INTRODUCTION

The object of this work is to explore the process of secularization, or demythification, of the concept of construction in architecture. Architectural treatises discuss construction extensively, yet its significance has been framed by the metaphysical context of *techne,* grounding a concept of "making" that conforms with the implacable and coherent system of aesthetic values and technical norms discussed in humanist discourse. Even Marc-Antoine Laugier's challenge to Vitruvius had to remain in the realm of theory: Laugier's hut could have achieved its architectonic form only by melding its normative discourse with the idea of *techne,* thus representing the homology between the realm of values and the empirical aspects of construction.

Gottfried Semper's ideas on the tectonic suggest a breach between meaning and construction. Semper radicalized the question concerning the origin of architecture to the point that the anthropocentric narrative of architecture was replaced by a discourse whose formative themes rest in four separate industries. This was an important step in breaking down the coherent totality and linear progression of humanist discourse anticipating montage: a mode of thinking and making that weakens the metaphysical context of both *techne* and the tectonic and that stresses the automization of value and experience.

The theme of construction does not occupy a formative place in current architectural discourse. Part of the reason for this is that most current theories tend to criticize some aspects of modernity and its subsequent themes and concepts, which evolved around the mid-nineteenth century. The mechanization of production and the emergence of industrial materials and techniques made it possible to read Gothic ar-

chitecture in light of Laugier's positivistic understanding of architectural production. The nineteenth century's esteem for eclectic style reflected a state of architectural thinking in which the loss of the classical language was felt to be inevitable, while no alternative was yet available. This historical delay was epitomized, for instance, by the different ways Victor Horta and Frank Furness articulated the steel column or, later, the ways in which Le Corbusier abstracted it. The gap between what was past and what was yet to appear marked a definite end to the concept of *techne,* whose classical language was already distilled, leaving room for architects to conceive form (geometry) as an expressive element.

Techne is the Greek word for technology; it means "the art of making." Martin Heidegger defines *techne* as both "poetic and revealing." In this seeming paradox, *techne* not only designates tools and fabrication; it primarily signifies their place in the world of values. This reading of the word was suggested in Vitruvius's *De Architectura.* Architecture, Vitruvius contends, achieves unity when nothing can be added to or taken away from it: thus, the three-part compositional norm carried out in every classical artifact is not only a pure aesthetic category but also a way of seeing and constructing.

Renaissance architects charged the word *techne* with connotations related to the Christian duality between divine and earthly life. Leon Battista Alberti's discourse on lineaments comes to mind in relation to this. For him, design and construction were two separate but interrelated issues: construction embodied all those technical arts needed to carry out the work, while design, or lineaments, preceded construction and embodied the correct and precise outline of the design as it was made up of lines and angles.

Alberti's distinction anticipated the contemporary schism between theory and practice; the duality of design and construction has prevailed in modern discourse as well. Yet the differences between the nineteenth-century reading of that duality and today's should be addressed. Neither John Ruskin nor Viollet-le-Duc, for example, could help but attempt to reconcile Laugier's empirical interpretation of the word "construction" with the recurrent theme of ornament or style. Ruskin's thought on the relationship between ornament and structure and Viollet-le-Duc's insistence that the appearance of a building should express its construction are in fact two different expressions of the same idea. Since that time, design has been considered the poetic expression of an ideal architecture. In order to utilize industrial materials and

techniques, nineteenth-century architects had no choice but to change their classificatory mode.

This discursive transformation is important for understanding Gottfried Semper's thought on the tectonic. There are two points in Semper's definition of the tectonic that prompt consideration of his discourse transcending humanist culture. First, in opposition to the traditional classification of architecture with the representational arts, Semper considered the tectonic to be a cosmic art, analogous to music and dance. Second, in criticizing the historicism and aestheticism of his time, Semper associated the tectonic with other constructive artifacts, primarily with four industries: ceramics, carpentry, masonry, and textiles. From this point of view, architectural production became entangled with the existential aspects of life.

The importance of montage in current architectural discourse stems from Semper's thought: the idea that the act of making a place evolved out of techniques developed in other industries. Montage is not only a mode of making shared by the production process of various cultural artifacts; it also embodies the contemporary experience of fragmentation. The mechanization of reproduction has made it impossible to transfer tradition, including the craft of architecture, without subjecting it to the process of secularization that has supplanted the Christian idea of redemption with the idea of progress. Montage permits a discourse through which it is possible to deprive the metaphysical content of the duality between construction and representation. It reveals its tectonic form in the "dis-joint," a weak form that distances sign from signifier. The gap thus opened between sign and signifier provides the thematic mode for recoding the tectonic as the construction of a purposeful space.

The essays collected in this volume explore the theme of the secularization of construction through the thoughts and work of contemporary architects sensitive to the subject. The essays are not ordered chronologically. In fact, Chapter 1 was written most recently. Other chapters were originally prepared for conferences or journals and were revised for this volume. Each chapter stands independently, but my concentration on technology, construction, and materials will be obvious. And my debt to Gianni Vattimo will be evident in my advocation of the case for secularization.

The theme of construction and its poetic implications for architecture have been my interest for many years. Intrigued by Mies van der Rohe's architecture and Semper's oeuvre, I

could not help but pursue the question of technology beyond its empirical dimension. Yet I have not directly involved myself with the matters concerning the metaphysics of technology; still, the reader will be able to follow the implications of philosophy and criticism for architecture, a subject clearly important for my own academic and professional work.

The merit of this book is implied in the title of its final chapter, "Construction of the Not Yet Construed": these essays disclose an architectural discourse that in Blochian manner is yet to come. This I believe to be the positive fruit of the nihilism of technology and the process of secularization, that is, the eternal return of the same in different formal guises. The final chapter responds to this last point by recalling Adolf Loos's position in the history of contemporary architecture. My intention is not to apotheosize him; but bearing in mind the experience of modern discourse on utopia, we might read the postmodern condition of architecture in light of Loos's anticipation of the "death" of architecture, its relegation to the tomb and monument. In fact, it is necessary to go beyond Loos, to construe the monument not as an architectonic representation of power or a "historical" event, but as the event itself: an act of construction and gathering whose architecture would be associated with the realm of values through recollection.

CHAPTER 1

MONTAGE

Recoding the Tectonic

TECHNE: THE POETICS OF CLASSICAL WISDOM

The absence of "structural utility" as a theme in the architectural discourse of classicism was caused by an ontological relationship between meaning and work. The legacy of Galileo's observations and of Cartesian doubt provided motivation for the epistemological rupture with classical thought. The implications for architecture included a positivistic concept of beauty and a new understanding of the classical order. The concept of fabrication,[1] in which the process of building became a determinant of the cultural values of the final product, was another important result. All three helped to dissolve the classical understanding of the relationship between style and construction that was signified by the word *techne*.

The last decades of the seventeenth century marked the end of the traditional guilds in Paris. They were replaced by the academies and by the institution of the Corps des Ponts et Chaussées. This was the first step toward modification of the classical discourse of architecture. Later, in 1756, the replacement of the Corps des Ponts et Chaussées with the Ecole des Ponts et Chaussées initiated the separation of the two disciplines of engineering and architecture.

These historical events had a great impact upon architectural knowledge: they confirmed the schism between mechanical and liberal arts already realized by Filipo Brunelleschi's work on the dome of Santa Maria del Fiore. Brunelleschi conceived a dome beyond the horizon of existing techniques and skills. According to Giulio Argan, "A sharp differentiation thus came about between ideative techniques – activities of thinking and translation into precise projects – and the work of execution, whose sole task was to put such plans into effect was so determined."[2] It was a sig-

nificant step toward the contemporary understanding of the separation of design from construction activity.

In line with eighteenth-century developments in the mechanical sciences, the nineteenth century's moral functionalists and their modernist successors highly valued machines and industrial achievements and conceived of architectural production as a process of design and building in which technology was the determinant. Mirroring the course of the production line, the status of architecture was either reduced to that of a utensil, as was the case in the Werkbund and Bauhaus schools, or the field was wrongly assumed by some disciples of the Russian Constructivists to be equivalent to engineering. In both approaches, "structural utility" was conceived of as instrumental. Losing their metaphoric significance, column, beam, and wall were reduced to the level of structural techniques serving expressive intentions. Indeed, technology in modern architecture is particularized by continual fluctuation between two extremes – concealment and exposure – of "structural utility." In either case, the relationship between style and construction is problematic.

In light of the current revisions to, and elaborations on, modernist thought, it could be argued that the main effort of modern architecture has been directed at freeing itself from the classical language of architecture.[3] The syntax of the classical language of architecture derives from a body of rules and principles that are in conformity with concepts of reason and divine revelation. A reading of Vitruvius's and Andrea Palladio's treatises on architecture might convince a reader that an instrumental view of structural techniques was critical to the breaking away of modernism from the architectural discourse on classicism.

One important aspect of classical thought was its ontological understanding of work. In the classical discourse of architecture, work was conceptualized as the unity of thinking and doing. Congruity between theory and practice, or thinking and doing, was of such importance to the classical knowledge of architecture that Vitruvius dedicated his first book to this subject. In *De Architectura* we read: "In all matters, but particularly in architecture, there are these two points: the thing signified, and that which gives it its significance. That which is signified is the subject of which we may be speaking; and that which gives significance is a demonstration on scientific principles."[4] This statement suggests that, in classical thought, architecture was viewed as a discipline in itself which, like other natural phenomena, possessed

a subject matter and a body of principles as its raison d'être. According to Vitruvius, an architect must be aware not only of history, which provides a rich repository of architectural typologies, but also of the physical rules governing materials. I would suggest that the Vitruvian trinity is not a theoretical abstraction on the aesthetic function of architecture. Rather, *venustas, utilitas,* and *firmitas* are the formative themes of an architectural knowledge in which style is integrated with the rules of gravity and the property of materials. In fact, they provide a conceptual means of transmuting the contingent reality of construction, elevating building into architecture. Yet the transformation of a hut into a temple does not result from a mimetic act. Vitruvius speaks of rituals, of the names of kings and localities as the mythopoetic dimension of the Greek orders.[5]

Renaissance architects read Vitruvius in light of Leon Battista Alberti's discourse in *De re aedificatoria.* It is true that Brunelleschi set down the practical side of the separation of the architect from the workman, but it was left to Alberti to formulate the theoretical ground of this historical development. In his discourse on lineaments, Alberti suggested that the "whole matter of building is composed of lineaments and structure." And he continued, the purpose of lineaments "lies in finding the correct, infallible way of joining and fitting together those lines and angles which define and enclose the surfaces of the building."[6] A distinction between structure and appearance remains problematic for Western architecture. One might see in Alberti's definition of lineaments some traits of what, later, Semper would call "clothing." Nevertheless, this kind of analogy does not convey the abstract content of Alberti's ideas on lineaments. Semper's discourse suggests that the tectonic evolves through the structural needs of a building and its clothing, while lineaments remain independent of structure and have nothing to do with materials. They also remain indifferent to purpose and form. Disregarding material and structure, lineaments become the sole content of design, "the precise and correct outline, conceived in the mind, made up of lines and angles, and perfected in the learned intellect and imagination."[7] Alberti's design for Palazzo Rucellai represents the fundamental character of his thoughts on lineaments (Figure 1). The lines separating columns from the wall, the curves of the windows' arches, and finally the horizontal and vertical bands of the facade of Palazzo Rucellai seem to be cut out of cardboard and pasted over the structure. Nothing confirms the separa-

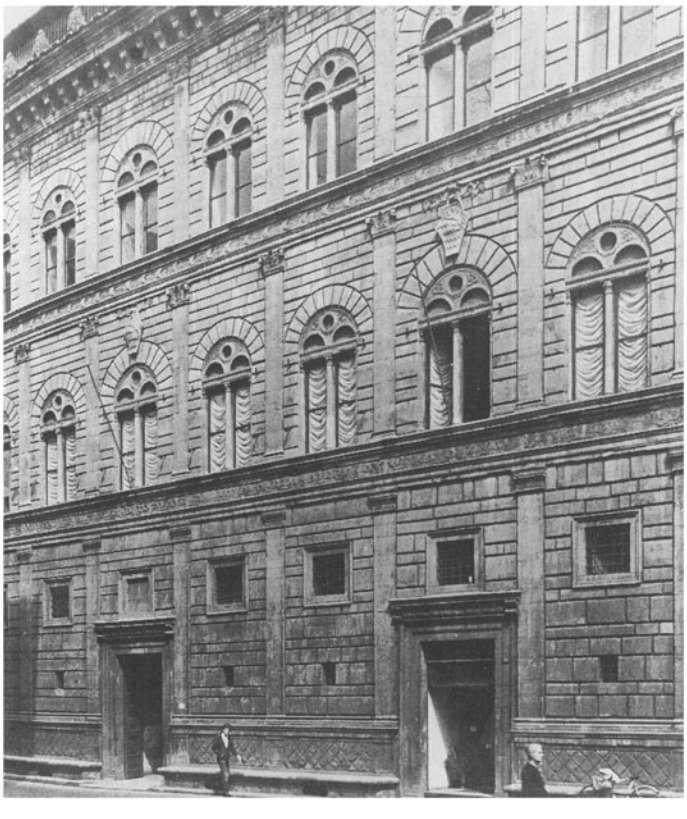

Figure 1. Leon Battista Alberti, Palazzo Rucellai, Florence, 1446–51. From Christian Norberg-Schulz, *Meaning in Western Architecture* (New York: Rizzoli International Publications, 1980).

tion of lineaments from structure better than the different articulation of the first floor of this building from the upper ones. But such an abstract concept of the difference between the lines, distracting the eye of the viewer from the structure of the building, affirms the specificity of Renaissance culture, where every artifact was seen in light of what Jean Baudrillard calls the "first-order" of simulacrum; a counterfeit in which the natural, that is, structure, lives alongside the false, that is, the appearance.[8]

The ontological duality between the body and matter could be further explored by examining the congruity of the body of Christ and the crucifix. In making this analogy, the cross, which is an important sacred symbol in Christian culture, maintains a critical place in the traditional discourse of construction. Its significance for architecture is twofold. First, it designates a space between the body and matter that could be related to the chiasm between construction and ornament. In addition to its metaphorical reference to suffering, the body of Christ may also be seen as an ornament added to the crucifix. Understanding the addition in mean-

ing that causes the figure of Christ both to symbolize suffering and to act as an ornament greatly enhances our comprehension of the process of secularization that occurred in construction. If one considers Alberti's assertion that ornament, "rather than being inherent,"[9] is a supplement that complements beauty, then it makes sense for us moderns to think of the removal of both pain and any ornamental addition to the body of the building. Such surgical intention blossoms in Adolf Loos's polemical claim that "ornament is a crime." Not only does Loos's statement disclose his dislike of Viennese Secessionist tendencies; more important, it can be read as an affirmative reflection on the general process of cultural secularization, whose genealogy could be located in the very realization of the cross itself. According to Elaine Scarry, the cross not only marks the end of the view that God is the sole maker, but initiates a total change in the construct of tools and realization of material culture.[10] I would argue that cultural demythification also marks a nihilistic discourse on construction. Here the word "nihilism" signifies the distance of civilization from the realm of the sacred, as manifested in every act of cultural production. It is a historical process of desecration through which "all that is solid melts into air."[11] But beyond the negative connotation of Karl Marx's statement, one might point out an affirmative aspect as well. Marx's writing assumes that sentience and imagination are collectively expressed in our material world:

> [On the one hand,] the "system of production" is a materialization of the imagination's own activity of "making" (just as in the older writings the Primary Artifact, God, is itself the objectification of the human power of "creating" with all the ethical requirements and complications of that power brought fully into view). On the other hand, it is an artful extension of the metabolic and genetic secrets of the human body.[12]

One might argue that we need to have second thoughts in regard to a concept of construction that, in lieu of the early process of mechanization, would take refuge in the moral values of the guild system (as did the Arts and Crafts movement) or else would invent grand narratives speculating on the redemptive forces of technology. This proposition is suggestive if we place the nihilistic aspect of the separation of design from structure and the question concerning ornament in the context of an affirmative reading of Western cultural discourse, which was stigmatized not only in Marx but in Friedrich Nietzsche as well.

The second import of the cross is its typological connotation. Renaissance cultural discourse was not in a position to see this implication of the cross. How is it possible to depart from the realm of the sacred if culture is understood within the metaphysics of resemblance? Even the Renaissance reinterpretation of Virtruvius's ideal man would not have been possible without imposing the idea of "the procreator of square, circles and the like, and the hermetic model and source of architectural form."[13] One can trace the formal expression of the cross in the Renaissance obsession with the interplay of the circle and the square, finding its architectural language in Francesco di Giorgio's churches and Palladio's villas. In his preface to *The Four Books of Architecture,* Palladio emphasized the typological significance of *techne*.[14] In his observations on Greek and Roman architecture, he found everything in conformity with reason and beautiful proportion. Indeed, these findings became the motto of Palladio's discourse on architecture: "I know therefore nothing that can be done more contrary to natural reason." In support of his argument, Palladio refers to the necessity of integrating reason with art: "Although variety and new things may please everyone, yet they ought not to be done to the precepts of art, and contrary to that which reason dictates."[15] Is not Palladio suggesting that in classical thought *techne* was understood as the logos of making? Certain aspects of this logos are suggestive of the kind of association I am intending to make between construction and type. We read in Arendt that as the dominant mode of fabrication in the age of premechanization, craftsmanship integrated labor with the final products of labor. And work was planned and executed by craftspeople who had an image of the product in mind from the start. Furthermore, contemplation was "considered to be an inherent element in fabrication as well, inasmuch as the work of the craftsman was guided by the idea, the model beheld by him before it had ended."[16] In other words, the technique of making an artifact could not be conceived of as separate from the image of the object itself. It would, then, be possible to say that work was performed by means of commonly understood cultural typologies.

In pursuing such a canon, one might assume that order is the architectonic figuration of column and beam that has evolved through the historical development of different architectural types. According to Vitruvius, a theater "would not be subject to the same rules of symmetry and proportion which I presented in the case of sanctuaries; for the dignity