HERITAGE 2022 INTERNATIONAL CONFERENCE

VERNACULAR HERITAGE: CULTURE, PEOPLE AND SUSTAINABILITY

Eds. C. Mileto, F. Vegas, V. Cristini, L. García-Soriano

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Universitat Politècnica de València

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Preface

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"HERITAGE2022, International Conference on Vernacular Heritage: Culture, People and Sustainability" is organized in the framework of the "VerSus+ | Heritage for PEOPLE" project, co-funded by the Creative Europe Program of the European Union (grant 607593-CREA-1-2019-1-ES-CULT-COOP1) and led by Universitat Politècnica de València (Spain) in partnership with Università degli Studi di Firenze and Università degli Studi di Cagliari (Italy), CRAterre – ENSAG (France) and Universidade Portucalense - Departamento de Arquitetura e Multimédia Gallaecia (Portugal). The "VerSus+ | Heritage for PEOPLE" project focuses on the transmission of knowledge to communities and the general public. It pays special attention to the society of the future (children and young people), as well as local, regional and national authorities in charge of heritage management, and includes specialists and experts in the field of architecture (architects, engineers, cultural managers, historians, ethnographers, university students, etc.) together with craftsmen and companies in the construction and tourism sectors, cultural and social associations, and educational institutions.

Vernacular heritage is a tangible and intangible heritage of great importance to European and global culture. This architecture, born from the practical experience of local inhabitants, makes use of local materials to erect buildings taking into consideration the climate and geography, developing cultural, social and constructive traditions based on the conditions of the surrounding nature and habitat. Above all, it plays an essential role in contemporary society as it is able to teach us important principles and lessons for a respectful sustainable architecture. These lessons from vernacular heritage for contemporary architecture have been extensively studied in the "VerSus: Lessons from Vernacular Heritage in Sustainable Architecture (grant 2012-2792/001-001 CU7 COOP7)" project, co-funded by the European Union between 2012 and 2014, and the "VerSus+ | Heritage for PEOPLE" (2019-2023) project, which follows on from the previous project, focusing on the transmission of this knowledge to society, as seen earlier. The wisdom of vernacular architecture in the field of environmental, sociocultural and socioeconomic sustainability is increasing both in interest and significance in the world today. Climate change, depopulation and the pressure of tourism all pose major challenges, as do the increasingly rapid social changes and loss of traditional trades resulting from the industrialization of the construction process. These challenges alert us to the pressing and growing need for education and increased awareness in society and for the documentation and conservation of architecture within a framework of up-to-date integration into contemporary life, managing territory and heritage assets for the sustainable development of society in the future.

The second project involved in this conference is "RISK-Terra. Earthen architecture in the Iberian Peninsula: study of natural, social and anthropic risks and strategies to improve resilience" (RTI2018-095302-B-I00) (2019-2022), funded by MCIU (Ministerio de Ciencia, Innovación y Universidades), AEI (Agencia Estatal de Investigación), FEDER - UE (Fondo Europeo de Desarrollo Regional, Unión Europea). This project is geared towards the conservation of earthen architecture in the Iberian Peninsula, both monumental and vernacular, which continues to be undervalued and barely recognized. The RISK-Terra project aims to provide scientific coverage of the study of natural threats (floods, earthquakes, climate change), social threats (abandonment, social discredit, demographic pressure, tourist development), and anthropic threats (neglect, lack of protection and maintenance), as well as the mechanisms for deterioration and dynamics and transformation (replacement, use of incompatible techniques and materials, etc.) to which architecture is exposed. The objective of the project is to establish strategies for conservation, intervention and rehabilitation which allow the prevention and mitigation of possible damage through compatible actions and/or actions to increase resilience.

As these two projects have major points of contact, particularly in relation to the challenges mentioned above, with potential for common reflection, their main themes have been combined in this Heritage2022 conference. The topics established for the conference are: 1. vernacular architecture: matter, culture and sustainability (study and cataloging of vernacular architecture; urban studies of vernacular architecture; studies of traditional techniques and materials; sustainability of vernacular architecture); 2. heritage education (research in heritage education; heritage education and social inclusion; heritage communities; creativity and heritage education); 3. artisans and crafts of traditional construction (intangible heritage: the management of know-how and local construction culture; training in traditional construction crafts; tradition and innovation in traditional construction crafts; plans and experiences for the recovery and maintenance of construction crafts); 4. conservation, restoration and enhancement of vernacular architecture (conservation and restoration projects of vernacular architecture; materials and intervention techniques for vernacular architecture; difficulties and possibilities of using traditional crafts in conservation; management and maintenance of vernacular architecture).

The scientific committee was made up of 102 outstanding researchers from 24 countries from the five continents, specialists in the subjects proposed. All the contributions to the conference, both the abstracts and the final texts, were subjected to a strict peer-review evaluation system by the members of the scientific committee. Out of the 200 proposals submitted, 134 papers by 254 authors from 25 countries from the four continents were chosen for publication. All the articles have been published in print and online in the two-volume book "Vernacular Heritage: Culture, People and Sustainability".

"HERITAGE2022 (Versus+ | RISK-Terra), International Conference on Vernacular Heritage: Culture, People and Sustainability" was held from 15 to 17 September 2022 in in-person and online modality at the Universitat Politècnica de València. The conference was under the aegis of: ICOMOS-CIAV (International Scientific Committee of Vernacular Architecture); ICOMOS-ICICH (International Scientific Committee on Intangible Cultural Heritage); IEB (Instituto Español de la Baubiologie). The organization, publication and implementation of the conference have been made possible thanks to co-funding of the Creative Europe Programme of the European Union for the project "VerSus+ | Heritage for PEOPLE" (grant 607593-CREA-1-2019-1-ES-CULT-COOP1); and the MCIU, AEI and FEDER - UE for the research project "Risk-Terra. Earthen architecture in the Iberian Peninsula: study of natural, social and anthropic risks and strategies to improve resilience" (ref.: RTI2018-095302-B-I00). Furthermore, Escuela Técnica Superior de Arquitectura and PEGASO - Research Centre for Architecture, Heritage and Management for Sustainable Development of Universitat Politècnica de València have also contributed to the whole project.

Finally, we would like to thank all the authors who contributed to the quality, range, diversity and richness of these publications with their articles. We give special thanks to all the partners of the European project "VerSus+ | Heritage for PEOPLE" and the national research project "Risk-Terra" for participating in the conference and helping to spreading the word about it worldwide. We are grateful for the aid of all the members of the advisory committee and the scientific committee for their work throughout the process of revising the abstracts and papers. And, above all, we thank the organizing committee for the complex setting up of the whole conference, the style and language reviewers for their corrections, and all the collaborators for their invaluable work in the management and organization of all stages of the process.

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Favignana bio-calcarenite: technological culture, knowledge and recovery

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Topic: T1.3. Studies of traditional techniques and materials.

Abstract

Favignana Island, the biggest one among Egadi islands, is well known for its deposits of calcarenite, which has been extracted and used since ancient times. The landscape of the Island is shaped by the widespread presence of quarries that mark the seaside as well. Furthermore, the constant presence of dry-stone walls, made of calcarenite, and of the characteristic architecture of buildings, represents a hallmark for the rest of Egadi islands as well, making it clear how important the presence of this material has been for the architectural and technological culture of these places. Calcarenite itself, exported by this island, is still a constituent material of many buildings in the western part of Sicily, in particular the prestigious buildings of the Baroque period. The presence of calcarenite, while notably all other construction materials, including timber, are absent, has meant that all the construction elements, indoor and outdoor, as well as all settlement types, have been affected by the almost exclusive use of calcarenite, the quarrying methods and the craftsmen's skills that inevitably derived from this context. Today, masonries, vaults, floors, roofs and all other elements show specific solutions that strongly characterize the buildings and the urban and rural landscape of the island. However, despite the constructive relevance of any elements or entire buildings, the touristic exploitation of the Egadi archipelago has brought to the replacement of buildings, or elements, as well as to a wrong and weak activity of building recovery. The reinterpretation of claddings and exposed masonry, and the replacement of original floors with concrete floors are just some of the many inappropriate interventions. In terms of typologies and morphological models, the study that we present has also dealt with the development of more adequate and relevant intervention techniques and repairs.

Keywords: *calcarenite; historic landscape; building recovery; technological culture.*

1. Introduction

The paper presents the results of the analysis of the culture of calcarenite, and of its use in traditional constructions within a specific context. The calcarenite in the island of Favignana, in the Egadi archipelago (a specific type of stone that belongs to the wider category of Sicilian calcarenites) has characterized the construction on the island and in western Sicily, where it has been exported for its great construction qualities. The quarries in Favignana – now dismissed – have determined symbiotic relationships both with the territory and the building fabric. The choice of stone constructions has followed practical and economic needs: the ease in the acquisition of the materials on the site and the consequently null transport cost; the scarcity of other resources, such as timber, and the great qualities of stone, such as the high unit weight, hardness, fire resistance and weather resistance, contribute to the high suitability of this material for durable and robust constructions.

Calcarenite is a sedimentary stone, constituted by calcareous particles whose size is comparable to sand (0,06-2 mm); it is used both for structural elements and for decorative purposes. The presence of fossils within in can lead to classify it as a "shelly breccia" or an "arenaceous limestone". In Sicily, calcarenite in general represents a sort of "genius loci", a strongly recognizable part of the cultural heritage, handed down across centuries. It was used by the ancient Greeks to build the constructions in the Valley of Temples in Agrigento, and the Temple of Selinunte. It was initially found in Palermo during the Arabian period, in the well and the galleries (in Arabic, Qanat) excavated in the underground for water supply. This stone is the main construction elements of several Sicilian historical centers; in Eastern Sicily, it has characterized the well-known baroque architecture, from structural elements to complex decorations. In Favignana, calcarenite has been widely used in all urban and rural constructions; in the city and in the province of Trapani, it has been employed as well for the realization of masonry wall facings, true vaults, false vaults called "realine" and decorative systems in churches and other buildings constructed from the 15th to the 18th century. As of today, the extraction of calcarenite in Favignana is not allowed anymore due to reasons of environmental safeguard. Very little is still being extracted in the territory of Marsala, but the characteristics and properties of the material are deeply different.

Fig. 1. Calcarenite shell-shaped vault in Favignana, Basilica Maria SS Annunziata, Trapani (Source: Mamì, 2018).

In Favignana, calcarenite has generated a relevant production system, with a strong landscape value and a characteristic building fabric that includes spontaneous or vernacular buildings.

The context of the island, characterized by difficult connections with the nearby territories and a consequent need to use local resources, shows various modalities of use of this material in its architecture. The island is marked by the presence of quarries, where extraction activities reached their peak during the 19th century: as a consequence, buildings and stone have become adjacent to each other, and it is almost impossible to distinguish the borders between the two. The threshold of the house is the same as that of the quarry: the former results from the addiction of matter and the latter derives from its subtraction, produced by quarrying activities.

Fig. 2. Mixed quarry with a surface pit and tunnels, Favignana, Trapani (Source: Mamì, 2018)

Over time, the interaction between natural and built environment has become deeply interrelated and has characterized the whole spatial distribution of the houses realized above and inside the quarries. The urban center is formed on the quarries, and the relationships between the building fabric and the quarries are so complex that individuating building typologies or identifying single building units is an impossible task.

Fig. 3. Mixed quarry in the urban center (Source: Mamì, 2018)

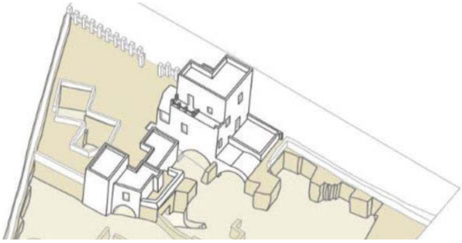

Fig. 4. Model of a house on a quarry (Source: La Rocca, 1995).

The operations within the extraction process derive from the knowledge handed down by the local workforce over centuries: iron plates were placed in natural cracks, then a wooden wedge was inserted between them, and hit with a club, pushed down to the depths. Next, the wedge was wetted, so its volume increased until it broke the stones and undermined the ashlar. The construction phase as well is the result of a secular sedimentation of knowledge and of a culture of craftmanship. The traces of this culture mainly lie in the fencing walls of houses, but also in other diversified forms, ranging from partitions between farms, to buildings themselves, from tanks to kitchens and chimneys. The unicity of calcarenite architectures inspired us to analyze the main construction elements realized by the workforce with traditional techniques. The primary material of these elements is, indeed, calcarenite, exploited at its best and employed to form various typological elements. Then, the study focused on interventions aimed to the recovery of construction elements according to the principle of minimum intervention, in an attempt to reconstruct their original configuration, both from a formal and technological standpoint.

2. The analysis of construction elements from the local tradition in Favignana

Calcarenite has been widely used in several construction elements of traditional architecture. Few different typologies have been found, as the single typologies are frequently repeated.

2.1. Dry walls in calcarenite stones

The territory of the island of Favignana features walls built to mark the delimitation of farms, and often constructed from stones cleared from the fields. The different typologies that have been detected and analyzed, were realized in different periods, and mainly in dry stone. This is caused by a functional need: dry stone, other than being less costly, increased air and water permeability. The construction phase consisted in placing single stones in order to create a bonded system that avoided sliding phenomena toward the exterior of the wall; then, the voids between the larger elements were filled with small stones. After defining the slope, a line, a spirit level and a plumb line were used and a wooden scaffolding was realized. After placing the stones, they were settled with hammer blows in order to form a compact and resistant system. In the final phase, the wall was completed by placing heavy stones on its top.

Fig. 5. Wooden scaffolding and line for the construction of a dry stone wall (Source: Progetto Medstone, 2002)

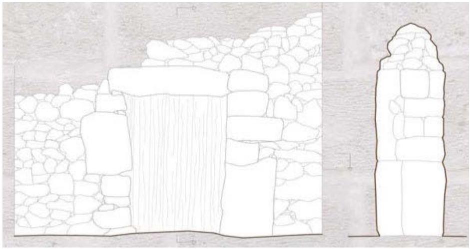

Fig. 6. Dry stone wall with boulders and shapeless stones (Source: Caleca, 2018)

Older walls usually have a truncated pyramidal section and were realized with shapeless stones. Smaller stones were used to fill the wall, while larger stones, usually employed for jambs and epistyles, had a large bearing surface and a high quality of the finish of exposed parts.
Other walls were constructed with surplus material from the quarries, and realized with rough-hewn or squared, parallelepiped- or cube-shaped ashlars, mixed with irregular stones.

Also for this reason, stones were settled in a very irregular pattern: in some cases horizontal lines were created by using stone shards, and the wall was compacted by adding a layer of raw mortar on the top of the element.

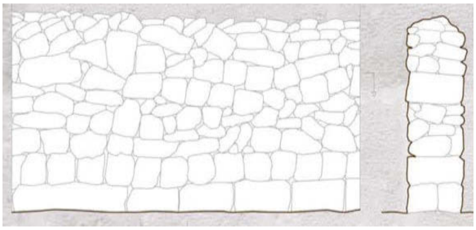

Fig. 7. Dry stone wall with selected shapeless stones and ashlars (Source: Caleca, 2018)

Other walls were realized directly on the quarry, by applying an intermediate layer of mortar and coarse aggregates between the wall and the plane of the quarry.

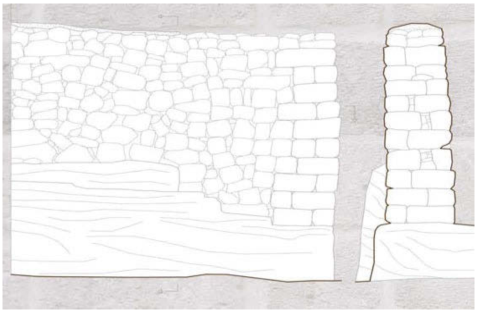

Fig. 8. Dry stone wall with selected shapeless stones and ashlars, realized on the quarry (Source: E. Caleca, 2018)

2.2. Masonry walls and calcarenite arch

In most cases, load-bearing walls have calcarenite ashlars toothed at the corners, up to 60 cm wide. They can be realized by *opus isodomum*, alternate *opus isodomum*, *opus pseudoisodomum* or *opus incertum*. Some masonry walls have particular characteristics: entrance portals, widely diffuse both in the urban center and in rural areas, are often defined by single, double or round arches; flat arches and frames appear on top of the windows, cornices are placed on the roof and the balconies are supported by cantilevers with various decorations and geometries; everything is made in local stone.

Masonry walls within the urban center are constituted by large-size ashlars, bonded with lime mortar. Stones are laid with staggered, smoothed joints. According to the standard practice, it was necessary to fulfill some conditions: the size of the stones had to be sufficient to provide the load-bearing function; binding stones (bondstones) had to run from one face of the wall to another (interior and exterior); a good proportion between the elements in the header and those on the facing was required; cornerstones, jambs and epistyle had to be perfectly integrated with the wall. Openings are marked by flat arches, while the entrance is marked by a double arch – an internal and an external one; in both cases, wedge-shaped ashlars were used in order to guarantee the adherence of adjacent stones.

Fig. 9. Masonry wall with arch systems (Source: Caleca, 2018)

Flat arches were realized from a timber slab, with a crossbeam in the center; wedge-shaped ashlars had to be laid on the plane of the slab, so that the ideal extension of the side faces of the ashlars converged in the same point of the beam. Balconies are supported by calcarenite cantilevers. These are realized from ashlars hinged into the wall, protruding in order to support the slabs of the balconies. Each cantilever was constructed with a squared ashlar whose protruding part was decorated, while the part placed within the wall remained rough.

2.3.Timber floor and calcarenite 'timpagnoli'

Intermediate floors were quite lightweight horizontal structures with a flat orientation. The main characteristic was the use of calcarenite instead of timber. The bedding layer of the pavement was made of 'tercisato', a material constituted by aggregates in crushed calcarenite from demolitions or waste by-products from the craftmanship of ashlars and irregular stones. This element has the function of reducing the transmission of vibrations.

Wood beams were arranged along the lower dimension of the compartment, and positioned either on recesses in the wall, or on holes specifically realized in it.

Beams were attached to the wall with alternated ends, in order to achieve a homogeneous mechanical resistance on the whole element. The most diffuse typology of floor was represented by a simple frame of beams with a diameter of 16 cm approx. and a span of 35 cm at least, which allowed positioning calcarenite blocks (or 'timpagnoli') with dimensions of 50 x 25 x 5 cm.

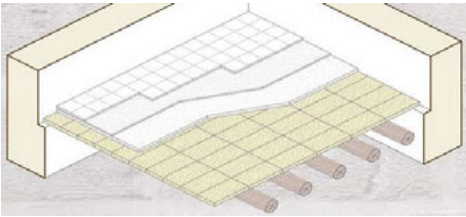

Fig. 10. Timber floor with timpagnoli (Source: Caleca, 2018)

Fig. 11. Timber floor with timpagnoli (Source: Mamì, 2018)

Calcarenite 'timpagnoli' were a particularly versatile material, as they were widely used in roof slabs as well, both in rural houses and in buildings with a high historical and monumental value. Calcarenite blocks were preferred to timber platforms and cane roofs ('incannucciato'), thanks to their improved load response excellent insulation qualities and, above all, high availability. A lime mortar layer was applied on the calcarenite blocks, in order to place roof tiles and their underlying supports.

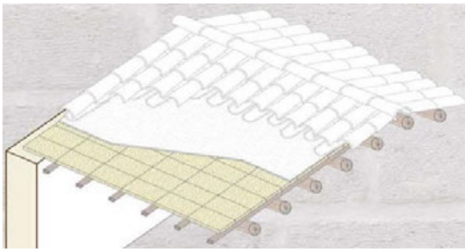

Fig. 12. Timber roof with timpagnoli (Source: Caleca, 2018)

2.4. True vaults in calcarenite

Vaults were a recurring element on the island, and calcarenite was the main component of this system, employed in several solutions. All vaults were in cut stone, that is in ashlars shaped according to the traditional rules of construction. Various typologies have been found. One of them is the barrel vault, whose exposed intrados shows the frame of longitudinal courses. The round arch was realized with square-shaped calcarenite ashlars, except for the keystone. The system was completed with a light spandrel in small stones, which contributed to smoothen the walking surface. Finally, a layer of bedding mortar was applied, followed by the pavement, usually in marble grit or cement paste.

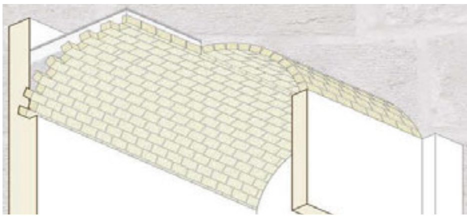

Fig. 13. Barrel vault (Source: Caleca, 2018)

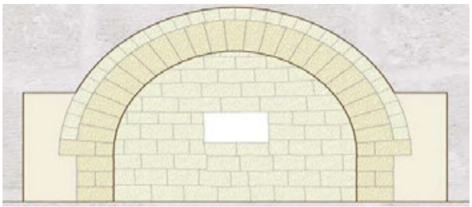

Fig. 14. Barrel vault with rounded arches (Source:. Caleca, 2018)

Fig. 15. 'Realina' tiled vault spring (Source: Mamì, 2018)

Another typology is represented by the barrel vault with lunettes (almost a false rib vault) with a rectangular plan. In case of two consecutive vaults, the central arch was constituted by twin stones. The blocks of the barrel vault were placed above the arches, while the blocks for the lunettes were placed transversally. The toothing at the corner was performed with a particular care: that point is subjected to strong stresses, and the convergency of the courses had to create solid ribs, in order to ensure the structural solidity of the system.

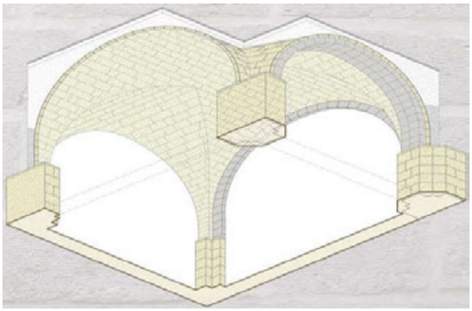

Fig. 16. Barrel vault with lunettes (Source: Caleca, 2018)

The tiled vault, called 'realina' in the Trapani area, is constituted by a double layer: a vaulted, and a flat one. It was mainly used on the roof, where it allowed producing a hollow space which mitigated temperatures in hot-humid climates. The intrados was realized with regular calcarenite blocks, positioned horizontally and bonded with lime mortar; the extrados was constituted by blocks with higher dimensions, placed along their width and supported by additional cornerstone blocks placed vertically. A screed in lime and calcarenite shards was applied on them, then the pavement – generally in cement paste – was placed above.

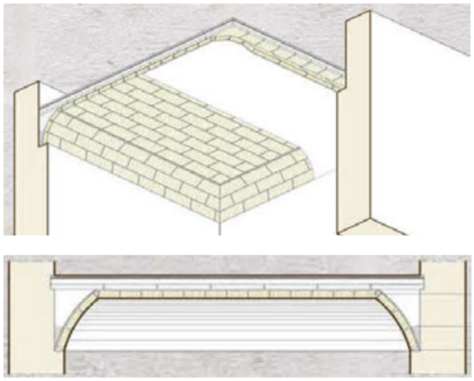

Fig. 17. 'Realina' tiled vault with a double envelope (Source: Caleca, 2018)

Fig. 18. Timpagnoli of the 'realina' tiled vault (Source: Mamì, 2018)

Fig. 19. Layers of the 'realina' tiled vault extrados (Source: Mamì, 2018)

2.5 Calcarenite kitchens and chimneys

Calcarenite was also used for elements without a structural function, such as kitchens and chimneys. All the detected typologies of chimneys have a fairly simple construction technique: calcarenite blocks are placed orthogonally to each other until the desired height is reached; they are positioned so as to obtain a square or rectangular section until the top. An additional chimney stack has been noticed in houses, which allowed expelling smokes in combination with the chimney of the kitchen. This drafting system also favored the inflow of fresh air into the environment, contributing to passive cooling.

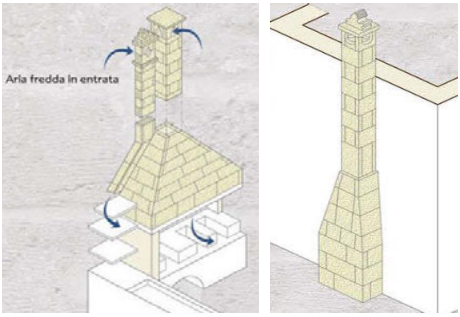

Fig. 20. Traditional fireplace with hoof and drafting system; chimney typology (Source: Caleca, 2018)

3. The recovery of the construction elements of the local tradition

These construction elements are deeply interesting from a technological standpoint, even more considering the local insular environment and their nature of spontaneous buildings and deserve attention in terms of conservation and recovery. However, despite a renewed awareness toward these themes, still today many of these elements are either dismissed, or consolidated and/or repaired with utterly inappropriate techniques. We have studied some intervention hypotheses, in compliance with their physical and formal conservation, with the principle of minimum intervention and reversibility.

3.1. Proposed intervention on timber floors with calcarenite 'timpagnoli'

In the detected typologies of floors, the main frame is often subjected to warping, breakage and rotting phenomena. One of the proposed interventions is the insertion of one of more laminated timber beams (crossbeams) under – and perpendicular to – the existing beams that show bending or instability. The slot for the allocation of the end of the new beams is realized on the wall after the shoring of the existing beams. After placing the crossbeam, it is jointed with the existing frame with a large brass screw that reaches the screed, in order to obtain an overall collaborating system. Finally, the hole on the wall is coated with finished works and the shoring is removed. This intervention allows reducing the free length of the existing beams by acting on the point with the maximum bending, that is the midpoint.

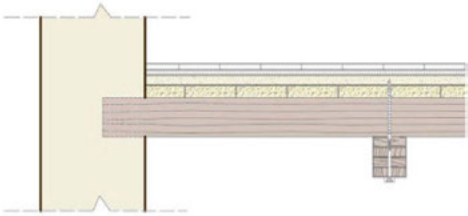

Fig. 21. Insertion of crossbeams in a timber floor with calcarenite timpagnoli (Source: Caleca, 2018)

Another proposal is to apply a layer of hemp-line substrate to the areas where the tercisato is particularly eroded. This layer, constituted by natural hydraulic lime mortar and mineralized shives, is a natural material with a high mechanical resistance and a good thermo-acoustic insulation. Moreover, areas where tercisato is in a good state could be reinforced by nailing a hemp fiber mesh, and then placing a lime mortar screed on it.

3.2. Proposed intervention on real calcarenite vaults

Vaulted systems can be subjected to various instability mechanisms which cannot always be predicted: asymmetric loads are troublesome, as they can increase lateral forces and cause a lowering in the keystone; if the piers do not provide a sufficient resistance, collapse scenarios can occur. The insertion of steel tie-rods is a quite diffuse intervention, and is performed at the height of the haunches, as these points are highly subjected to lateral forces. The threaded bars inserted in the walls can be in inox steel, or alternatively in brass and coated by a PVC protective membrane.

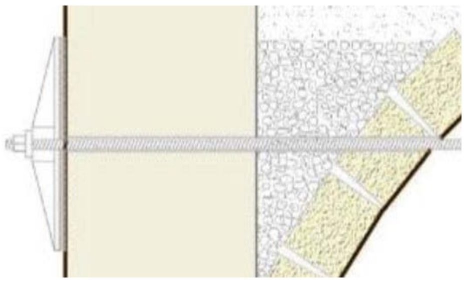

Fig. 22. Steel tie-rod in a barrel vault (Source: Caleca, 2018)

The anchoring plate of the bar – made of steel too – is separated from the external side of the wall by a neoprene pad.

3.3. Proposed intervention on timber roofs with calcarenite 'timpagnoli'

The most common instability phenomena can be related to an erroneous load distribution, or to rotting phenomena on the beams, or beam bending due to an insufficient section area. In cases where timber roofs are not subjected to strong decay phenomena, but beam bending is visible, a hardwood beam can be placed alongside the existing one. This beam serves as a prosthesis, and does not alter the balance of the system. When opportune, the intervention can be completed with the improvement of thermal and acoustic insulation, by realizing a false ceiling in wood wool panels.

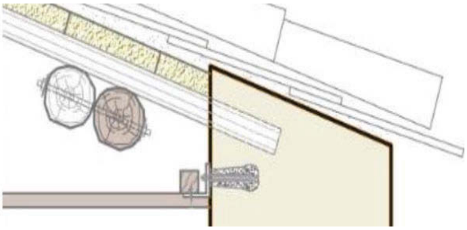

Fig. 23. Integration of a timber roof with timpagnoli with a supporting beam and a false ceiling (Source: Caleca, 2018)

4. Conclusions

The uniqueness of the landscape of Favignana is evident, as it is characterized by ancient and modern quarries, by the peculiar building fabric, born from the quarries and integrated with them; by the distinctive characteristic of the construction, generated by a heterogeneous use of calcarenite. The typological and technological analysis has highlighted a significant construction wisdom. The valorization of this heritage and of this landscape, together with the recovery of the material elements, requires complex valorization projects and a careful conservation. This is even more important as this tradition is ancient and no longer practiced in our times, following the dismission of the quarries on the island since the '60s. The characteristic of calcarenite – above all, its durability – show the importance of its reuse; moreover, it has proven to be a versatile and workable material, and its reuse has an ecological value. The analysis of existing buildings shows that ancient construction techniques could produce a solid and durable architecture, which fit the hot-summer Mediterranean climate thanks to the high thermal inertia of the massive stone system. In other words, buildings realized with natural materials and technologies are perfectly integrated in the landscape, making them a valid choice for contemporary recovery interventions as well. These solutions could support the respect and the valorization of technological and structural features of existing buildings in recovery interventions, through an attentive use of ad hoc techniques such as those described in this paper.

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HERITAGE 2022 INTERNATIONAL CONFERENCE

VERNACULAR HERITAGE: CULTURE, PEOPLE AND SUSTAINABILITY

Eds. C. Mileto, F. Vegas, V. Cristini, L. García-Soriano

Vernacular architecture, tangible and intangible heritage of great importance to European and global culture, represents the response of a society culturally linked to its territory, in terms of climate and landscape. Its construction features are born from the practical experience of the inhabitants, making use of local materials, taking into consideration geographical conditions and cultural, social and constructive traditions, based on the conditions of the surrounding nature and habitat. Above all, it plays an essential role in contemporary society as it is able to teach us important principles and lessons for a respectful sustainable architecture.

Vernacular Heritage: Culture, People and Sustainability will be a valuable source of information for academics and professionals in the fields of Environmental Science, Civil Engineering, Construction and Building Engi-neering and Architecture.

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