Chapter 14

Caramuel’s “Architectura Obliqua”: Investigating an Ancient Treatise in the Digital Age

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ABSTRACT

The content of this chapter comes from a wider research, investigating a controversial architectural treatise titled “Architectura Civil Recta y Obliqua”. It was written in the late XVII century by the polygraph and mathematician Juan Caramuel de Lobkowitz, and it is often mentioned by historians in relation with the cultural debate around an illustrious project: Bernini’s Vatican colonnade. However, the theoretical apparatus behind the “invention” of oblique architecture – certainly the most original part of the treatise – is more complex, and it is thought to sink its roots in the rising Science of Representation. The book has been subject of a renewed academic interest in the recent past. Nevertheless, a systematic study that efficiently related the treatise, the complex personality of its author and the scientific and cultural background of XVII century is still missing.

INTRODUCTION

The investigation of the unusual theme of oblique architecture originates from the encounter – almost fortuitous – with an architecture treatise coming from Spain, more exactly from the Valencia area. The work is titled Escuela de Arquitectura Civil, and its author, the Spanish Jesuit Agustín Zaragozà, was known under the anagrammatic pseudonym of Athanasio Genaro Brizguz y Bru. The book, dating back to 1737, came into my hands thanks to the generosity of a friend, who gave it to me to investigate its origin and its content. My curiosity was soon attracted by the unique structure of the work: after a first
section, in which various problems of euclidean geometry are analyzed, the discussion focuses on the main theme of civil architecture, clearly divided into two parts: recta and obliqua.

The work as a whole appears to be a handbook for master builders, with a huge variety of repertory solutions, but the section devoted to the oblique figures struck for its originality and for the stunning engravings. The same Zaragozá, mentions his intellectual debt towards the theory of Architectura Obliqua from Father Caramuel, and frequently refers to the consultation of his work.

A comparative study on Valencian treatises of the same period has shown how this theory had taken root, quickly and with great effect, throughout Spain. This happened only a few years after the first edition of the Architectura Civil Recta y Obliqua, published in Vigevano in 1678. It sounds singular, since Caramuel, trained and ordained as a priest at the Cistercian order, left Spain at the age of thirty, never to return. Ever since, his intellectual activity had an international imprint, strongly oriented towards Rome and the Vatican.

In short, the interest in the oblique architecture derives from the perception of its innovative power, apparently tied to the issues of Science of Representation, and from the desire to investigate systematically, and with contemporary instruments, a work that until now has been the subject of partial analysis, and of many misunderstandings. Caramuel’s Architectura Obliqua is actually the only architectural theory ascribed to the Baroque period: it is de facto an expression of a formal research, that proceeds in parallel with the scientific advance in the field of geometry. It legitimates the ones that the same Caramuel defines ‘intellectual oddities’, elevating them to the status of a new architecture.

Consequently, the aim of the research is to clarify the contributions that Caramuel had drawn from mathematical and geometric studies of his time, in some sort of ‘anastylosis’ of caramuelian science that allows a rigorous interpretation of his ‘curious’ imaginary architectures. A direct reading of the work through its drawings is therefore indispensable, searching for reliable data that allow us to reconstruct Caramuel’s scientific approach.

The contemporary digital drawing tools have been valuable resources, the ‘paradigm shift’ necessary to introduce a new point of view in the observation of the work. This is not only true for the engravings of the treatise, carefully redesigned with the support of textual indications (where present), but also for those sources – coeval treatises, drawings by other artists, built architectures – which form the essential substrate on which Caramuel’s theory is founded.

A representative case is the comparison between the engravings of Caramuel and those of his ‘stereotomic masters’: the study of surfaces and their projections is carried on from a purely geometrical point of view, and directly into space. The support of digital modeling simplifies the problem of understanding and controlling three-dimensional shapes and their projections, according to an extremely modern cognitive approach. In particular, mathematical representation allows representing and visualizing models continuously into space, with a dynamic observation of the subject from multiple points of view. It is therefore as a powerful investigative tool that fosters the expansion of knowledge in areas until now unexplored, going beyond the limits of traditional graphical methods. For this reason, in this study the analysis of many problems has been developed using a mathematical modeler (sometimes hybridized with a subdivision surface modeler, for representing decorative details). These tools, in a kind of virtual laboratory, allowed observing the treatise by a new point of view, finally clarifying many doubts on this controversial work.