A systemic approach for the restoration project: the church of St. Anna in Piazza Armerina (EN)
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1. Introduction
Considering a restoration project as a simple architecture plan is a limit; given the complexity of the methodological process, a rigorous analytical phase is required that includes systemic logics. Restoration implies a preliminary choice, an assignment of value, an acknowledgment, i.e. a cognitive operation that is itself restoration. Acknowledgment means not only a critical attribution of value, but also an understanding of the many-fold links and potential relationships between an object and its building context.
Refurbishment of a historical building, if it certainly triggers processes of transformation, at the same time it generates the conditions for its maintenance and initiates processes of urban regeneration, favouring cultural, economic and social interests. Conservation is therefore «not an obstacle to transformation but must be considered respectful toward the potentiality of development of cultural heritage» [Della Torre S., 2006, p 65]. Thus, the restoration plan should consider not only the conservative action of the material (repository of authenticity), but also a choice of usage that implies correct regenerative actions for both the building object and its urban environment.
The church of St. Anna, located in the historical centre of Piazza Armerina, constitutes a complex case study that requires high accuracy in the evaluation of problems and opportunity. The monument, despite being the expression of the local baroque, has been left in a state of decay and unused. In the 70s, the church was studied by the architect Franco Minissi (1919-1996), who proposed an interesting design to give the right dignity back to the building and its context. Unfortunately, such an opportunity was not taken advantage of by the local authorities and the church is now still in a serious state of degradation and abandonment.
Our paper proposes the application of a systemic approach toward project choices that, due to the peculiar conditions of the object of study, are not easily found without a rigorous multi-sector and multi-scale analysis. The compatibility of a usage destination, as well as all necessary transformations to reach it, depend on variables that are determined by single cognitive processes (i.e. not arbitrarily but with critical judgement). The operative choices necessary to the project must spring from a rigorous scientific process developed through a systemic logic where each element is analyzed both singularly and in relationship with the others. The result of this study has produced a solution that has allowed an integrated merging of all previously evaluated and analysed opportunities. Re-usage as an auditorium, maintaining the superfetation made of reinforced concrete, a modern rebuilding of the vault of 18th century, the rethinking of external spaces and their relationship with the historical centre, architectural
and urban regeneration, are the elements which, brought to the system, have led to the final result: the restoration project.

2. Methodological aspects
The study on the church of St. Anna and on the adjacent ex monastery was divided, according to a systemic approach, in a sequence of three macrophases, characterised by the continuous validation of choices made within different disciplinary apparatuses: cognitive, analytical and design. The cognitive process has regarded both the urban context (the origin and historical development of Piazza Armerina and of the pertinent fabric of the church of St. Anna) and the historical building (diachronic analysis of constructive story and geometric, formal and technological knowledge, analysis of decay). The analytical phase has allowed us to identify problematic aspects and opportunities, using the SWOT analysis\(^1\), relating to the superfetations and the non-traditional added structures. Finally the design choices have been developed both on building and urban scale, respecting the need to conserve historical and material, spatial and composition values of what already exists, of the environmental and economic sustainability, the flexibility of its use and the reversibility of the interventions.

2.1. Objectives

2.1.1. Conservation and valorisation of the building
The main objective of the project is the restoration and valorisation of the church of St. Anna, which is in a state of decay, inert, abandoned by a society that today seems indifferent and impervious to cultural values. Therefore, the identification of a new intended use which at the same time valorises the building and also triggers a mechanism for revitalization of its urban context, appears indispensable. The construction of an auditorium, could simultaneously
sly satisfy both the aims of the project (exploitation of the asset and urban regeneration); in fact, the transformation of the church in a hall for auditions, rehearsals and concerts may also be an opportunity for the city of Piazza Armerina, which is currently suffering from the lack of services for entertainment and cultural activities. The centralized space, wide and fluid is particularly suitable for the installation of all the equipment, shields and filters required for acoustic requirements. These in fact, can be installed without interfering with the existing structure, fully respecting its formal and material integrity and preserving its memory.
The service areas, connective, vertical connections and so on are part of the project actions (and non-conservative) provided within the operation of restoration. Therefore it was the only language used in the case of a possible dialogue with the existing structures: the contemporary one, naturally by making the functional requirements subordinated to those of reversibility, using, accordingly, materials and structures that do not interfere with the correct perception of its pre-existence.

2.1.2. The urban regeneration
The restoration also involves the area of the annexed ex monastery (now the location of the department of Medicine of the Università di Messina) and of the adjacent urban context. The objective of the project on an urban scale is that of creating a filter space that connects the new auditorium to the city. Such spaces that today are completely deprived of composition coherence and urban identity, will be made recognisable through the reinterpretation and subsequent reconstruction of the traces of their preexistence: from inert and unorganised space to a place rich in historical contents through the recovery of identity and memory.

2.3. Structural consolidations of the 50's and 70's. Intervention and liberation or maintenance. SWOT analysis to determine a conscious choice
One of the most delicate problems of the project was the choice of whether to demolish or clear the church of St. Anna of the structures in reinforced concrete that were built between the 50’s and 80’s. These elements are completely unrelated to the type of construction of the original church and are incompatible with the materials and with the static balance of the building. They also, as has long been disclosed in scientific literature, are risk factors in the event of an earthquake. Nevertheless, although in the recent past tremors have oc
curred even of an important intensity\textsuperscript{2}, from the investigations carried out at an early stage, it was found that neither the coverage nor the floors produced any disruption on the original walls. It is also necessary to consider issues related to the sustainability and invasiveness of any interventions. The demolition of these structures is in fact not simple nor cheap: part of the existing building would be severely compromised\textsuperscript{3}. The choice, which involves static-structural, environmental, economic and cultural factors was made through the SWOT analysis, that is creating a system with the various elements involved and analyzing each one’s strengths, weaknesses, opportunities and threats.

3. The church of St. Anna in Piazza Armerina

3.1. The history

Piazza Armerina is a city which was founded in the Middle Ages, whose city plan dating back to 1163, reflects the shape of the colonies at the time, with rectangular blocks arranged at right angles to the main streets, like a slot-in system.

The church of S. Anna and its monastery, located in a historical downtown area where the original medieval fabric was completely transformed between the seventeenth and eighteenth century. The Monastery was built in 1585 by Pietro Calascibetta, of the barons of Cutomino, and thereafter at the end of the sixteenth century, Geronima Rivarola, of the barons of Rafforusso, financed the work to transform the oratory in the church, the latter opened on 24 July 1745\textsuperscript{4}. One might suppose that Rosario Gagliardi (1698-1762), active at that time in Piazza Armerina, and in particular in the yard of the church of St. Crocifisso\textsuperscript{5}, may have been present in the construction of the church [Germanò, 1986, p.58]\textsuperscript{6}, but documents that confirm this hypothesis have not been found. The religious complex was opened for worship until 1897, after which it was used as a primary school and club for veterans of war. In 1935 part of the roof collapsed and the building was finally closed declining in a serious state of decay. Only in 1966 did the first campaign of refurbishment begin: the now
crumbling lowered vault was demolished and a new octagonal roof, made with reinforced concrete and connected to the masonry with a reinforced concrete beam, was built. But the work was suspended in the same year and never completed.

In 1972 the architect Franco Minissi was commissioned for the reuse of the church, as an auditorium and conference room, and the monastery as a museum. He proposed the restoration of the demolished vault, but decided to maintain the structure’s roof of reinforced concrete that had been recently built. He also designed the museum offering modern materials to create a playful contrast between the new and the existing. But the project was rejected by the Superintendency of Monuments for western Sicily in Palermo for “the use of shapes and materials foreign to the culture and tradition of Piazza Armerina”\(^7\). In 1982, the restoration work for the transformation the church as an auditorium began anyway, and the floors were made in correspondence to the galleries of the first and second order\(^8\), with prestressed beams, connected to the existing masonry with a concrete perimeter beam. But the work was never completed and the church is still in a pitiful state of neglect. Even the portion of the building, which once housed the monastery, has suffered collapses over the years and changes up to the current configuration. Now it is completely unrecognizable and separated from the church. Since 2000, it has been home to the Department of Nursing of the University of Messina.

### 3.2. Description of the building

St. Anne’s Church is the only example of this centrally-planned church in Piazza Armerina. The main front has a scenographic and sinuous style where paired pilasters in local limestone, mark the transition from the convex to concave surface. The interior is divided into three orders. Minissi\(^9\), analysing the few remaining traces of the pendentive, suggested that central vault that was demolished was non-load bearing, with lunettes, elliptical and very lowered. The masonry are of mixed type with the outer side in brick and stone and the core is in shapeless sandstone, while the inner face is made up of roughly-hewn blocks of local sandstone. The walls of the side fronts are formed, instead, by an outer layer of hewn sandstone ashlars and an inner layer of shapeless stones.

Inside, what remains of the original frescoes are only fragments, as well as of the marble and the altars; the original plaster and stucco have been completely demolished. The outside façades only suffer from decay determined by the interaction between the building and the environment and by the complete lack of maintenance.

### 3.3. Description of the project

#### 3.3.1. The urban scale

The area behind the church is currently configured as a large empty space without a well-defined appearance with several architectural elements - almost dissonant - that give the area a certain ambiguity. The new square was designed as a space-filter between the church and monastery and the historical centre. The spatiality of the monastic cloister, no longer perceptible because
of the layers and transformations that have occurred over the centuries, is evoked through certain signs on the pavement, and the arrangement of the green areas. A series of “plates” raised and embedded from and in the ground are connected to each other via a path that defines a new balance between the different places in stop areas, walkways and entrances.

3.3.2. The building scale
The project for the auditorium includes, on the first level, 150 seats in the hall of the church, a hall, foyer/bar, beer garden, dressing rooms, cloakroom and utility and services rooms, while the second level consists of a promenade with thematic areas for cultural insights and a small newspaper library. New elements, in compliance with the pre-existing and stratifications, were clearly “aloofness” [Carbonara G., 2011] from the existing elements but at the same
time constitute the interpretations of space and history of the building. A new vault recovers the spatiality of the original church. It is built in simple wooden slats, set without gravity and in total independence from the eighteenth-century structures, at the height of the supports of the dome of the preexisting apse. It, via steel cables, is connected to the beams of the reinforced concrete roof. This lightweight wooden element, formed by the close succession of subtle lights and shadows, filters the light and, at the same time hides the octagonal roof. It also shapes the volume of the room acoustic options depending on the needs. The acoustic panels mounted on the apse on three steel self-supporting profiles, can be arranged with different inclinations and different heights (through a system of pulleys and cables placed on the existing beams in reinforced concrete), depending on the acoustic and scenic needs.

4. Considerations
The complexity of a preliminary analysis of the restoration project of an architectural asset requires an organisation of the available data. There are almost always several alternatives that are not easy. The critical judgement should be consciously guided not only by scientific data deduced by the preliminary investigations, but also by their systematisation and evaluation. Therefore, like in company policies for management and planning, even in the field of Cultural Heritage on an urban scale and on an architectural scale, the methodological rigor of the assessment of opportunities and threats, strengths and weaknesses of the factors involved could be of great use.
In conclusion, the hypothesis of re-use, the maintenance of reinforced concrete superfetations, the modern reconstruction of the eighteenth century vault, the resolution of the outdoors and their intertwining with the historical city, the architectural and urban regeneration, resulted from a systemic approach that with the help of SWOT analysis, led to the drafting of a conscious restoration project.

Notes
1 SWOT analysis (Strengths Weaknesses Opportunities Threats) and the systemic approach are a logical type of procedure that was created as an assessment tool of business economics, but it is now widespread even for the strategies tied to both the urban and territorial planning and the management of cultural heritage (archeological sites, museum networks, highly cultural contexts, etc.). This allows us to systematise and make the gathered information usable on a specific topic giving fundamental information to define the intervention plan.
2 On December 13, 1990, a strong earthquake was verified to have originated from eastern Sicily, damaging a large portion of the architectural patrimony.
3 The complexity of the problem extends to the majority of the existing architectural heritage, which for purely historical-cultural reasons, was made stronger with the help of the only possible tool for seismic retrofitting between the 50’s and 80’s: reinforced concrete.
4 Minissi F., Aspetti dell’architettura religiosa del Settecento in Sicilia, Roma, Danesi, 1950.
5 «…iniziò la costruzione del sontuoso tempio che con gran pompa veniva inaugurato il 25 marzo 1785», Cf Minissi F., ibidem, p.18.
6 The structure of the Church recalls the studies of Gagliardi on the central structure, Cf Pianta studio D di Di Blasi L., Genovesi F., Rosario Gagliardi, Catania, 1972, tav.XXV.
7 Superintendent’s Archive BB.CC.AA. (architectonic section) of the province of Enna.
8 Cf Technical Office Archive of the municipality of Piazza Armerina.
9 Minissi F., w.cit.

References
Bardeschi M. D., 2005, Restauro: punto e da capo: frammenti per una (impossibile) teoria, F. Angeli, Milano.
Di Blasi L., Genovesi F., 1972, Rosario Gagliardi, Catania.
Minissi F, 1950, Aspetti dell’architettura religiosa del Settecento in Sicilia, Danesi, Roma.