Chapter 21

A Virtual Journey through 2D and 3D Elaborations Recorded with Range-Based and Image-Based Method: The Experience of Vitelleschi Palace in Tarquinia

Mariella La Mantia
La Sapienza, Università di Roma, Italy

ABSTRACT

The aim of this study is to define a virtual journey into the vast repertoire of images and representations realized as a result of the measuring operations of the Vitelleschi Palace. The chapter will provide detailed informations about the history of the Palace, together with a deep investigation of its building phases, conducted through both the analysis of historical graphic documentation and the performing of a new architectural survey. The field of architectural survey, in recent decades, has undergone profound transformations made possible by the introduction and establishment of new instruments that have sped up the acquisition times and increased the amount of data collected with a high automation of measuring operations. The centuries-old building, product of many stratifications that occurred over time, are the examples that best of all offer themselves to these procedures of investigation. In this sense, the Vitelleschi Palace, authentic architectural masterpiece whose facades witness the period of transition between different architectural addresses, is a landmark case.

INTRODUCTION

The field of architectural survey, in recent decades, has undergone profound transformations made possible by the introduction and subsequent establishment of new instruments that have sped up the acquisition times and increased the amount of data collected with a high automation of measuring operations. The protagonists of this “revolu-
A Virtual Journey through 2D and 3D Elaborations

The centuries-old building and urban episodes, that are the product of many stratifications and subsequent interventions that occurred over time, often operated with different criteria and construction techniques, are the examples that best of all offer themselves to these procedures of investigation, now well established, but however still defined innovative, that imply the use of digital devices; the geometric complexity and large size of these architectural episodes are undoubtedly among the factors that almost always argue in favor of the adoption of these detection techniques.

In this sense, the Vitelleschi Palace in Tarquinia, authentic architectural masterpiece whose facades witness the period of transition between different architectural addresses, is a landmark case. The exceptional features of its construction and its stylistic connotations make the building a rare architectural episode: consisting of elements belonging to existing buildings that have been over the years incorporated and then changed up to the present geometric and spatial configuration, it played, over time, a role of great importance for the whole region, since its creation, wanted to magnify the power of the Vitelleschi family, then as temporary residence of some pontiffs, to get to this day with the current intended use as the home of the Etruscan Museum.

The aim of this study is to define a virtual journey into the vast repertoire of images and representations realized as a result of the measuring operations of the Vitelleschi Palace, a rich information asset that is extremely useful to the disclosure as well as the knowledge of this remarkable architectural episode.

BACKGROUND

Due to the increasing use of the new digital integrated techniques of survey, quantity and speed have therefore become the parameters of comparison and qualitative assessment, in terms of reliability and accuracy, as well as of discernment in the use of the most appropriate application technologies of detection, according to a requirement of possession that is typical of the current society which is that to have more data in less time, using the time saved to obtain other data in increasing amounts, in a process without continuity solutions. The ease of data acquisition with these instruments, which does not require special operating tricks or specific experience in the field by the operator, in the common sense leads to neglect the possible complications that executing operations in an uncritical mode, or otherwise not filtered by a significant experience, may imply, starting from the quite frequent collection of a huge amount of redundant data so as to make it extremely complex and burdensome to be managed and archived.

To this must be added, and we’ll talk about it later, the basic misunderstanding for which the measurement produced is often equated with knowledge and critical interpretation of the investigated episode. And it’s no doubt that the quality and reliability of the results of a survey do not depend on the numerical amount of measuring data acquired, but on the critical and selected picking of data from this set, which is strictly functional to the objective of the survey, to the availability of human and instrumental available resources, as well as to the geometrical and spatial characteristics of the investigated episode. The now widespread use of these technologies makes it possible to respond effectively to difficult to manage situations that require to operate quickly and on episodes sometimes located in areas not physically accessible.

Besides the already mentioned positive aspects, related to the speed of acquisition and to opera-