AMPS PROCEEDINGS SERIES 27

AMPS, College of Architecture, Dayananda Sagar Institutions

Virtual & Bangalore: 23-25 March, 2022

Sustainable Architecture(s) – Humane Cities

EDITOR:

Dr. Rama Subrahmanian

EXECUTIVE EDITOR:

Eric An

COPYEDITOR:

Amany Marey

INTRODUCTION

Online Education: Teaching in a Time of Change

This special issue publication comes from the international symposium organized by AMPs with Dayananda Sagar Institutions, Bangalore in March 2022. The event was premised on the following call: In 2015, the year that the Indian government launched its 100 Smart Cities Mission, the United Nations published its 17 Sustainable Development Goals including the goal of "Making cities and human settlements inclusive, safe, resilient and sustainable". The Smart Cities Mission follows patterns of development undoubtedly spearheaded by the Global North. By contrast, sustainable development goals can be seen as predominately relevant to the Global South, which the UN projects suggests will be home to over 80% of the world's megacities by 2030. In the context of the Covid-19 pandemic, each of these agendas is in the process of revision.

The problems faced by these cities will be enormous: the health and wellbeing of inhabitants; the housing of rural migrants; balancing formal planning with incremental and informal design; dealing with environmental vulnerability; addressing social equity. They are all, already, issues that are both critical and subject to extensive debate. The World Health Organisation sees the notion of the 'healthy city' as already changed forever. Ananya Roy sees informality as a product of economic regulation, whether in Mexico, Egypt, India or Indonesia. Aromar Revi critiques the integration of the rural and the urban through the lens of sustainability and the notion of the rurban.

In bringing sustainability into the debate about healthy, equitable and humane urban development Revi opens a view onto questions of colonialism. Sustainability and public health have a conflicted history in the Global South where the march of economic development and agendas of public wellbeing and environmental protection often clash. Indeed, they have led to spatial practices such as uncontrolled density, 'public safety' zoning and gentrification that force the poor into cramped living conditions, unsanitary housing, flood plain areas and more.

The problem is complicated more when we consider those cites of the Global South that mimic architectural and developmental practices of the North. Yasser Elshehtawy has coined the term Dubaization. He suggests that the race to construct tall buildings in the Middle East threatens the identity of cities from Bangalore to Cairo. In the Middle East and North African region this push towards the fast-paced commercial development of 'global cities' is particularly challenging. The arid and semi-arid environments of these places make them vulnerable to climate change and drought and, in the long term, unhealthy, unsafe and totally uninhabitable.

Dr. Rama Subrahmanian

TABLE OF CONTENTS

SUSTAINABLE PROJECT FOR THE RUINS IN THE CONSOLIDATED CITY. THE CASE OF THE CONVENT OF SANT'ANTONIO DA PADOVA IN SCICLI, SICILY

Author:
FERNANDA CANTONE, FRANCESCA CASTAGNETO

Affiliation:
UNIVERSITY OF CATANIA, ITALY

INTRODUCTION

At the base of the cultural debate regarding Urban Recovery, which has been in discussion in Italy since the 80s of the twentieth century, there are some fundamental principles that today are counted in the concept of sustainability. The design of the existing dwellings deals with the construction of the past and draws on the heritage incorporating contemporary values; it refers to the concept of the building as a resource to be projected into the future through the preservation of identity, history and ancient knowledge. The passage of time widens the field of action of the conservation and its cultural, social and economic values to the anthropized territory. In this sense, in recent decades, the concept of landscape has become the key to the proposition of innovative strategies. The term historical urban landscape refers to a vast urban area characterized by historical stratifications of values, architectural, historical, cultural and natural characters that go beyond the notion of "historic center" but involve a wider urban context.[1] This broad context includes the natural features of the site, its built environment, both historical and contemporary, its infrastructure above and below ground, its open spaces and gardens, its land use patterns and spatial organization, perceptions and visual relationships and other elements of the urban structure. It also includes social and cultural practices and values, economic processes and intangible dimensions of heritage as well as related to diversity and identity.
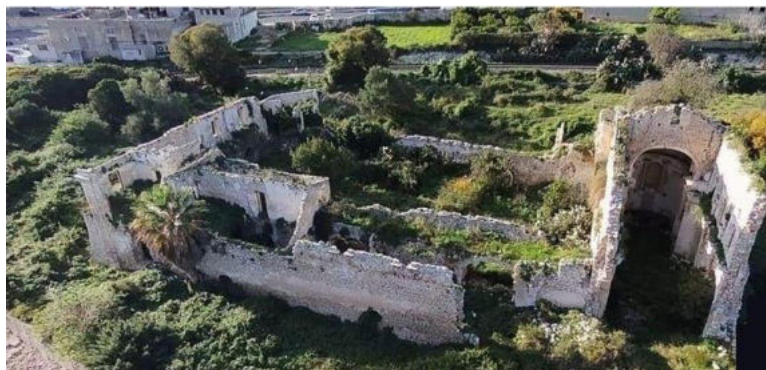

Figure 1. Aerial view of the Complex in Scicli.

These characteristics provide a comprehensive and integrated approach to the identification, assessment, conservation and management of the historical urban landscape in the context of a general sustainable development.

The presence of a heritage, to be preserved, has made the general public and conscious about the inclusion of «their» favourite landscapes as part of a worldwide catalogue. A further step of this cultural policy was made in 2011, with the extension of the term landscape to urban areas of historical character, with the precise desire to denounce the now inadequate definition of the Historical Center, as a clearly restricted area, to which specific design strategies and behaviours could only be reserved. The city now needs management practices that, in the wake of sustainability, must take into account the many variables involved and highlight systems of systems, interconnected, that contain the needs of the community and can express the qualities that the urban environment should offer and enhance.

In 2021, the tenth anniversary of the "UNESCO Recommendation on the Historic Urban Landscape",[2] thematic meetings focused on various aspects of the themes of the project such as: public space, rehabilitation, tourism, cooperation between public and private, as well as the limitations caused by the pandemic on the management and use of the sites constituting the heritage of humanity.
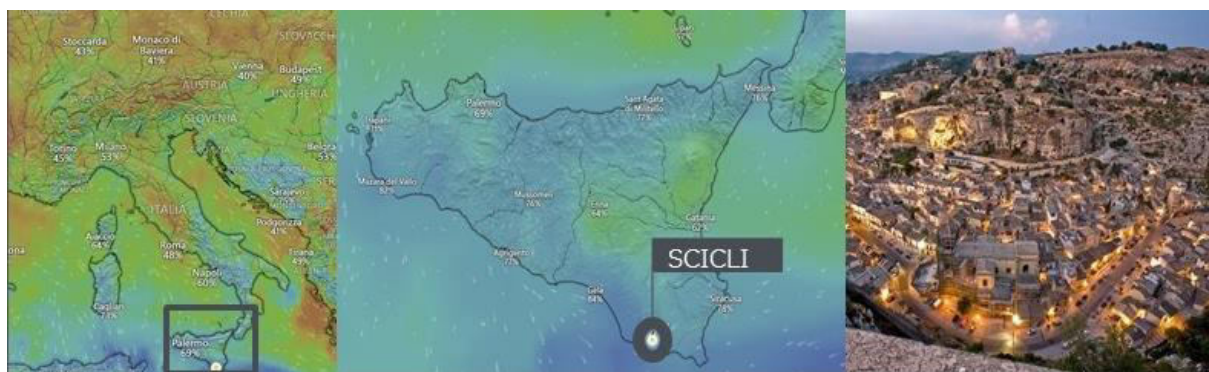

Figure 2. Italy, Siciliy and Scicli (RG) aerial view.

RUINS AND INTERVENTIONS

The meaning of place is often traced back to the physical environment and the objects that constitute it; from a phenomenological point of view, human experiences determine the meaning of the places themselves.[3]

The ruins of the past, the fragments of human works that have gradually given way to the "natural", are places where two realities confront each other: the work of man and the action of nature. In this imbalance, stacked in favor of nature, which invades and destroys the architectural work, man develops a feeling of melancholy and awareness of the separation "between the will of the spirit and the need of nature".[4] The imaginative potential produced by the ruins has enriched them with attractions and they have become passionate destinations for history-loving visitors. There are important studies on cultural tourism in these places and on the memorable tourist experience (MCTEs memorable cultural tourism experiences)[5] that highlight an increasing interest in the past.

Many popular books, films and series are set in historical realities. Castles, convents and productive buildings "offer a wealth of experience and intensity that illustrate well the affective nature of heritage. All this contributes to the great popularity of these type of buildings and therefore of their new functional needs.

However, the projects, in these cases, are also useful to confront the relationship between ruin and urban and territorial context of belonging, between architecture and nature, to such an extent that a fruitful union is formed between the urban project and the ruin itself.

In fact, some ruins, especially if within the historical urban landscape, can be recovered, maintaining the charm of the past. The contemporary architecture introduced inside the ruins can have a similar effect to the popularization of a tourist site, especially if it refers to the memory of the place.[6] From the marketing point of view, the contemporary project for the ruins acts through spatial metaphors and particular architectural symbols that characterize that place and that recall the past with the power of the present. Marketing activities, designed during the project phase, can influence and direct the recovery and reuse project.

THE CASE STUDY

The complex of the Convent of *Sant'Antonio da Padova* and the adjoining Church of *Santa Maria Immacolata*, is located in an area originally *extra-moenia*, away from the town of Scicli in the district of Ragusa and along the banks of a stream.[7] Since 2002, historic center of Scicli has become a UNESCO World Heritage Site.

The convent of Sant'Antonio has an uncertain date. It was founded between 1226 and 1363 but little remains of the building of that time. The 1693 marks the destruction of Scicli due to a strong earthquake that killed 2000 people and led to rebuild further downstream. The 1700s was the century of reconstruction and many churches and convents were built in the style of the purest Sicilian Baroque.

Figure 3. Vault of Chapel of 1500s in Santa Maria Immacolata Church and the ruins of the Church.

The convent today consists largely of the post-earthquake realizations of 1693, among them are the 1514 chapel, built by Master Pietro Rovetta[8], and part of the cloister of 1522[9]; some rooms were made for novices between 1560 and 1624.[10] The church was entirely rebuilt in the first half of the 1700s. The reconstruction work resulted in substantial changes to the plan, elevations and decorations but respected the formal rules of the period. In 1866 the complex passed to the State Property and was later sold to private individuals who placed a matchbook factory there. An explosion damaged the complex and the bombing of World War II completed the destruction. Since then, there has been a slow decline.

Today we can only perceive the ruins of the church inside, we can still distinguish the decorative stucco apparatuses, the perimeter walls of the complex and some internal divisions.

COMPARISON WITH SIMILAR CASES

The fascination of the ruins of the past and of a forgotten world offer increasingly important design cues. The approach can be varied but the goal remains common: integration between past and present.[11] In many projects there is also integration with civil society and a use not only contemplative of the ruins, but a social one for the community.

Figure 4. Urban Centre of Ruesta, Sebastián Arquitectos, 2018.

A perfect example is the project of the Urban Centre of Ruesta[12] in Urries, Spain, along the Pilgrim's Way to Santiago, conceived by Sebastián Arquitectos in 2018. It involved the consolidation of the ruins in the village of Ruesta, abandoned for several decades, to create areas for gathering and rest for pilgrims, with spaces for children, made in complete safety.

The ruins of the village, although perfectly distinguishable and consolidated, have become places of shelter for pilgrims, of rest, there is also a welcoming campsite and services designed for social aggregation. Another significant example concerns the recovery of the ruins of the Castle of Baena, again in Spain, designed by Josè Manuel López Osorio;[13] it integrates the historical and cultural heritage of the ruin with the ability to integrate it in the process of revitalization of the neighborhood. It can be implemented through a modular system to incorporate to the monument new uses that transcend the mere contemplation of historical ruins.

Figure 5. Recovery of monastery of Saint Frances in Sainte Lucie de Talleno in France, Amelia Tavella, 2021.

Equally interesting is the recovery of the ruins of the Monastery of Saint Frances[14] in Sainte Lucie de Talleno in France, in 2021.

 A reconstruction was completed through the concept of camouflage. The architect Amelia Tavella wanted to recreate sensory settings linked to the silence of religious buildings. It is a formal reconstruction of the existing one, made of Corten steel that, according to the principle of mimesis, recreates rarefied and mystical settings.

Mill Ruins Park - before

Mill Ruins Park - proposal

Figure 6. Proposal project on the banks of the Mississippi river, in Minneapolis,USA, MSR Architecture

Another beautiful proposal project for the rehabilitation of the ruins is Water Work, located at the mills on the banks of the Mississippi, in Minneapolis, in the USA, carried out by MSR Architecture, [15] where these ruins are used for passive recreation areas, suitable also for children. The concept of public space is redesigned through the objectives of social and temporal integration that leads the user to a relaxing contact with water in all seasons.

The project of the Longrovia Rural Hotel, created by architect Luis Rebelo de Andrade in 2016, in Meda, Portugal,[16] involves the integration between old buildings and new spaces, created around the ruins of the functioning Roman Longrovia baths. Walkway systems connect the two functions by integrating the cultural and recreational components.

These projects propose a very evident system of social inclusion and integrated culture with the varied use of the ruins of buildings profoundly different in function, construction period, construction technologies, place and climate. In summary, these experiences inspire the imagination to create a project that finds in the ruins the turning point for an active integration between past and future and that sees the involvement of the settled communities.

These cases shall identify strategies for action relating to:
  • Reconstruction and Integration with the neighborhood and community (Baena Castle);
  • New uses for ruins (Ruins of Ruesta);
  • Possibility of building inside the ruins through camouflage (Saint Francis Monastery);
  • Social development of "sense of community " (Water Work, Minneapolis);
  • Enhancement of culture and well-being (Longrovia Rural Hotel).

These are fundamental ideas for a sustainable project, in which the social component is stimulated by innovation and conservation, by new spaces for the community, by new economic and productive ideas. If used together and properly interpreted, they can give very positive results.

THE RESEARCH

Rural areas of Sicily are endowed with a remarkable historical-monumental and cultural heritage consisting of medieval and baroque villages that possess splendid examples of civil and religious architecture. The environmental natural heritage is strongly characterized by the presence of a historical memory, not always shared, on the peasant tradition.[17]
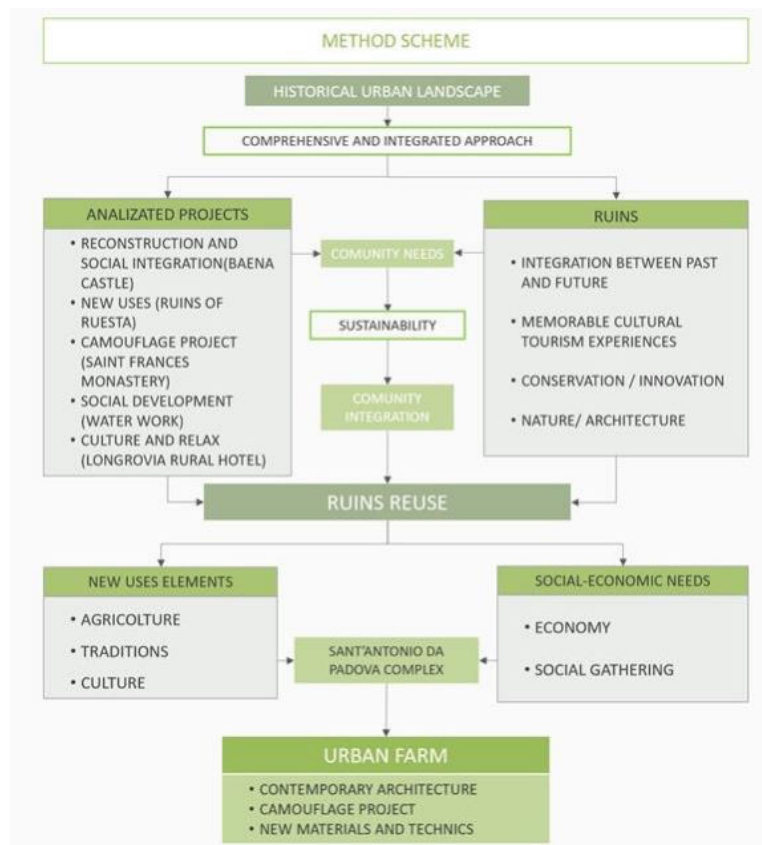

Figure 7. Methodological scheme.

The case study is located near the consolidated city. The public and private space of the Sant'Antonio da Padova Complex certainly represents the historical urban landscape, the place of memory and sociality with a decisive role in the image of the city[18] and therefore here it is necessary to start from this starting point.

The study began by researching and selecting projects on the ruins with marked characteristics of social sustainability and approaches the project in the Historical Urban Landscape with new energy. The characteristics of the ruins and the needs of the inhabitants are studied through the objectives deduced from the analyzed projects, identifying the needs of the local community, in terms of sustainability and social integration. The project involving the reuse of the ruins is therefore based on the characters of the context and community. Among them, the surrounding fertile soils become a fundamental element of the project of economic and social development. A sustainable approach, in this sense, leading to the rebirth of ancient agricultural traditions and also employing modern production, carried out respect for the land, genuine products, seeds and machinery to help man. This idea has been strengthened by studying the project of Agro Food Park (AFP), by William McDonough + Partners and other, conceived in 2015 in Denmark.[19] It is a virtuous example that confirms the ideas expressed earlier. It identifies as an Urban Farm, a container that responds to the demands of the community, enhances the values of the territory, stimulates the economy and boots the aggregate component. In this context, the project

rethinks the ruins in a contemporary key, proposing an idea that preserves, reuses, communicates and exploits the potential of the building and the space around it: an urban farm in the Sant'Antonio da Padova Complex. The creation of such an Urban Farm system in the recovered complex will host a "house of Sicilian crops" to reacquire and spread the ancient tradition of "cannavataro", a man familiar with the local agricultural tradition who cultivates the land as if it were the primordial mater and sells it directly to the consumer. Here you can buy or devour the products of the "cannavate", the biological archetype of the past that produces native varieties.
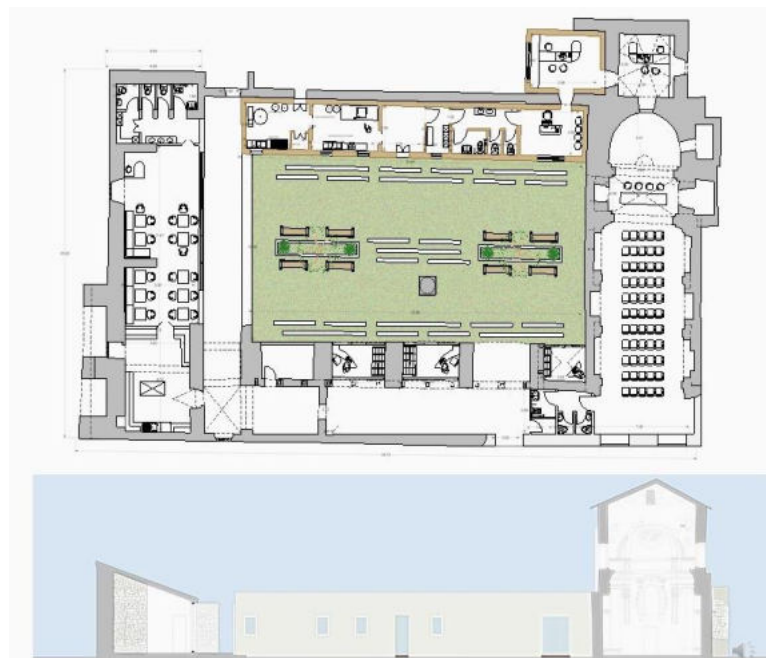

Figure 8. Plan and internal section of the project.

The cloister, the heart of the convent, will host a Garden of Sharing around which will develop the activities to start up:
  • a Kitchen Garden with native crops, respecting the cycles of each crop and following the Slow Food principles;
  • a Therapy Garden based on the desire to rediscover a slower rhythm of life, revaluating the beneficial properties of the fruits of the earth and regain possession of the territory, cultivating the land,
  • an area of Research and Development with laboratories for the research into ancient grains and native seeds;
  • a small meteorological station.
The complex will be completed by social and collective functions such as a restaurant with 50 seats in the refectory of the convent, and its kitchen, a common room for small conferences (55 seats) and for aggregation within the church, a temporary shop consisting of three small sales spaces positioned under the barrel vaults of the sixteenth-century loggia, to sell both processed products in laboratories and those produced in the Area of Cannavate and in the Kitchen Garden.
Outside the construction, instead, areas will be cultivated according to cycles that alternate the types of production according to the seasons.
The tradition of "cannavate" will be continued in the area that runs along the stream, forming small plots of land of 1000 or 2000 square meters at most, surrounded by citrus trees.

The project of technological reuse

The project involves the consolidation of the walls through a series of different interventions depending on the conditions of the supports. In areas with exposed masonry, the intervention involves the consolidation and preservation of the walls with the RETICOLA TWINS (*Reticolatus*) system[20] which occurs the reinforcement of the joints with the use of stainless-steel strands and lime mortar. This system improves the shear and flexural strength of the masonry allows to upgrade the resistance to cutting and bending of the masonry, while, at the same time, maintaining the original appearance. On the partially collapsed walls of the church indenting interventions will take place. For the restoration of the wall box, tie-rods and the creation of an upper curb that closes and connects the walls will be employed. Internally fixing and cleaning of the existing grouts will be undertaken.
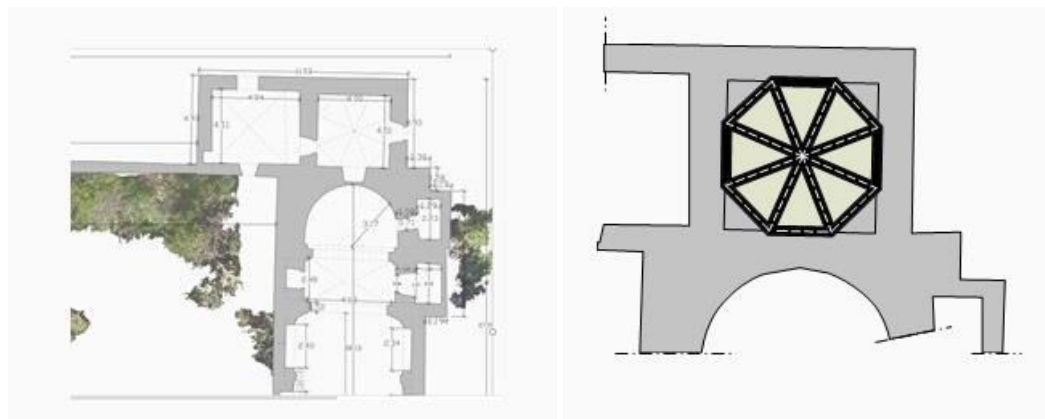

Figure 9. Consolidation of existing vaults.

The BETONTEX fibre-reinforced plating system,[21] will be used to consolidate the existing vaults. It is composed of fabrics, nets, flakes, sheets and preformed bars in carbon or glass fibres to be impregnated and/or glued on the turned surfaces by means of epoxy thermosetting resins. This type of intervention is used to prevent local and global collapse mechanisms and to achieve an increase in mechanical strength and ductility to the extrados of the vaults.

For the reuse of the most damaged spaces, the project involves the reconstruction of the spaces with X-lam panels, placed in adherence to the internal masonry. The choice of X-LAM (or CLT, Cross Laminated Timber) is linked to the excellent characteristics of resistance to seismic stress and thermal performance and air tightness.

Some completely collapsed walls will be replaced by large windows.

The project is therefore environmentally sustainable, respectful of the ruins and the technological culture of the past.

CONCLUSION

The research therefore proposes a new peri-urban model of reuse project that combines sustainability with the relationship architecture/ nature that the ruins impose.

Today, sustainability values in the design phase are well defined by technologies and materials that allow significant energy savings. The goal of this millennium is certainly a conscious and careful use of the building, based on the economic autonomy of the management of the dwelling.

The Urban Farm of Scicli will be a space for the production, processing and sale of seasonal agricultural products, typical of the area and the microclimate; it will be a commercial space with a 0-carbon impact, a cultural, educational, social and urban green space. Here it will be possible to combine agricultural experiments and social relationships through collaboration between academic and commercial

activities, leaving ample space for the aggregative capacity of the human being. The possibility of carrying out such a project leads to a reflection: the social role of cultural heritage. They become the perfect place for aggregative but also economic functions, places of meeting, relaxation, profit and commercial development, they also become a way to spread culture and respect for the past, a vital past, full of meaning and activity. The consolidated public space, and the historical buildings around, become a fundamental network for cultural, social and economic well-being.

Figure 10. View of the complex from the river.

NOTES

[1] Michael Jakob *Il paesaggio*, (Bologna : Il Mulino-Universale Paperbacks, 2009).

[2] https://whc.unesco.org/en/hul/#:~:text=The%20Recommendation%20on%20the%20Historic,inherited%20 values%20and%20traditions%20of (accessed 18/01/2022).

[3] Edward Ralph, *Place and place lessness* (London : Pion, 1976), 48.

[4] Georg Simmel, *Die Ruine*, 1907, in Simmel G., *Saggi sul paesaggio*, trad. di M. Sassanelli, (Roma: Armando, 2006), 73.

[5] Siamak Seifi, Michael Hall & Mostafa Rasoolimanesh, *Exploring memorable cultural tourism experiences*. (Journal of Heritage Tourism, 2020), vol. 15, issue 3, 341-357.

[6] Iwona Wilczek, *The layers of history: new architecture interventions in castle ruins*. (Frontiers of Architectural Research, Higher Educational Press, 2021) vol. 10, issue 2, 351-368.

[7] Filadelfo Fichera, *Risanamento di Scicli: Relazioni ai progetti definitivi, compilati per incarico di s. E. Il Ministro dell'Interno* (Catania : Niccolò Giannotta Edit., 1889), cap. 1.

[8] Salvatore Cucinotta, *Popolo e Clero in Sicilia nella dialettica Socio-Religiosa fra cinque-seicento* (Messina : Edizioni storiche siciliane, 1986), 445.

[9] Antonino Carioti, *Notizie storiche della città di Scicli* (Scicli : Comune, stampa, 1994), vol. 2, 512.

[10] Giovanni Pacetto, *Memorie istoriche civili ed ecclesiastiche della città di Scicli* (Rosolini : edizioni Santocono, 2009), 258.

[11] Jonathan Hill, *Architecture for Ruins. Design on the past, present and future* (Routledge, Taylor & Francis Group, 2019), 93.

[12] https://www.archdaily.com.br/br/969364/reabilitacao-do-centro-urbano-de-ruesta-sebastian-arquitectos?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects (accessed 18/01/2022).

[13] https://www.archdaily.com.br/br/784946/restauro-castelo-de-baena-jose-manuel-lopez-osorio?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects(accessed 18/01/2022).

[14] https://www.archdaily.com.br/br/966259/convento-saint-francois-amelia-tavella-architectes?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects (accessed 18/01/2022).

[15] Alison B. Fredericks, *Architecture for Ruins: How Building New Can Showcase the Old in Barboursville*, VA. Architecture Theses. Paper 100 (Roger Williams University, 2014), 30.

[16] https://www.archdaily.com.br/br/789837/longroivas-hotel-and-thermal-spa-luis-rebelo-de-andrade?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects (visited 10/01/2022).

[17]Fabiola G. Safonte, Claudio Bellia and Pietro Columba, *Commoning of territorial heritage and tools of participated sustainability for the production and enhancement of agro-environmental public goods* (Agricultural and Food Economics, 2021).

[18] Matteo Clemente, *Re-design dello spazio pubblico* (Milano : FrancoAngeli, 2017), 48.

[19] https://mcdonoughpartners.com/projects/agro-food-park/ (accessed 19-12-2021).

[20] https://www.fibrenet.it/system/sistema-reticola/ (accessed 19-12-2021).

[21] https://www.fibrenet.it/system/betontex-4/ (accessed 19-12-2021).

BIBLIOGRAPHY

Carioti, Antonino. *Notizie storiche della città di Scicli* (Scicli : Comune, stampa, 1994), vol. 2, 512.

Carneiro, Maria Joao, Lima Joana, Lavrador Ana, *Landscape and the rural tourism experience:* identifying *key elements, addressing potetial and implications for the future*. In *Journal of Sustainable Tourism*, Abingdon: Routledge, 2015, volume 23.

Ciancicotto Luke, *Public Space, Common Space and the space in-between. A case study of* Philadelphia's *LOVE Park*. City & Community, Wiley Online Library, 2019.

Clemente, Matteo, *Re-design dello spazio pubblico* (Milano : FrancoAngeli, 2017).

Cucinotta, Salvatore, *Popolo e Clero in Sicilia nella dialettica Socio-Religiosa fra cinque-seicento* (Messina : Edizioni storiche siciliane, 1986).

Fredericks, Alison B., *Architecture for Ruins: How Building New Can Showcase the Old in Barboursville*, VA. Architecture Theses. Paper 100 (Roger Williams University, 2014).

Fichera, Filadelfo, *Risanamento di Scicli: Relazioni ai progetti definitivi, compilati per incarico di s. E. Il Ministro dell'Interno* (Catania : Niccolò Giannotta Edit., 1889), cap. 1.

Hill, Jonathan. *Architecture for Ruins. Design on the past, present and future* (Routledge, Taylor & Francis Group, 2019).

https://www.archdaily.com.br/br/969364/reabilitacao-do-centro-urbano-de-ruesta-sebastian-arquitectos?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects (accessed 18/01/2022).

https://www.archdaily.com.br/br/784946/restauro-castelo-de-baena-jose-manuel-lopez-osorio?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects (accessed 18/01/2022).

https://www.archdaily.com.br/br/966259/convento-saint-francois-amelia-tavella-architectes?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects (accessed 18/01/2022).

https://www.archdaily.com.br/br/789837/longroivas-hotel-and-thermal-spa-luis-rebelo-de-andrade?ad_source=search&ad_medium=projects_tab&ad_source=search&ad_medium=search_result_projects (accessed 10/01/2022).

https://mcdonoughpartners.com/projects/agro-food-park/ (accessed 19-12-2021).

https://www.fibrenet.it/system/sistema-reticola/ (accessed 19-12-2021).

https://www.fibrenet.it/system/betontex-4/ (accessed 19-12-2021).

Jakob Michael, *Il paesaggio*, (Bologna : Il Mulino-Universale Paperbacks, 2009).

Pacetto, Giovanni, *Memorie istoriche civili ed ecclesiastiche della città di Scicli* (Rosolini : edizioni Santocono, 2009).

Ralph, Edward, *Place and place lessness* (London : Pion, 1976).

Safonte, G. Fabiola, Bellia C.laudio and Columba, Pietro, *Commoning of territorial heritage and tools of participated sustainability for the production and enhancement of agro-environmental public goods* (Agricultural and Food Economics, 2021).

Seifi, Siamak, Hall Michael C. & Rasoolimanesh Mostafa, *Exploring memorable cultural tourism experiences*. (Journal of Heritage Tourism, 2020), vol. 15, issue 3, 341-357.

Simmel, Georg, *Die Ruine*, 1907, in Simmel G., *Saggi sul paesaggio*, trad. di M. Sassanelli, (Roma: Armando, 2006).

Wilczek Iwona, *The layers of history: new architecture interventions in castle ruins*. (Frontiers of Architectural Research, Higher Educational Press, 2021) vol. 10, issue 2, 351-368.

.

AMPS PROCEEDINGS SERIES 27

.

Front cover image: Nagawara KshitizBathwal

AMPS, College of Architecture, Dayananda Sagar Institutions
Virtual & Bangalore: 23-25 March, 2022