levels – at a small, medium and large scale – of the fence, the surrounding valley, and the whole landscape, respectively.[29]

We will now analyze two case studies: the monasteries of Santa Cruz de Rio Mourinho and Nossa Senhora da Consolação de Alferrara. These have been selected for: (1) the proximity of the dates on which they were founded – 1369 and 1380, respectively; (2) the reformations of both monasteries carried out by Mendo Seabra in the beginning of the fifteenth century – in 1410 and in 1428; and (3) the remarkable architectural and typological features that can still be seen today.

## Monastery of Santa Cruz de Rio Mourinho

### *Location*

The monastery of Santa Cruz de Rio Mourinho is located in the central Alentejo region, 9 km southwest of Montemor-o-Novo, and about 30 km from the city of Évora. It lies in the mountainous area of Monfurado, which is made up of a group of WNW-ESE-facing reliefs, each with an altitude of slightly more than 400 meters: Morena (407 m), Monfurado (424 m), São Sebastião (441 m), Carvalhal (422 m) and Conde (431 m). About 20 km in length and with a width of 15 km, the area extends from Montemor-o-Novo to Valverde and, along with the other mountainous areas of the Alentejo region, it presents a striking contrast to the surrounding peneplain. Its vegetation is very dense and leafy, with an abundance of cork oak and holm oak groves, which are sometimes mixed, and which cover a large part of this landscape. The soil is schist-based to the west, and granite-based to the east.[30]

## Historical introduction

The monastery originates from an eremitical settlement that has been documented since 1369 in a place called Felgueiras, a toponym that comes from the Latin *filicaria* and literally means "ground where there are ferns," describing a habitat dominated by native, abundant vegetation. The community moved to Ervedeira in 1410, and in 1425 relocated to its current location of the Rio Mourinho.[31]

The history of this community is linked to Mendo Seabra, a member of the Portuguese royal court who joined eremitical life around 1407, after obtaining an explicit papal license to do so, and held this *modus vivendi* until his death in 1442.[32] His will attests to his involvement in the foundation of the hermitage of Mendoliva (Setúbal), the direction of the communities of Alferrara (Palmela) and Nossa Senhora da Rosa da Caparica or Cela Nova (Almada), and the protection granted to him by kings João I and Duarte, as well as by Infant João, the master of the Santiago Order.[33]

Even so, the community of Rio Mourinho resisted submitting itself to Serra de Ossa and was one of the places that the Hieronymites of Santa Maria do Espinheiro in Évora would try to claim for their order around 1478. However, it remained in the Congregation of the Serra de Ossa, and was one of the monasteries that continued to exist after 1578. In fact, Rio Mourinho existed until around 1823, when all the monastery's assets were given to the order's college near the University of Coimbra.

## A spatial analysis of the monastic installations: accesses, hydric resources, soil

Montemor-o-Novo owned a circulation system made up of paths and roads with different functions. The main road network ensured connection with the most important nearby settlements and with the rest of the territory, and it remains almost intact today. A secondary network of paths connected several places of the same settlements, such as orchards and vineyards.[34]

The monastery is located close to roads going from Montemor-o-Novo to the south: the late medieval road to Alcácer and the secondary Roman road to Beja (Figure 6). The first road, which lies 2.5 km from the monastery in a southwesterly direction, is straight until it reaches the area of Santa Susana, where, meeting Itinerary XII, it merges into the larger road. The second road, which lies 3.5 km from the monastery in a southeasterly direction, starts at Montemor-o-Novo and goes to Santiago do Escoural until it reaches Casa Branca, where it crosses Itinerary XII; this road, however, goes on to Alcáçovas, Vila Nova da Baronia, Faro do Alentejo, and Beja (Figure 6(a)). This road, which is no longer used, was for driving cattle to Montemor-o-Novo – and from there to Lisbon and to Beja up until the 1960s.[35]

A network of rivers with different dimensions passes through this area, producing fertile lands and facilitating human occupation, mostly in the south and west, where the Escoural, Almoxaratim, and São Cristovão rivers flow into the Sado river. The Fonte Santa creek, an affluent of the São Cristovão creek, crosses the area of the monastery while the Rio Mourinho or Remourinho, which gives its name to this community, is southeast of the monastery itself, where it pours out into the Pego do Altar reservoir, where a bridge of the same name exists. It is probable that at a previous point in history, the whole river – up to the area of the monastery – was called Rio

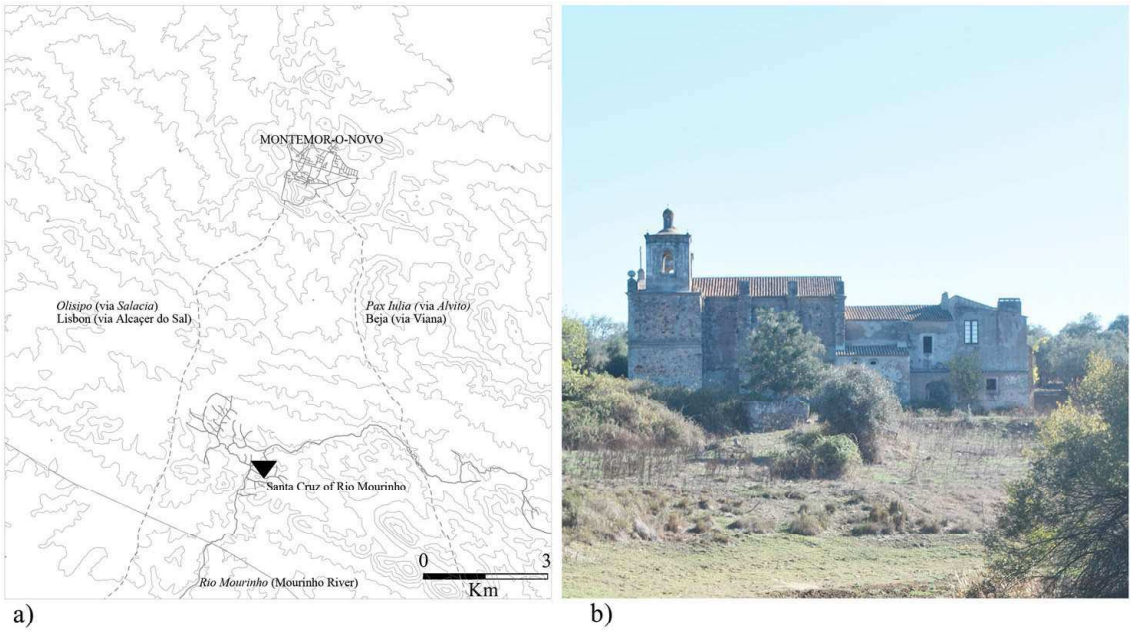



**Figure 6.** The monastery of *Santa Cruz de Rio Mourinho*: (a) relationship between the monastery and the old Roman roads presented on a chorographic map of Portugal 1:100000, n. 28 and n. 29, 1853–1892 (topographic base drawings provided by *CIMAC – Comunidade Intermunicipal do Alentejo Central*); (b) photo of the monastery.

Mourinho, as the river was documented as having the length of 4.5 leagues[36] (which corresponds to about 6 km).[37] This might be the reason why the monastery adopted the hydronym.

The forest cover, like today, consisted of holm and cork oaks, pine, and oleaster, with oak trees in the wetter areas, and ash, willow, poplar, and alder near the rivers. Around the settlements was a circle with vineyards, olive trees, fruit trees, cereals, and linen.[38] A second circle included the bush, for the cultivation of cereals – wheat and barley – and for the cattle. We can extract data about the natural elements from the donation that was made to the hermit Mateus Jacobo in 1369.[39] In the description of the land donated, orchards, fig trees, vineyards, water, and a hill are included, and the physical limit of the property is marked by a stone fence. A new donation in the same place was made in 1377.[40] Olive trees (1401), a mill (1429), an oak grove (1432), and cork oaks (1438) were later integrated into the community's properties.

## Description of the buildings

The monastery of Santa Cruz (Figure 7) had works of great architectonical value done at the end of the sixteenth century, throughout the following century, and again in 1734. It has a U-shaped design – a large part of the east facade collapsed and an emergency wall was constructed – that contains a cloister built at the beginning of the nineteenth century. Only the south and west facades and some ruins of the north side of the cloister are still standing today. Its architectonic features suggest that it was inspired, and perhaps constructed, in the last third of the sixteenth century by the same builders responsible for the Santa Margarida do Aivado cloister (Figure 8), which belonged to the same congregation and was located in the same district.[41]




**Figure 7.** The monastery of *Santa Cruz de Rio Mourinho*: (a) north facade; (b) south facade; (c) architectonical survey and function/space organization.

The cloister worked like a connecting bridge between the two levels, and between the church and the monastic quarters. The church occupied the west side of the building and was accessed from the north through a narthex with three arches. On the first level, a terrace supported by cloister arches linked the cells to the other facilities. The southern buttress facade is an example of pure Baroque architecture. It housed the dormitory, which could be accessed through a stairway built against the wall of the presbytery and contained a rectangular window for each individual cell.




**Figure 8.** Comparison between the cloisters in the two case studies: (a) monastery of *Santa Cruz de Rio Mourinho*; (b) monastery of *Santa Margarida do Aivado*.

## Monastery of Nossa Senhora da Consolação de Alferrara

### Location

The monastery of Nossa Senhora da Consolação de Alferrara is approximately equidistant (5 km) from Palmela and Setúbal, to the northeast and to the southeast, respectively.

It was built on a south-facing slope of the Serra dos Gaiteiros, which is made up of three principal ENE-WSW-facing topographical reliefs and is part of the Serra de Arrábida Natural Park. Peaks in the Serra de Arrábida reach a maximum altitude of 500 m (Serra do Formosinho) and 392 m (Serra de São Luís) and are surrounded by a plain that stands at an altitude of less than 70 m above sea level. Even though it was not built on a peak, the relationship of the monastery to the surrounding heights is similar to that of the other case studies, resulting in seclusion and the construction of a spiritual desert.

The monastery lies on a steep, southeast-facing slope, which benefits from cooling breezes during the warmest periods, is encircled by vegetation, and offers a magnificent view.

### Historical introduction

The monastery of Nossa Senhora da Consolação de Alferrara originated in a small hermitage named Alferrara, which was first documented in 1380. That year, the hermits João Gouvinhas, Miguel, and Vasco were given some land near the Fonte Santa (Holy Fountain), which was soon followed by donations of other pieces of land in the same location.[42]

The community would soon submit to the authority of Serra de Ossa and to the care of Mendo Seabra who, until his death in 1442, oversaw the hermits who governed it.

The settlement would become a monastery after 1578. It was continuously extended during the seventeenth and eighteenth centuries.[43] The assets of the monastery of Mendoliva, located in the nearby town of Setúbal and dissolved in 1531, and of the monastery of Junqueira, near Sines, which was suppressed by the Order in 1645, were all given to Alferrara.[44]

This monastery could house up to twenty-five hermits, but in 1804 only between nine and eleven hermits resided there.[45] The hermits abandoned the monastery in 1808 when Setúbal and Palmela were occupied during the French invasion of Portugal. An artillery battery was established on the terrace of the monastery and operated by soldiery. Since then, only one or two monks lived there, with the purpose of preserving the building and the church. In 1834 it was dissolved, and in 1837 it was appraised and sold at public auction. The monastery was abandoned, and its assets dispersed.

The degradation was stopped in recent years thanks to the AMRS – Associação de Municípios da Região de Setúbal (Association of the Municipalities of the Setúbal Region) – whose rehabilitation work, with the collaboration of an interdisciplinary team, has been notable.

### Spatial analysis of the monastic installations: accesses, hydric resources, soil

In the Setúbal peninsula, the land communication network can be traced to the Roman and Muslim routes that crossed the territory. Palmela is no exception, and the network

is formed by lanes, paths, and roads.[46] The first are known as *héreos*, with restricted circulation and generally private. The paths can link counties. The last are principal roads, larger, and used by lords and merchants.[47] Beyond the Roman itineraries, other paths have been documented and identified, linking Setúbal to Alferrara, Palmela, and Azeitão or Fonte Santa to Coina or Palmela.[48]

The monastery is located near the Roman road Itinerary XII Osilipo–Emerita (Lisbon–Merida), specifically in the section between Aquabona and Cetobriga (Coina and Setúbal). Setting out from Coina, there were two possibilities: going in the direction of Setúbal (which was close to the monastery) and a shorter route connecting Coina to Marateca, avoiding Setúbal and – most importantly – crossing the Serra da Arrábida (Figure 9). Distances of 2.5 km from the first and 7 km from the second have been verified.

The settlement area is rich in hydric resources. In fact, the ancient water supply for the city of Setúbal was right there in Alferrara, a few hundred meters southwest of the Serra dos Gaiteiros, and the same water collection comes from this area. The toponym Alferrara comes from the Arabic *al-harrâra*, which literally means "the waterfall," probably referring to the abundance of water in the area.[49]

Rich hydric resources meant that the soil was fertile, which in turn enabled the growth of spontaneous, lush vegetation in the areas surrounding the monastery on the one hand, and on the other the planting of an orchard. In this monastery, water was collected from a spring located on the northern border of its land and transported through a hydraulic system that worked exclusively through gravity.[50]

The historical records reveal little about the vegetation cover. It is known that the agricultural production of the Setúbal peninsula, during the Middle Ages, was diversified, including cereals (mostly wheat and barley), vineyards, olive groves, vegetables, and fruit. The uncultivated areas supplied wood, honey, and wax, served as hunting grounds, and were ideal for livestock pasture (for cattle, pigs, goats, and sheep).[51] From legal documents of donations, sales, and juridical resolutions, which sometimes contained data on the vegetation cover and hydrography, it is possible to extract valuable information about the structure of the hermitage's lands and their boundaries. In the case of the monastery of Nossa Senhora de Alferrara, the first donation of a small estate (*herdade*) near the Fonte Santa was made to João Gouvinhas, Miguel, e Vasco, hermits of poor life.[52] It had water and a lane (1380), then part of a bush (1385) and orchard (1392). The settlement would be enriched, through donations, with vineyards, trees with no fruit, olive trees (1426), and wheat fields (1465).[53]

The crops grown are determined by the physical substrate and morphology of the ground: the more sloping areas are suited to woods, mainly brush and pine trees, which protect the soil from erosion; in the foothills we find mixed afforestation and olive trees; the low alluvial area is reserved for citrus trees, especially orange trees.[54]

## Description of the buildings

The monastery of Nossa Senhora da Consolação de Alferrara has a square-shaped layout in which the southeast-facing church divides the monastic features in two: the cloister to the west, on one level covered by a terrace, which was accessed via stairs in the northeastern corner; and dormitories, which were originally on three floors, but now are only on one floor, to the east (Figure 10).[55]

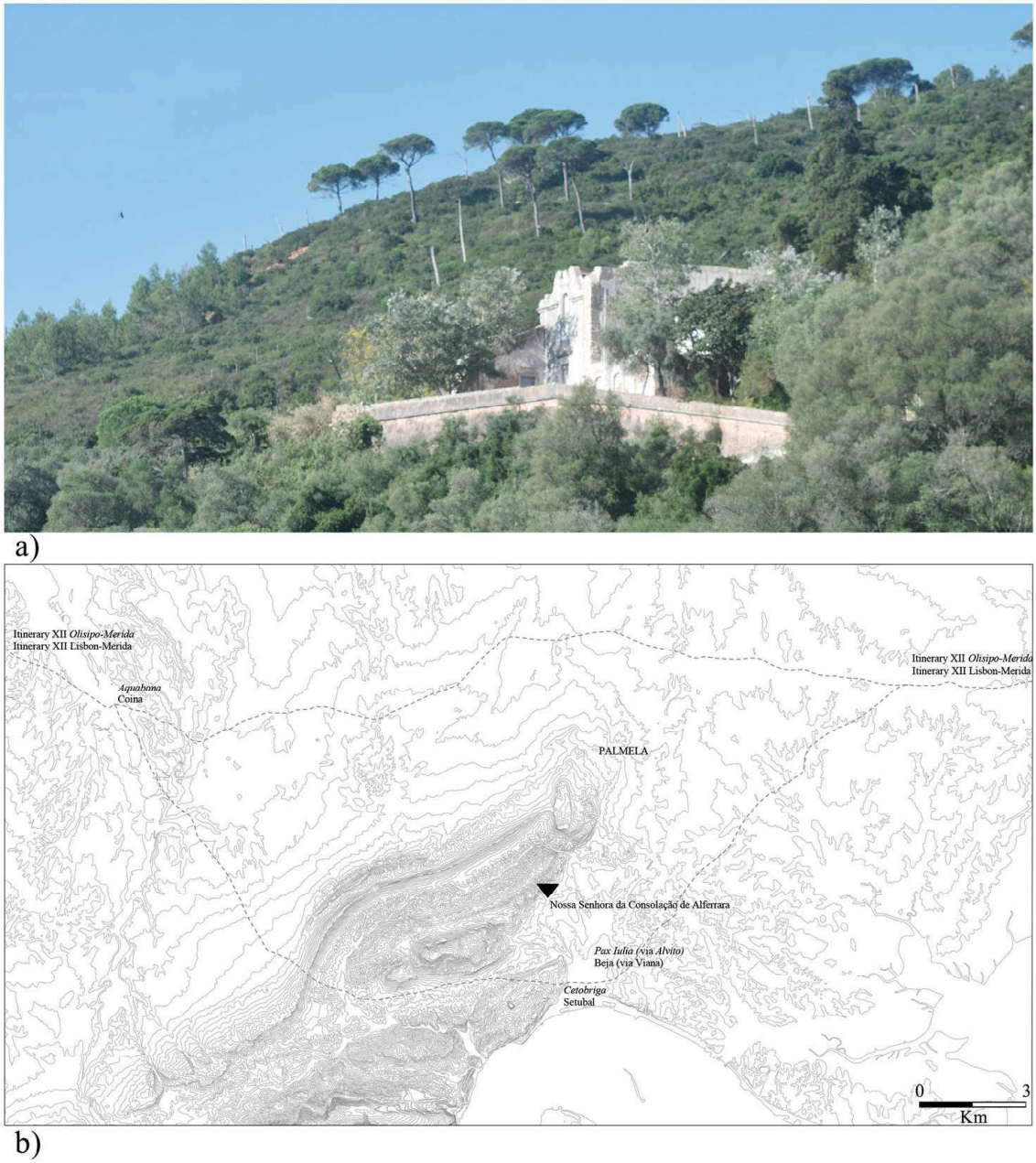



**Figure 9.** The monastery of *Nossa Senhora da Consolação de Alferrara*: (a) photo of the monastery; (b) relationship between the monastery and the old Roman roads (topographic base drawings provided by the *CMP – Câmara Municipal de Palmela*).

The mannerist cloister conserves all the structural elements that were built in the second half of the seventeenth century, during the 1672 construction work.[56] Each facade of the cloister has three rounded arches, supported by Tuscan limestone columns; the arches and the vaults of the galleries are made of masonry. On the opposite side of the church there is a corridor, and, in the middle, what should be the chapter house, with a ceiling decorated with frescoes that probably date back to the early eighteenth century. At the end of this side, there is a path to the Holy Fountain, with its *Casa de Fresco*, a space artificially shaped like a cavern, used by the hermits for meditation and decorated with shells – pink and white clams, oysters, scallops – combined with porcelain shards, fragmented green glass, and brown stones, all inspired by Italian renaissance artificial caverns.

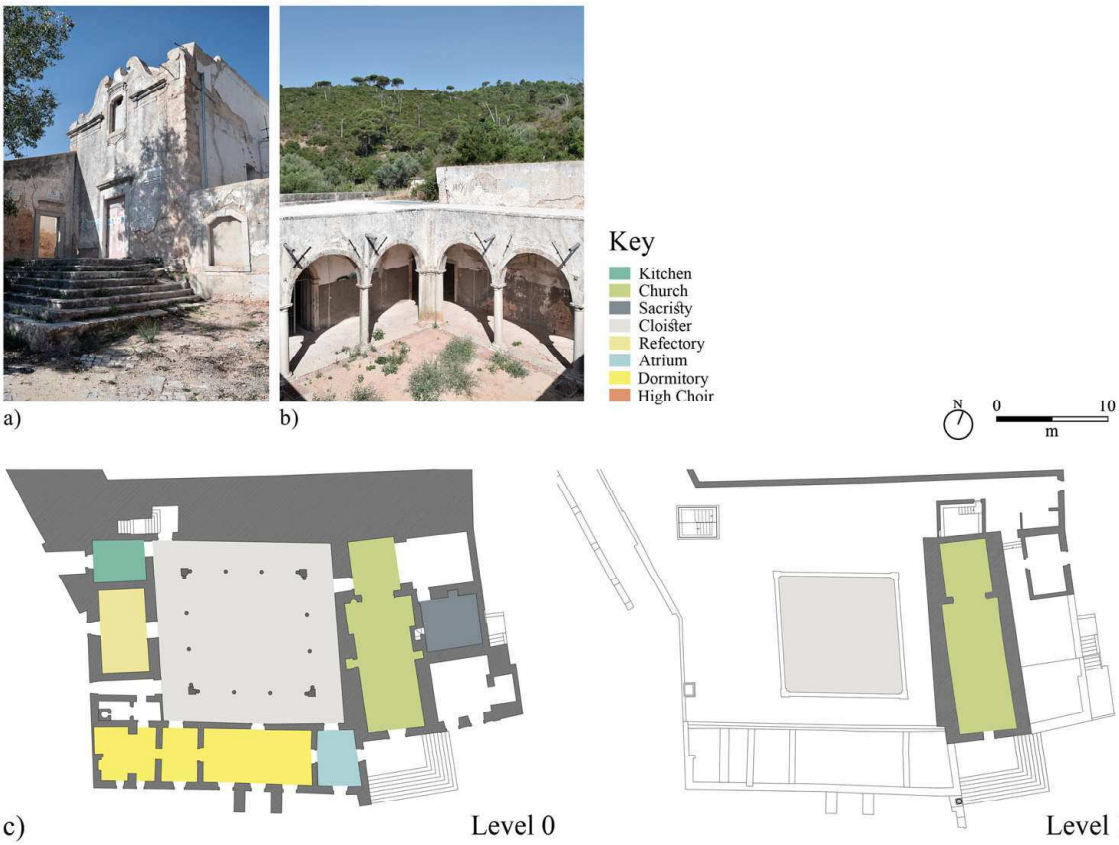



**Figure 10.** The monastery of *Nossa Senhora da Consolação de Alferrara*: (a) church facade; (b) cloister; (c) architectonical survey and function/space organization (architectonical survey provided by VMSA – Arquitectos).

## Conclusions

The seventeen monasteries comprising the Congregation of the Serra de Ossa are still little known. Their function has changed, and they have been converted, for the most part, into private residences and hotels. Others, however, have been abandoned, leading to increasing degradation and ruin. In some cases, the architectural features have been completely lost (e.g. Nossa Senhora da Rosa da Caparica and Santa Maria da Junqueira).

The aim of this article has been to elaborate a preliminary survey of the materiality of the Congregation of the Serra de Ossa. It has analyzed the spatiality and morphology of the monasteries, contributing to the diffusion of this knowledge and the successive definition of policies to protect, conserve, restore, and value these buildings, with the conviction that a detailed, comprehensive study is necessary.

The geographic features that the monasteries share – their proximity to important sources of water and calculated distance from human settlements, as well as the use of cheap materials in the construction of the buildings – show analogies in the strategies used to occupy the locations in the establishment of the communities of the Congregation of the Serra de Ossa.

Hermits, through their way of living and spirituality, introduce into the south of Portugal a new typology of monastic-conventual implantation, different from the urban mendicant one. They choose areas away from the urban centers, where they take advantage of existing resources – water, soil, vegetation – by cultivating the abandoned areas.

Documentary sources show references to cultivated land inside – orchards, vegetable gardens – and outside the fences – vineyards, olive groves – that were farmed by the hermits themselves, along with the presence of cattle and beehives. Their settlement in scarcely populated areas contributed to the human occupation of the rural surroundings of the municipalities and the enlargement of their cultivated areas. This was also made possible by the donations given by lay benefactors and municipal authorities, increasing their acres around the hermitages. It allowed them to safeguard their seclusion and subsistence, and, at the same time, to enlarge the cultivated areas. The lands farthest from the hermitage were delivered to the care of a tenement. On the one hand, they used the local resources (e.g. water, wood, and stone), and on the other hand, they transformed the surrounding landscape, with the support of the municipalities that granted lands in allotments, knowing that they would ensure the cultivation and exploitation of lands. Moreover, through their agroforestry-pastoral system, they developed their own subsistence economy, but maintained relations with the outside world: they needed sometimes to go to the city, and welcome into the hermitages those who seek them.

Besides the strict relation between the eremitical settlements and their natural environment, the two case studies examined here, those of the monasteries of Nossa Senhora da Consolação de Alferrara and Santa Cruz de Rio Mourinho, also show common morphological features and similarities in their function and spatial organization. In both cases, the monasteries were spread out around the cloister, the church occupying one side, and monastic quarters the other three: a refectory, a kitchen, and a chapter room were on the ground floor, and dormitories were on the first floor.

The architectural designs, the nature of the materials used, and the dimensions and spatial organization of these ancient hermitages that were converted into monasteries by the end of the sixteenth century reveal impressive similarities with the Franciscan convents of the Strict Observance, in particular with the Província da Piedade and Província da Arrábida (in southern Portugal). This is particularly evident in the case of the monastery of Alferrara, as on the same plot of land, and at a distance of less than three hundred meters, on the same slope, the Franciscan convent of Nossa Senhora da Conceição de Alferrara can be found, which was founded at the end of the sixteenth century. Further exploration of these relationships between the architecture of these communities and the Franciscan ones would be valuable. Both can be considered to have been built in *estilo chã* (meaning, plain architecture), a vernacular form of architecture characterized by formal austerity, in which the architectonical features of southern Portugal are visible.[57] This is not surprising, since both are influenced, at different times, by similar movements strongly related to Franciscan spirituality and voluntary poverty.[58]

Future research should focus on comparing in detail the architecture of all the monasteries in the Congregation of the Serra de Ossa and establishing comparisons between those and the architecture of the Franciscans of the Strict Observance.

## Notes

1. For a general overview, see Lawrence, *Medieval Monasticism*.
2. Vauchez, *La spiritualité*; Redon, ed., *Le choix de la solitude*; Vauchez, *Ermites de France*.
3. Mattoso, "São Rosendo e as correntes monásticas da sua época," 20–35; Beirante, "Eremitismo," 149–54.

4. Mattoso, "Eremitas portugueses," 62–86.
5. Sensi, *Le osservanze francescane*; Rosa, "A religião no século," 492–505; Fontes, *Da "pobre vida"*; Carvalho, *Antes de Lutero*.
6. Fontes, *Da "pobre vida,"* 187–205; their first known constitutions were published in 1594: *Livro da regra*, 1594.
7. Mattoso, "Eremiti Paolini Portoghesi"; Beirante, "Eremitérios da pobre vida"; Fontes, *Da "pobre vida*."
8. Fontes, *Da "pobre vida,"* 31–44. It is known through a copy made in 1389: Évora, Public Library, *Pergaminhos avulsos*, Pasta 7, n. 24.
9. Fontes, *Da "pobre vida*," 69–206.
10. Évora, Public Library, *Pergaminhos avulsos*, Pasta 7, n. 77.
11. According to the testimony of a royal charter issued on 4 September 1482: Évora, Public Library, *Pergaminhos avulsos*, Pasta 7, n. 81 and Lisbon, National Archive of *Torre do Tombo*, *Chancelaria de D. João II*, livro 3, folio 47.
12. The region is limited to the north by the natural boundary of the Tagus River and Ribatejo, to the south by the Algarve region, to the west by the Atlantic Ocean, and to the east by Spain. The peneplain, with a medium altitude of approximately 300 m, stretches between the lowest areas to the south of this region and the highest to the north. It is interrupted by few mountain ridges – Serra de São Mamede to the north with an altitude of 1025 m, and the others are not very tall: Serra d'Ossa (698 m) to the northeast, Serra de Monfurado (423 m) in the west, and Serra de Portel (412 m) in the southeast.
13. Rau, "A grande exploração," 66–67.
14. Feio, *Le bas Alentejo*, 5–92; Sousa, "Paisagem agrária," 23–24.
15. Morais, *A transumância*.
16. Vilar, *As dimensões*, 245–300; Fontes, "Cavaleiros de Cristo"; Santos, "As ordens religiosas."
17. Vauchez, *La spiritualité*.
18. Mattoso, "O enquadramento social e económico das primeiras fundações franciscanas."
19. Fontes, "Cavaleiros de Cristo," 49–60; Santos, "As ordens religiosas."
20. The bull *Creditum nobis* is available at Évora, Public Library, Cód. CLXIX/1–7.
21. Fontes, *Da "pobre vida"*; Fontes, "Ordem de São Paulo."
22. A complete list is available in Fontes, *Da "pobre vida,"* 523–600.
23. Fontes, *Da "pobre vida,"* 187–97.
24. Based on historical studies of the Alentejo region, it is evident that some roman itineraries are used during the medieval period and others have been partially abandoned. See, for example, Boisselier, *Le peuplement medieval*; Bilou, *O sistema viário*; Carneiro, *Itinerários romanos*. In some cases, it is evident that the existence of a road can determine the selection of a place. In other cases, the population of the space leads to the creation of new roads, which creates a system, enriched with other hierarchically organized connections: lanes, paths and roads. In contrast to the north, where the large number of rural monasteries had a strong impact on the structure of the road network, in the south, the convents, most of them of mendicant orders, were usually settled closed to the urban centers and near a preexistent road network.
25. Mascarenhas, Abecasis, and Jorge, eds., *Actas do Simpósio*.
26. Volzone, "Os eremitas," 213.
27. Proença, *Guia de Portugal*, vol. 2, 89–91.
28. Sousa, "Arquitectura religiosa medieval," 35–37.
29. Xavier, *Das cercas dos Conventos*, 39–45.
30. Abreu, Correia, and Oliveira, *Contributos para a identificação*, vol. 5, 39–42.
31. Fontes, *Da "pobre vida,"* 75–76.
32. Lisbon, Institute of the National Archive of *Torre do Tombo*, *Colégio de S. Paulo de Coimbra*, lv. 1, doc. n° 64; Évora, Public Library, *Pergaminhos avulsos*, pasta 7, doc. n° 11.
33. Lisbon, Institute of the National Archive of *Torre do Tombo*, *Convento de Nossa Senhora da Consolação de Alferrara*, maço 3, doc. n° 17. Other documents prove his involvement in the reformation of the hermitage of Rio Mourinho in Montemor-o-Novo (Lisbon, Institute of the National Archive of *Torre do Tombo*, *Colégio de S. Paulo de Coimbra*, lv. 2, doc. n° 47), and

his participation in the government of Serra de Ossa, at least since 1436 (Évora, Public Library, *Convento de S. Paulo de Borba*, lv. 7, doc. n° 1). For his complete biography, see Fontes, *Da "pobre vida,"* 75–77, 105–8, 414–20.
34. Fonseca, *Montemor-o-Novo*, 9–10.
35. Feio, "Marcas arquitectónico-artísticas," 39.
36. This information is contained in *Memória Paroquial da freguesia de Santa Susana, comarca de Setúbal*, vol. 35, no. 243, pp. 1731–34. Transcription by Fátima Pimenta, reviewed by Fernanda Olival. Available at http://portugal1758.di.uevora.pt/index.php/component/customproperties/tag/Tipo%20de%20Memória-Memória%20Completa?start=205. Consulted on 14 September 2018.
37. "Légua," in Machado, *Grande dicionário*, 6: 399.
38. Fonseca, *Montemor-o-Novo*, 6.
39. Évora, Public Library, *Mosteiro de S. Paulo da Serra de Ossa*, lv. 44, n° 20.
40. Lisbon, Institute of the National Archive of *Torre do Tombo*, *Colégio de S. Paulo de Coimbra*, lv. 2, n° 57.
41. Espanca, *Inventário artístico*, vol. 8, 343–45.
42. Lisbon, Institute of the National Archive of Torre do Tombo, *Mosteiro de Nossa Senhora da Consolação de Alferrara*, m. 3, n° 2.
43. Serrão and Meco, *Palmela histórico-artística*, 279–80.
44. Fontes, *Da "pobre vida,"* 550, 552.
45. Oliveira, *Livro das grandezas*, 163.
46. Oliveira, *Na península de Setúbal*, 225–29.
47. Costa, *Palmela nos finais*, 55–56.
48. Mendes, *A criação da rede*, 119; Braga, *Setúbal medieval*, 133–41.
49. Alves, *Dicionário de arabismos*, 151.
50. Pina, "Análise dos sistemas," 98.
51. Braga, *Setúbal medieval*, 93–94.
52. Lisbon, Institute of the National Archive of *Torre do Tombo*, *Convento de Nossa Senhora da Consolação de Alferrara*, mç. 3, n° 2 – 1380.10.05.
53. All the documentary references related to the internal organization of the communities are available in Fontes, *Da "pobre vida."*
54. Pina, "Análise dos sistemas," 29.
55. Serrão and Meco, *Palmela histórico-artística*, 282.
56. Serrão and Meco, *Palmela histórico-artística*, 284.
57. Kubler, *A arquitectura portuguesa*.
58. Carvalho, "*Domus pauperculas*."

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## Bibliography

Abreu, Alexandre Cancela de, Teresa Pinto Correia, and Rosário Oliveira. *Contributos para a identificação e caracterização da paisagem em Portugal continental*. Vol. 5. Lisbon: DGOTDU, 2004.

Alves, Adalberto. *Dicionário de arabismos da língua*. Lisbon: Imprensa Nacional – Casa da Moeda, 2013.

Azevedo, Carlos Moreira, ed. *Dicionário de história religiosa de Portugal*. Lisbon: Círculo de Leitores, 2000.

Barata, F. Themudo, and A. M. Almeida Leite. "Coberto vegetal e paisagens alentejanas: Esboço da linha evolutiva desde a Idade Media." In *I Coloquio Internacional de Ecologia da Vegetação – Actas*, 141–53. Évora: Departamento de Ecologia da Universidade de Évora, 1996.

Beirante, Maria Ângela. "Eremitérios da pobre vida no Alentejo dos séculos XIV–XV." In *Actas das Jornadas de História Medieval, 1383–1385 e a Crise Geral dos Séculos XIV–XV*, 257–66. Lisbon: História & Crítica, 1985.

Bilou, Francisco. *O sistema viário antigo na região de Évora*. Lisbon: Colibri – Artes Gráficas, 2005.

Boisselier, Stéphane. *Le peuplement medieval dans le sud du Portugal: Constitution et fonctionnement d'un réseau d'habitats et de territoires XIIe–XVe siécles*. Paris: Centre Culturel Calouste Gulbenkian, 2003.

Braga, Drummond Paulo. *Setúbal medieval (séculos XIII a XV)*. Setúbal: Câmara Municipal de Setúbal, 1998.

Carneiro, André. *Itinerários romanos do Alentejo: Uma releitura de "As grandes vias da Lusitânia—O itinerário de Antonino Pio" de Mário Saa, cinquenta anos depois*. Lisbon: Colibri – Artes Gráficas, 2008.

Carvalho, José Adriano Freitas de. *Antes de Lutero: A igreja e as reformas religiosas em Portugal no século XV: Anseios e limites*. Porto: CITCEM – Edições Afrontamento, 2016.

Carvalho, José Adriano Freitas de. " … *Domus pauperculas, cellulas et ecclesias párvulas*: As fidelidades dos primeiros observantes em Portugal (1392–1453) a Francisco 'arquitecto' olhadas ao

espelho dourado do século XVII." In *Nobres Leteras … Fermosos Volumes … Inventários de bibliotecas dos franciscanos observantes em Portugal no século XV: Os traços das reformas peninsulares: O Floreto de Sant Francisco*, 363–420. Porto: CITCEM – Edições Afrontamento, 2018.

Costa, João Tiago dos Santos. "Palmela nos finais da Idade Média: Estudo do Códice da Visitação e Tombo de Propriedades da Ordem de Santiago de 1510." Master's thesis, Universidade Nova de Lisboa, 2010.

Costa, João Tiago dos Santos. "Palmela: O espaço e as gentes (séculos XII–XVI)." PhD diss., Universidade Nova de Lisboa, 2016.

Espanca, Túlio. *Inventário artístico de Portugal*. Vol. 7, *Concelho de Évora*. Lisbon: Academia Nacional de Belas Artes, 1966.

Feio, Jorge. "Marcas arquitectónico-artísticas da cristianização do território entre Évora e Beja." Master's thesis, Universidade Nova de Lisboa, 2010.

Feio, Mariano. *Le Bas Alentejo et l'Algarve*. Évora: INIC – Centro de Ecologia Aplicada da Universidade de Évora, 1983.

Fonseca, Jorge. *Montemor-o-Novo no século XV*. Montemor o Novo: Câmara Municipal, 1998.

Fontes, João Luís Inglês. "Cavaleiros de Cristo, monges, frades e eremitas: Um percurso pelas formas de vida religiosa em Évora durante a Idade Média (séculos XII a XV)." *Lusitania Sacra* 17 (2005), 39–61.

Fontes, João Luís Inglês. "Da 'pobre vida' à Congregação da Serra de Ossa: Génese e institucionalização de uma experiência eremítica (1366–1510)." PhD diss., Universidade Nova de Lisboa, 2012.

Fontes, João Luís Inglês. "Ordem de São Paulo Primeiro Eremita." In *Ordens religiosas em Portugal: Das origens a Trento: Guia histórico*, edited by Bernardo Vasconcelos e Sousa, Isabel Castro Pina, Maria Filomena Andrade, and Maria Leonor Ferraz de Oliveira Silva Santos, 129–48. Lisbon: Livros Horizonte, 2016.

Kubler, George. *A arquitectura portuguesa chã: Entre as especiarias e os diamantes: 1521–1706*. Lisbon: Editorial Veja, 1988.

Lawrence, C. H. *Medieval Monasticism: Forms of Religious Life in Western Europe in The Middle Ages*. London: Routledge, 2015.

Lyra, Manoel de. *Livro da regra de Sancto Agostinho: e das constituições perpetuas dos religiosos pobres hermitãos da Serra Dossa, da ordem de S. Paulo primeiro hermitão. Feitas & confirmadas com authoridade Apostolica*. N.p., 1594.

Machado, José Pedro. *Grande dicionário da língua portuguesa*. Lisbon: Publicações Alfa, 1981.

Mascarenhas, José Manuel de, and Virgolino Ferreira Jorge, eds. *Actas do Simpósio Internacional Hidráulica Monástica Medieval e Moderna*. Lisbon: Fundação Oriente, 1996.

Mattoso, José. "Eremiti Paolini Portoghesi." In *Dizionario degli Istituti di Perfezione*, edited by Guerrino Pellicia and Giancarlo Rocca, Vol. 3, 1195–99. Rome: Ed. Paolini, 1976.

Mattoso, José. "Eremiti Paolini Portoghesi." In *Dizionario degli Istituti di Perfezione*, edited by Guerrino Pellicia and Giancarlo Rocca, Vol. 3, "Eremitas portugueses no século XII." In *Obras completas*, Vol. 9, *Religião e cultura na Idade Média portuguesa*, 62–86. Lisbon: Círculo de Leitores, 2002.

Mattoso, José. "O enquadramento social e económico das primeiras fundações franciscanas." In *Obras completas*, Vol. 8, *Portugal Medieval: Novas Interpretações*, 243–54. Lisbon: Círculo de Leitores, 2002.

Mattoso, José. "São Rosendo e as correntes monásticas da sua época." In *Obras completas*, Vol. 9, *Religião e cultura na Idade Média portuguesa*, 20–35. Lisbon: Círculo de Leitores, 2002.

Medinas, Victor Joaquim Fialho. "A arquitectura capucha da Província da Piedade." Master's thesis, Universidade Nova de Lisboa, 1994.

Mendes, Francisco José dos Santos. "A criação da rede paroquial na península de Setúbal (1147–1385)." Master's thesis, Universidade de Lisboa, 2010.

Morais, J. A. David de. *A transumância de gados serranos e o Alentejo*. Évora: Câmara Municipal de Évora, 1998.

Oliveira, José Augusto da Cunha Freitas de. *Na península de Setúbal, em finais da Idade Média: Organização do espaço, aproveitamento dos recursos e exercício do poder*. Lisbon: Fundação Calouste Gulbenkian – Fundação para a Ciência e a Tecnologia, 2013.

Oliveira, Fr. Nicolau de. *Livro das grandezas de Lisboa*. Lisbon: Impressão Regia, 1804.

Pina, Telmo Figueiredo de Albuquerque. "Análise dos sistemas hidráulicos antigos do convento de S. Paulo e dos Capuchos de Setúbal." Master's thesis, Instituto Superior de Agronomia, 1996.

Proença, Raul. *Guia de Portugal*. Vol. 2, *Estremadura, Alentejo, Algarve*. Lisbon: Oficinas Gráficas da Biblioteca Nacional, 1927.

Rau, Virgínia. "A grande exploração agrária em Portugal a partir dos fins da Idade Média." *Revista de História* 61 (1965): 65–74.

Redon, Odile, ed. *Le choix de la Solitude: Parcours érémitiques dans les pays d'Occident. Médiévales 28 (1995).Ribeiro, Orlando. Portugal, o Mediterrâneo e o Atlântico*. Coimbra: Coimbra Editora, 1945.

Rosa, Maria de Lurdes. "A religião no século: Vivências e devoções dos leigos." In *História religiosa de Portugal*, edited by Carlos Moreira Azevedo, Vol. 1, 423–510. Lisbon: Círculo de Leitores – Centro de Estudos de História Religiosa da Universidade Católica Portuguesa, 2000.

Santos, Maria Leonor Ferraz de Oliveira Silva. "As ordens religiosas na diocese de Évora: 1165–1540." *Medievalista* 7 (2009). http://www2.fcsh.unl.pt/iem/medievalista/MEDIEVALISTA7/medievalista-oliveira7.htm#_ftn1 (accessed 26/05/2019).

Sensi, Mario. *Le osservanze francescane nell'Italia centrale (secoli XIV–XV)*. Rome: Collegio San Lorenzo da Brindisi – Istituto Storico dei Cappuccini, 1985.

Serrão, Vítor, and José Meco. *Palmela histórico-artística: Um inventário do património artístico concelhio*. Lisbon: Edições Colibri, 2007.

Sousa, Bernardo Vasconcelos e. "Paisagem agrária e organização social do espaço no Alentejo medieval (séculos XII a XV)." *Economia e Sociologia* 45, no. 46 (1988): 21–29.

Sousa, Maria Alexandra Dixo de. "Arquitectura religiosa medieval no Vale do Sousa: Intervenções do século XIX ao século XXI." PhD diss., Universidade do Porto, 2013.

Vauchez, André. *La spiritualité du Moyen Âge occidental, VIIIe–XIIIe siècle*. Paris: Éditions du Seuil, 1994.

Vauchez, André, ed. *Ermites de France et d'Italie (XIe–XVe siècle)*. Rome: École Française de Rome, 2003.

Vilar, Hermínia Vasconcelos. *As dimensões de um poder: A diocese de Évora na Idade Média*. Lisbon: Ed. Estampa, 1999.

Volzone, Rolando. "Os eremitas da pobre vida e a construção da paisagem da Serra de Ossa." In *Estudos da paisagem*, edited by Pedro Fidalgo, 198–219. Lisbon: Instituto de História Contemporânea da Faculdade de Ciências Socias e Humanas da Universidade Nova de Lisboa, 2017.

Xavier, António Manuel. *Das cercas dos Conventos Capuchos da Província da Piedade*. Évora: Casa do Sul Editora – Centro de História da Arte da Universidade de Évora, 2004.

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# LA DOCUMENTAZIONE DIGITALE DELL'ANTICO MONASTERO DI *SANTA CATARINA DE MONTEMURO* DELLA CONGREGAZIONE EREMITICA DI *SÃO PAULO DA SERRA DE OSSA* (ÉVORA, PORTUGAL)

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## THE DIGITAL DOCUMENTATION OF THE ANCIENT MONASTERY *SANTA CATARINA DE MONTEMURO* OF *SÃO PAULO DA SERRA DE OSSA* EREMITICAL CONGREGATION OF (ÉVORA, PORTUGAL)

**Abstract** *The Santa Catarina de Montemuro monastery belongs to the eremitical congregation of São Paulo da Serra de Ossa. The monastery is the evolution of the hermitage Montemuro, documented since 1415 around Évora (Portugal), and abandoned in 1593. This paper aims to illustrate the analysis and production phases of digital documentation, which is obtained carrying out an integrated survey campaigns through 3D Laser Scanner and SfM photogrammetry methodologies. The survey has been realized during "Digital Survey in Religious Architecture" summer school, with the aim to develop tools to support, on the one hand, historiographical studies based on the documentary sources, and, on the other hand, future conservation and restoration interventions to safeguard the assets of the eremitical congregation's heritage.*

## 1. QUADRO STORICO

Il monastero di *Santa Catarina de Montemuro* è localizzato nell'omonima catena montuosa (*Serra de Montemuro*), nella *Quinta da Provença*, a circa 1 km dalla cittadina Valverde, e a 15 Km da Èvora, Patrimonio mondiale dell'Umanità (Figura 1).



Figura1. A sinistra l'impianto monastico, a destra la e vista sud del monastero inegrato nel paesaggio

La prima fonte documentale che attesta l'esistenza dell'eremo *Montemuro* è del 1415 [1]. La fondazione era supportata dal re D. João I e dall'Infante D. Duarte. Nel 1578 la congregazione eremitica, con origine nel movimento degli eremiti della *pobre vida* – documentata dal 1366 – è riconosciuta dal papa Gregorio XIII. A partire da questo momento, molti eremi si espandono divenendo dei veri e propri monasteri, e alcune comunità si spostano da questi luoghi rurali al centro delle città e alcuni di questi eremi sono soppressi, per ragioni di insalubrità o scarsità di rendite. Lo stesso accade alla comunità di *Montemuro*, soppressa nel 1592, annessa al Collegio di San Paolo di Évora [2], e l'eremo è abbandonato l'anno successivo.[1] Il monastero presenta una pianta a U e una cappella, orientata secondo l'asse Nord-Sud. All'interno, la cappella con una sola nave possiede un altare aperto con tre nicchie nella parete ed è ancora visibile un portale ogivale in granito, probabilmente degli inizi del XV secolo (Figura 2).



Figura2. Da sinistra a destra: facciata nord con ingresso della cappella; facciate sud e ovest; l'altare della cappella; dettaglio del portale gotico

[1] In Portogallo, l'estinzione definitiva degli ordini religiosi avviene il 28 Maggio del 1834, attraverso un decreto emanato da Joaquim António de Aguiar, alla conclusione della Guerra Civile Portoghese (1828-1834). Secondo il decreto, tutte le case degli ordini religiosi regolari sono estinte, e i propri beni secolarizzati e incorporati nella *Fazenda Nacional*

Così come per gli altri monasteri della congregazione eremitica di *São Paulo da Serra de Ossa* in Portogallo, non esiste documentato alcun rilievo del complesso finalizzato ad analizzarne la morfologia e lo stato di conservazione. Infatti, questo movimento eremitico, sebbene studiato e analizzato dal punto di vista storico – essenzialmente da medievalisti –, non è stato approfondito dal punto di vista delle permanenze architettoniche e delle loro relazioni con la geografia fisica dei luoghi. Consultate le fonti archivistiche e fatta una revisione sistematica dello stato dell'arte, una volta identificato il monastero, si propone uno studio della materialità di questo spazio, attraverso la produzione di documentazione digitale inedita, che evidenzi lo stato attuale dell'edificio e funga da supporto per futuri interventi di conservazione e restauro, che salvaguardino i valori patrimoniali dell'eredità della congregazione eremitica. Allo stesso tempo, questi dati rendono possibile una comparazione tipologica con gli altri impianti della congregazione e con altre architetture degli ordini monastici o mendicanti ad esso paragonabili, permettendo, in alcuni casi, la ricostruzione dello stato primordiale degli edifici attraverso operazioni di retroprogettazione. La documentazione digitale è stata ottenuta a partire dalle campagne di rilievo integrato, con metodologie laser scanning e fotogrammetria Sfm (Structure from Motion), effettuate durante la Summer School *Digital Survey in Religious Architecture*[2].

## 2. LA DOCUMENTAZIONE DIGITALE DEL MONASTERO

La documentazione digitale di complessi monastici costituisce un indirizzo di ricerca che viene approfondito da diversi anni all'interno del Laboratorio di Rilievo del DiDA[3]; ancora oggi il tema è di principale interesse e viene sviluppato approfonditamente sia su casi studio italiani [3] che su architetture all'estero [4]. Seguendo lo sviluppo delle ricerche è visibile chiaramente come, nonostante che le strumentazioni e le tecnologie utili al rilievo digitale fossero già esistenti, si sia verificato uno sviluppo importante di queste metodologie che permettono oggi di ottenere acquisizioni sempre più integrate e complete, e di conseguenza database che necessitano di una gestione sempre più complessa per non perdersi nell'immensa quantità di informazioni acquisite [5]. Nel progettare il rilevamento digitale del Monastero di Santa Caterina si è considerato ottimale l'utilizzo di sistemi di rilevamento *range based* per definire la base morfologica del rilievo; le caratteristiche intrinseche del monastero presentano alcuni problemi che avrebbero causato imprecisioni a livello strumentale, qualora ad esempio si fosse deciso di realizzare solamente un rilievo fotografico con l'utilizzo di sistemi SfM: l'edificio infatti è ancora oggi protetto da uno strato di intonaco bianchissimo che avrebbe provocato la ricostruzione di un modello tridimensionale con alta presenza di rumore digitale[4], l'interno inoltre, privo di corrente elettrica avrebbe comportato tempi di acquisizione fotografica molto lunghi.
Il rilievo laser scanner è stato realizzato con uno strumento Faro Focus M70; si è deciso di concentrare le acquisizioni laser solo sull'edificio monasteriale, evitando di riprendere e

[2] Entro il 23 e il 29 Luglio 2018, la Conferenza Internazionale e la Scuola Estiva hanno avuto luogo all' ISCTE-IUL di Lisbona e all'Università di Évora. Organizzata dai centri DINÂMIA'CET – ISCTE-IUL, lo CHAIA dell'Università di Évora, lo IEM dell'Università Nova di Lisbona, il CEHR dell'Università Cattolica Portoghese, in collaborazione con il CIAUD della FA-ULisboa, il DIDALABS dell'Università degli Studi di Firenze, l'ISTAR-IUL, il Vitruvius FabLab, e con il supporto dell'ICOMOS Portugal e dell'OASRS – Ordem dos Arquitectos Secção Regional Sul.

[3] Dal 2010 il gruppo di ricerca dell'università di Firenze coordinata dal prof. Bertocci organizza convegni dove sono approfondite le tematiche riguardanti la documentazione delle architetture monastiche

[4] Gli algoritmi dei softwares *Structure from Motion* basano il proprio funzionamento sull'allineamento nello spazio della posizione di scatto dei fotogrammi, analizzando i punti di contrasto cromatico (keypoints) su due foto in sequenza, trovando nelle superfici monocrome, quindi poco contrastate, i maggiori problemi di ricostruzione

documentare l'intera area del muro perimetrale del monastero, soprattutto perché avrebbe richiesto molto più tempo di quello a disposizione e a causa della folta vegetazione presente che avrebbe richiesto il supporto o di una base topografica o almeno l'utilizzo di una rete di target fissi su cui rimontare il dato [6]; il territorio intorno all'edificio è stato tuttavia ripreso con acquisizioni fotografiche da drone, le quali hanno potuto evidenziare il sistema di canalizzazioni ideato per la raccolta delle acque a servizio dei monaci, non visibile ad una prima analisi perché nascosto dalla massa verde. Concentrandosi sull'architettura è stato possibile progettare la fase di acquisizione del rilievo senza l'utilizzo di target per il successivo rimontaggio delle nuvole di punti; le stazioni sono state eseguite mantenendo un alto rapporto di sovrapposizione tra di esse, in modo da sfruttare al meglio registrazioni *cloud-to-cloud*. La possibilità di girare completamente intorno all'oggetto ha dato modo di verificare l'errore di allineamento ottenuto dalle scansioni, similmente alla realizzazione topografica di una poligonale chiusa. Per poter valutare la reale affidabilità del modello registrato delle nuvole di punti[5], è stato necessario eseguire alcune procedure di collaudo del rilievo: data la complessità di comprendere l'errore ottenuto dalla registrazione dai soli valori numerici ottenuti dal software (Leica Cyclone v9.2), che esprimono un errore globale calcolato eseguendo la media di deviazione di tutti i punti della nuvola[6] è stato necessario provvedere a sezionare l'edificio e verificare l'allineamento delle scansioni sui fili di sezione per poter valutare che lo scostamento rientrasse nei parametri della scala di restituzione fissata per il rilievo; nel nostro caso è stato accertato che gli scostamenti dei fili di sezione non fossero mai superiori ad 1 cm. La nuvola di punti (Figura 3) è stata utilizzata per realizzare gli elaborati tradizionali di rilievo architettonico: piante, sezioni e prospetti.



Figura3. Vista generale della nuvola di punti laser scanner colorata con dato RGB del monastero

[5] Il problema sull'affidabilità delle registrazioni è stato ampiamente dibattuto all'interno del gruppo di ricerca [Pancani 2015]

[6] Questo problema è ulteriormente aggravato nel caso delle scansioni esterne del monastero in quanto la presenza massiva della vegetazione ha ricreato tridimensionalmente una massa di punti totalmente inaffidabile dal punto di vista metrico e morfologico, che hanno alzato esponenzialmente la media di errore espressa dai *cloud constraint* in fase di registrazione

Per procedere alla lucidatura del dato digitale, la nuvola di punti è stata esportata in software CAD tramite la rasterizzazione di ortoimmagini ad alta definizione, secondo procedure ormai consolidate [7]. La nuvola di punti è stata inoltre utilizzata nella sue caratteristiche tridimensionali per realizzare immagini e video utili da un lato per la documentazione virtuale del sito, dall'altro per scopi pratici ed educativi all'interno del workshop, per spiegare le operazioni di rilievo e di gestione del database ai partecipanti al seminario. Dal punto di vista grafico la gestione del database tridimensionale consente oggi, grazie all'utilizzo di specifici software che sfruttano l'accelerazione grafica della GPU, la visualizzazione virtuale e la navigazione in tempo reale dei modelli, anche di grandi dimensioni, a qualità estremamente dettagliata, consentendo inoltre la navigazione 3d e la gestione delle informazioni direttamente su Autocad[7] (Figura 4).

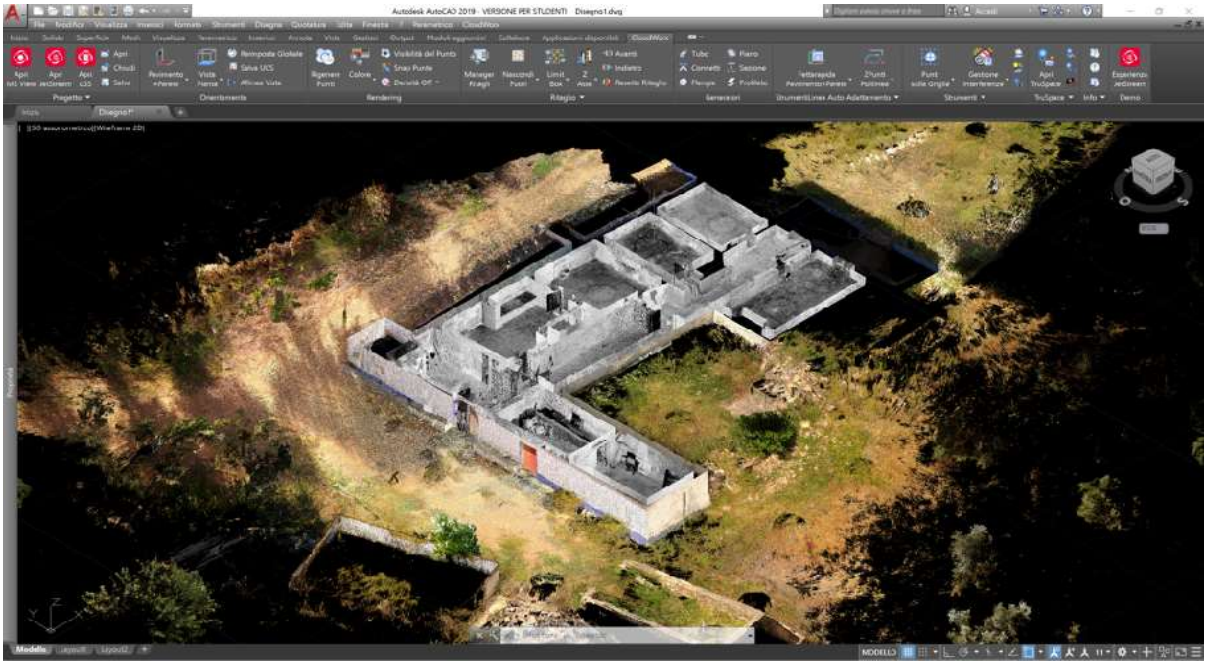


Figura4. Metodologia di restituzione grafica: la nuvola di punti viene aperta e gestita direttamente in autocad tramite plugin Leica Cloudworx

La restituzione degli elaborati grafici a filo di ferro è stata corredata dalla ricostruzione di ortofotopiani adatti a descrivere le matericità dell'architettura, ottenuti da procedure di acquisizione fotografiche SfM. Queste sono state realizzate con l'utilizzo di due differenti strumenti: da un lato da riprese da terra con camera fotografica digitale, dall'altro con l'utilizzo di acquisizioni fotografiche aeree da drone.

[7] Questo è stato possibile grazie ai plug-in *Leica Cloudworx*, (si possono ottenere simili risultati anche con altre piattaforme), che consente oggi una gestione ottimale dei dati e una rapida visualizzazione delle informazioni.

## 3. FOTOGRAMMETRIA AEREA

Con l'ausilio degli APR[8] è mutato il metodo di acquisizione dell'immagine territoriale, andando a implementare la qualità geometrica e colorimetrica degli elementi analizzati, sia in termini di densità di punti sia per quanto riguarda la qualità della stessa immagine fotografica. La ricerca si sta rapidamente spostando verso un integrazione di metodologie e dati ottenuti da TLS e UAV a corto raggio al fine di definire al meglio la ricostruzione di un contesto, sia questo ambientale, urbano o archeologico. Nel caso studio l'obiettivo è stato ottenere un modello 3D metrico, affidabile e strutturato del fabbricato in esame, che possa essere utilizzato per la gestione di reuso ma anche per una sua eventuale valorizzazione virtuale. Attività e procedure metodologiche che se risultanti esito positivo possono essere facilmente replicabili su larga scala. Al tal fine è stato necessario sfruttare il potenziale di ciascun metodo di acquisizione e combinare i risultati finali in un database digitale, implementabile, nel tempo, con diversi tipi di informazioni e dati digitali. La scelta di una metodologia SfM da UAV è stata affrontata per riuscire a ottenere quel dato ove la strumentazione TLS non è in grado di arrivare e di conseguenza sperimentare l'integrazione tra le due tecnologie per valutare l'effettiva resa in termini di output con un confronto sulla qualità e precisione del dato. Per comodità di organizzazione della fase di acquisizione fotogrammetrica da drone, l'area è stata suddivisa in due regioni. Una prima acquisizione è stata rivolta alla foto scansione del territorio con un raggio dal centro del fabbricato di circa 50 m, quindi è stato concentrato un rilievo fotogrammetrico del monastero al fine di ottenere una nuvola di punti con la massima qualità e densità di dati, dalla quale generare un modello 3D e fornire la base per una lettura il più possibile esaustiva del costruito. Per realizzare la campagna fotografica SfM da drone è stato utilizzato il modello Spark della DJI con la relativa app dedicata, installata sullo smartphone, per poter avere una migliore ricezione e quindi una manovrabilità più fluida dell'APR. Dopo aver svolto un check dei vari parametri[9] da tenere in considerazione per ogni missione di volo e studiato le impostazioni migliori di ripresa[10] del fabbricato, sono state apportate quattro differenti tipologie di volo per il drone: una prima, in riferimento alla porzione più grande di territorio da acquisire, ha mantenuto l'asse di inclinazione della camera perpendicolare alla superficie del terreno (asse nadirale), mentre per le altre, dedicate al solo monastero, la camera è stata inclinata verso il basso, a destra e a sinistra, in modo da migliorare l'acquisizione di tutti i fronti e delle falde dell'edificio e far convergere gli assi per permettere la ricostruzione geometrica dell'oggetto, ottimizzando l'acquisizione dei dati, secondo i principi della fotogrammetria SfM. All'interno della fase di pianificazione del volo sono state stilate le diverse problematiche e i vincoli da considerare per la corretta esecuzione dei piani di volo. Considerato il terreno, per lo più, pianeggiante, l'altezza e la stessa visibilità non hanno creato problematiche se non per quanto riguarda la vicinanza a elementi di ostacolo come l'elevata chioma di alberi che hanno concorso a definire vincoli ed impedimenti al libero movimento del

[8] Acronimo per *aeromobili a pilotaggio remoto*, conosciuti più comunemente come droni. Il loro utilizzo è regolamentato dai relativi limiti di sicurezza dettati dall'EASA.

[9] Al fine di garantire un volo sicuro viene stilata una lista di controllo pre-volo dove deve essere stabilito ogni valore per: altezza massima, itinerario, durata, distanza, possibili ostacoli.

[10] È anche necessario stabilire dei valori che regolino le corrette impostazioni dell'ISO, dell'apertura dell'otturatore, style, bianco, colore, D-log, focus.

drone. L'acquisizione con DJI Spark e la post produzione con il software Agisoft Photoscan 1.4.3 hanno generato una nuvola di punti densa per ciascuna delle due aree acquisite (Figura 5).



Figura5. Sulla sinistra le due metodologie di acquisizione del dato riservate al solo monastero. Al centro il drone (Spark DJI) con il relativo software (DJI GO 4) e radiocomando. Sulla destra due viste del modello 3D, finale, ottenuto

Queste sono state successivamente allineate sulla base di punti omologhi (almeno 9) identificati tra ciascuna coppia di aree adiacenti. Il modello generale è stato costituito da 276 immagini fotografiche, 156 mila punti costituenti la nuvola di punti rada, 49 milioni di punti costituenti la nuvola di punti densa e 8 milioni di facce poligonali. Con questa metodologia di ripresa che "avvolge" il fabbricato, è stato possibile coprire l'intero oggetto da rilevare senza l'ausilio di un'acquisizione fotografica da terra mediante fotocamera SLR. Ad acquisizione effettuata, è stato necessario analizzare gli aspetti morfologici, geometrici e colorimetrici del dato ottenuto, ovvero la qualità dei modelli 3D acquisiti dall'applicazione estensiva dello UAV. Tale verifica ha consentito di verificare l'affidabilità del database SfM digitale, di comprenderne limiti e potenzialità applicati al caso studio e di migliorarne la pianificazione dell'acquisizione fotografica. A questa fase sono seguiti i test metrici tra i vari output, provenienti dai diversi strumenti di acquisizione (laser scanner, drone), resi possibili dall'adozione di alcuni punti omologhi[11]. Per verificare l'errore geometrico e metrico tra la nuvola di punti del TLS, presupposta come base affidabile, e l'output ottenuto dal drone, sono stati importati i relativi *files*, .pts e .ply nel software opensource CloudCompare dove sono stati registrati al fine di avere un unico database di riferimento (Figura 6).

[11] Spesso i punti comuni sono identificabili grazie all'applicazione di specifici target durante la campagna di acquisizione. Nel nostro caso studio in mancanza di target sono stati presi punti omologhi della struttura analizzata.

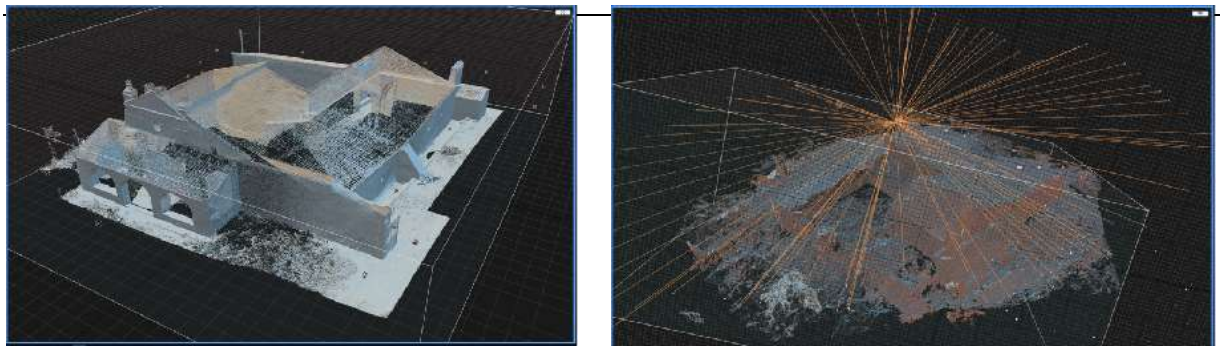


Figura6. A destra modello tridimensionale ottenuto dalla mesh della nuvola di punti, a sinistra modello tridimensionale ottenuto dall'allineamento delle fotografie scattate da terra e da drone

La complementarietà delle due nuvole è stata verificata tramite il comando "*Distance computation*" che verifica la distanza tra i valori di una nuvola usata come riferimento (nuvola ottenuta dal laser scanner) con la rispettiva del drone. Le parti di copertura che mancavano nella prima sono state perfettamente acquisite dalla seconda nuvole rendendo così ottimale la fase di registrazione. Attraverso il medesimo comando è stato possibile riscontrare una discontinuità, pari a qualche centimetro[12], in alcune porzioni del costruito (Figura 7).

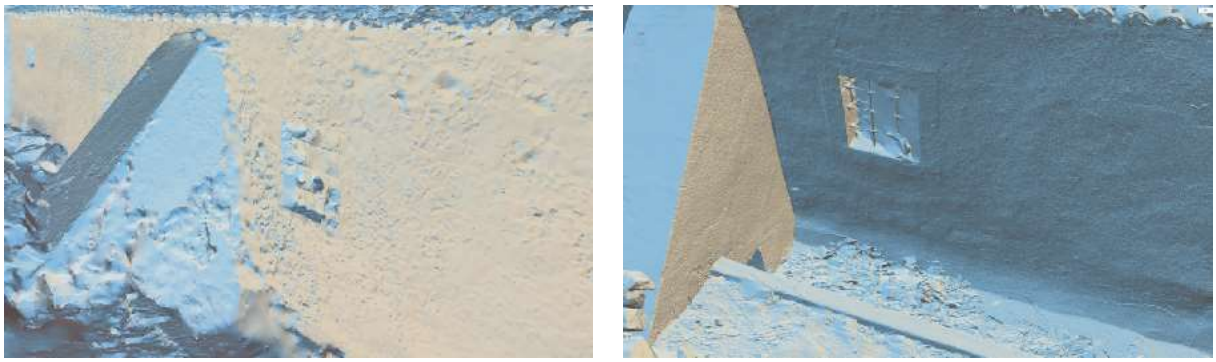


Figura7. Dettaglio della mesh dove è possibile vedere come i punti che difficilmente vengono ricostruiti dalle sole foto, possano essere migliorati integrando il modello con le scansioni laser

Infatti la problematica maggiore è risultata essere la mancanza di corrispondenza geometrica di alcuni angoli e spigoli che perdono la loro precisione rispetto alla nuvola di punti ottenuta dal Faro, assumendo una forma arrotondata. Questo è avvenuto dove il drone non è potuto avvicinarsi al monastero per la presenza della fitta chioma degli alberi.

## 4. INTEGRAZIONE DEI MODELLI

Il rilievo fotografico del Monastero di Santa Caterina, come accennato in precedenza, ha presentato alcuni problemi operativi dovuti alla matericità delle superfici esterne; per evitare la ricostruzione di un modello 3D incompleto, che avrebbe provocato la restituzione di una texture erronea, condizionando negativamente la buona riuscita dei fotopiani, si è deciso di integrare il dato laser scanner con quello fotografico.

[12] Come si può vedere dall'immagine relativa il margine di distanza massimo è di 5 cm in prossimità degli spigoli di alcune parti della nuvola.

Il problema della irregolarità delle superfici ricreate dal dato fotografico è apparso fin dalle prime applicazioni software[13]; nonostante oggi siano migliorati gli strumenti di gestione delle mesh all'interno dei programmi non può essere risolto il problema dovuto al riconoscimento cromatico dei punti; tenendo inoltre presente che le foto possono essere allineate tramite l'utilizzo di appositi target le superfici ricreate saranno comunque rumorose. Quando il dato fotografico era accompagnato da un rilievo tridimensionale laser scanner e le geometrie dell'oggetto erano semplici, in modo da avere scansioni che riuscissero a riprendere la quasi totalità delle superfici con minimi coni d'ombra, era una procedura comune utilizzare il dato della nuvola di punti laser scanner per realizzare la mesh e successivamente applicare la texture ottenuta dall'allineamento dei punti di scatto. Oggi è possibile, grazie allo sviluppo di alcuni softwares (ad esempio RealityCapture e 3Dzephyr), allineare insieme le fotografie ottenute da procedure SfM con le scansioni laser scanner: il software considera la panoramica di punti (che possono essere assimilati a pixel esplicitando, dove il dato RGB corrisponde al parametro di intensità) ottenuti dallo scanner come una immagine cubica, ovvero sei immagini, riconducendo quindi la posizione della scansione al punto di scatto di sei fotografie; queste possono essere unite automaticamente, oppure tramite l'individuazione di punti omologhi, agli scatti fotografici. A seconda del software utilizzato poi durante la realizzazione della mesh viene tenuto in considerazione con priorità di affidabilità il dato proveniente dalle nuvole di punti del laser scanner, andando ad utilizzare i punti tridimensionali ricostruiti nello spazio dalle fotografie per completare i coni d'ombra delle scansioni. Il modello ottenuto in questo modo (Figura 8) riesce ad evitare l'irregolarità e l'errore morfologico dovuto alle superfici ostili alla ricostruzione tridimensionali e permette di ottenere una texture morfologicamente affidabile con il vantaggio ulteriore di non necessitare alcuna misura aggiuntiva per la messa in scala del modello: questo infatti grazie all'utilizzo del dato laser è già scalato in metri sulla base del sistema di riferimento in coordinate polari delle scansioni.



Figura8. Vista del modello texturizzato ottenuto integrando il dato laser con le foto acquisite da drone e da terra

[13] Nelle prime applicazioni la realizzazione della mesh da nuvola di punti era molto meno accurata e presentava diversi errori di forma; per risolvere tali problemi si utilizzavano a supporto programmi di gestione delle mesh cfr. Fantini in S. Bertocci, S. Parrinello, R. Vidal. *Masada Volume I (2012)*

## 5. PAESAGGIO/TERRITORIO/TURISMO

Il rilievo digitale, insieme con la documentazione storica, si pone come base conoscitiva delle condizioni e delle caratteristiche architettoniche del monastero di *Santa Catarina de Montemuro*. La sistematizzazione dell'informazione ottenuta attraverso il rilievo digitale e l'istituzione di un archivio inedito in costante aggiornamento, consente di analizzare approfonditamente i vari aspetti dell'edificio in rapporto con architetture della congregazione eremitica di *São Paulo da Serra de Ossa* (morfologia, sistemi costruttivi, evoluzione diacronica, stato di conservazione, etc.). Questi edifici, a seguito della dissoluzione degli ordini religiosi nel 1834, vennero abbandonati dai monaci, perdendo così la loro originale funzione. Pochi sono i monasteri che hanno resistito alle trasformazioni nella destinazione d'uso a finalità turistica, ancor meno sono quelli che hanno subito opere di restauro coerenti. Quelli che restano sono edifici abbandonati che rappresentano ancora il loro potenziale di luogo spirituale e che si pongono come le ultime testimonianze del loro passato. In Italia [8,9]e nel resto d'Europa [10,11] sono molti i ricercatori che si interessano allo studio e al censimento dei complessi monastici in disuso al fine di definire strategie di riuso coerenti con l'identità dei luoghi. La comprensione delle problematiche connesse al sistema di gestione e riqualificazione di queste architetture, legate alla realizzazione di affidabili elaborati grafici aggiornati, rappresentanti piante, prospetti e sezioni, costituiscono il punto di partenza per lo sviluppo di un sistema di promozione e fruizione dei monasteri seguendo le direttive di un turismo culturale e sostenibile [12]. Questo territorio ha infatti la sua centralità nella città di Évora, entrata a far parte della lista dei patrimoni culturali UNESCO nel 1986 (criterio II e IV). Questo fatto, a seguito della riapertura dell'Università nel 1979, ha avuto un forte impatto sulla città e sull'intera regione, portando ad un aumento dell'attrattività turistica del centro storico. Gli utenti predominanti del territorio sono infatti i turisti, (triplicati dal 1986) e gli studenti, a scapito dei residenti che si sono trasferiti nelle aree periferiche. Dal 1940 al 2001 infatti la popolazione è calata del 70%, mentre le zone limitrofe hanno visto una costante crescita demografica, in particolare a seguito del 1979 con il programma di sviluppo per residenze popolari [13]. Di conseguenza, nonostante i tentativi delle autorità locali, la città sta perdendo la sua comunità locale e la sua diversità funzionale nel centro storico, trasformandolo in un museo all'aperto, convertendo i servizi pubblici in servizi per turisti, rendendo marginali gli abitanti. La tendenza di adattare le funzioni ai fini turistici si riflette anche sul sistema di monasteri, che sono stati spesso alterati nelle destinazioni d'uso. Ne è un esempio il monastero di *São Bento de Castris*, attualmente sotto restauro, e il convento *do Espinheiro*, trasformato in un hotel extra lusso e S.p.a., dove la preesistenza architettonica è stata affiancata da nuove costruzioni moderne. Il caso del monastero di Santa Caterina riflette un quadro operativo che indaga la storia e il contesto culturale e antropologico che ha portato al suo sviluppo, finalizzato ad un intervento di ristrutturazione che non neghi l'aura originale del luogo. La comprensione delle evoluzioni che hanno portato allo sviluppo delle architetture eremitiche e del paesaggio nel quale si insediano, costituisce il punto di partenza per l'istituzione di itinerari culturali che ne evidenzino l'importanza e ne favoriscano la conoscenza. Il patrimonio diffuso dell'architettura eremitica è infatti una tematica trasversale sul panorama europeo che rientra nelle direttive ICOMOS sulle Cultural Routes[14]. L'attenzione posta nei confronti del territorio attorno ai complessi religiosi dell'Alentejo, evidenzia un forte legame tra queste architetture e il paesaggio naturale nel quale si inseriscono. La presenza di sistemi di approvvigionamento e conservazione del acqua, di orti e giardini, testimonia come la vita nel monastero fosse strettamente connessa al

[14] ICOMOS Charter on Cultural Routes (2008)

territorio circostante, che veniva sfruttato dagli eremiti in maniera sostenibile [14]. Il paesaggio infatti, così come l'architettura, è modellato nel rispetto del contesto ambientale, al fine di sfruttarne al meglio le risorse senza impattare sul territorio, e diventa parte integrante del patrimonio da salvaguardare in quanto ne costituisce la matrice compositiva. Questo binomio tra architettura e territorio costituisce un dialogo, instaurando una rete tematica che può porsi come punto di partenza per lo sviluppo di itinerari alternativi di turismo culturale volti a valorizzare e promuovere le zone periferiche dell'Alentejo e di metterle in relazione con il centro storico di Évora.

## 6. CONSIDERAZIONI FINALI

Évora e la regione Alentejo costituiscono un *unicum* insieme con il suo paesaggio e i suoi complessi architettonici, che necessitano di interventi di tutela rivolti all'intera regione, finalizzati tra le altre cose allo lo sviluppo di una rete di collegamento per riqualificare l'area del centro storico e il territorio che la circonda. Il censimento e lo studio approfondito dello stato attuale di questi casi studio, permette un'analisi sistematica delle caratteristiche architettoniche e paesaggistiche ad oggi mancante.
La produzione della documentazione digitale attraverso metodologie di rilievo integrate, adattate ai differenti monasteri, considerando di ciascuno le caratteristiche materiche per ottenere un rilievo il più possibile affidabile, è stata possibile integrando i modelli risultanti dalle operazioni di rilievo fotogrammetrico e con laser scanner. A partire da questa ricostruzione, sono stati realizzati elaborati 2d, immagini e video per la documentazione e per scopi didattici ed educativi, 3d per la visualizzazione virtuale e la navigazione in tempo reale dei modelli.
Questi elementi contribuiscono alla conoscenza scientifica di questa rete monastica, creando e disponendo contenuti inediti che possano servire da base per lo sviluppo di strategie di conservazione, protezione, valorizzazione, restauro e nuovi utilizzi di questo patrimonio, che nella maggior parte dei casi è in stato di abbandono, di rovina, o profondamente alterato.
Così come definito nel documento *European Quality Principles for EU-funded Interventions with Potential Impact upon Cultural Heritage* (ICOMOS, 2019), l'accento è posto sul primo dei sette principi, quello del *Knowledge-Based* – la ricerca e i rilievi –, fino ad arrivare al *Good Governance*. Indispensabile è quindi la definizione di un gruppo di ricerca multidisciplinare che ne garantisca il successo. Il patrimonio monastico dell'Alentejo racchiude in se i valori tangibili e intangibili, includendo il paesaggio, l'architettura – nelle sue componenti fisiche e spirituali –, e un "saper fare" di questi uomini che hanno modellato con rispetto il territorio implementando tecniche ingegneristiche sicuramente all'avanguardia per il tempo.

## RIFERIMENTI


[1] J. L. I. Fontes. *Da «pobre vida» à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510).* Tesi di dottorato, Dipartimento di Storia, Universidade Nova de Lisboa, 2012.
[2] G. Monte, *Dicionário de toponímia eborense.* Évora: Gráfica eborense, 1982.
[3] S. Bertocci, G. Minutoli, G. Pancani. *Rilievo tridimensionale e analisi dei dissesti della Pieve di Romena.* Disegnare con. 8-14. 2015
[4] S. Bertocci, M. Bigongiari, R. Esperanza. *Il rilievo digitale come strumento di analisi dei fattori di rischio sismico. Casi studio in Messico: un isolato urbano a Città del Messico e il Monasterio de San Guillermo a Totolapan.* In F. Minutoli, Reuso 2018, Gangemi: Roma, 2018.

[5] S. Bertocci, *Le chiese dell'eremo e del monastero di Camaldoli: il rilievo e la documentazione per la costruzione di un sistema delle conoscenze.* In S. Bertocci, S. Parrinello. Architettura eremitica. Sistemi progettuali e paesaggi culturali. Edifir: Firenze, 2012.
[6] S. Bertocci, M. Bigongiari, M. Ricciarini. *Digital survey for landscape knowledge: the Garfagnana case studies, for tourism development and the Versilia case study, for hydraulic analysis*. Disegnare con. 2019.
[7] Pancani. *La città dei Guidi: Poppi. Il costruito del centro storico, rilievi e indagini diagnostiche.* Edifir: Firenze, 2017.
[8] L. Bartolomei, A. Longhi, F. Radice, C. Tiloca. Italian dibates, studies and experiences concerning reuse project of dismissed religious heritage. In "Wandel und Wertschätzung: Synergien für die Zukunft von Kirchenräumen". Schnell & Steiner. ISBN-13: 978-3795431457.
[9] F. Ribera, M. B. Manfrotto, F. Guglielmo. Fruition and reuse for the rehabilitation of dismissed historical areas: a future for the abandoned monasteries in Salerno. In Proceedings of "REHABEND 2018. Construction Pathology, Rehabilitation Technology and Heritage Management".
[10] I. Poloz, Adaptive reuse as revitalization of historical monasteries. In "The Book of Heritage Vs Tourism International. Point of View". Vol. 2, pp. 64-68, 2017.
[11] R. A. M. Rodrigues, *Entre a Salvaguarda e a Destruição: A Extinção das Ordens Religiosas em Portugal e as suas Consequências para o Património Artístico dos Conventos (1834-1868)*. Tesi di dottorato in Storia, Facoltà di Lettere dell'Università di Lisbona, 2017.
[12] S. Bertocci, F. Cioli, E. Bordini. *Virtual models for the valorisation and promotion of the business heritage in the historic centre of Florence*, DISEGNARECON, Vol 11, No 21, 2018.
[13] T. Pereira da Silva, A. M., Imon, S. S., A. R. Pereira Roders. Tackling tourism-driven development in World Heritage cities: A comparison between Macao, China and Evora, Portugal. In S. S. Imon (Ed.), Urban Heritage and Tourism: Challenges and Opportunities (pp. 1-10). Institute for Tourism Studies: Macao, 2009.
[14] R. Volzone, Os eremitas da pobre vida e a construção da paisagem da Serra de Ossa. In Pedro Fidalgo (Ed.), "I Colóquio Ibérico de Paisagem - O estudo e a construção da Paisagem como problema metodológico". (pp. 198-219). Lisboa: Instituto de História Contemporânea – NOVA FCSH, 2017.

# The Church of St. George in the Kyrenia Castle in the North of the Island of Cyprus: Bringing out the Shape of Architecture

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The contribution focuses on the digital documentation of St. George's church, dating to the Early Byzantine Period, close to the Roman fortress of Kyrenia in the north of the island of Cyprus. In medieval times the Kyrenia castle became a focal point in the defense of Cyprus, being increasingly fortified, first in the Crusader period, then by the Venetians and the Ottomans, when it has incorporated within its defensive structures the church of St George of which today only the central dome covering is perceived from the outside.

A digital survey campaign was carried out, integrating the morphological data coming from laser scanners with the texture of photogrammetry, so to be able to study the church and its architectural features; the textured 3D model was used both as a three-dimensional space fruition system through digital platforms, and as an informative base necessary for the graphic restitution of technical architectural drawings to build-up cognitive analyzes.

The adoption of a three-dimensional model is useful to understand the distributional complexity of the architectural volumes that hide the Church of St George. It is beneficial for the visitor in the context of virtual museums, and appropriate to obtain traditional 2d drawings as a base to analyze the construction techniques for a stratigraphic-evolutionary study of the building that, together with a careful analysis of historical sources, allows to understand the development phases of the church in relationship with the enlargement of the castle's defensive structures.

Key words:
Digital Survey, Kyrenia Castle, North of the island of Cyprus, St. George's Church.

CHNT Reference:
Rolando Volzone et al. 2018. The Church of St. George in the Kyrenia Castle in the North of the Island of Cyprus, Bringing out the Shape of Architecture.

## KYRENIA CASTLE AND THE ST. GEORGE CHURCH: HISTORICAL FRAMEWORK[1]

The island of Cyprus, thanks to its natural resources and its strategic position at the crossroads of three continents (Africa, Asia and Europe), has been exposed to different cultural influences. It has been conquered by several civilizations which have dominated the eastern Mediterranean area in different periods: it turns its own history very rich. The island was settled by Mycenaean Greeks and it was subsequently occupied by Assyrians, Egyptians and Persians, the Arab caliphates for a short period, the French Lusignan dynasty and the Venetians, which were followed by Ottomans between 1571 and 1878 [Mirbagheri 2009].

Kyrenia (*Girne* in Turkish) is the main town of the homonymous district, and it is situated on the north coast of Cyprus, between the ancient cities of Lapethos and Macaria, about 30 km from the capital Nicosia. In the middle Byzantine and in later sources, the city and the port are mentioned [Papacostas 1995]. Wilbrand of Oldenburg, bishop of Paderborn and of Utrecht, by attending the orders of Otto IV, Holy Roman Emperor, to prepare the Fifth Crusade to the Holy Land, writes down in 1211 the *Itinerarium terrae sanctae*, important historical source on the crusades and crusader castles, where he describes *Schernis* as "civitas parva, sed munita, castrum habens in se muratum et turritum": a small town well-fortified which has a castle with walls and towers. The description underlines the two key elements – the harbor and the castle – which are strictly linked to the history of the place, dating back to the Prehistoric period.

[1] The chapter "Kyrenia Castle and the St. George Church: Historical Framework" has been written by Rolando Volzone; the chapter "The Digital Survey Campaign for the Analysis of the St. George Church in Girne" has been written by Federico Cioli; the chapters "The Problems in the Survey and Different Methodological Approaches" and "Archaeological and Interpretive Analysis" have been written by Matteo Bigongiari.

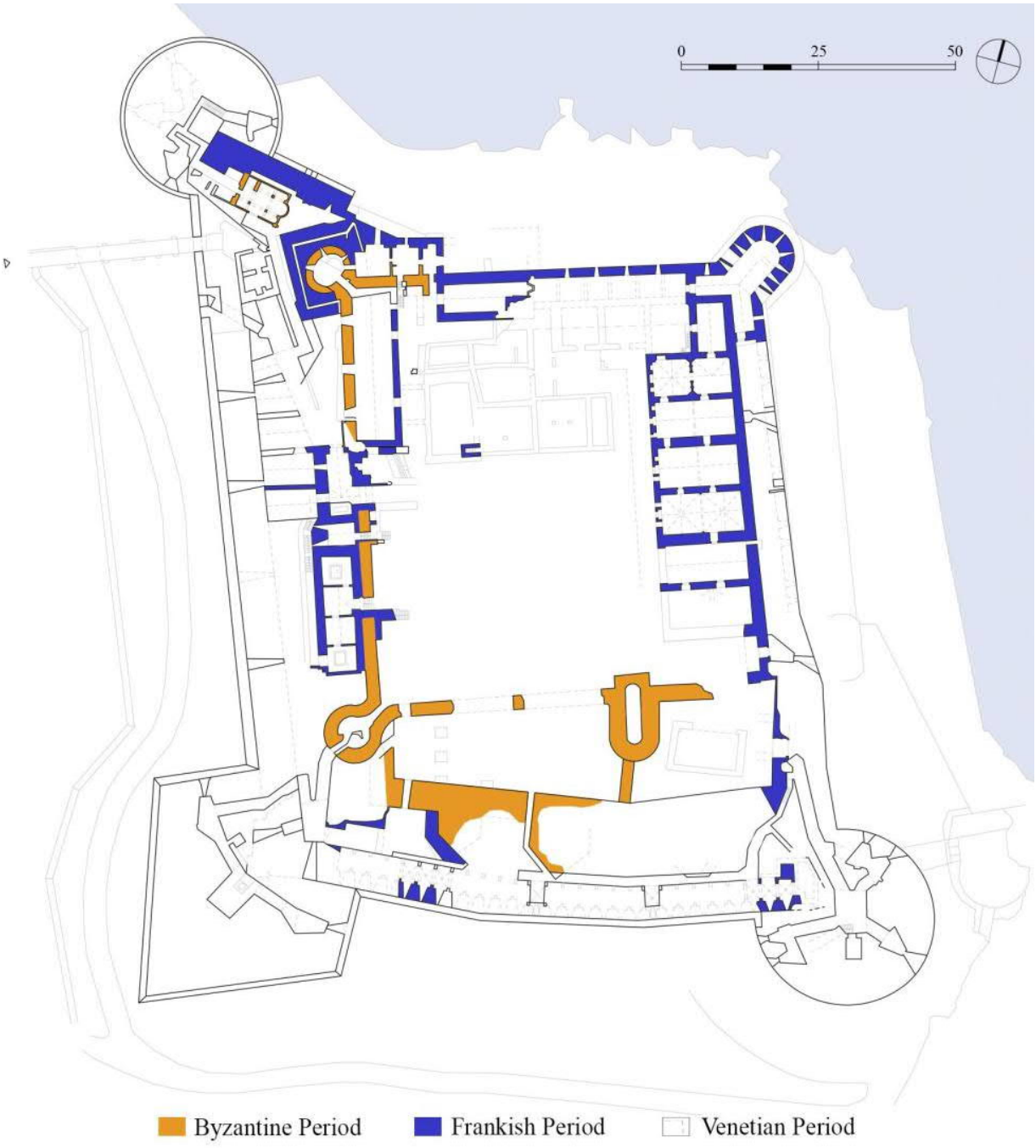



*Fig. 1. Kyrenia Castle and its alteration along the centuries*

The Kyrenia castle is located at the east end of the harbor. The exact date of construction of the castle is unknown. Explorations, carried out in the castle area, reveal traces of the Hellenistic and Roman Period. The original castle was built in the 7th century A.D. by the Byzantines with the purpose of defending Kyrenia against Arab raids. The remains of the castle are the result of its alterations in different periods (Fig. 1): Byzantine Period (330-1191), whose fortifications were generally built to accommodate armored knights and archers [Camiz et al. 2016]; Lusignan Period (1192-1489), the French Catholic dynasty whose major contribution to the island's architectural landscape

was the importation of the French ecclesiastical styles of the 13th and 14th centuries [Given 2005]; Venetian Period (1489 - 1570), at which time Kyrenia was reconstructed, mostly when gunpowder – for cannons and general artillery – came to the use, and these main weapons were adopted for the war [Dreghon 1985], and high curtain walls with numerous openings as gun ports were built. The conquerors employed various techniques to modify existing previous parts or to build stronger ones of the castle, to protect themselves from attacks [Camiz et al. 2016]. What we see today is mostly a consequence of reconstructions and additions made by the Venetians, who built over a crusader fortification from 1540 to 1544. The castle was altered; thicker and higher walls were built, with more and stronger battlements and deeper ditches and moats. Part of the original 7th century Byzantine castle is still evident in the west and south sides; its medieval remains are in adulterated conditions: the original plan was a rectangle large court surrounded by ranges of buildings against the four curtain walls. At each angle there were large square towers, of which that on the north-east angle was planned diagonally to the rest [Jeffery 1918]. It was during this period that important monasteries and churches were built, many of which still exist. It is important to underline that the term Byzantine, as used in the eastern Mediterranean, corresponds to the late Roman period (330-1100). It began when the Roman Empire split up into two halves, the first one at east, centered at Constantinople, and the second one at west, with Rome as the center [Dreghon 1985].



*Fig. 2. The Chapel of St. George: interior view*

The best example for this period is the Byzantine church or chapel, later known as St. George of the Donjon, dating from about 1150 A.D. From the castle gate, by crossing the fortified Venetians wall, through a narrow vaulted corridor, it is possible to reach the church (Fig. 2). The door left to the tunnel opens to the rooms where the church servants spent their daily lives. De Mas Latrie [1874] publishes the will (1406) of Lady Pinadeben of Ferrara, widow of Anthony of Ferrara, who mentioned the “chapele de Sainct Jorge du Donjon” [Enlart and Hunt 1987]; the German classical archeologist Ross [1852] mentions the “Capelle mit vier Marmorsäulen” (the chapel with four marble columns); in 1865, the architect Edmond Duthoit, who accompanied the Count Melchior de Vogüé in a scientific mission in Cyprus, describes

*"une petite chapelle sur plan byzantin avec coupole au centre. Les colonnes AA' sont en marbre blanc avec chapiteaux antiques"*

(a little chapel with a byzantine plan and a dome in the middle, with two columns A and A' the ones near the apse, in marble whit ancient capitals) [Bonato 2001].



*Fig. 3. Exterior (on the left) and interior (on the right) view of the dome*

The chapel is located at the foot of the north-west tower. This tower has a square outline and ~~has~~ inside a stone staircase which snake figures decorating the interior walls. During the time of the Byzantines and the Lusignans, the Chapel of St. George was outside the castle perimeter, and, it was enclosed when the Venetians extended the defenses with new fortified walls (Fig. 1), according to the plan of the 13th century castle made by Jeffery [1933]. It has a cross-in-square layout, with a central dome supported by four columns, and the apse east-oriented. This main semi-circular apse is flanked by inscribed apses where, according to Papageorgiu [1965], traces of fresco decorations were preserved. It is also the case of the church of Christ Antiphonitis, remarkable for the frescoes on the walls and on the pillars [Jeffery 1918]. The structure of the Saint George Chapel was built in ashlar masonry, and is nowadays the unique surviving example of the four-column type in Cyprus. The columns and capitals are made of white marble, probably coming from an important building of the second century, as are the *crustae* of the floor, with remains of *opus sectile* paving, dating between the late 11th and the early 12th century [Megaw 1974]. According to Jeffery [1918], the chapel was used as a burial during the late medieval period: the sepulchral memorials in village churches – imitating the ones in town churches – were common until the end of the 16th century. In the Venetian period, the original dome was removed, the church was utilized as a passage to the north-west tower and the narthex was filled with masonry. Amongst these, there is an interesting gravestone of the 16th century with the usual form of shield containing the inscription "QUI IACET ALUISE DEMEDICI DA BEEGAMO CHEEE", mentioned in the will of Donna Pienadabene of Ferrara. The scarped rock on which the church stands was the site of the north-west corner tower, which is still evident. It is at the intersection point of the western curtain wall with the line of a northern one, still visible at several places. This north-west corner tower, second only in importance to the round tower must, from the shape of the rock foundation, have been rectangular in trace, unusual at that period, but giving better flanking fire along the west curtain wall.

A brick dome was erected subsequently – between 1910 and 1930 – after years with a roofless church [Enlart and Hunt 1987, Gunnis 1936], and the north-west column was replaced by a wall. In 1938, the filling behind the apse and the west part was removed, revealing the narthex. In the early 1950s the wall in the place of the lost north-west column was replaced by a column brought from Nicosia and a capital from the castle precinct [Papacostas 2015]. The modern brick dome was replaced by a stone dome with eight recessed windows (Fig. 3).

It was presumably inspired by the domes at Church of Christ Antiphonitis (Christ who responds) and Panagia Theotokos Church (Fig. 4). The first one was built in the 12th century, and it is located at 1.5 km south-west of Kalograia in the Kyrenia district; its dome – nowadays with an irregular shape, due to damages occurred during the Cyprus earthquake of 1222 – has twelve windows, built in regular courses of good ashlar masonry, and it is supported by eight columns – the only surviving example of this type in Cyprus. The second one, as suggested by

the architecture and style of fresco decoration, is dated of the early 12th century, and it is located in Trikomo, a town in north-eastern Mesaoria in Famagusta district; its dome drum was built in isodomic courses of good ashlar masonry with twelve arched and recessed windows.



*Fig. 4. On the left side: Church of Christ Antiphonitis, August 2016, © Gerhard Huber; on the right side: Panagia Theotokos Church*

The church of St. George was one of the most significant spaces, due to the particular features of this building, which shows the historical phases of its evolution and lies into the defensive wall, being placed between the Venetian wall of the 16th century and the medieval wall of the 14th century [Dreghorn 1985]. Nowadays, only the central dome covering is perceived from the outside, and, in order to bring out the shape of the architecture, it was necessary to start a digital survey campaign. It is necessary to analyze the construction techniques for a stratigraphic-evolutionary study of the building that, together with a careful analysis of historical sources, allows understanding the development phases of the church in relationship with the enlargement of the castle's defensive structures, particularly its interaction with the north-west tower.

## THE DIGITAL SURVEY CAMPAIGN FOR THE ANALYSIS OF THE ST. GEORGE CHURCH IN GIRNE

The study of the volumes and of the architectural features of the St. George Church required a digital survey campaign that integrates the morphological data coming from laser scanners with the information on the characteristics of the materials acquired through the use of “Structure from Motion” (SfM) methodologies. The most distinguishing feature of this building is to be encompassed into the city’s defensive walls, maintaining two of the original facades: this makes it more difficult to survey and clearly redraw the “image” of this architecture.

Between the 6th and the 13th of May 2018, the workshop “Reading and Designing the Kyrenia Castle” took place in Girne American University in Cyprus. The workshop was planned thanks to a collaboration between the Girne American University (Department of Interior Architecture), the Department of Architecture of the University of Florence and the Department of Interior Architecture of Özyeğin University. The workshop involved fifty-six students of the three universities, which were divided into groups in order to cover the design and digital survey topics under the guidance of their tutors. The main topic was focused on the Archeological Museum inside the Castle, which needs a new distribution scheme for the interior rooms. The digital survey conducted using range based and image based instrumentation, produced 360 laser scans, 1900 aerial pictures, 30.000 terrestrial pictures, and low altitude pictures acquired using a telescopic photographic system 3DEYE (Fig. 5) [Camiz et al. 2018]. Despite the attention given to the Ancient Shipwreck Museum area, the digital survey involved also several parts of the Castle, of which the Church of St. George was one of the most significant.




*Fig. 5. Representative picture of the digital survey campaign carried out with a laser scanner Z+F IMAGER 5006h*

In order to understand the architectural morphology, it was necessary to elaborate an accurate plan of analysis and acquisition of metric and qualitative data. The analysis of the historical evolution of the Church of St. George is closely connected with the one of the castle. The understanding of the phases of construction of the building offers a new insight on the history of the architectural complex and of the whole city. The acquired data are a testimony of the current condition of the church and provide the documentation for in-depth analyzes. This allows us to describe the physical features, the characteristics of the materials and the conservation status of the single element of the architectural structure.

The integrated digital survey generated a quantity of data that required a discretization in the post production-phases, in order to provide useful and understandable drawings. The process of building the morphological textured 3D model starts with the planning of the survey and the establishment of a descriptive model. An IMAGER 5006h laser scanner by Z+F was used for data acquisition. The instrument was placed inside the 9x9 chessboard scheme deriving from the layout of the church, where a dome standing on four columns surmounts the central part. A dark corridor connects the church with the entrance of the castle, permitting the constitution of an overall model, which includes the upper path to the bastion from which the dome and the roof stand out. The survey of the Church of St. George required the specific acquisition of 16 scans, nine of which inside the building; two on the doorstep in order to connect the inside part with the corridor and with the exterior, while seven scans were used to restore the image of the external fronts. It has to be considered that the church is an integral part of the fortress and therefore the upper rooms and the dome were acquired and connected to the polygonal path of scans of the castle of Kyrenia. The lack of a topographic survey demanded an *in situ* registration and verification. The shaping of an overall polygon and of a partial polygonal was necessary to quantify the error in the readings [Bigongiari 2017a].

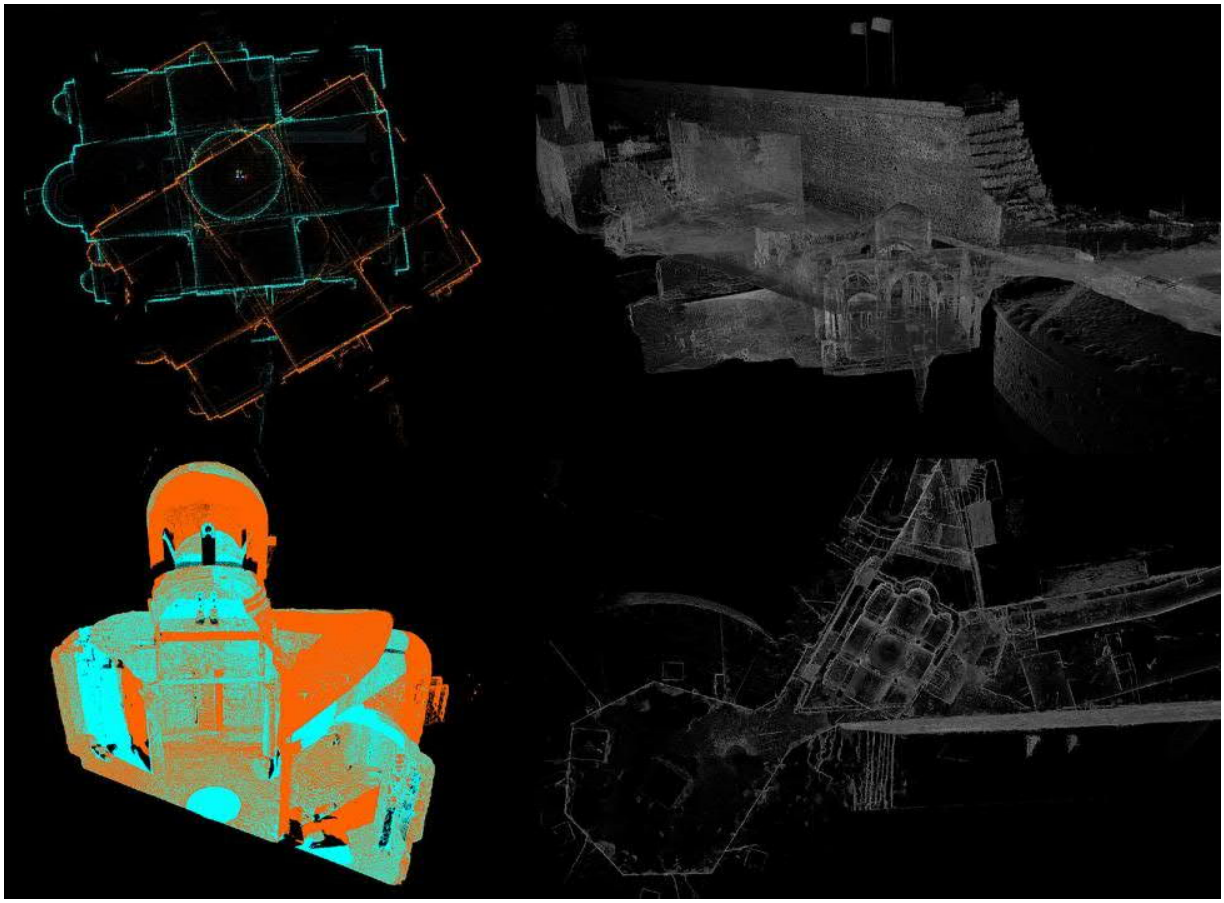


*Fig. 6. On the left, procedures for the registration of the point cloud using the visual alignment. On the right: perspective view and general plan of the overall model of the church and the environment*

The registration of single point clouds and the verification of data reliability is a fundamental phase that brings together the work *in situ* with the subsequent post-production phases. It is fundamental during the acquisition phase to provide the necessary superimpositions required for recording the data. The registration starts from the assumption that the scans use the same polar reference system. Through the rigid rotation of the clouds by using a visual alignment, the scans were recorded via cloud constraint, allowing to survey without using the black and white targets (Fig. 6).



*Fig. 7. Two examples of pictures acquired with two different exposures*

The SfM survey [De Luca 2011] was carried out using instruments with high resolution sensors and correction processes of the single shot. The purpose of the photogrammetric survey was to export the ortho-images of the

facades, useful for the understanding of the masonry and its evolution. Thus, a detailed acquisition of the individual elements was not carried out, despite an overall relief that returned the architecture in its entirety. The survey was conducted during closing hours of the castle. Therefore, the short time available for the SfM acquisition required a planning that produced 193 photos for the exteriors and 125 for the interiors, following the checkerboard acquisition scheme used in the laser-scanner survey. In particular, the interior of the church was acquired with a Nikon D800e placed on a tripod, using a remote control for remote shooting and the self-timer in order to minimize vibrations, giving the possibility to increase shutter speed. The acquisition required the preparation of the environment, through the use of spot lights set at strategic points in order to give a uniform and constant lighting throughout the survey phase. In fact, the main problem was the strong contrast of light between internal and external parts of the Church and between the space below the dome and the rest of the indoor environment. The impossibility of fully compensating these variations required shots on various exposures that were then elaborated in order to create a single homogeneous photo (Fig. 2). The establishment of a photogrammetric 3D model has served to extrapolate the ortho-images, useful for restoring the image of the masonry apparatus. On the outside, the impossibility of maintaining a constant distance from the object led to the creation of a model of greater detail in the south-west part in spite of the north-east one. The morphological complexity of this architecture, incorporated into the castle walls, which can be joined by a poorly lit corridor and surrounded by narrow passages, did not provide the necessary overlapping points to be able to join the two models (Fig. 3). Despite the use of specific targets positioned at the opening on the north wall, it was not possible to combine the model of the exterior with that of the interior, which was then integrated with the point cloud obtained by the laser-scanner survey in order to establish an overall model. The new approaches to surveying, aimed at the acquisition of 3D data, partly facilitate the documentation process, but require careful processing to move from the three-dimensionality and completeness of the point cloud to the two-dimensionality and schematization of the drawings. The graphic rendering phase started from the management of laser scans using the *Cyclone software*[2], and then proceeding through a vectorization of the point cloud in the CAD environment.

2 https://leica-geosystems.com/en-gb/products/laser-scanners/software/leica-cyclone

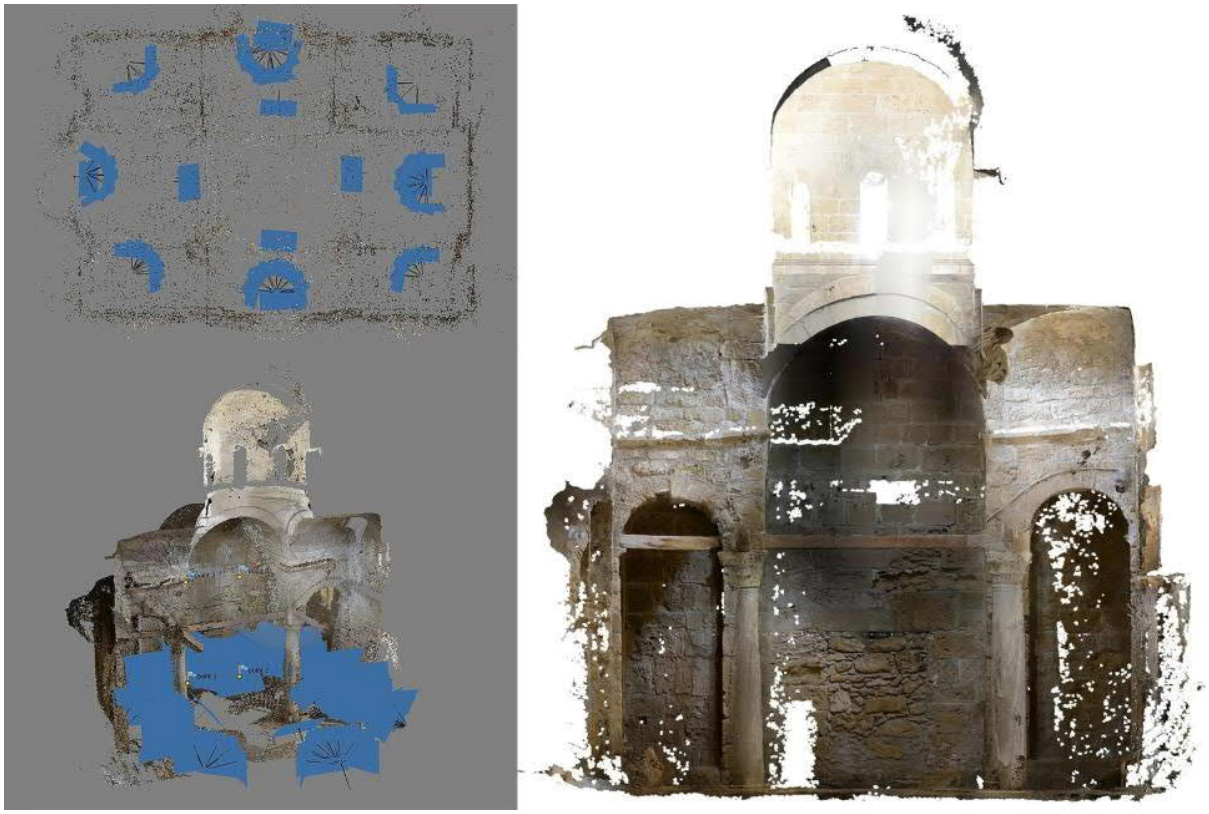


*Fig. 8. The interior of the Church of St. George has been modelled using 125 high-resolution pictures. The model obtained by the SfM processing testify the presence of lacks and problems connected with the homogeneity of the texture.*

The high resolution of the scans guaranteed to export detailed ortho-images from which it was possible to analyze, with the help of the ortho-images, the masonry and its evolutionary phases. The exported, oriented and scaled ortho-images, provided the basis of the drawings, through which it was possible to redraw the point cloud by tracing the main elements through closed polylines. Later the representation was deepened, characterizing the design of details and more specific signs, thanks to the integration of the information contained in the photographs. The drawings are in 1:100 scale, concerning the plant and the environmental sections, useful for the understanding of the relationship between the architecture and the castle. Then, plans, elevations, and sections in 1:50 scale have been realized, in order to facilitate the reading of the Church and serve as support for the study of the historical evolution of the building (Fig. 5). The integrated model is a database of implementable information, useful to understand and transmit knowledge regarding the architecture of the Church. In fact, in addition to the documentary potential of the survey, it aims to develop promotional tools, according to the overall idea of reorganizing the Kyrenia castle museum complex [Bianchini et al. 2018]. One of the aims of the workshop was in fact to develop a project for the redistribution of museum environments around the central courtyard of the castle. The Girne Fortress is a focal point of the city and of the harbor area and it has a great tourist potential. In order to be fully exploited according to the criteria of a cultural and sustainable tourism it requires an overall reorganization of the museum itinerary inside it. The data is therefore a knowledge base and a planning tool for a consistent development of the system, which takes into consideration all of its components, in a single path that reflects the essence and history of the place. The cognitive studies carried out in the church of St. George conclude in a series of images and models that can be used with VR and AR technologies to make it easier for guests to understand the complex building they visit. [Bertocci et al. 2018].

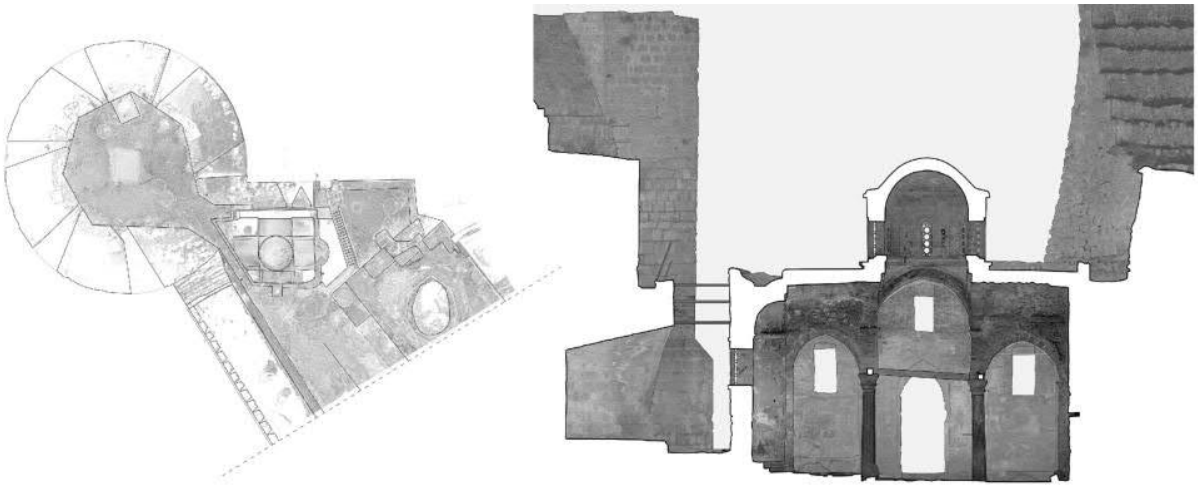


*Fig. 9. General plan and detailed section of the Church of St. George with the support of the ortho-image derived by the point cloud of the laser scanner survey.*

## THE PROBLEMS IN THE SURVEY AND DIFFERENT METHODOLOGICAL APPROACHES

Since its first applications in the field of architectural surveying, the degree of innovation that SfM applications could bring to the disciplines of representation was evident: the possibility of creating three-dimensional models on which to apply highly reliable textures has greatly improved the descriptive capacity of both digital models and two-dimensional drawings. The need to have photographic ortho-mosaics is due to the demand to create a database of 2D graphic drawings useful to map the different types of analysis, from archaeological to material to the identification of decays. Up to that moment this requirement had nevertheless been satisfied through the use of photogrammetry software, calibrating the frames on the basis of the ortho-images from the point clouds [Pancani 2015], while for the realization of three-dimensional photorealistic models, useful graphic communication tools especially if they are intended for non-technical subjects, very simplified models were used on which to apply the textures of the various faces of the building starting from the ortho-mosaics of the facades [Bertocci et al. 2014].

Photomodeling has considerably modified the methodological procedures for the realization of ortho-mosaics and digital models. From the survey point of view, however, it immediately became clear how the models obtained from the frames were not comparable, as regards the metric reliability, with the point clouds obtained by laser scanners: at first, we tried to contain the problem by using, in support of the models obtained from the photographs, points taken with more reliable instruments such as total stations [Gaiani 2015]. Recent software developments permitted to have lower metric errors and the ability to build models from large-scale photo datasets, things that were difficult until a few years ago.

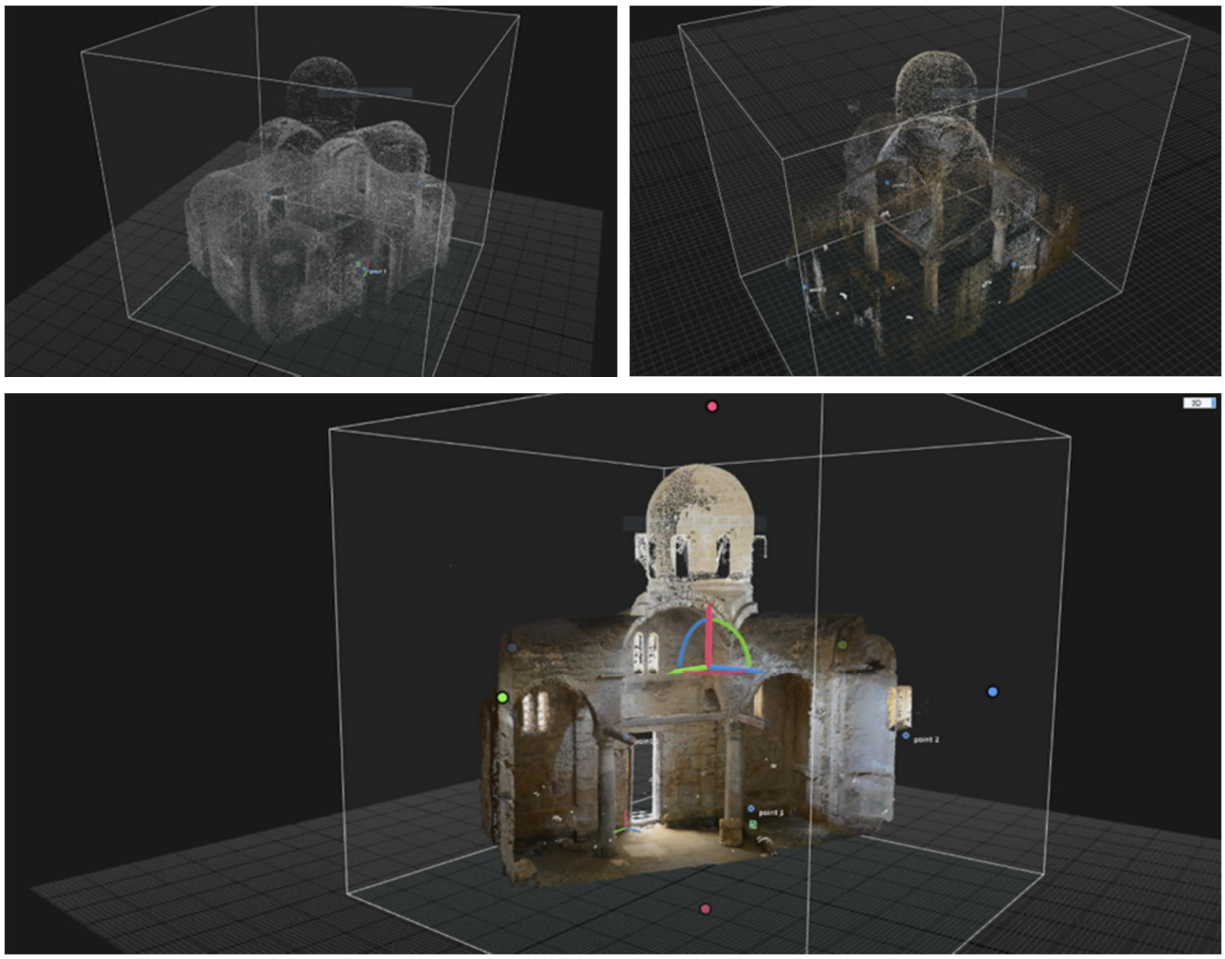


*Fig. 10. 3D model obtained from the laser scans alignment (top left) and from the photographs (top right); the result is a complete 3d textured model that can be sectioned to realize orthophotos. (bottom)*

The main reliability problem affecting photomodeling consists in its measurement mode: the frame comes from a passive acquisition method, that is, the camera sensor is impressed by light, doing nothing else but remaining exposed to it. Precisely for this reason it is not possible to determine the error that a survey can achieve before seeing the result obtained; this is decidedly different than the laser scanner survey, where the instrument sensor emits a light signal that is checked in order to test the results in the laboratory from which the technical data sheets of the instruments are made.

The success of a 3D photographic survey does not really depend only on the morphology of the building, the acquisition method of the photograms and the materials that form the architecture, but also on the lighting conditions of the object, both artificial and natural. These problems mainly lead to cause different effects: if on the one hand they cannot recreate a uniformly balanced colored texture on the other they can cause morphological errors due to the misinterpretation of badly lit surfaces (whether they are unduly underexposed or burned). It is possible to limit these errors in post-production by modifying some parameters of the frames, which is possible only if the shots have been made in .raw format, otherwise the pixel changes lead to obvious errors: in this way shadows and burns are attenuated and the white balance of the photographs can be uniformed among them, but inevitably the realization of a much heavier archive results.



*Fig. 11. High resolution image from the3D textured model obtained combining laser scans and photographs*

In the case study of the church inside the Girne fortress many of these problems have been found, especially within the church: the interior lighting condition is totally devoid of artificial light points, and is strongly influenced by the architectural typology, characterized by narrow and long windows that cause a strong overexposure of the areas near the window-frame; at the same time, the development of the fortification that has incorporated the religious building has led to a total absence of direct lighting from many of its openings, leaving the south and west sides of the building completely blind; finally, the central dome, illuminated from all sides, causes an area very much overexposed with respect to all the surrounding bays.

The photographs taken to create a three-dimensional model, have suffered from these problems and in fact in the development of the 3D model through the software *Agisoft Photoscan v.1.4.0*[3] have been highlighted significant morphological inaccuracies; mainly the errors are due to the lack of general lighting in the church, which obliged to make acquisitions with very slow shutter speeds and to use the tripod to avoid the shake-out effect, and to the presence of areas overexposed around the windows. The result of automatic alignment has highlighted these problems in several ways: the dense cloud point created in fact presented a lot of digital noise, in fact the sections of the cloud of points were not threadlike, but the software, due to the difficulty of correctly placing the points in space, returned very thick sections; moreover, due to the problems of overexposure many of the surfaces have not been correctly reconstructed: in this case they showed themselves with evident lacunose portions, due to the bad recognition of points, similar to when trying to reconstruct a plastered wall almost completely homogeneous from the color point of view.

An unsuccessful model would have resulted in a great loss of reliability and information; to solve the gaps within the model it was decided to use a different software *reality capture*[4] that allows to manage the data of the laser scans simultaneously with the photographic data. The program imports both the data of the scans, previously filtered and recorded (with the Leica *Cyclone software*), and the frames, afterwards and it tries to automatically align the data with each other; this is possible because laser data can be assimilated to frames, each scan can be considered as a panoramic view that is decomposed into a cube (6 frames) [Bigongiari 2017b]. If the pixel images of the scans and photographs are not automatically recognized, the alignment between the models can also be done through the registration with homologous points. The union between the two acquisition systems leads to great improvements: the three-dimensional reconstruction of a mesh model is not only based on the points calculated from the photographs, but mainly bases its morphology on the points coming from point clouds from the laser scanner and

[3] https://www.agisoft.com
4 https://www.capturingreality.com

integrates the missing data with the data coming from the photographic cameras. Obviously the laser scanner survey of the interior of the church did not suffer from lighting problems and this allowed to obtain a complete model; the correct overlapping of the two acquisition methods, assisted by control points (with an error of less than 1 px), allowed to realize a complete and textured model of the church, which can be sectioned and used to recreate high resolution ortho-mosaics.

## ARCHAEOLOGICAL AND INTERPRETIVE ANALYSIS



*Fig. 12. Final drawing of a 2D section of the church with the ortophoto taken from the 3D model, where it is possible to see the crusades pointed arches.*

The survey was functional in this case to set the first considerations on the history and on the evolution of the building. Analyzing the walls it is in fact possible to advance hypotheses of phases of the construction periods; for scientific and methodological rigor, today we try to extract, for exposed walls no longer protected by plasters, the distinctive features of the masonry discontinuities (stratigraphic units) [Brogiolo and Cagnana 2012]; by relating the various stratigraphic units in relation to each other within the building, it is therefore possible to hypothesize the chronology of the interventions, relating to the historical sources.

In the specific case of the church of Saint John the contribution added by the survey leads to the identification of the evident reconstructions; it is still necessary to deepen these initial considerations with an in-depth archaeological analysis that supports and verifies what we saw in the first campaign inside the church.

The architectural typology is consistent with the Byzantine cult buildings: the central plan layout, oriented with the main apse to the east, fits perfectly into the scheme; the presence on the sides of the apse of two niches with small hemispherical caps, in the walls, one on the right and one on the left, symbolizes the *diaconicon* and the *prothesis*,

two fundamental elements for the Orthodox liturgy (often in the larger religious buildings we find two rooms or sacristies at the sides of the central apse).

The plan of the church has been preserved over time, what has changed is the surrounding of the building following the changes in the fortification: in a first period in fact the church was outside the defensive perimeter, probably on the road access from the inhabited village to the castle. With the advent of the Lusignani, a crusading dynasty that held the lands of Jerusalem, the church of St. John remained at the service of the local population of the Greek rite, while probably a second church of the Latin rite existed inside the castle of Lusignani, identified by some in the vaulted hall, which ends in the corner tower at the intersection of the newly constructed wings, which presents a singular "Y" shape. The church has probably kept orthodox rites, which is why the Byzantine features are so evident today.

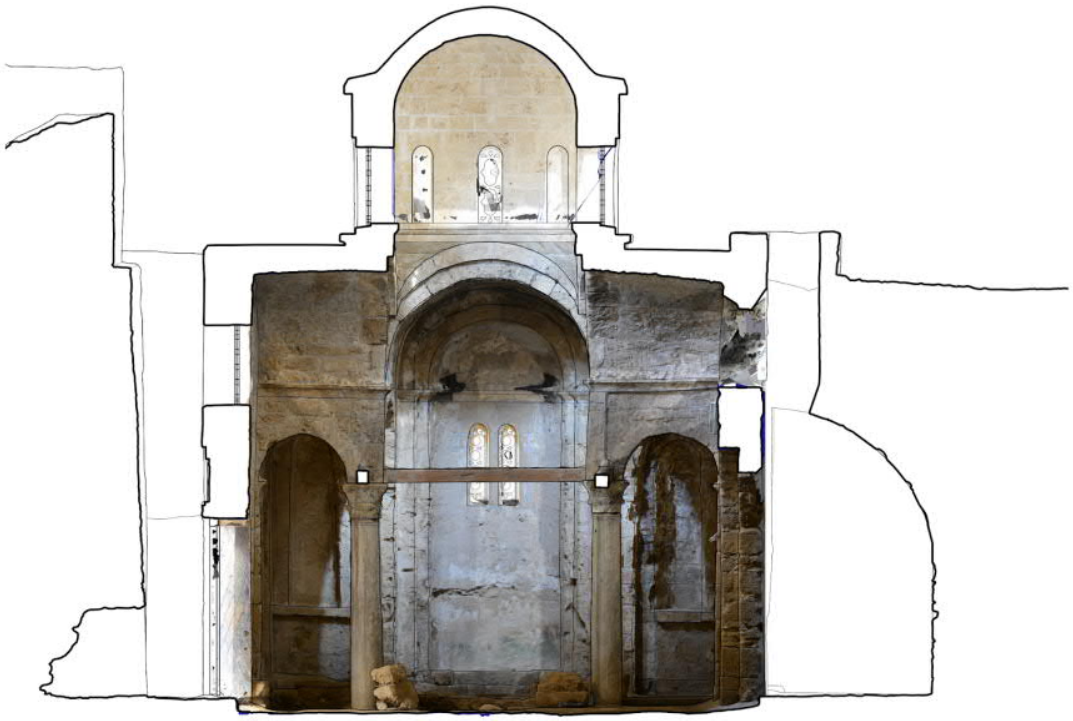


*Fig. 13. Final drawing of a 2D section of the church with the ortophoto taken from the 3D model*

The columns on which the arches are set are probably reused from a previous building; the capitals are also of spoliation and are of the late Corinthian order (after the 4th century?); one cannot certainly ascribe the origin of shafts and capitals to the same building: from what emerges from the drawings one of these does not coincide perfectly with the shaft on which it is laid. From plans and historical sources it is evident that a column was embedded in a wall, or was perhaps missing; the recent restorations do not allow us to understand the possible replacement of the column; evident traces of changes appear in the round arch that crosses the aisle, and probably from the wrong positioning of the tie rod. The entrance on the main façade of the church, which has not been digitally detected, remains today inside the circular tower that defends the fortress. The four columns are all bare, resting directly on the ground; this may be due to a subsequent modification that has led to the raising of the paving level; this solution can be considered a foresight in anticipation of seismic events, thus reducing the unsupported length of the vertical element; the same thing was found in other buildings occupied by the crusaders during that period: in particular the research group of LS3D (Landscape Survey and Design Laboratory), a joint laboratory between the University of Florence and Pavia, in 2014 took care of the digital survey of the Basilica of the Nativity in Bethlehem [Bertocci 2016]; the building was taken by the Crusaders who modified its layout to adapt it to its

defensive needs; among the changes implemented, the paving was raised, an intervention that was not linked to the liturgical need to hide the Roman mosaic floors to avoid trampling on the sacred representations but for structural needs in a strongly seismic area. Surely the builders were aware of the problems caused by earthquakes as evidenced by the use of rods to contain the thrusts of the central dome: even if the wooden chains seem to be recent (it is not possible that the wood remains so well preserved) it is evident how the church has undergone strong earthquakes or structural sagging, and is especially visible from the inclination of the chains, which are not horizontal at all; in the same way the cornices that run around the aisles, interrupting in key of the arches except where there is the curve of the apsidal basin, have been affected by this movement and are not perfectly leveled.

You can easily notice the changes in the springer of some arches: the originals of the Byzantine period are round-shaped and because of the width of the spans are higher in the central and lower in the lateral ones; the south side of the central nave presents instead pointed arches, probably modified in the Crusader period, which are more slender than the others; on the same side also the openings have been modified and have pointed arches; this is particularly evident in the central opening, since the Venetians built the new wing of the fortification which incorporates the Byzantine church. The north side has an opening similar to the original type of architrave that is not in discontinuity with the walls and is visible on the west side, despite being walled. In this sense it is worth highlighting how the traces of openings on the walls were probably windows at first.

Lastly, the central dome has been recently built on pre-existing structures with evident changes, above all as regards the tholobate and the lower cornices, which have considerably cleaner and preserved walls, even with a lighter color than the rest of the church.

## CONCLUSIONS

The results of the work presented here made it possible to realize the first digital survey of the church of St. George. The research has allowed us to recreate a database of information that combines both the morphological data acquired by the laser scanner and the material-photographic data in a three-dimensional work space; the three-dimensional datum has been traced to two-dimensional drawings that describe all the surfaces of the building: thanks to these data it was possible to understand the forms of architecture and advance archaeological hypotheses consistent with the stratigraphy of the walls on the evolution of the church.

## REFERENCES

S. Bertocci, F. Cioli, and E. Bordini. 2018. Virtual models for the valorisation and promotion of the business heritage in the historic centre of Florence, DISEGNARECON, Vol 11, No 21, ISSN 1828 5961.

S. Bertocci, S. Parrinello, S. Bua, and F. Picchio. 2014. Montepulciano 3D: modelli virtuali per l'urbanistica e lo sviluppo dell'ambiente urbano, DISEGNARECON, Vol 7, No 13, ISSN 1828-5961.

S. Bertocci. 2016. Beni archeologici e tecnologie digitali per la conservazione: tre progetti per il Patrimonio Mondiale UNESCO; di Villa Adriana a Tivoli (Roma), la Fortezza di Masada (Israele), la Basilica della Natività (Palestina), in Chias P., Cardone V., (Ed.) *Dibuyo y arquitectua*, Universidad de Alcalà, Madrid. ISBN 978-84-16599-77-6.

C. Bianchini, L.J. Senatore, and L. Catena. 2018. Survey 2.0: from theory to practice, in Rappresentazione/Materiale/ Immateriale – Drawing as (in)tangible representation. Gangemi Editore, Roma, pp. 329-336.

M. Bigongiari. 2017a. The Digital Documentation of the Florentine Complex of Santa Maria Maddalena De' Pazzi, Giuseppe A. (Ed.) Putting Tradition into Practice: Heritage, Place and Design: Proceedings of 5th INTBAU International Annual Event (Vol. 3, Lecture Notes in Civil Engineering). Cham: Springer International Publishing, ISBN: 978-3-319-57936-8.

M. Bigongiari. 2017b. Il rilievo del centro storico di Brolo, in Arrighetti A., Gentile S., Minutoli G., (Ed.) *Bianca terra. Studi per il recupero e la valorizzazione del centro storico di Brolo*. Armenio editore, Brolo, ISBN 978-88-6902-067-4.

L. Bonato. 2001. "Chypre dans les archives de Melchior de Vogüé V. Fragment d'un carnet de voyage d'Edmond Duthoit (mission de 1865)", *Cahiers du Centre d'Études Chypriotes, Université de Paris X-Nanterre*, 31, pp.209-250.

G.P. Brogiolo and A. Cagnana. 2012. Archeologia dell'architettura. Metodi ed interpretazioni. Firenze, Italy ISBN 9788878145184.

A. Camiz, A. Bruccoleri, S. Baydur, and G. Atmaca. 2016. Venetian defence in the Mediterranean: Nicosia's city walls, Cyprus (1567-1570), in G. Verdiani (ed.), Defensive architecture of the Mediterranean. XV to XVIII Centuries, vol. 3, DIDApress, Firenze, pp. 363-370. ISBN: 9788896080603.
A. Camiz, G. Verdiani, and Z. Ceylanli. 2018. International Workshop: Reading and Designing the Kyrenia Castle, in S. Bertocci (ed.), Programmi multidisciplinari per l'internazionalizzazione della ricerca, DIDApress, Firenze, pp. 265-270, ISBN: 9788833380483.
L. De Luca. 2011. La fotomodellazione architettonica, Di Flaccovio editore, Palermo ISBN 978-88-579-0070-4.
L. De Mas Latrie. 1874. "Nouvelles preuves de l'histoire de Chypre ", *Bibliothèque de l'École des Chartes*, 35, pp.99-158, available at Persée: http://www.persee.fr/web/revues/home/prescript/article/bec_0373-6237_1874_num_35_1_446563.
W. Dreghorn. 1985. Girne Castle. Nicosia: Publisher unknown.
C. Enlart and D. Hunt (ed.). 1987. *Gothic art and the renaissance in Cyprus*, London, English translation of C. Enlart, *L'art gothique et la renaissance en Chypre*, 2 vols. Paris (1899).
M. Gaiani. 2015. I portici di Bologna, Bononia University Press, Bologna ISBN 978-886923-036-3.
M. Given. 2005. Architectural styles and ethnic identity in medieval to modern Cyprus. In Clarke, Joanne (Eds) Archaeological perspectives on the transmission and transformation of culture in the Eastern Mediterranean., Chap 25, pages pp. 207-213. Oxbow Books.
R. Gunnis. 1936. *Historic Cyprus. A guide to its towns & villages, monasteries & castles*, London.
G. Jeffery. 1918. *A Description of the Historic Monuments of Cyprus*, Nicosia, available at Archive.org: https://archive.org/details/cu31924028551319.
G. Jeffery. 1933. *Historical and Architectural buildings* no. 5, Nicosia.
A.H.S. Megaw. 1974. "Byzantine architecture and decoration in Cyprus: Metropolitan or provincial?", *Dumbarton Oaks Papers*, 28, pp.57-88.
Farid Mirbagheri. 2009. Historical Dictionary of Cyprus. Scarecrow Press. ISBN 978-0-8108-6298-2.
G. Pancani. 2015. Le quadrature di Palazzo Pitti a Firenze, Lo svolgimento in vera grandezza delle volte affrescate al piano terreno, in Bertocci S., Farneti F. (Ed.) *Prospettiva, luce e colore nell'illusionismo architettonico: Quadraturismo e grande decorazione nella pittura di età Barocca*, Editoriale Artemide, Roma. ISBN 978-88-7575-164-7.
T.C. Papacostas. 1995. *Medieval Byzantine urban churches in Cyprus*, University of Oxford; M.Phil. thesis.
T. Papacostas. 2015. Inventory of Byzantine Churches on Cyprus, London 2015, ISBN 978-1-897747-31-5, available at http://ibcc.dighum.kcl.ac.uk/ This should be abbreviated to iBCC - so Church 15 can be described as iBCC 15, available at http://ibcc.dighum.kcl.ac.uk/entries/b0015.html
L. Ross. 1852. *Reisen nach Kos, Halikarnassos, Rhodos und der Insel Zypern*, Halle, available at Hathi Trust: http://hdl.handle.net/2027/hvd.32044051718062

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# IL RILIEVO DELLA CERTOSA DI FIRENZE. CATALOGAZIONE E ANALISI DELLE CELLE DEL CHIOSTRO GRANDE PER LA GESTIONE E LA VALORIZZAZIONE DEL COMPLESSO CERTOSINO

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**Keywords:** analisi morfologica, architettura monastica, catalogazione, Certosa di Firenze, rilievo digitale integrato

**Abstract** *The eremitical rule of the Carthusian Order, which was founded by Bruno of Cologne in 1084, is reflected on the architectural system and on the structures of Carthusian monasteries. The cell, placed around the cloister, allows the monk to contemplate the divine in solitude and silence, by alternating and associating the private dimension of the hermitage to the community and coenobitic one of the monastery.*
*The aim of the research, which included the use of digital technology to document the state of conservation of the Florence Charterhouse monk's cells, is the definition of a diagnostic framework and an abacus of constructive and decorative elements of the complex, which is functional to the understanding of these places. The cells, located in the north-east and south-east sides of the main cloister, have been carefully documented through laser scanning and photogrammetric survey campaigns, close range and at high altitude, flanked by the census work. For each cell, 2D and 3D drawings have been realized, generating an inedited documental system, through which it is possible to explore the important architectonic complex. One of the goals of the research is to provide, through a digital multidimensional and implementable in time database, a valid support for the comparison between the Florence Charterhouse implantation and other Italian Carthusian monasteries, including the Pavia Charterhouse.*

## 1. L'ORDINE CERTOSINO: LA REGOLA E LA SUA INFLUENZA SULL'IMPIANTO ARCHITETTONICO [1]

La genesi dell'ordine certosino si deve alla figura di San Bruno di Colonia (1030-1101), che nel 1084 si ritira con i suoi compagni – quattro chierici e due laici – nel "deserto di Chartreuse", a circa 30 km da Grenoble nelle Alpi francesi, con l'intento di fondare un eremo sulla scia dei movimenti contemporanei di ritorno alla purezza della regola eremitica. Nel 1106 entra a far parte di questa comunità Guigues, quinto priore di questo monastero e redattore della prima regola scritta dei certosini, le *Consuetudines Cartusiae*, terminate nel 1127, gradualmente ampliate con l'introduzione dei decreti dei capitoli generali e da questo momento denominati statuti: *Antiqua Statuta* (1271), *Nuova Statuta* (1368), *Nuova Collectio Statutorum* (1582) e *Statuta Ordinis Cartusiensis* (1917) [1]. L'architettura di una certosa è strettamente legata a queste regole, che definiscono le esigenze della vita quotidiana dei monaci, anche se durante il primo secolo di vita dell'ordine non si può ancora parlare di una vera e propria tipologia certosina, dato che i primi insediamenti monastici – Chartreuse e Santa Maria dei Turri sull'altopiano delle Serre Calabresi – vennero costituiti da eremi lignei distribuiti attorno ad una chiesa in muratura e di piccole dimensioni, dei quali però non esiste più alcuna testimonianza. La nuova tipologia architettonica si consolida negli impianti certosini fondati a partire dal XIV secolo [2], tra i quali troviamo la Certosa di Pavia, e ancor più marcatamente in quelli del XV secolo, come la Certosa di Firenze [3]. Lo schema distributivo degli impianti certosini è essenzialmente costante [4], ma presenta di volta in volta alcune varianti morfologiche dovute alle caratteristiche del luogo – la conformazione fisica – e all'epoca nella quale vennero costruiti. Le varianti si basano sulle possibili combinazioni distributive di tre spazi (figura 1): la chiesa, il piccolo chiostro e il grande chiostro [5,6]. Quest'ultimo, che contraddistingue la certosa da altri impianti monastici, costituisce il suo centro, una cerniera fisica e spirituale.

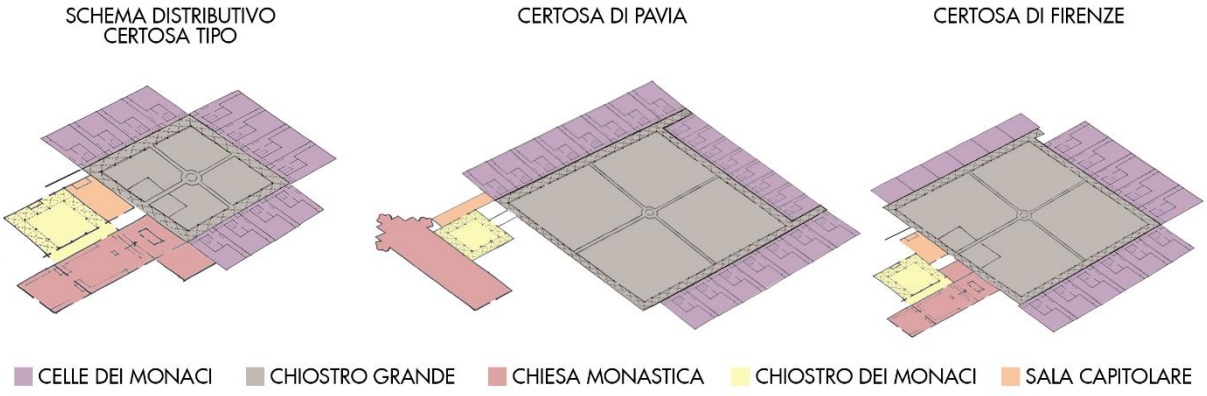



Figura1. Schemi distributivi dell'architettura certosina.

Nel caso della Certosa di Firenze il *claustrum magnum,* o chiostro grande – attorno al quale si articolano le 18 celle dei monaci –, raggiunge dimensioni pari a quasi metà dell'intero complesso. Questo grande ambiente ha sia funzione di connettore tra le celle e le restanti dipendenze monastiche, sia quella di filtro, permettendo ai monaci di condurre una vita eremitica, in solitudine e nei propri spazi, intervallata da alcuni episodi di cenobitismo.
La cella, che varia da un numero minimo di 12 ad un massimo di 24 nelle certose doppie, permette

[1] Si deve a Francesca Picchio la redazione dei paragrafi 4 e 6, a Federico Cioli la redazione del paragrafo 5 e a Rolando Volzone la redazione dei paragrafi 1, 2 e 3.

la materializzazione dell'ideale contemplativo – di conoscenza e unione con Dio – perseguito dai certosini, e raggiungibile solo attraverso la pratica della solitudine. Essa si configura come un microcosmo autosufficiente e isolato, un eremo nel quale i monaci trascorrono la maggior parte della giornata, dedicandosi alla *lectio*, *meditatio*, *oratio*, *contemplatio*. La regola *cartusiense* "quoniam praecipue studium et propositum nostrum est silentio et solitudini cellae vacare" [7] rimanda all'importanza della solitudine e alla custodia della cella.

## 2. LO SVILUPPO ARCHITETTONICO DELLA CERTOSA DI FIRENZE

La fondazione della Certosa di Firenze si deve a Niccolò Acciaioli (1310-1365), Gran Siniscalco del Regno di Napoli e appartenente a un'illustre famiglia di banchieri fiorentina, che nel 1338 verbalizza nel suo testamento la volontà di fondare un monastero dedicato a San Lorenzo Martire, e destinato all'ordine certosino. Nel 1342 redige l'atto di donazione delle terre per l'edificazione del monastero, delineandone i caratteri architettonici – riprendendo i caratteri tipici di una certosa –, che doveva accogliere 12 monaci, un priore e un piccolo numero di conversi [5]. La scelta del luogo, che conferisce al monastero la caratteristica di dominante sul paesaggio circostante, è motivata dall'isolamento garantito dall'altezza del colle, dalla presenza dei due torrenti, l'Ema e il Greve, e dalla possibilità di utilizzare il materiale presente *in loco* per la costruzione della fabbrica. L'articolazione interna è stata strettamente vincolata alla morfologia del luogo – che rendeva difficoltosa la distribuzione dei diversi ambienti a causa dell'adattamento alla sommità pianeggiante del rilievo – e le fasi di progettazione furono guidate dai monaci sulla base dei tre nuclei principali, il chiostro grande, il chiostro piccolo e la chiesa. La Certosa ha avuto varie fasi di accrescimento, manutenzione e restauro nel corso di sette secoli. Agli inizi del Quattrocento, sulla base delle volontà testamentarie di Niccolò, venne costruita la cappella di Santa Maria con la cripta che accoglie le tombe della famiglia Acciaioli. Le più significative modificazioni avvennero tra la metà del XV e la metà del XVI secolo, con lavori che interessarono la completa ricostruzione del grande chiostro e delle celle dei monaci – conferendo alla Certosa l'aspetto monumentale ancora oggi visibile (figura 2) –, durante i quali probabilmente le celle e le gallerie del chiostro furono spostate verso l'esterno, in modo da dare al nuovo chiostro un'impostazione planimetrica il più possibile quadrata – l'antico chiostro doveva essere di forma più allungata –, aderendo ai principi architettonici dell'epoca.




Figura2. Planimetrie storiche raffiguranti il complesso della Certosa di Firenze (XVIII secolo) conservate nelle sale espositive di Palazzo Acciaiuoli.

Immediatamente successivi alla costruzione del Chiostro sono i cinque affreschi di Pontormo nel Chiostro Grande raffiguranti le Scene della Passione, oggi conservati nel museo di Palazzo Acciaiuoli.
Interventi di restauro conservativo hanno interessato la Certosa soprattutto dopo il 1866, una volta divenuta proprietà dello Stato italiano, e successivamente tra la fine del XIX e gli inizi del XX secolo, furono necessarie opere di consolidamento dopo il terremoto del 1895 che provocò il crollo dell'ala settentrionale del Chiostro Grande.
Il monastero e le sue celle (figura 3) sono state lasciate dai certosini nel 1958, anno nel quale subentrano i monaci benedettini cistercensi, che per quasi sessant'anni hanno custodito questi spazi, abbandonandoli solo nel 2017. L'Arcidiocesi di Firenze – alla quale l'Agenzia del Demanio ha consegnato la Certosa – ne ha affidato la gestione alla comunità religiosa di San Leolino. Alcuni spazi rimangono comunque di competenza del Demanio e della Soprintendenza Archeologica Belle Arti e Paesaggio, come il Centro di Restauro dei Beni Archeologici della Toscana che sarà ospitato negli spazi della Certosa.



Figura3. Immagini storiche del Chiostro Grande dall'archivio Alinari a confronto con quelle attuali.

## 3. LA CELLA DELLA CERTOSA DI FIRENZE: IL PARADOSSO DELL'EREMO NEL CENOBIO

La morfologia architettonica del chiostro grande e della cella rappresenta il paradosso della fusione tra vita eremitica e cenobitica. I monaci trascorrono infatti la maggior parte del tempo nella cella, riunendosi solo tre volte al giorno con il resto della comunità: durante la veglia notturna, al mattino per la messa conventuale e al vespro. Solo di domenica, dopo la refezione, rompono il silenzio durante un'ora, e di lunedì pomeriggio, quando passeggiano per i cammini circondanti la certosa.

Le celle della Certosa di Firenze occupano tre lati del chiostro grande – nord-ovest, nord-est e sud-est–, il quarto presenta la chiesa e gli ambienti cenobitici: la cappella delle reliquie, la sagrestia, il capitolo, il refettorio e le dispense. Ogni cella è contraddistinta da una lettera dell'alfabeto e da affreschi a forma di lunette sulla porta di ingresso. Quest'ultima è fiancheggiata da uno sportello attraverso il quale il monaco riceve il pasto, pensata di modo da evitare il contatto fisico e visivo con il chiostro. Dalla porta si accede al vestibolo, che crea un ulteriore livello di isolamento dal resto del monastero, e consente l'accesso ai tre livelli della cella. Al piano terra la stanza dell'*Ave Maria*, chiamata così per la presenza di una immagine della Vergine davanti alla quale il certosino prega (Figura 4). La seconda stanza chiamata *cubiculum*, arredata spartanamente con un letto, un tavolino ribaltabile e un inginocchiatoio per le orazioni, che assolvono rispettivamente alle funzioni di camera da letto, refettorio/studio, oratorio. Da qui si passa ad una stanza, un corridoio chiuso adibito a laboratorio – che in alcuni casi conduce alla latrina – o può configurarsi come un loggiato aperto sul giardino.

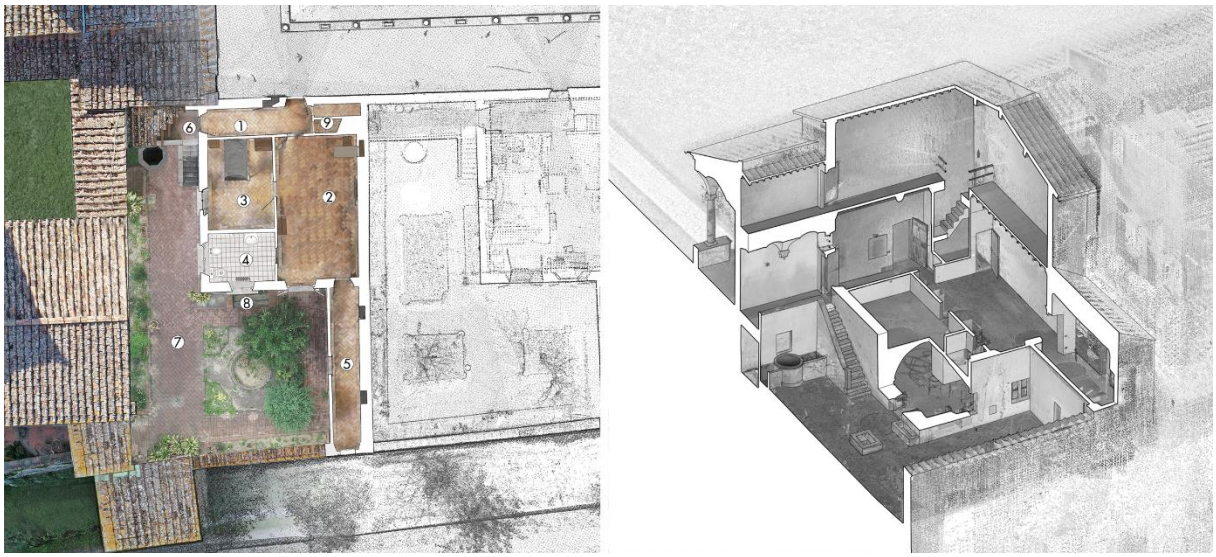



Figura4. A sinistra: Planimetria della cella X: 1) Ingresso; 2) Studi/sala da pranzo; 3) Camera da letto; 4) Servizi igienici; 5) Loggia chiusa; 6) Accesso al giardino; 7) Giardino con pozzo; 8) Accesso alla cantina; 9) Accesso al vano scala che conduce alla soffitta. A destra: spaccato assonometrico della cella S. Elaborati ottenuti dalla campagna di rilievo 2018.

Tornando al vestibolo, si giunge, attraverso una stretta scala in legno, al piano superiore adibito a magazzino, con accesso ad un portico, che dà sul giardino coltivato dal monaco. A questo corrisponde un portico sottostante, dal quale si raggiunge il livello inferiore con il giardino nel quale è presente una cisterna, il laboratorio e la legnaia. La parete di fondo del giardino è costituita dalle mura *castellane* che costituiscono il limite fisico e spirituale del monastero, aldilà di queste non potevano esistere altri edifici o luoghi adibiti a specifiche attività, ma solo le terre ad uso agricolo.

## 4. LA NECESSITÀ DI UN PROGETTO DI DOCUMENTAZIONE

Le operazioni di rilievo[2] divengono, in questo specifico contesto ed in questa fase della storia dell'edificio, indispensabili sia per un'operazione di documentazione ed analisi degli elementi e dello stato di conservazione del complesso, sia in funzione di un progetto di ricerca più ampio, che vede coinvolte alcune certose in ambito nazionale, tra cui quella di Pavia,[3] col fine di delineare i caratteri dell'evoluzione dell'architettura monastica, mettendo a confronto ed integrando informazioni che completino il quadro conoscitivo e costituiscano un supporto utile non solo per la diagnostica, finalizzata ad interventi di recupero e di consolidamento, ma anche per la gestione di questi siti monumentali.
L'indagine condotta ha messo in evidenza lo stato di conservazione del complesso che si presenta piuttosto critico, in particolare nella parte del Chiostro Grande e delle celle dei monaci (figura 5), che versano in preoccupanti condizioni strutturali.



Figura5. Le principali forme di degrado che investono il Chiostro Grande e le Celle monumentali: Da sinistra: instabilità strutturali, patina biologica, parassiti del legno, lesioni, esfoliazione della pietra e distacco.

Lo stato di abbandono della vita eremitica nelle celle è evidenziata dal cattivo stato di preservazione degli infissi che non si oppongono al continuo deterioramento nel tempo degli ambienti interni. In particolare, la presenza di guano e detriti all'interno delle stanze, e le condizioni di degrado diffuso sui vari elementi costituenti il sistema delle celle ne rende impossibile l'accesso da parte dei turisti. Le aree più fortemente danneggiate sono quelle dei loggiati esterni, affacciati sulle corti interne delle rispettive celle. Gli elementi strutturali hanno richiesto in alcuni casi l'ausilio di puntelli o di cerchiature delle colonne per ripartire meglio i carichi delle coperture. La necessità di avviare al più presto operazioni di restauro volte ad arrestare l'incessante deterioramento causato dall'incuria e dal tempo ha richiesto un accurato lavoro di documentazione per consentire di mettere in evidenza

[2] Il passaggio dalla clausura dei certosini all'apertura dei monaci benedettini cistercensi, ha permesso l'accesso alla Certosa di Firenze anche per visite turistiche e la possibilità di sviluppare consistenti campagne di rilevamento per la documentazione del complesso monumentale. Le operazioni di documentazione digitale hanno avuto inizio nell'aprile del 2014, e sono tutt'ora in corso. Il progetto, di cui responsabile scientifico il Prof. Stefano Bertocci, rientra all'interno di una più ampia ricerca relativa alla documentazione degli eremi e dei complessi monastici nazionali ed internazionali. Tale attività di ricerca, avviata dal 2010 e ancora in corso, è promossa dal dipartimento DIDA dell'Università di Firenze e dal dipartimento DICAr dell'Università di Pavia, e alla quale hanno partecipato anche laboratori congiunti nelle due università, ha previsto anche un ciclo di convegni dal titolo "Architettura Eremitica: sistemi progettuali e paesaggi culturali".

[3] Il progetto di documentazione della Certosa di Pavia, iniziato nel 2014 e tutt'ora in corso, è un progetto promosso dal Laboratorio Congiunto LS3D dell'Università di Firenze e dell'Università di Pavia. Il progetto, di cui è responsabile il Prof. S. Parrinello dell'Università di Pavia, sviluppato in accordo con la Soprintendenza per i Beni Architettonici e Paesaggistici per la Lombardia e con il Vicepriore del monastero, ha riguardato il rilievo per la documentazione della facciata, dei chiostri e delle celle della Certosa per lo sviluppo di un sistema di gestione del complesso.

le principali problematiche che investono il complesso.
La sperimentazione condotta sulla Certosa di Firenze, affiancata da un progetto di ricerca sviluppato in parallelo sul complesso della Certosa di Pavia (figura 6), ha visto l'utilizzo di metodologie di rilievo digitale e tradizionale finalizzato a strutturare un metodo di acquisizione e di catalogazione per consentire uno studio comparato di queste architetture.



Figura6. Immagini dal drone che mettono a confronto il Chiostro Grande della Certosa di Firenze (a sinistra) con quello della Certosa di Pavia (a destra). Fotografie scattate da drone durante la campagna di rilievo 2018.

Lo studio delle fonti archivistiche *in primis* costituisce testimonianza fondamentale dei cambiamenti e delle circostanze che hanno contribuito a trasformare l'immagine della Certosa. Il ricorrere degli elementi caratterizzanti e della strutturazione formale degli ambienti rende necessario lo sviluppo di una metodologia che ne consenta la messa a confronto [8]. In particolare, la differenziazione dei vari ambienti, che si articolano in successione generando variazioni di scala che vanno da quella monumentale della chiesa a quella umana del sistema delle celle, richiede lo sviluppo di un sistema che riesca ad acquisire, rappresentare e predisporre un piano di gestione tanto della singola cella quanto dell'intero complesso. Il disegno e la rappresentazione si pongono come un processo di discretizzazione finalizzato alla comprensione spaziale e funzionale dell'architettura, ed in particolare costituiscono il supporto fondamentale alle fasi di analisi e di diagnostica mirate al recupero e alla valorizzazione della Certosa.

## 5. METODOLOGIA DI RILIEVO E CENSIMENTO DEL COMPLESSO E DELLE CELLE DEL CHIOSTRO GRANDE

Le campagne di rilievo, che sono state effettuate a partire dal 2014[4], hanno riguardato la documentazione delle mura esterne e degli ambienti monumentali, tra cui la chiesa e gli ambienti destinati alla vita cenobitica, per poi concentrarsi, nell'ultima campagna di rilievo (figura 7), alle

[4] La documentazione della Certosa di Firenze ha previsto 7 campagne di indagine iniziate a partire dal 2014 e tutt'ora in corso. Alle attività di documentazione hanno collaborato dottori, dottorandi, laureandi e studenti del corso di rilievo dell'architettura del Prof. Stefano Bertocci, coordinati dalla dott. Francesca Picchio.

Celle dei monaci sui lati sud-est e nord-est del Chiostro Grande, aperte al pubblico solo dai primi mesi del 2018.



Figura7. Alcune immagini della campagna di rilievo e degli interni della cella.

L'analisi ha previsto l'integrazione di diverse metodologie finalizzate all'acquisizione di dati per il censimento e la comprensione delle principali problematiche di conservazione del complesso, sfruttando l'apporto di strumentazioni laser-scanning e SfM (Structure from Motion). Mentre alla nuvola di punti prodotta dal rilievo laser viene affidato il compito di raccogliere dati metrici e morfologici affidabili, la fotogrammetria SfM è stata utilizzata per restituire modelli 3D forniti di componente colorimetrica relativa al materiale. Tali banche dati si configurano come utili contenitori di informazioni riguardanti lo stato di conservazione delle varie componenti ed efficaci strumenti per la divulgazione e la valorizzazione di complessi monumentali come la Certosa di Firenze. L'acquisizione fotogrammetrica è avvenuta tramite l'utilizzo di macchine fotografiche reflex per le campagne close range da terra, asta 3DEye per l'acquisizione in elevato degli elementi ecorativi e di un drone per l'acquisizione in quota delle coperture e delle pavimentazioni (figura 8).



Figura8. Due anche dati a confronto: il modello fotogrammetrico ottenuto da drone e il modello di nuvola di punti ottenuta da laser scanner.

I dati acquisiti nel corso delle campagne di rilievo sono serviti alla restituzione di elaborati 2D e 3D che si configurano come un archivio di informazioni metriche e qualitative, utili supporti per l'analisi e per lo sviluppo di strategie di intervento (figura 9).

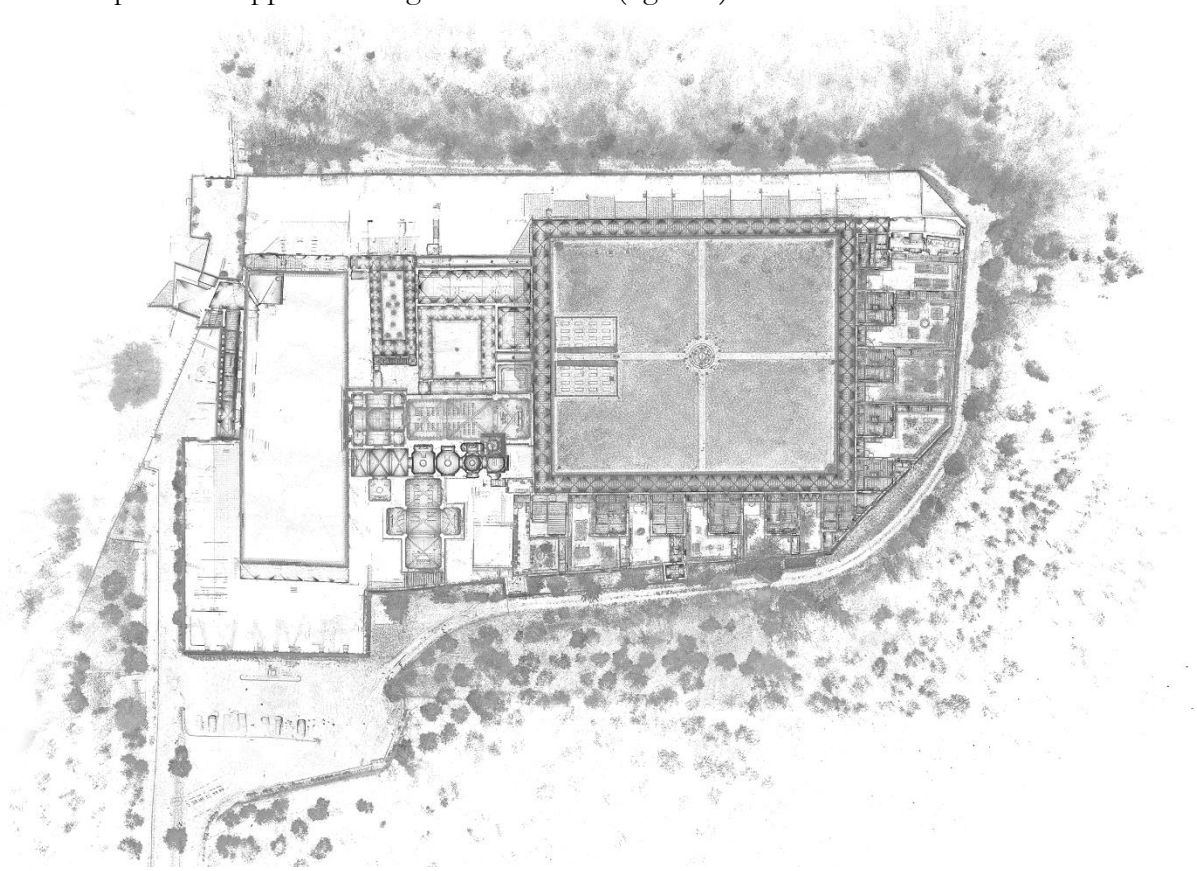


Figura9. Nuvola di punti del modello laser-scanner che mostra la planimetria del complesso della Certosa ad oggi documentato.

Sistematizzare il metodo di documentazione e organizzare le banche dati prodotte in un archivio digitale costituito da modelli e da schede censuarie ha perseguito l'obiettivo della documentazione degli elementi architettonici del complesso, nonché la possibilità di avviare un confronto tipologico con i vari insediamenti certosini sul territorio nazionale ed europeo. Questo aspetto diviene particolarmente interessante per quanto riguarda l'analisi delle celle: la loro apparente somiglianza nella conformazione e distribuzione degli spazi (vanificata dalle continue variazioni nella forma e nel sistema decorativo) ha richiesto uno studio più approfondito che prendesse in considerazione le singole componenti di questo sistema architettonico e le catalogasse in un apposito archivio che ne consenta la messa a confronto, data la ricorrenza degli elementi decorativi tra le architetture dell'ordine. Il censimento degli elementi architettonici e decorativi ha pertanto richiesto la strutturazione di un apposito sistema di schedatura da affiancare agli elaborati 2D e 3D, replicabile ed implementabile nel tempo. A partire da una catalogazione effettuata dalla Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Firenze e per le province di Pistoia e Prato, il nuovo sistema di schedatura ha riguardato gli apparati decorativi del Chiostro Grande,

dalle riproduzioni dei tondi del Della Robbia[5] alle lunette soprastanti gli ingressi alle celle [9]. La scheda è strutturata in modo da riportare informazioni di inquadramento generale, sulla tipologia di oggetto, sui materiali, le note storiche, gli elementi costituenti e lo stato di conservazione. Per la strutturazione dell'archivio ogni cella è stata schematizzata mediante una scomposizione in macro-sistemi, costituiti dai piani, dalle stanze, dalle singole pareti e un'ulteriore scomposizione semantica degli elementi che le caratterizzano (figura 10). L'istituzione di un codice alfanumerico standardizzato ha consentito di porre in relazione le varie componenti, affiancando i dati raccolti sugli elementi dello stesso genere. Questi dati, inseriti all'interno delle schede, sono stati pensati per essere connessi ad un modello per l'istituzione di un GIS 3D che consenta di gestire ed estrapolare informazioni riguardo le condizioni di preservazione e le caratteristiche formali del complesso della Certosa.[6] La possibilità di confronto è stata predisposta sulla base delle indagini condotte sulla Certosa di Pavia, che mostra, nel Chiostro Grande, un impianto distributivo similare, specialmente nella distribuzione degli spazi della cella funzionali alla vita del monaco.

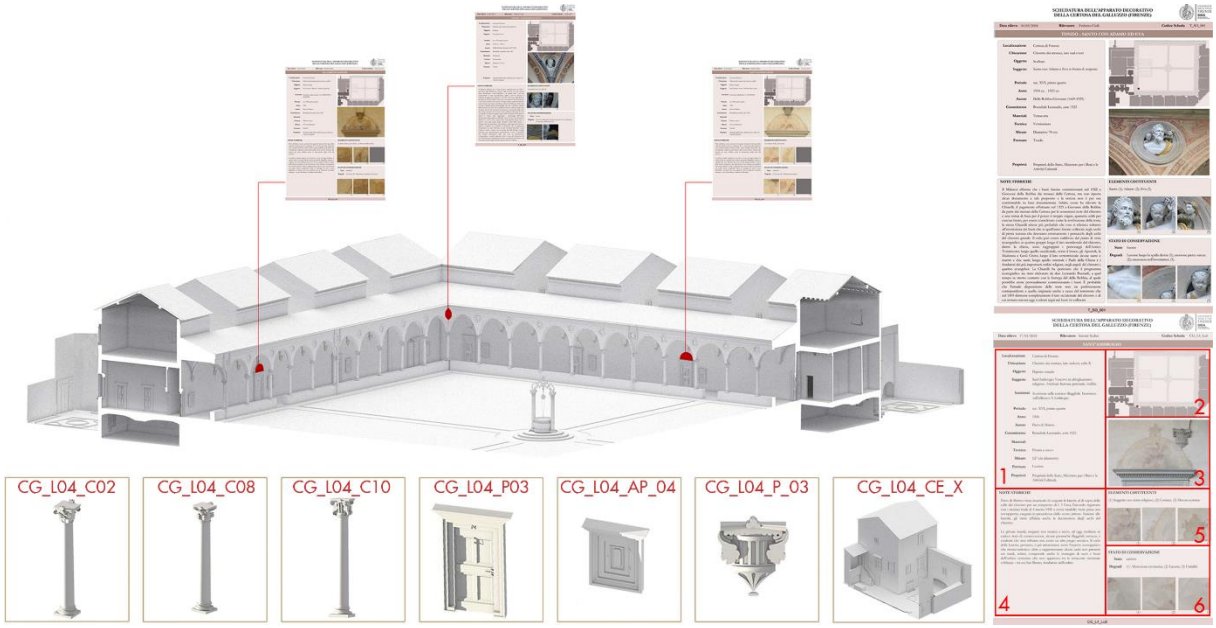



Figura10. Informatizzazione del modello 3D. A destra: struttura della scheda. 1) Dati di inquadramento; 2) Inquadramento planimetrico; 3) Immagine generale; 4) Dati storici; 5) Elementi caratterizzanti; 6) Principali forme di degrado.

## 6. CONCLUSIONI

La possibilità di rilevare alcuni degli ambienti del complesso, che fino ad oggi erano inaccessibili sia al pubblico che agli stessi ricercatori (come avvenuto per le celle monumentali del Chiostro

[5] I busti presenti all'interno dei tondi furono commissionati a Giovanni Della Robbia intorno agli anni '20 del Cinquecento. Il ciclo, che conta sessantasei personaggi affiancati dai rispettivi simboli allegorici, può essere suddiviso in quattro principali gruppi: il lato sud mostra i personaggi dell'Antico Testamento; il lato est gli Apostoli, la Madonna e Gesù Cristo; il lato nord i santi e i martiri; mentre il lato est raffigura i Padri della Chiesa e i fondatori dei principali ordini. Agli angoli si trovano i quattro evangelisti.

[6] Una sperimentazione del sistema di gestione del chiostro grande della Certosa di Firenze è affrontato nella Tesi di Laurea di Salomè Sodini dal titolo "I chiostri della Certosa del Galluzzo: un'esperienza di rilievo digitale per la catalogazione, conoscenza e valorizzazione del complesso architettonico", relatore Prof. S. Bertocci.

Grande), ha consentito di redigere una banca dati esclusiva del complesso della Certosa di Firenze, consentendo di estrapolare un quadro conoscitivo più ampio, dal generale alla singola cella, portando allo sviluppo di indagini spaziali e funzionali inedite rispetto alla distribuzione e alla documentazione ad oggi reperibile su questo monumento. Il sistema digitale generato per l'intero complesso e per le singole celle monastiche è dotato di una molteplicità di informazioni, legate sia ad aspetti tangibili, quali gli elementi architettonici e decorativi, opportunamente censiti, sia a quel "patrimonio intangibile" strettamente connesso al valore dell'edificio. L'analisi e la documentazione, prima archivistica e successivamente digitale con l'utilizzo di metodologie integrate di rilievo, ha consentito di mettere in evidenza non solo lo stato di criticità in cui riversano strutture e finiture dei paramenti murari degli ambienti afferenti al Chiostro Grande, ma anche il pericolo di poter perdere questo patrimonio attraverso operazioni e interventi di restauro che potrebbero risultare troppo invasivi, rei di non aver tenuto conto di quel valore immateriale tramandatoci dal luogo stesso.
La sperimentazione avviata in parallelo (e ancora oggi in corso) nelle celle del Chiostro Grande della Certosa di Pavia, sta consentendo di testare la validità del procedimento censuario adottato per la Certosa di Firenze, estrapolando allo stesso tempo un quadro complessivo delle principali problematiche (spesso molto simili) che interessano entrambe le certose per porre le basi per un confronto con altri complessi. L'inserimento di questo archivio all'interno di un modello 3D altamente descrittivo dello spazio rappresentato è il tema su cui si sta muovendo e finalizzando la presente ricerca: in questo modo sarà auspicabile la costituzione di uno strumento per la gestione e la valorizzazione culturale della Certosa di Firenze che al tempo stesso possa essere l'avvio per la promozione di un network culturale che coinvolga anche altri complessi certosini.

## RIFERIMENTI


1. J. Dubois, "Certosini" in Dizionario degli istituti di perfezione. Edizioni Paoline: Roma, vol. 2, pp. 782-821, 1975.
2. L. Calabretta. "Certosini e cistercensi. La certosa di Serra e i cistercensi 1192-1514", Editore Pellegrini: Cosenza, 2007.
3. Agli inizi del XVI secolo, sono presenti 196 insediamenti certosini, di cui 100 in Francia e 42 in Italia, dove sono distribuiti tra le tre *Provincia*: *Lombardiae*, *Tusciae e Lombardiae Remotoris,* erette rispettivamente nel 1301, 1414, 1628. La fondazione della certosa di Firenze nel 1342 – terza solo a quella di Maggiano a Siena (1314) e di Farneta a Lucca (1338) –, si inserisce in questa intensa espansione che l'ordine ha avuto in Italia nel XIV secolo. Per una trattatistica più approfondita circa l'espansione del movimento certosino, consultare: J. Hogg, "Geografia delle certose: espansione dell'Ordine Certosino". *Analecta Cartusiana*, Salzburg: pp. 5-31, 2004.
4. E. Viollet-Le-Duc, Dictionnaire raisonné de l'Architecture française du XI au XVI siècle. B. Bance: Paris, vol.I, pp. 307-310, 1867.
5. G. Leoncini, "La Certosa di Firenze nei suoi rapporto con l'architettura certosina", Anacleta Cartusiana: Salzburg, 1980.
6. La presente ricerca ha previsto una preliminare comparazione tipologica tra alcune certose presenti sul territorio italiano, con l'intento di approfondire le relazioni intercorrenti tra i

vari spazi che compongono l'architettura certosina, con particolare attenzione al rapporto tra gli elementi del chiostro grande e le celle dei monaci. Un primo studio, integrato in questa ricerca, è stato sviluppato dall'Arch. Francesca Betto nel suo progetto di Tesi Magistrale "La documentazione della Certosa del Galluzzo: rilievo digitale per la conoscenza e la valorizzazione del complesso architettonico", relatore Prof. Stefano Bertocci (a.a. 2015-2016, Università di Firenze).

7. Il capitolo 4 del Libro 1 "I monaci del chiostro" degli Statuti approvati e confermati dal Capitolo Generale dell'anno 1989, è espressamente dedicato al tema della custodia della cella e del silenzio, tema ripreso dalle "Consuetudines Cartusiae" di Guigo I, e presente al paragrafo 5 del Capitolo XIV.
8. S. Parrinello, F. Picchio, P. Becherini, R. De Marco, "Evoluzione metodologica e protocolli rappresentativi per i complessi delle Certose", in Territori e Frontiere della rappresentazione, UID Napoli 2017
9. C. Chiarelli, "Le attività artistiche e il patrimonio librario della Certosa di Firenze: dalle origini alla metà del XVI secolo", Analecta Cartusiana, Institut für Anglistik und Amerikanistik, Universität Salzburg, 1984.

# OS EREMITAS DA *POBRE VIDA*
# E A CONSTRUÇÃO DA PAISAGEM DA SERRA DE OSSA

Rolando Volzone

**Resumo:** Os testemunhos arquitetónicos que chegam até hoje como legado do movimento eremítico na Serra de Ossa, embora estudados e analisados do ponto de vista historiográfico, são ainda pouco conhecidos relativamente às caraterísticas arquitetónicas da sua implantação física e da sua relação com os sistemas naturais. Pretende-se neste trabalho expor o processo de apropriação do ermo como ponto de partida para a interpretação desta paisagem, evidenciando a relação estreita entre a vivência religiosa e o espaço físico escolhido para atingir a perfeição da alma. O locus eremus é assim determinado não só por aspetos de ordem prática como a localização absoluta e relativa, orografia do terreno, existência de recursos hídricos, ou o favorecimento do Rei à ação religiosa e de povoamento dos eremitas, mas também por aspetos de ordem espiritual associados ao simbolismo dos elementos físicos presentes e da caminhada solitária destes homens. Estes aspetos, conjugados com os elementos arquitetónicos construídos e demais ação humana exercida, poderão ser campo fértil para a definição de uma hipotética Paisagem Eremítica com base nas caraterísticas suficientemente distintivas que a sustente.

**Palavras Chave:** Apropriação; Arquitetura; Eremitismo; Paisagem; Serra de Ossa.

# THE EREMITES OF *POOR LIFE* AND THE CONSTRUCTION OF THE SERRA DE OSSA LANDSCAPE

Rolando Volzone

**Abstract:** The architectural evidences that reached our days as a legacy of the hermitical movement in Serra de Ossa, although studied and analyzed from an historical point of view, are still little known with respect to the architectural characteristics of its physical implantation and its relationship with the natural systems. This paper intends to expose the appropriation process of the locus eremus as a starting point for the interpretation of this landscape, evidencing the close relationship between the religious experience and the physical space chosen to reach the perfection of the soul. The locus eremus is thus determined not only by practical aspects such as the absolute and relative location, orography, existence of water resources, or the King's favoring to the religious and settlement action of the hermits, but also by spiritual aspects related to the symbolism of the physical elements present and the solitary walk of these men. These aspects, combined with the built architectural elements and other exerted human action, may be fertile ground for the definition of a hypothetical Hermitical Landscape based on the sufficiently distinctive characteristics that sustain it.

**Keywords:** Appropriation; Architecture; Eremitism; Landscape; Serra de Ossa.

# OS EREMITAS DA *POBRE VIDA*
# E A CONSTRUÇÃO DA PAISAGEM DA SERRA DE OSSA

Rolando Volzone

## 1 - INTRODUÇÃO[105]

O movimento eremítico em Portugal teve particular importância no Alentejo onde um conjunto de homens - os eremitas da *pobre vida* - personificaram a expressão máxima do Eremitismo[106] na região. É a partir de 1366, ano em que é documentado o registo das primeiras fundações eremíticas, que a Serra de Ossa se constituirá como o epicentro deste movimento na província transtagana.

A investigação visa contribuir para a criação de conhecimento sobre uma realidade, que pela sua própria natureza erma se encontra pouco estudada. Pretende-se complementar estudos já efetuados no âmbito histórico, sociológico e teológico acrescentando o saber arquitetónico na sua relação com a paisagem, e compreender o valor contemporâneo destes conjuntos arquitetónico-paisagísticos que sofreram alterações profundas ao longo dos séculos, nomeadamente com a extinção das ordens religiosas em 1834. Ao avançado estado de ruina e reconversão funcional de alguns destes edifícios, correspondem também processos de alteração da paisagem verificados no último meio século, designadamente no que diz respeito à plantação de eucaliptos na Serra, o que transformou profundamente o caráter do lugar, uma vez que comprometeu o sistema hídrico existente assim como a leitura morfológica do relevo.

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[105] O presente trabalho insere-se no âmbito do projeto de investigação doutoral *Arquiteturas da Alma. Proposta de Valorização da Arquitetura e Paisagem Eremítica no Alentejo dos séculos XII-XVI*, financiado pela FCT (SFRH/BD/111796/2015), que teve início em Outubro de 2015.

[106] Sobre a evolução do eremitismo em Portugal, veja-se: Maria Ângela Beirante, «Eremitismo», *Dicionário de História Religiosa de Portugal*, dir. Carlos Moreira Azevedo, tomo II, Lisboa, Círculo de Leitores - CEHR da UCP, 2000, pp. 149-154. Neste contexto fornece uma definição de eremitismo como de "uma forma de vida caracterizada pelo radical desinteresse pelo mundo e pela procura da solidão (do grego *érèmos*, solidão, deserto, ermo). Traduz uma atitude existencial que tem como finalidade a busca pela transcendência, mediante a própria superação, e é comum a todas as religiões que buscam a salvação através da união com Deus".

Neste âmbito, a partir de uma leitura das fontes cartográficas[107], é possível esboçar uma análise fisiográfica da Serra de Ossa. Contudo, entende-se que este território constitui-se como uma entidade multidimensional, que apresenta duas facetas complementares de uma qualquer experiência de cariz eremítica - uma terrena e outra espiritual. Considera-se assim importante conjugar estas duas componentes para melhor compreender esta realidade.

## 2 - ENQUADRAMENTO HISTÓRICO: O ALENTEJO E OS EREMITAS DA "*POBRE VIDA*"

*Alentejo, ai solidão,*
*Solidão, ai Alentejo,*
*Convento de céu aberto!*
*Nos teus claustros me fiz monge,*
*Alentejo ai solidão...*
*Em ti por ti me fiz monge,*
*Perdeu-se a terra ao longe,*
*Chegou-se-me o céu mais perto!*

Régio 1968, 141-143

Os versos do *Fado Alentejano*, acrescentado na 3ª edição da coleção *Fado, Obras Completas* de 1968 de José Régio, conseguem encerrar com muita eficácia a condição eremítica - de solidão, de aproximação com o divino - da qual a região alentejana parece impregnada.

Já Fr. Henrique de Santo António na *Chronica dos Eremitas da Serra de Ossa*[108] (o texto de memórias mais antigo deste movimento no plano nacional publicado entre 1745-1752) apresenta nos primeiros quatro capítulos do primeiro tomo, uma descrição exaustiva da " (...) grande Província do Alem-Tejo, em que teve a sua origem a vida solitária" (Santo António 1745-1752, 26), mostrando-nos uma versão romanceada do Alentejo como berço da vivência eremítica, mesmo anterior à experiencia de São Paulo de Tebas, um dos Padres do Deserto e primeiro eremita do qual há noticias.

Embora extremamente sugestiva a dissertação de Fr. Henrique, não existem até hoje provas documentais a suportar as suas afirmações, e portanto socorremo-nos do primeiro documento existente, datado de 19 de Julho de 1376: a bula *Cum vobis visitationem prelatorum* do Papa

[107] As fontes cartográficas analisadas foram disponibilizadas pelo IGOT - Instituto de Geografia e Ordenamento do Território Universidade de Lisboa, pela Unidade de Ambiente e Desenvolvimento do CIMAC - Comunidade Intermunicipal do Alentejo Central, e pelo Instituto da Conservação da Natureza e das Florestas, da Direção Regional de Florestas do Alentejo.

[108] Fr. Henrique de Santo António, *Chronica dos Eremitas da Serra de Ossa No Reyno de Portugal, e dos que floresceram em todos os mais Ermos da Christandade; dos quaes nos seguintes séculos se formou a Congregação dos Pobres de Jesu Christo; e muitos depois a Sagrada de S. Paulo primeiro Eremita, chamada dos Eremitas da Serra de Ossa*, tomo I - *Que contêm a Historia Anachoretica, e Cenobitica dos primeiros cinco séculos do Mundo Christão*; tomo II - *Que contêm a Historia Anachoretica, e Cenobitica dos Seculos Sexto, Settimo, Oitavo e Nono* Lisboa, na Officina de Francisco da Sylva, 1745- 1752.

Gregório XI, através da qual é ordenada uma visita para inquirir sobre a vida, costumes e ortodoxia desses pobres *Ermitãaes*, nomeando como visitadores o chantre de Braga Vasco Domingues, e o bispo de Coimbra D. Pedro Dias Tenório. É assim que a 2 de Fevereiro de 1378, Vasco Domingues emite uma sentença relativa a estes eremitas, que vivem "nas montanhas e logares Ermos do bispado d euora e comarca d aalem teio", atestando a presença de fundações já a partir de 1366, iluminando esta realidade de eremitismo espontâneo do qual não havia algum registo.[109]

A exposição e conformidade da vida eremítica resultam numa intensa fase de expansão até 1452 à qual não são indiferentes as doações efetuadas pelo Rei, pelos concelhos e por particulares. Essa expansão terá no entanto outro efeito: estimulará a vontade do poder régio e das instituições eclesiásticas de enquadrar o movimento, exercendo um constante controlo, até à constituição em 1578 de uma Congregação autónoma sujeita à Regra de Santo Agostinho e no quadro da já antiga ordem húngara dos Eremitas de S. Paulo Primeiro Eremita. É assim que na província trastagana, na zona menos povoada do país, se instalam os eremitas da *pobre vida*, recusando o materialismo da sociedade, praticando um *modus vivendi* radical que visa atingir a perfeição da alma.

É num ambiente de simpatia para estes ascetas[110] que se gera o clima propício ao desenvolvimento de uma cultura espiritual que tem como nota dominante o desprezo do mundo. Num período marcado pela peste negra - a primeira epidemia data de 1348 - que dizimou entre um terço e metade da população portuguesa, e pela fome associada a repetidos maus anos de colheitas, registou-se naturalmente um esforço e uma política desenvolvida pela coroa de recuperação e reorganização demográfica e económica, no sentido de atrair a população para as novas vilas e concelhos. A peste e o êxodo populacional levaram à existência de extensos terrenos abandonados e por cultivar, pelo que não é de estranhar o apoio por parte dos concelhos aos eremitas que certamente contribuiriam para a fixação de populações e na recuperação de terras de cultivo. Adicionalmente, de referir que a este ambiente favorável não era alheia a admiração que o poder e população sentiam pela pobreza e pelo exemplar modo de vida[111].

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[109] É importante ressaltar no campo historiográfico: José Mattoso, com o seu artigo *Eremitas Portugueses no século XII* na revista *Lusitania Sacra* de 1972, traça uma primeira caracterização do movimento em termos cronológicos, da sua distribuição geográfica e do seu papel no povoamento de regiões. Em 1976, no volume III do *Dizionario degli Istituti di Perfezione*, Mattoso volta a debruçar-se sobre o tema, apresentando uma síntese sobre os Eremitas da Serra de Ossa e em 1985 Maria Ângela Beirante publica *Eremitérios da pobre vida no Alentejo dos séculos XIV-XV*. Mais recentemente é conhecida a investigação de João Luís Inglês Fontes que na sua tese de doutoramento *Da «pobre vida» à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)* aprofunda exaustivamente a evolução histórica do movimento e o *modus vivendi* destas comunidades.

[110] Maria Ângela Beirante, *Eremitérios da pobre vida no Alentejo dos Séculos XIV-XV* in *Territórios do Sagrado - Crenças e Comportamentos na Idade Média em Portugal*, Lisboa, 2011 p. 133: "De grande importância era as doações feitas pelos concelhos aos ermitães da *pobre vida*, que se instalavam nas matas e baldios do seu termo. (...) Todas estas doações revelam um clima bastante favorável ao fenómeno eremítico".

[111] Ibid., págs. 118-120.

Estamos assim perante um fenómeno de apropriação de um espaço - o ermo. Esta apropriação, como vimos, tem duas motivações distintas: a dos próprios eremitas que pretendem o afastamento e o isolamento do mundo, e a do poder que vê o anacoreta como elemento instrumental no povoamento dos terrenos abandonados. O ermo é escolhido como espaço da própria espiritualidade, como o deserto procurado pelos eremitas, afastado dos centros populacionais. Apropriam-se assim destas terras abandonadas - geralmente invadidas pelo mato -, destes espaços devolutos e dedicam-se ao cultivo das terras que pertencem ao eremitério.

Gustavo de Matos Sequeira, um dos mais notáveis olisipógrafos do século XX, colaborou na edição de um pequeno livro intitulado *Alentejo*, o nº5 da coleção *Terras Portuguesas*, editado pela Shell Portuguesa em 1944. O livro é essencialmente um guia das terras de interesse histórico e turístico de Portugal, um roteiro de "O que se deve ver no Alentejo", como escrito na última página. No contexto da presente investigação curioso é o parágrafo dedicado à Paisagem e o Homem. A ideia que num guia, se sinta a necessidade de dedicar algumas páginas a esta relação, sublinha a relevância e clareza com a qual este território é lido. Numa passagem assim se escreve: "A terra, a cultura e o clima influem poderosamente no tipo humano; a paisagem condiciona-o também. Assim o Alentejano se formou dentro dos ditames impostos pelo seu «habitat». Os vastos horizontes tornam-no contemplativo e recolhido; a extensão das planuras aumenta-lhe a estatura" (Sequeira 1944, 8).

Será possível imaginar a imensidão da peneplanície alentejana como elemento essencial para as práticas introspetivas destes homens? Terá sido este mapa basilar na expansão dos eremitas, mapa que traça a correspondência entre a imensidão do território e a profundidade do "espaço interior"?

Parece ser nesta dicotomia entre as duas escalas do pequeno e do grande, que se encontram as imensidões das planícies e a íntima profundidade, numa espécie de contínuo concentrar e expandir, "a contemplação da grandeza determina uma atitude tão especial, um estado de alma tão particular, que o devaneio põe o sonhador fora do mundo mais próximo, diante de um mundo que traz a marca do infinito" (Bachelard 1978, 157).[112]

[112] São várias as referências a esta dualidade entre imensidão e intimidade, talvez uma das mais impressionantes seja a de Philippe Diolé (1908-1977), autor e explorador francês que partilhou com Jacques-Yves Cousteau, para além das conhecidas explorações marítimas, a coautoria de diversas publicações. Diolé apresenta-nos no seu *Le Plus Beau Désert du monde* (1955) o produto reflexivo e emocional da sua viagem individual pelo deserto do Sahara, onde podemos encontrar passagens como: "é preciso viver o deserto tal como se reflete no interior do errante" (...) "esses restos de montanhas, essas areias e esses rios mortos, essas pedras e esse sol causticante" (...) "é anexado ao espaço interior".

## 2 - INTRODUÇÃO AOS EREMITÉRIOS[113] DA SERRA DE OSSA

A investigação realizada até agora sobre a expansão e institucionalização do movimento eremítico no Alentejo, sobretudo a desenvolvida por João Luís Inglês Fontes na sua tese doutoral *Da «pobre vida» à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)* permite identificar os eremitérios que foram fundados e a sua localização, constituindo um instrumento valioso para o estudo do tema. O investigador identificou 19 eremitérios em 1510, na fase de constituição da Congregação da Serra de Ossa (Fig. 1).

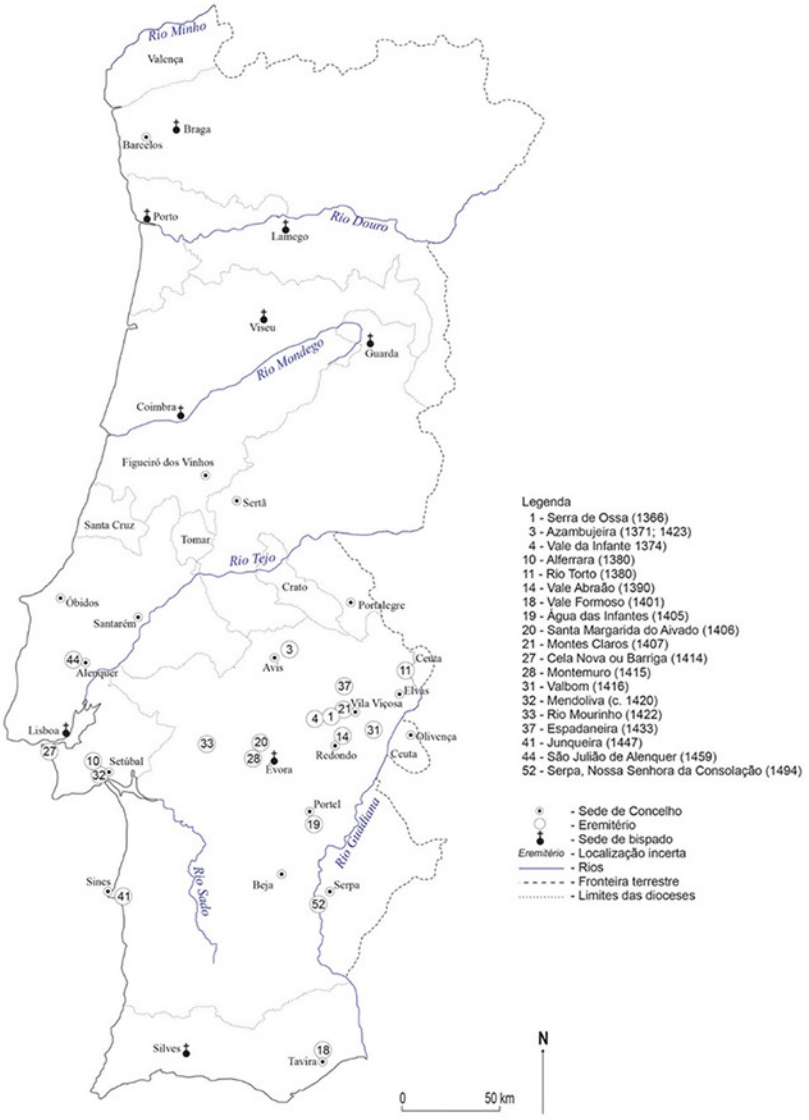



Fig. 1: Os eremitérios da Congregação da Serra de Ossa em 1510 (Fontes, 2012, p.173)

[113] Maria Ângela Beirante, na sua publicação *Territórios do Sagrado. Crenças e Comportamentos na Idade Média em Portugal*, afirma: "Os eremitérios, eram vulgarmente denominados por *oratórios* ou *provencias* e mais raramente por *celas*, mas o da Serra de Ossa contou sempre com uma população mais numerosa".

O papel da Serra de Ossa como epicentro do movimento no Alentejo determina a premência em estudar primariamente os eremitérios da congregação aqui fundados: *Serra de Ossa*, *Vale da Infante* e *Vale de Abraão*. A crescente adesão ao movimento e o processo de institucionalização das ordens resultou na constituição de mosteiros, respetivamente: Mosteiro de São Paulo da Serra de Ossa, Mosteiro de Santo Antão de Vale de Infante e Mosteiro de Santo Onofre de Vale de Abraão.[114]

Após à extinção das ordens religiosas de 1834, estes três eremitérios revelam-se paradigmáticos da evolução dos complexos arquitetónicos. Atualmente, alguns ainda conservam elementos caraterísticos de considerável interesse patrimonial e científico, outros foram transformados, geralmente em virtude de uma alteração do próprio destino de uso, e outros estão em estado de ruína.

O eremitério *Serra de Ossa* foi central para o movimento eremítico, sendo cabeça da Ordem de São Paulo desde 1578 até à fundação do Convento do Santíssimo Sacramento de Lisboa. As *Chronicas dos eremitas da serra de Ossa* relatam duas fundações, uma em 315 e outra em 1182, das quais, até a data, não há provas tangíveis nem documentais. Em 1400 é fundado um mosteiro que em 1578 - no ano da aprovação definitiva da Congregação dos Eremitas da Serra de Ossa - é reconstruído e significativamente ampliado (Fig.s 2 e 3).

Este mosteiro continuou a sofrer campanhas de remodelação ao longo da primeira metade do século XVII e do século XVIII, patrocinadas sobretudo pelos Duques de Bragança. Em 1834 é publicado o Decreto de extinção das Ordens Religiosas, pelo qual foram declarados extintos todos os conventos, mosteiros, colégios, hospícios, e quaisquer outras casas das ordens religiosas regulares. O então Mosteiro de São Paulo não teve destino diferente, aliás, espera-o trinta e seis anos de abandono depois da execução do diploma, devassamento e espoliação de muitos valores culturais, até à venda por parte do Estado em hasta pública.[115]

[114] Para além dos três eremitérios citados, as fontes relatam também a existência de um quarto eremitério, o de *Santa Maria de Monte Virgem*, fundado em 1397, mas que já não é presente na geografia eremítica após 1452 - ano de institucionalização deste movimento. Por esta razão, e sendo o trabalho de investigação numa fase inicial, é ainda incerto o exato local de implantação, e optou-se por excluí-lo do conjunto de eremitérios tratados.

[115] Para a descrição artístico-arquitetónica veja-se: Túlio Espanca, *Inventario artístico de Portugal. Distrito de Évora*, vol. IX, tomo I, pp. 306-321; Luísa Arruda e Teresa Campos Coelho, *Convento de São Paulo da Serra de Ossa*, Lisboa, Edições Inapa, 2004.




Fig. 2: Mosteiro de São Paulo da Serra de Ossa: vista aérea. Fonte: Google Earth, data das imagens 01/09/2013



Fig. 3: Mosteiro de São Paulo da Serra de Ossa: vista de noroeste

O eremitério *Vale da Infante* fundado em 1374 é localizado no vale homónimo. Era propriedade da infanta D. Beatriz, filha do rei D. Pedro I e de D. Inês de Castro, que doou estas terras aos eremitas da *pobre vida*, e em virtude disto o lugar adquiriu o nome *Vale da Infante* (Fig.s 4 e 5). Em 1642 a comunidade deve ter sido transferida para o Convento de Lisboa "ficando, apenas o hospício para noviciado dos irmãos regrantes, e sofreu, então, importantes obras de conservação" (Espanca 1975, 246). Em 1657 servia somente de granja do Mosteiro de São Paulo.




Fig. 4: Mosteiro de Santo Antão de Vale da Infante: vista aérea. Fonte: Google Earth, data das imagens 01/09/2013



Fig. 5: Mosteiro de Santo Antão de Vale da Infante: vista de noroeste

O eremitério *Vale de Abraão*, junto à albufeira existente no vale, é no final do século XV um dos mais ricos e povoados. Em 1592, após a aprovação definitiva da Ordem, foi decidida a extinção deste mosteiro por motivos de insalubridade ou escassez de rendas (Fontes 2012). Em 1878, Gabriel Pereira atestava a completa ruína em que caíra o antigo complexo monástico. Esta realidade foi confirmada nas visitas de campo efetuadas no final de 2016 (Fig.s 6 e 7) com o apoio do arqueólogo Rui Mataloto. Embora em estado de ruína é um testemunho que chegou até nós e que merece ser estudado, seguramente com base na sinergia entre Arquitetura, Arqueologia, Historia e Paisagem.




Fig. 6: Ruinas do Mosteiro de Santo Onofre de Vale de Abraão: vista aérea. Fonte: Google Earth, 01/09/2013



Fig. 7: Ruinas do Mosteiro de Santo Onofre de Vale de Abraão: vista de sudoeste

## 4 - CARATERIZAÇÃO FISIOGRÁFICA DA SERRA DE OSSA[116]

A Serra de Ossa[117] ergue-se no Alentejo central a 30 Km da cidade de Évora (Fig. 8), elevando-se entre o Alto Alentejo e a planície de Évora, com cota máxima de 653m sobre o nível do mar no Alto de São Gens de onde " (…) o panorama é vastíssimo: da Fóia algarvia à massa respeitável da Serra de Estrela, da Serra Morena às de Montejunto e Arrábida desenvolve-se um panorama colossal, um mar em que as montanhas semelham vagas" (Pereira 1934, 366).

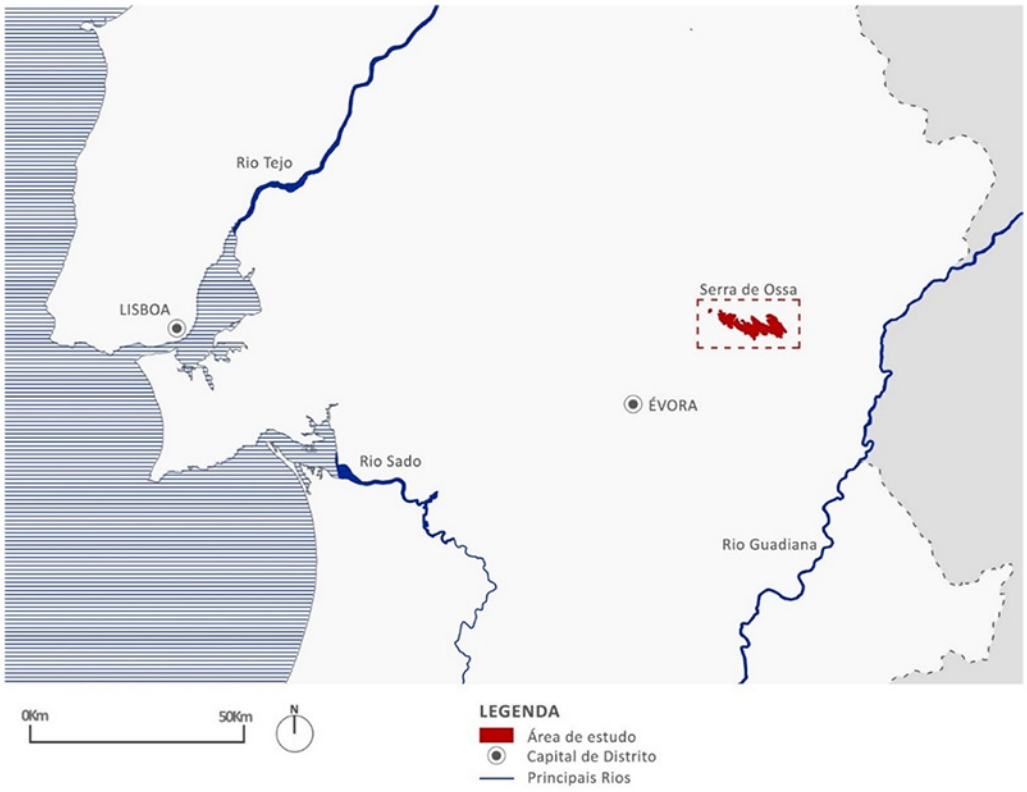



Fig. 8: Serra de Ossa: localização

Não se constitui como um relevo de grande expressão, mas certamente destaca-se pelo contraste com a imensidão da peneplanície circundante, "O peneplano do Alentejo desdobra-se, visto do alto, por Estremadura e Beira" (Cidade 1959, 4).

[116] Uma serra é entendida como um sistema de elevações singulares - e não agrupadas, como no caso dos maciços - geralmente separadas por vales. A etimologia da palavra - do substantivo latino *serra* - remete para o instrumento cortante, uma serra, cujas lâminas dentadas lembram a série de montanhas com picos em forma de triângulo que a constituem.

[117] Na caraterização da paisagem da Serra de Ossa tomou-se como instrumento fundamental a publicação "*Contributos para a Identificação e Caracterização da Paisagem em Portugal Continental*", elaborado para a DGOT-DU, Ministério do Ambiente e Ordenamento do Território, pelo Departamento de Planeamento Biofísico e Paisagístico da Universidade de Évora, entre 1999 e 2001.

Na sua orientação aproximada noroeste-sudeste, distribui-se principalmente pelos concelhos de Borba, Estremoz, Redondo - núcleo central da Serra - embora agregue também parte dos concelhos de Arraiolos, Sousel e Vila Viçosa, com os seus 40 Km de comprimento e 16 de largura. Apresenta *grosso modo* o relevo típico de xistos, sendo constituída principalmente por xistos paleozoicos e formações metamórficas. Da análise primária da sua topografia é possível detetar uma depressão continuada que atravessa a serra ao longo da sua estrutura, seguindo a sua orientação geral, que configura o vale de fratura da Água Santa, do nome da ribeira que o atravessa. (Feio 1983, 6).

O sistema hidrográfico da Serra de Ossa é constituído pelas águas pertencentes às bacias do Tejo e do Guadiana. De mencionar os dois cursos de água mais relevantes: a ribeira de Lucefecit - afluente na margem direita do Guadiana que se destaca pelo seu caudal permanente; e a ribeira de Tera que com uma extensão de 60 km recebe em si três grandes ribeiros, com origem na própria serra: Água Santa, Canal e Cortes (Fig. 9).

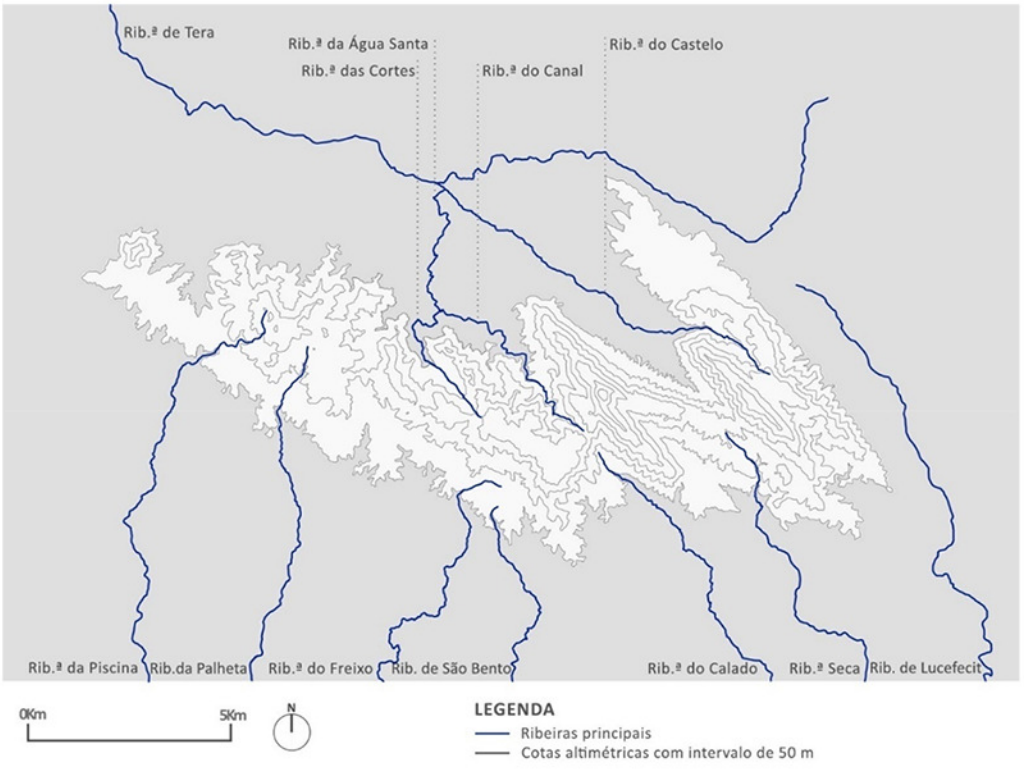



Fig. 9: Serra de Ossa: Principais Ribeiros, com base nos dados fornecidos pela Unidade de Ambiente e Desenvolvimento do CIMAC (Comunidade Intermunicipal do Alentejo Central)

Embora os recursos aquíferos subterrâneos, sobretudo nas formações xistosas, sejam muito limitados no Alentejo Central, caraterizado por solos de potencial reduzido para a agricultura (Calado 2001, 17), existem evidências muito antigas relativamente à presença de água abundante nesta zona da Serra de Ossa designadamente nas *Chronicas dos Eremitas da Serra de Ossa* onde se lê: "*Muitas são também as ribeiras, que nestas terras tem o seu nascimento; e algumas de nome pela sua grandeza, e abundancia de agoas: as principaes sao a de Lucefeci nascida dellas pela parte que olha para as Villas de Estremoz, e Borba, e corre por onde chamao Meyo Mundo, fazendo o seu arrebatado curso para o Poente; e depois de ter embebido em si outros muitos ribeiros, que correm do interior das mesmas terras, com os quaes se faz mais caudalosa, e difficultoza em partes de se passar sem grande risco, se recolhe no rio Guadiana. Também a celebre ribeira de Tera tem a sua origem na raiz destas serras para a mesma parte de Estremoz; e depois de receber em si os três grandes ribeiros, que dellas correm chamados o da Agoa Santa, por ser o seu banho remedio maravilhoso, e saudável para varias enfermidades; o do Canal, e o das Córtes, se vem a fazer Tera huma das mayores, e mais caudalosas ribeiras de todo o Alem-Tejo. Pela parte do Sul também correm destas serras algumas ribeiras de menor grandeza, quaes sao a do Pinheiro, a da Silveira, a de Val-de Abraham, e a de Val-de Pereiro*." (Santo António 1745, 78).

A partir dos anos 50 e 60 do século passado, a plantação intensiva de eucaliptos tem resultado numa degradação dos recursos hídricos e do solo, para além de uma uniformidade e descaraterização da paisagem. Neste contexto, é de particular interesse a investigação *Impacte da Cultura de Eucaliptos sobre os Recursos Hídricos Subterrâneos da Serra de Ossa*, onde através de avaliações no terreno concluiu-se que "*na maior parte das fontes existentes na Serra de Ossa acusam um elevado estado de degradação, estando algumas abandonadas e/ou destruídas. Das catorze fontes observadas apenas três forneciam caudal aceitável, cerca de 400 l/h, para a época do ano (Maio/Junho). As restantes estavam secas ou apresentavam um caudal muito pequeno*" (Lima et al. 1998).

Se o efeito visual da plantação do eucaliptal é evidente ao visitante da Serra de Ossa, o seu efeito sobre os recursos hídricos não é menos relevante, sobretudo numa zona quente e seca como é o caso em estudo. A plantação intensiva de eucaliptos num clima como o da Serra de Ossa leva a que a evapotranspiração seja muito mais elevada que a infiltração, o que resulta no empobrecimento do solo em água e na redução da mesma subterraneamente; a consequência destes fatores é o desaparecimento dos caudais das nascentes.

A transformação fito-edafo-climática, a redução dos níveis de água disponível e o consequente abandono dos terrenos agrícolas pela população levaram a um empobrecimento e degradação geral dos sistemas ecológicos da Serra e das suas estruturas. Felizmente esta situação é reversível: como é apontado pelo estudo da Universidade de Évora anteriormente citado, a influência do eucaliptal faz-se sobretudo ao nível do sistema aquífero superficial, o que leva a concluir que no caso de esta cultura ser abandonada rapidamente seria possível atingir um novo equilíbrio (Lima et al. 1998).

No que respeita ao sistema de vegetação, sabe-se que é possível encontrar nas áreas situadas a cotas superiores aos 350m, manchas da vegetação autóctone (Calado 2001, 18-19), com a presença do Zambujeiro (*Olea europaea, sylvestris*), do Pinheiro bravo (*Pinus pinaster, atlantica*), do Pinheiro manso (*Pinus pinea*), do Carvalho-lusitano (*Quercus faginea*), do Sobreiro (*Quercus suber*). Hoje em dia ainda se encontram, nas imediações do Mosteiro de São Paulo da Serra de Ossa, manchas de sobreiral, azinhal e giestal.

Da análise da Carta Agrícola e Florestal de Portugal à escala 1:25000, com reconhecimento de campo em 1951 e atualização de 1964, é possível individualizar estas áreas de plantação diversificada, numa altura em que a eucaliptização ainda não tinha alterado completamente a paisagem.

## 5 - A SERRA DE OSSA - ASPETOS PRÁTICOS E ESPIRITUAIS DO PROCESSO DE APROPRIAÇÃO

*"A meia encosta dessa erguida serra,*
*Pairando sobre valles, o mosteiro,*
*Já de dois sucessor, que n'outros pontos*
*Se disseram d'Abraão e Val d'Infante,*
*Bem situado foi dos pobres monges.*

*Depois o espaço, o mysterioso ether,*
*O abysmo sem fim e sem principio,*
*Em que mil mundos luminosos gyram*
*A's leis cedendo de um Motor Supremo,*
*Por varios nomes Deus nas theogonias."* [118]

Barata 1898, 2-3

[118] Carta que pertence a um conjunto de textos de vários autores presente na BNP, Biblioteca Nacional de Portugal, com cota L. 25768//2 P. Atualmente não há mais informações sobre a natureza deste documento.

É de outubro de 1898 a *Carta a um kleptomano que fora à Serra de Ossa por D. Bruno*, de António Francisco Barata - escritor, investigador e crítico de Góis - que expõe nestes versos dois topónimos da Serra de Ossa, homónimos de dois importantes eremitérios - *Vale da Infante* e *Vale de Abraão*. A Serra de Ossa foi objeto de variadas descrições, sendo uma das mais marcantes a de Hernâni Cidade, sobre o qual "aquela enorme, escura massa montanhosa" exerceu grande fascínio.[119]

A Serra de Ossa é hoje um local de inegável beleza, mesmo sujeita às agressões e abusos levados a cabo nos últimos cinquenta anos. Não é difícil, mesmo à luz da realidade atual, inferir sobre a atração que tal local exerceu sobre os eremitas atendendo à sua necessidade de reclusão e contemplação. Contudo, é importante refletir sobre os fatores que precipitaram a ocupação do ermo a partir do século XIV. Neste contexto é devido destacar os contributos do Prof. Dr. Manuel Calado e do Arqueólogo da Câmara Municipal do Redondo, Mestre em Pré-história e Arqueologia Dr. Rui Mataloto, que têm desenvolvido múltiplas linhas de investigação relacionadas com a ocupação pré-histórica do Alentejo Central, relatando vários achados dos primeiros povoamento da Serra de Ossa[120].

O processo de apropriação de um espaço envolve necessariamente uma escolha e seleção de localizações adequadas a um determinado fim. No caso da apropriação da Serra de Ossa pelos eremitas da Baixa Idade Média, existem claramente duas categorias de fatores que motivaram a escolha deste local para a instalação dos eremitérios: fatores de ordem prática, do plano *terreno* ou *material*, e fatores de ordem espiritual, do plano *metafísico* ou *simbólico*.

### 5.1 - A ocupação do ermo: aspetos de ordem prática

Os aspetos de ordem prática, do plano terreno ou material que influenciaram a fixação dos eremitas na Serra de Ossa residem nas próprias caraterísticas físicas e geográficas da Serra de Ossa: a interação entre relevo, vegetação e água - componentes base de um qualquer lugar

[119] Ver Hernâni Cidade, *A Serra d'Ossa e o seu convento*. Separata do Boletim da Junta de Província do Alto Alentejo: 1959.

[120] Vejam-se, entre outros: CALADO, Manuel (1995) A região da Serra d'Ossa: introdução ao estudo do povoamento Neolítico e Calcolítico. Lisboa: Departamento de História da Faculdade de Letras de Lisboa; MATALOTO, Rui (2004) Meio Mundo: o início da Idade do Ferro no cume da Serra d'Ossa (Redondo, Alentejo Central), in Revista Portuguesa de Arqueologia. Lisboa. 7:2, p. 139-173. MATALOTO, Rui (2005) Meio Mundo 2: a fortificação calcolítica do Alto de São Gens (Redondo/Estremoz, Alentejo Central), in Revista Portuguesa de Arqueologia. Lisboa. 8:1, p. 5-19.

natural. A compreensão destes fatores físico-ambientais, permite uma aproximação ao *genius* do lugar, sendo a estrutura espacial de base já dada *a priori* pela natureza. Frequentemente a ocupação do espaço é feita através da solução mais simples, vernacular, com a adaptação direta do edificado ao espaço, integrando-se na paisagem matricial (Norberg-Schulz 1992, 172).

As implantações necessitam de um quadro natural com especificidades de configuração restritivas e singulares distintas dos outros contextos topográficos relativos à vivência religiosa regular. A determinação do sítio de instalação deve responder a necessidades práticas como: distância física dos agregados populacionais; vales florestados e solos com aptidão agrícola; existência de água corrente abundante e potável; disponibilidade de matérias-primas para construção (Jorge 2010)[121].

O desejo de reclusão dos eremitas implica o afastamento da vida gregária, que faculte a tranquilidade necessária a esta vida de recolhimento, oração, ascetismo. As elevações, participando do simbolismo da transcendência, adequam-se perfeitamente a esta função, permitindo e facilitando também a proximidade ao céu, ao divino. Ao mesmo tempo, este *microcosmo* acaba por não se materializar num espaço de completo isolamento; o perímetro destes eremitérios, muitas vezes cercado, acolhe o mundo exterior uma vez que sua tradição obriga à hospitalidade de quem os procura: pessoas doentes ou idosas que precisam de cuidados, viajantes ou peregrinos em busca de alojamento, pessoas à procura de conselhos ou acompanhamento espiritual, ou até pessoas interessadas em comprar os seus produtos: excedentes de fruta dos pomares que cultivam ou as colheres de pau que produzem com a madeira das matas onde habitam. Por estas razões instalam-se, na maioria das vezes, à beira dos caminhos, permitindo desta forma uma penetração no seu mundo de interioridade.

O alto de São Gens (ponto mais alto da serra a 653m) representa um ponto nodal para a transitabilidade da serra de Ossa, localizando-se no ponto de convergência das duas mais importantes portelas: a nascente o vale do Meio Mundo que liga São Gens ao Castelo (642m), e do lado poente a estrada nacional 381 que liga o Redondo a Estremoz, esta última muito próxima dos eremitérios e claramente utilizada pelos eremitas nas suas deslocações (Fig. 10).

[121] Sobre as caraterísticas dos lugares de implantação, embora relativo ao caso do Mosteiro de Alcobaça da ordem de Cister, veja-se o erudito trabalho desenvolvido por VIRGOLINO FERREIRA JORGE, "Organização espácio-funcional da Abadia Cisterciense Medieval. Alcobaça como modelo de análise". Lisboa: 2010

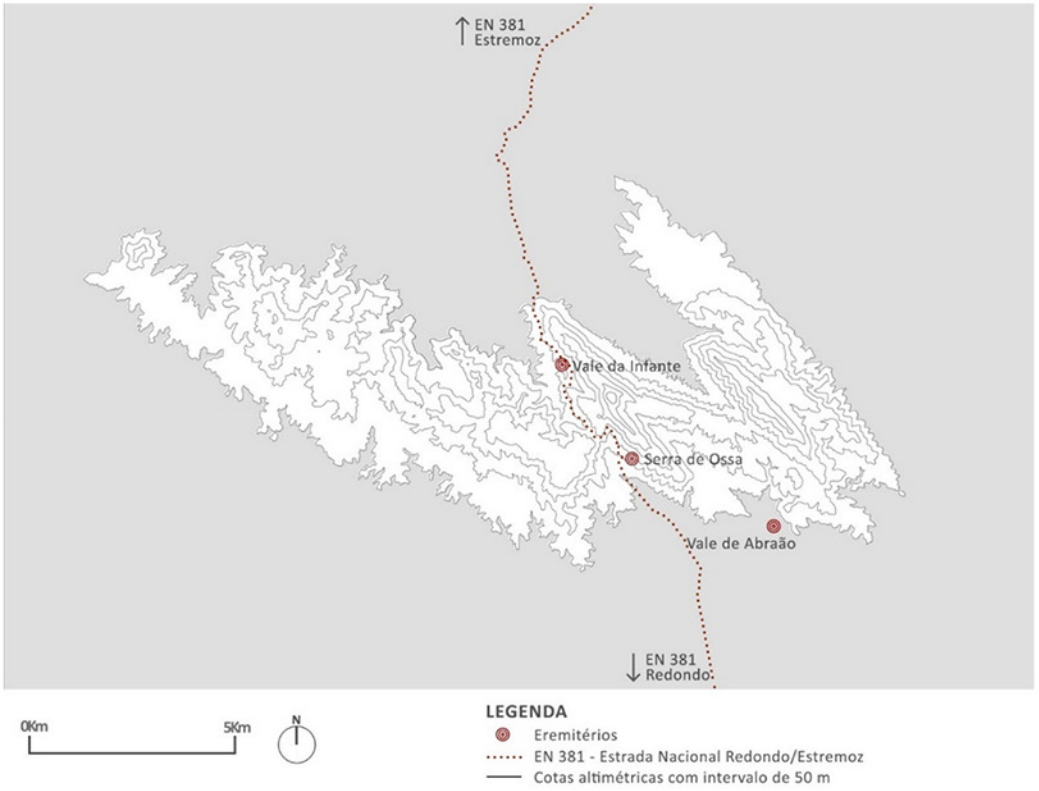



Fig. 10: Localização dos eremitérios *Serra de Ossa, Vale da Infante e Vale de Abraão* relacionados com a antiga portela, hoje aproveitada pela estrada nacional 381 Redondo-Estremoz, com base nos dados fornecidos pela Unidade de Ambiente e Desenvolvimento do CIMAC (Comunidade Intermunicipal do Alentejo Central)

Confirmam-se assim as hipóteses e teorias já avançadas por outros investigadores do campo da História, nomeadamente Maria Ângela Beirante e João Luís Inglês Fontes no que diz respeito à escolha da localização dos eremitérios na proximidade dos principais caminhos naturais.

Para além da proximidade dos caminhos naturais, a disponibilidade de água revela-se essencial no processo de seleção e apropriação do ermo. É a disponibilidade abundante de água, que permitia a estes homens levar a sua vida de afastamento e recolhimento com a autonomia necessária face aos aglomerados mais próximos. Os eremitas necessitam de água e de sistemas de captação e encaminhamento quer para o consumo pessoal, na higiene ou na cozinha, quer para o regadio das suas culturas. A água assume assim um papel central na fixação dos eremitas.

A água representa também a fonte de fecundação da Terra e, simbolicamente, dos habitantes, das suas almas. Um dos locais com maior disponibilidade em recursos hídricos da Serra de Ossa é o Vale de Infante. Raul Proença, no volume II do Guia de Portugal, citando a geógrafa Suzanne Daveau, afirma que este vale constitui um "verdadeiro oásis", no qual prosperam laranjeiras, limoeiros e outras árvores de fruto como no litoral (Proença 1927, 89-91). Não é casual a escolha deste lugar para a implantação do eremitério *Vale da Infante*. E o mesmo se pode afirmar para

as envolventes do eremitério Serra de Ossa - atual Hotel Convento de S. Paulo - que ainda mantêm usos tradicionais, e onde é possível encontrar uma diversificada produção agrícola, na qual se destaca o olival (Cancela, Pinto Correia, e Oliveira 2004, 28). Interessante notar neste contexto o caso do Vale de Abraão, onde são dominantes as áreas incultas e com cultura arvense de sequeiro, o que pode apoiar a hipótese do abandono do eremitério aqui fundado por razões de insalubridade em 1592 (Fig 11).

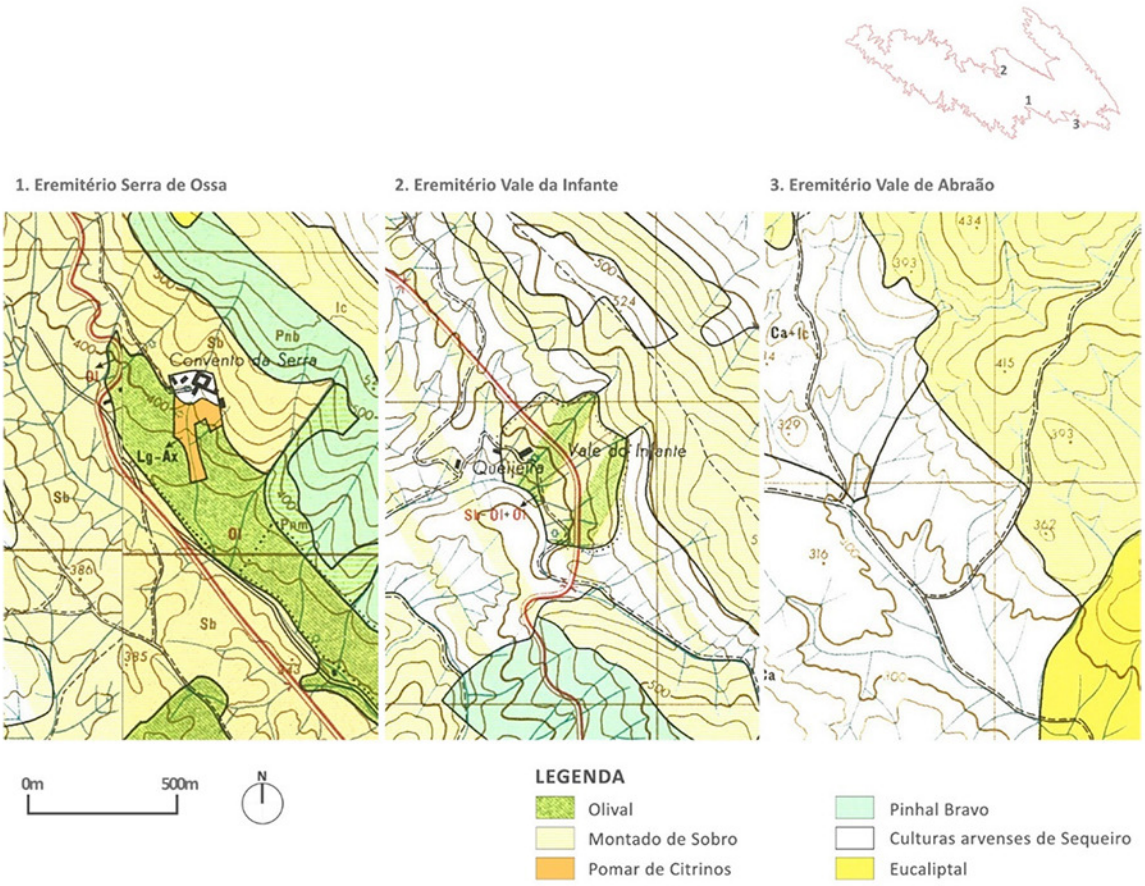



Fig. 11: *Serra de Ossa, Vale da Infante, Vale de Abraão*: extratos da Carta Agrícola e Florestal 1951-1964 disponibilizados pelo IGOT (Instituto de Geografia e Ordenamento do Território da Universidade de Lisboa)

Para além dos próprios eremitas e das suas motivações, existiam outros atores interessados na apropriação do ermo. Como já referido anteriormente, a expansão do movimento eremítico deu-se com o apoio dos poderes da altura, o poder régio e o poder da Igreja por meio de doações e outros privilégios. Da parte do poder régio, as preocupações com o controlo do território e fixação das populações, poderão ter contribuído para o reconhecimento do seu papel benéfico em prol da manutenção dos ermos, dos limites; já a Igreja deseja sobretudo controlar e conhecer tanto quanto possível as ações destes homens.

## 5.2 - A ocupação do ermo: fatores de ordem espiritual

Os fatores de ordem espiritual, do plano metafísico ou simbólico justificam a escolha dos eremitas na medida em que estes desejam a proximidade de Deus nas alturas, pelo que a montanha é o sítio onde essa ligação é mais estreita. A vivência entre a montanha e o vale - a elevação espiritual que a montanha possibilita e a dimensão terrena do vale que permite o exercício do serviço e da humildade - adequam-se perfeitamente no plano simbólico ao cariz recolhido destes homens. Também aqui, os fatores de ordem espiritual são partilhados com os grandes poderes: reis, senhores e Igreja reconhecem o exemplo de virtude destes homens, cujo impacto evangelizador junto das populações reforça a necessidade da sua proteção em nome da fé.

Sofia Boesch Gajano no seu ensaio *Gli Spazi della Santitá* afirma: "O itinerário espiritual inscreve-se na Geografia Física, a procura da vida perfeita é a procura do lugar que possa garantir o alcance desta perfeição"[122] evidenciando a relação estreita entre a vivência religiosa e o espaço físico escolhido onde é consumada essa mesma vivência.

Não é pois inverosímil que os espaços escolhidos para as fundações no território da Serra de Ossa vão *Do Vale à Montanha*, título de um poema de Fernando Pessoa de 1932, onde, para efeitos de paralelismo com a vivência eremítica, é invocada a caminhada solitária e secreta do Cavaleiro Monge rumo, quiçá, ao conhecimento último, a Deus. Vale e montanha, o côncavo e o convexo, parecem portadores de misticismo e simbolismo ao representar um o complementar do outro: o vale, dado o seu relevo, oferece-se para recolher as influências vindas do Céu, um recetáculo espiritual "semelhante à cova onde se acoitara o primeiro eremitão (…) ao mesmo tempo, era também sinónimo de humildade, virtude considerada fundamental para o exercício de todas as outras" (Xavier 2004, 41). É também o local onde os dois elementos de terra e água se combinam e se misturam, preparando a terra para as colheitas, e onde simbolicamente se fundem a alma humana e o divino; a montanha, pirâmide cuja base coincide com a Terra, com o mundo corpóreo e material, implantada no terreno, na humanidade, com o vértice orientado para cima, para o reino do *não manifesto*, figura como a imagem que mais fortemente concretiza a ligação entre o Céu e a Terra, simbolizando a transcendência, a tensão para o divino.

No seu ensaio *Imagens e símbolos* Mircea Eliade defende que o cume da montanha simboliza o ponto onde a criação teve o seu começo, uma zona de limite, ligação entre Céu e terra, entre

[122] Citação traduzida pelo autor deste ensaio a partir do texto original: "L'itinerario spirituale si inscrive nella geografia fisica, la ricerca della vita perfetta é ricerca del luogo che possa garantire il raggiungimento di questa perfezione". GAJANO, Sofia Boesch (1998) *Gli spazi della santita*, in *Diventare santo. Itinerari e riconoscimenti della santitá tra libri, documenti e immagini*, a cura di Giovanni Morello, Ambrogio M.Piazzoni e Paolo Vian. Roma: Biblioteca Apostolica Vaticana. pp. 17-23.

humano e divino, inferior e superior, visível e invisível, manifesto e não manifesto por onde passa o *Axis Mundi*, e cuja energia favorece a calma, a paz interior, o silêncio.

Os singulares acidentes geográficos, as elevações e as depressões de que aqui tratamos, parecem por si só deterem uma sacralidade latente, à espera da ação de homens religiosos que os subtraiam do mundo profano. Sagrado e profano constituem os dois aspetos de manifestação do mundo, que pode sofrer ações de sacralização, mas também do seu contrário (dessacralização), num dualismo que transmuta o profano no sagrado e vice-versa: "no fundo, sobre o sagrado em geral, a única coisa que se pode afirmar com validade está contida na própria definição do termo: é que ele se opõe ao profano" (Caillois 1988, 15). No entender de Mircea Eliade a natureza no olhar do homem crente está sempre carregada de valores religiosos, sendo o Cosmos - o mundo - uma criação que sai das mãos dos Deuses, e portanto já intrinsecamente sagrada, "o mundo apresenta-se de tal maneira que, contemplando-o, o homem religioso descobre os múltiplos modos do sagrado" (Eliade 1992, 127), até interiorizá-los e participar ele próprio desta sacralidade.

A água, para além da importância para a rega e saciedade dos homens, poderia constituir também um elemento com carga simbólica relevante no cenário ou paisagem eremítica se considerarmos a referência de António Manuel Xavier - ainda que de outra realidade que reflete a vivência institucionalizada dos conventos - no seu *Das Cercas dos Conventos Capuchos*: "*Para além da sua feição utilitária, a água participava na qualidade estética do espaço e na criação de ambiências*" (p. 61); "*A água assumia também um valor simbólico e religioso* (p. 62); "*A associação de fontes a nichos ou a oratórios assinalava a dimensão sagrada da água e sugeria a criação de recintos para refrigério físico e espiritual dos monges*" (Xavier 2004, 61- 63).

A sacralidade inscreve-se nos lugares transformados pela presença dos homens. Os eremitas da *pobre vida* apropriaram-se destas terras, modificando o espaço fisicamente e espiritualmente, delimitando-o através da construção de cercas, manipulando terra, água, vegetação, construindo celas, os eremitérios, gradualmente ampliados e convertidos em mosteiros.

## 6 - BREVES CONSIDERAÇÕES GERAIS

O estudo do movimento eremítico da Idade Média na Serra de Ossa, e em particular da sua ação arquitetónico-paisagística, é em si um desafio assaz solitário na medida em que os elementos que chegaram até aos nossos dias foram profundamente alterados ou estão em avançado estado de ruína.

No caso particular desta investigação, ainda numa fase inicial, o processo de apropriação do terreno pelos eremitas é o ponto de partida para uma primeira caracterização do sistema arquitetónico-paisagístico. E a partir daí surgem as seguintes questões:

- Quais as razões que levaram estes homens a instalarem-se ali, e não em outro local?
- Quais as razões que levaram à construção dos elementos arquitetónicos que hoje encontramos, e porque os contruíram desta forma?

É neste processo de indagação ao eremita, sobretudo com base no acervo histórico conhecido e de outras investigações semelhantes que se encontra esta investigação.

Parece relevante, neste âmbito, sublinhar que um estudo baseado só em fatores práticos de apropriação destes lugares ermos não poderia considerar-se exaustivo. Num contexto assim multidimensional é importante contemplar outros aspetos que participam desta experiência de cariz eremítica - designadamente os aspetos de ordem espiritual. Desta forma, afigura-se indispensável investir num estudo que congregue também uma abordagem de tipo especulativo na sua derivação latina de *spĕcŭlor* - explorar, mas também observar, olhar, meditar - que complemente os dados materiais.

A construção de uma paisagem advém da interação entre o homem e o ambiente. Os eremitas certamente conseguiram conhecer a estrutura da serra e os seus significados latentes, chegando a compromissos com o ambiente, criando um *microcosmo* consonante com o mundo interior. Do que se conhece do seu legado, tudo indica que os eremitas da *pobre vida* souberam aproveitar os recursos naturais, manipulando-os de uma forma ecologicamente adequada, sustentável e economicamente viável, respeitando o lugar, sem sobrepor-se ao seu próprio *genius*, mas tornando-se, eles próprios, parte do espirito do lugar.

## 7 - BIBLIOGRAFIA


Azevedo, Carlos Moreira (diretor). 2000. *Dicionário de história religiosa de Portugal*. Lisboa : Círculo de Leitores

Azevedo, Maria Manuela Gomes de, e Pinto, António Ventura dos Santos. 1985. *O Aspecto Religioso em José Régio.* Vila do Conde: Edição dos autores

Bachelard, Gaston. 1978. *A Poética do Espaço*. Traduzido por Antônio da Costa Leal e Lídia do Valle Santos Leal. São Paulo: Abril Cultural

Beirante, Maria Ângela. 2011. *Territórios do Sagrado. Crenças e Comportamentos na Idade Média em Portugal.* Lisboa: Colibri-Artes Gráficas

Barata, António Francisco. 1898. *Carta a um kleptomano que fôra á Serra d'Ossa por D. Bruno*

Caillois, Roger. 1988. *O Homem e o Sagrado*. Traduzido por Geminiano Cascais Franco. Lisboa: Edições 70

Calado, Manuel. 1995. *A região da Serra d'Ossa: introdução ao estudo do povoamento Neolítico e Calcolítico*. Lisboa: Departemento de História da Faculdade de Letras de Lisboa

Calado, Manuel. 2001. *Da serra d'Ossa ao Guadiana: um estudo de pré-história regional.* Lisboa: Instituto Português de Arqueologia

Cancela, d'Abreu, Pinto Correia, Teresa, e Oliveira, Rosário. 2004. *Contributos para a Identificação e Caracterização da Paisagem em Portugal Continental*. Lisboa: DGOTDU

Chevalier, Jean, e Gheerbrant, Alain. 1994. *Dicionário dos Símbolos*. Traduzido por Cristina Rodriguez e Artur Guerra. Lisboa: Teorema, D.L.

Cidade, Hernani. 1959. *A Serra d'Ossa e o seu convento*. Évora: Boletim da Junta de Provincia do Alto Alentejo

Damásio, Fr. Manuel de S. Caetano. 1793. *Thebaida Portugueza. Compendio Historico da Congregação dos Monges Pobres de Jesu Christo da Serra de Ossa, chamada depois de S. Paulo I Eremita, em Portugal*, tomos I e II. Lisboa: Officina de Simão Thaddeo Ferreira

Eliade, Mircea. 1992. *O sagrado e o profano. A essência das religiões*. Traduzido por Rogério Fernandes. São Paulo: Martins Fontes

Eliade, Mircea. 1989. *Origens: História e Sentido na Religião*. Traduzido por Teresa Louro Perez. Lisboa: Edições 70

Espanca, Túlio. 1975. *Inventário Artístico de Portugal-Distrito de Évora*, Vol. 8. Lisboa: Academia Nacional de Belas-Artes

Feio, Mariano. 1983. "O relevo da Serra da Ossa: uma interpretação tectónica". *Finisterra. Revista Portuguesa de Geografia* 18 (35): 5-26

Fontes, João Luís Inglês. 2012. "*Da «pobre vida» à Congregação da Serra de Ossa: génese e institucionalização de uma experiência eremítica (1366-1510)*". Dissertação de Doutoramento, Universidade Nova de Lisboa

Fontes, João Luís Inglês, Serra, Joaquim Bastos, e Andrade, Maria Filomena. 2013. *Inventário dos Fundos Monástico-Conventuais da Biblioteca Pública de Évora*. Évora: Edições Colibri - CIDEHUS-Universidade de Évora

Gajano, Sofia Boesch. 1998. "Gli spazi della santita". *Diventare santo. Itinerari e riconoscimenti della santitá tra libri, documenti e immagini*. Roma: Biblioteca Apostolica Vaticana

Jorge, Virgolino Ferreira. 2006. "Organização espácio-funcional da Abadia Cisterciense Medieval. Alcobaça como modelo de análise". Comunicação apresentada no 1º Encontro Cultural de S. Cristóvão de Lafões, São Cristóvão de Lafões

Mata-Lima, Herlander, Chambel, António, Alves, João, e Francisco, Pedro. 1998. "Impacte da Cultura de Eucaliptos nos Recursos Hídricos Subterrâneos da Serra de Ossa". Trabalho apresentado no 4º Congresso da Água, Lisboa

Mataloto, Rui. 2004. "Meio Mundo: o início da Idade do Ferro no cume da Serra d'Ossa (Redondo, Alentejo Central)". *Revista Portuguesa de Arqueologia*. 7 (2): 139-173

Mataloto, Rui. 2005. "Meio Mundo 2: a fortificação calcolítica do Alto de São Gens (Redondo/Estremoz, Alentejo Central)", in *Revista Portuguesa de Arqueologia* 8 (1): 5-19

Norberg-Schulz, Christian. 1992. *Genius Loci. Towards a Phenomenology of Architecture*. Traduzido por Anna Maria Norberg-Schulz. Milano: Electa

Pereira, Gabriel. 1934. *Estudos diversos : arqueologia, história, arte, etnografia : colectânea.* Coimbra: Impr. da Universidade

Proença, Raul. 1927. *Guia de Portugal, vol. II, Estremadura, Alentejo, Algarve.* Lisboa: Oficinas Gráficas da Biblioteca Nacional

Régio, José. 1968. "Fado alentejano". In *Fado. Obras Completas*. Lisboa: Portugália Editora

Santo António, Fr. Henrique de. 1745-1752. *Chronica dos Eremitas da Serra de Ossa No Reyno de Portugal, e dos que floresceram em todos os mais Ermos da Christandade; dos quaes nos seguintes séculos se formou a Congregação dos Pobres de Jesu Christo; e muitos depois a Sagrada de S. Paulo primeiro Eremita, chamada dos Eremitas da Serra de Ossa, tomo I - Que contêm a Historia Anachoretica, e Cenobitica dos primeiros cinco séculos do Mundo Christão; tomo II - Que contêm a Historia Anachoretica, e Cenobitica dos Seculos Sexto, Settimo, Oitavo e Nono.* Lisboa: Officina de Francisco da Sylva

Sequeira, Joaquim de Mattos. 1944. *Alentejo.* Lisboa: Shell Portuguesa

Xavier, Antonio Mánuel. 2004. *Das Cercas dos Conventos Capuchos da Província da Piedade.* Évora: Casa do Sul Editora e Centro de História da Arte da Universidade de Évora