



POLITECNICO
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Honors thesis

COURSE OF MASTER'S DEGREE IN ARCHITECTURE
FOR SUSTAINABLE DESIGN

Abstract

**The Guarini's vaults in the Appartamento di Mezzanotte in
Palazzo Carignano.**

Autograph drawings, survey and digital interpretation.

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The research topic of the present study means to be part of the experimental drawing. Through the use of digital modeling integrated with photomodelling, we want to explore the creative work of Guarino Guarini in three-dimensional spaces.

The exploratory part is accompanied by a critical-speculative way through the analysis of the original drawings and the constituent elements, in order to try to unveil the rules and principles that allowed the author to become a key figure in the Italian and French architectural scenery, between different cultures and knowledge.

The project analysed is 'Palazzo Carignano' in Turin, one of the works of Guarini who has a large number of drawings attributed to the architect, but also various works attributable by his collaborators. The wide material available allows the delimitation to a specific theme, the 'Appartamento di Mezzanotte' on the ground floor of the 'Palazzo', so as to deepen it exhaustively and, even in graphic field, clarify as many elements as possible of the genesis of the Guarini's spaces.

The study starts with the observation of the relationship between representation and "view" in the seventeenth century, reporting the dynamic character of the point of view that affects the representations and experiments related to the viewpoint science of that historical period.

The following step is the study of the Guarini's vaults structures, identifying and analysing that series of recurring compositional operations in the architect's creations.

The work steps who accompanied this analysis, started with a phase of direct survey integrated with a photographic campaign for obtaining a three-dimensional model resulting from a photomodelling process.

Applying photomodelling to the 3D building reconstruction forces the user to make a concentration interpretation that necessarily coincides with the understanding of the architectural forms that compose it, so the initial studies necessary to grasp the creative complexity of the Guarini's thought.

The three-dimensional model developed with the help of photomodelling becomes the support on which to place the geometry studies of the turned Guarini's buildings. The two-dimensional results of the integration work between the two types of survey are accompanied, which become the basis for future speculations that can be carried out with studies of other fields, like artistic and scientific studies.

The three-dimensional interpretation of the intradosal surfaces of the apartment vaults, analyzed in their geometric components by applying the Guarini studies, are finally associated with their 'real' model realized through photomodelling.

The work is related as a meeting point between techniques of different eras, a critical filter between the discipline of representation and the history of architecture, with the awareness that this theme is breeding ground through different techniques and studies for subsequent investigations.



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