

Design Build Record

Acting and Reflecting upon an Inaugural Work

Edited by Bahar Aktuna



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Design Build Record: Acting and Reflecting upon an Inaugural Work
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CHAPTER 7

SYNECDOCHIC ARCHITECTURE: TECTONICS FOR THE PEOPLE

Giuseppe Resta, Universidade do Porto
Workshop Co-leader

Tectonics is a term that only appears in books of architecture and geology. One deals with artificial human-scale objects, the other with vast natural formations. Despite the considerable difference in scale, architectural and geological tectonics are concerned with how things stay together. Namely, the underlying reciprocities that elements – beams, columns, or Earth's plates – establish when they form a larger structure. It is a field that interests architects because it focuses on the poetic expression of the act of construction as a necessity of representation, in which structural relations are made visible or disguised. The experiment of the *Design/build* workshop made architecture students see their design through the eyes of a τέκτων (tektōn - carpenter), whose work typically differs from that of the stonemason and the metal worker because it is concerned with discrete, linear elements with little plasticity.

Karl Bötticher (1806-1889) believed that Greek architectonic forms were characterized by harmonious integration of structure and ornamentation as a manifestation of the inherent logic and order of nature. The former is core-form and refers to the structural components of a building that perform the mechanical work; the latter is art-form and refers to the ornamentation or decorative cladding that visually express-

es the structural forces and rules of the core-form.¹ Tectonics descends from their integration, with the core-form being the dominant component and the art-form serving to enhance and transform the building into fine art. For this reason, Bötticher saw the Greek orders as the embodiment of a perfectly rational tectonic understanding. Gottfried Semper (1803-1879) offered another interpretation by elaborating further on an interpretation of ancient Greek architecture in tectonic terms, laying the foundations for a new universalized view of forms and construction. Semper famously discerned architectural production in four ways of making – molding, weaving, masonry, and carpentry, with tectonics associated with the latter.² The students of the workshop were presented with the same problems as the Semperian hut: how to devise an assemblage of elements that holds on. In this process, we see the transformation of raw material into an architectural element. It is a learning process towards the beauty of details. Of course, in this line of reasoning, design is scrutinized under a somewhat ethical lens, in which the representation of construction corresponds to how it truly works at the structural level without dissimulations. As an example, one can think of the postmodern disjunction between message and construction that architects such as Robert Venturi and James Stirling often played with in ironic stances.

Bötticher's viewpoint is undoubtedly historicist, deeply engaged in the examination of historical artifacts as records of an enduring, organic process of transformation and development. His concept of tectonics mirrored nature's innate methods of form generation. Tectonics guaranteed that each architectural element was conceived to genuinely reflect its own internal structural, functional, and material essence while also serving as an essential element of the general design. Bötticher combined two forms of historicism in his theory of history: idealism and determinism. Idealist historicism, influenced by philosophers like Leopold von Ranke and Wilhelm von Humboldt, focused on reconstructing history "as it actually was" based on empirical sources and intuited greater principles or ideas from these sources. Determinist historicism, influenced

by Hegel, saw history as a predestined progression following a consistent pattern of thesis, antithesis, and synthesis. In Bötticher's theory, he combined elements of both idealist and determinist theories of history. He sought to understand the distinctness and individuality of each epoch, like Humboldt, while also seeing history as a determined, progressive, dialectical development, like Hegel. This combination of historicist ideas shaped Bötticher's theory of tectonics.³

British critic and historian Kenneth Frampton elaborated on this discourse, bringing tectonics into contemporary debate and retaining a critical tension with Venturi's approach, as already stated in his 1990 article "*Rappel à l'ordre: The case for the tectonic*," published in *Architectural Design*. He emphasizes the importance of a less figurative, more abstract architecture that reveals the poetic potential of its structure, drawing from the original Greek notion of *poiesis* as a creative act. Frampton's perspective seeks to distance architecture from stylistic preconceptions and consumerist connotations, aiming for a structural expressivity that highlights the essence of construction. His exploration of core-form and art-form in this context was the starting point for his later work *Studies in Tectonic Culture* (1995), where he systematically organizes these concepts, arguing for an architecture that genuinely reveals and enhances the constructive core beyond mere cladding or ornamentation. This approach advocates for recognizing and expressing the intrinsic value of construction, expanding upon Bötticher's 1844 principles to encompass the totality of architectural form.⁴ Frampton indicates that such principles are *topos*, *typos*, and *tectonic*, in which tectonics is the expression of the act of construction because it is "inseparable from the manner of its foundation in the ground and the ascendancy of its structure through the interplay of support, span, seam, and joint-the rhythm of its revetment and the modulation of its fenestration."⁵ Hence, he underlines the role of relevant structural engineers such as Felix Candela, Eugene Freyssinet, Albert Kahn, and Pier Luigi Nervi, who reached aesthetic peaks through a masterful interplay between structural analysis and constructed form.

This idea of visual solidity vs. structural solidity, already present in the Vitruvian *firmitas*, emerges in the dualism tectonic/atectonic. Frampton links it to the essay published in 1973 by Eduard Sekler, *Structure, Construction, and Tectonics*, in which tectonic in architecture is theorized as an expressivity that emerges from the static resistance of constructional forms, going beyond mere structure and construction. Sekler illustrates this with examples like the corner details in Mies van der Rohe's American work and the integrated structural aesthetic of Paxton's Crystal Palace (1851). The atectonic, instead, is exemplified by the Stoclet House (1911) built by Josef Hoffmann in Brussels. In this case, architectural elements visually negate solidity, creating an impression of weightlessness and obscuring the interaction of load and support. This concept is further explored in the context of German architecture, notably Peter Behrens's AEG turbine factory (1909) in Berlin, where tectonic and atectonic elements coexist, symbolizing technological power yet embodying a psycho-cultural ambivalence towards the industrial era.⁶

It is now clear that tectonics is not an immediate property of construction techniques or specific materials, as some positions seem to suggest, but rather a middle ground between construction and its representation. The beauty of details for a workshop project, such as the one presented in these pages, is exactly that of testing structural intuitions by spacing, crisscrossing, overlapping, and joining ordinary wooden elements, hence discovering the power of architectural composition within a design idea that was later realized on the lawn of Yeditepe University. The design process did not start from an overall form to be broken up into singular separate problems but from the fundamental necessities of how things fit and hold together. This critical gradient from part to whole is better explained in the article "The Tell-the-Tale-Detail," published by Marco Frascari in 1984. In a general system of knowledge, the project, "details are much more than subordinate elements; they can be regarded as the minimal units of signification in the architectural production of meanings."⁷ Frascari's refined argumentation between project and details

extends to symbolism, production, and perception. The connection between the two actualizes construction into the sphere of use and interaction-i.e., the construction of a handrail and its detailing in a way that is perceived as something that provides possible uses and accompanies the perception of the space. The exercise of detailing encompasses the deliberate selection and manipulation of real-world elements to create a new system of explicit and implicit links with the physical and cultural dimensions of daily life. It facilitates the re-establishment of relationships between the intended design and its actual context, thus playing a critical role in the creation of meaningful and imaginative architectural expressions.⁸

Frascardi frequently resorts to an analogy with text, in which architecture is the plot, and details convey the unfolding of the tale.⁹ By following this suggestion, we can consider the tectonic horizon as a synecdochic architecture that understands the part-whole relationship as the epicenter of the system in which formal investigation and architectural design find common ground to share knowledge (which is also one of the aims of the *Design/build* workshop). Exactly like a literary synecdoche, a design can be broken down into its non-reducible and fundamental parts, details. Then, anyone can reconstruct it again into a completely different result whilst bearing the imprints of the initial fragment. The fragment, from Latin *fractum* (broken), retains a memory of its wholeness, containing a certain degree of virtuality, a potential for further development from its original form. In fact, this experiment allows participants to take back home synecdoches they will employ to write a completely different plot.

ENDNOTES

- 1 Chad Schwartz, *Introducing architectural tectonics: exploring the intersection of design and construction* (New York: Routledge, Taylor & Francis Group, 2017).
- 2 Robert Maulden, "Tectonics in architecture: from the physical to the meta-physical" (M.Arch Massachusetts Institute of Technology, 1986).
- 3 Kai Gutschow, "Restructuring Architecture's History: Historicism in Karl Bötticher's Theory of Tectonics" ((Re)Viewing the Tectonic, Ann Arbor, MI, Taubman College of Architecture and Urban Planning, 3-5 November 2000).
- 4 João Quintela, "A system in perfect balance. The presence of core-form and art-form in the project A Gandareira, by Carlos Pita and Abraham Castro," Article, *Rita* 18 (2022), [https://doi.org/10.24192/2386-7027\(2022\)\(v18\)\(13\)](https://doi.org/10.24192/2386-7027(2022)(v18)(13)).
- 5 Kenneth Frampton, *Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture* (Cambridge, MA: MIT Press, 1995).
- 6 Frampton, *Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture*, 19-21.
- 7 Marco Frascari, "The Tell-the-Tale-Detail," *VIA* 7 (1984): 23.
- 8 Marco Frascari, "The Particolareggiamento in the Narration of Architecture," *Journal of Architectural Education* 43, no. 1 (1989): 3-12.
- 9 Frascari, "The Tell-the-Tale-Detail."



