

## ABSTRACTS

### Altars of the 18th century in Catania. History, survey and representation of three case studies

Alessia Garozzo

In the first half of the eighteenth century a particular type of double order Baroque altar with a pyramid scheme was established in Catania. It is an architectural organism with its own space, in which the specialization of art is represented in all its forms. Painting, sculpture, architecture and scenography converge in them, therefore the organization of the worksite is a fundamental aspect of the creation of these works of art. Different personalities alternated in them, orbiting around important architects or sculptors. With the survey of these altars it was decided to combine the analysis of historical events with a formal analysis. The direct and instrumental survey has the purpose of producing a two-dimensional graphic document that allows you to read the logical and formal structure of the object, observe it from multiple points of view, break it down into its essential parts, analyzing the individual characteristics.

*Keywords: altar, Catania, survey, late Baroque, representation*

### The façade and the side of the church of Santa Maria la Croce in Regalbuto

Marco Rosario Nobile, Gabriele Vassallo

Today's appearance of the church of Maria Santissima la Croce in Regalbuto is the result of interventions carried during the last 300 years. The 19th century's plaster decorations of the interiors hide the original structure of the 16th-century church. One of the "antiqui-

ties remainings" survived on the red carved stone arch upon the main apse. The study reveals that the model of the façade, completed in 1774, is the arch of Triumph for Porta dei Greci in Palermo, designed in 1735 by Nicolò Palma and known today thanks to an engraving by Antonino Bova. A document in the archive of the church of San Basilio demonstrates the process of the side façade design, which required reinforcement at the beginning of the 19th century. The graphic renditions show that the previous version of the project presented arches that would have shaped the sidewall, which is now scanned by square Tuscan columns.

*Keywords: sicilian baroque architecture, sicilian renaissance, Regalbuto, archival survey.*

### Graphic reconstruction of the historical phases of a stone wreck

Eleonora Di Mauro

Representations of architecture are the result of their time, the available technology and the sensitivity of the author. Applying this consideration to a group of images from different epochs, we obtain a mosaic made up of various partial points of view which can, however, if analysed as a whole, provide a broader picture within which, here, we attempt to set up a critical analysis from a graphic point of view.

The object of the research is a maritime fort in south-eastern Sicily, Fort Avalos at Augusta. The study starts from two extremes, consisting on the one hand of historical iconography and on the other of the survey. From the critical analysis of the images, we have hypothesised the possible diachronic development of the fort organised by significant episodes in its history.

*Keywords: representation, survey, Fort Avalos, military architecture*

### Methods for virtual reconstruction and visualization of lost architectures

Fabrizio Agnello, Mirco Cannella

The paper proposes a historic survey and a discussion on digital methods and techniques for the reconstruction and the visualization of lost buildings and urban scenarios.

The first part illustrates how perspective restitution can effectively support the 3D reconstruction of buildings that were documented in period photos before being destroyed by natural or human driven events.

The second part discusses the evolution of the visualization of far away or exotic scenarios with panoramas paintings displayed in circular buildings named 'rotundas'. These buildings lead the visitors into a virtual immersive scene and therefore they can be considered the forerunners of the digital solutions for the visualization of buildings and scenarios that no longer exist.

The final section illustrates the peculiar features of three different solutions for the visualization of virtual reconstructions: i) Panoramic images; ii) Augmented reality; iii) Motion tracking.

*Keywords: Virtual reconstruction; Perspective restitution; Panoramic Images; Augmented Reality; Motion tracking.*

### From Photos to Reconstruction: Porta Maqueda in Palermo

Fabrizio Agnello, Laura Barrale

Many buildings and monuments destroyed after the second half of the 19th century are documented by few, sometimes a single, period photos. When the image displays one or more physical

elements that survived changes or destruction, perspective restitution can provide both the 3D reconstruction of the lost buildings and their placement in the present urban context.

The case study is Porta Maqueda, one of the urban gates of the historic centre of Palermo, destroyed in 1877 along of the construction of the Massimo theatre.

Porta Maqueda is displayed in a couple of period photos where some extant architectural elements, the column of a building and the basement of the theatre under construction, appear.

These elements, surveyed with laser scanning methods, provided the reference to scale and orient the perspective models and, at the same time, to calculate the position of the photographer. The 3D reconstruction model of Porta Maqueda was finally placed in its original urban context.

*Keywords: Perspective restitution; Porta Maqueda; 3D Reconstruction; Period photos; Massimo theatre.--*

## **Discover the shape and history of the Tower of Fuonti**

Sara Morena

The defensive system of the Amalfi Coast represents a testimony of our past, to be known, preserved and protected, a heritage to be treasured and passed on. Despite the great importance and value, some towers have been abandoned because over the years becoming unfit for the use and obsolete. The role of virtual reconstruction, in this regard, is particularly important because it supports the valorization of the heritage, the knowledge of the territory and the dissemination of the culture of our country.

The contribution is a part of a wider study aimed at the divulgation of the defensive system of the Amalfi Coast. The paper focuses on a tower named Torre della Punta di Fuenti (di Fuonti or Santa Maria della Catena); unfortunately lost today, which was in the province of Salerno. The study aims at retracing some important phases of the tower, and

at showing, even if virtually, the transformations undergone by the building over time.

*Keywords: Amalfi Coast, Defensive system, Heritage, Reconstruction, 3D model*

## **The Project for a cathedral church by Giuseppe Damiani Almeyda. Analysis of the documentary sources and conjectural reconstruction**

Fabrizio Avella

The subject of this study concerns the Project for a cathedral church, by Giuseppe Damiani Almeyda, awarded with a 1st class gold medal at the 1856 Palermo Fine Arts Exhibition.

The analysis of the documents of the archival unit, preserved in the Damiani Archives in Palermo, made it possible to verify the available data and carry out the conjectural reconstruction.

The representation of the model obtained from the archive drawings, in addition to addressing analytical aspects, has made it possible to make some plan views in elevation and section, originally absent, and axonometric and perspective views, which allow you to appreciate the volumes and spaces of this early but already mature work by Damiani.

The digital representation take into account the techniques of the original drawings which, thanks to watercolor glazes, make visible the material aspects of the work and the decorative apparatus of the wall paintings.

*Keywords: Giuseppe Damiani Almeyda, archive drawings, conjectural reconstruction, rendering techniques.*

## **Formation and transformation of an urban image. Architectural reconstructions between the axis of via Notarbartolo and the secon section of via Libertà**

Gian Marco Girgenti, Antonino Alessio

The contribution presented here is part of a work-in-progress project, which has as its

focus the "extra-moenia" urban transformations suffered by the city of Palermo after World War II, with the aim of cataloging, reconstructing and restoring the remarkable heritage - lost in the years of the economic boom and building speculation - in three-dimensional virtual images.

The analysis is part of the urban context affected by the extension of via Libertà starting from the intersection with via Notarbartolo, the transversal directional axis conceived in the Giarrusso Plan of 1887 as a connection to the Shipyards and built starting from the subdivisions of Villa Carini in the years 1891-1902. This, constituting the natural continuation of an urban project begun with the subdivisions of the first section of via Libertà and substantially centered on the idea of a garden-district, has unfortunately seen its original structure modified and upset in the image of a modern residential "city", losing the balance of the original design.

*Keywords: urban analysis, 3D reconstructions, 3D printing for a "City Museum", catalog of lost "Art Nouveau" Architectures.*

## **"Star towers" in Ina Casa neighborhoods in Italy (1949-63). The influence of Scandinavian architecture**

Antonella Armetta

*Ina Casa Plan* (1949-1963) introduced in Italy - following the example of the Anglo-Saxon and Scandinavian experiences - the settlement model of the neighborhood, a new collective dimension of residence for the small community, with a domestic character, which extends from the house to the surroundings, in the unity of neighborhood.

The neighborhoods built in Italy by *Ina Casa* are characterized by a deliberate typological variety, aimed at enlivening the views and spaces around the neighborhood itself.

The building types vary from isolated houses

to continuous ones to terraced ones, to tower types, both square and with innovative solutions called “star towers” or clover towers or “Y towers” which derives from mainly scandinavian and northern European models and conquers its peak in the work of Sven Backström and Leif Reinius. In this article we present only a few examples of Italian neighborhoods where, with different declinations, the star towers have been used: *Valco San Paolo*, *Tiburtino*, *Tuscolano* and *Ponte Mammolo* in Rome, *via Forcellini* in Padua, *Quartiere delle Rose* and *Tasca Lanza* in Palermo, *Is Mirionis* in Cagliari, and *Novalucello* in Catania.  
 Keywords: *Ina Casa Plan*, *reconstruction*, *scandinavian New Empirism*, *Star Towers*, *neighborhoods architecture*.

### **Rebuild: document/digital/ virtual.**

#### **Villa Deliella**

Manuela Milone

We are in the era of handheld devices and tablet computers, of LEDs and multi-touch systems, the triumph of information technology. The challenge is to make the virtual interactive to achieve total immersion in augmented real scenes. Stereoscopic displays now allow real-time explorations of architectural scenes, useful for showing additional elements of real scenes, allowing the enhancement and use of the represented assets. In an attempt to propose an applicative research of these technologies, it has been tried to experiment it on a

narrow field of investigation. The House was a symbolic work of Liberty in *Palermo*, designed by the famous architect *Ernesto Basile* and located in *Piazza Croci* until the end of the 1950s. It was one of the most suggestive corners of *via Libertà*; it was destroyed during the 1960s, due to the provision of a master plan that would have allowed, the intensive use of the area.

The reconstruction of a three-dimensional virtual model and the use of augmented reality will allow tourists or anyone who wants to get to know an architecture that no longer exists and a glimpse of the city of the past.

Keywords: *Deliella*, *model*, *augmented reality*, *Basile*