Doctoral Thesis

Technique and formal expression in architecture theory in architectural technology from the renaissance to the age of reason

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Publication Date:
1987

Permanent Link:
https://doi.org/10.3929/ethz-a-000413499

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ABSTRACT

The thesis addresses the relationship between theory and practice in the production of architecture. Placed within an in-between condition, as determined by the dichotomy of theoretical constructs versus physical construction, the thesis is founded on the assumption that theory and practice are inherently connected and interdependent. Herein lies the intention to bridge theoretical and practical undertakings in establishing possible modes of relationship between thought and action within the making of architecture. Since architecture as an expression of human culture depends on the context of technical matters, architecture assumes a position in which thought and action converge. The interest in developing such connections represents the attempt to establish models conceived by individuals within different historical periods for the production of architecture. This framework, identified as the *structure of making* in architecture, determines possible or actual systems of relation between theory and practice. Theory, as determined by the order of conceptual thought, and practice, as made manifest by technical execution, permit to discern specific structures of interrelationship. These structures disclose the forms of correlative dependencies between thought and action and contribute to architecture in its formal manifestation.
The order inherent within the relation between theory and practice is made visible and expressed in two distinct areas of architectural production. The first is that of the specific techniques, methods and procedures engaged in the processes of making. The second is constituted by the formal expression of the architectural product. Both form and technique reflect in their relationship the dichotomy between product and process. During the course of history different emphases have been given to formal and technical considerations; Renaissance theory gave priority to form, while within the Enlightenment greater attention was given to questions of technique. Such differing positions disclose the order between thought and action as perceived within different historical periods. Form and technique physically expose the relation between theory and practice. Ultimately, the analysis of systems of relation in the production of architecture constitutes a theoretical approach towards the formulation of a theory of architectural technology.

The early modern era, defined within the field of philosophy as the phase from the Renaissance to the Age of Reason, has been chosen as the specific field of analysis. This period was marked by the gradual introduction of modern science into the system of human knowledge. This thesis stems from the development of technology as a science. Although technical activity originates from the earliest periods of human evolution, the formalization of a generalized structure for establishing a framework of technological undertaking is at base a phenomenon of the modern era. The beginning of this period, that being the sixteenth and seventeenth centuries, is
marked by an increasingly rational approach to thought which dominated science, philosophy, and human action in general. From such a perspective, technology was viewed as a body of knowledge which constituted an overall framework for the understanding of technical matters. In addressing the realm of ideas and conceptions of technology, this thesis is in essence based on the foundations of the modern era in structuring technology as a system of knowledge. Technology, in this sense, provides models of thought addressing the relation between theory and practice and is of significance for establishing an understanding of contemporary architectural technology.
TECHNIK UND FORM IN DER ARCHITEKTUR

THEORIE DER TECHNOLOGIE IN DER ARCHITEKTUR VON DER RENAISSANCE BIS ZUR AUFKLÄRUNG

KURZFASSUNG


auseinandersetzt; diese werden so von essenzieller Bedeutung für ein Verständnis der heutigen Technologie der Architektur.