

Thinking Through Building

Rebecca Williamson

University of Cincinnati

What is architecture? Shall I join Vitruvius in defining it as the art of building? Indeed, no, for there is a flagrant error in this definition. Vitruvius mistakes the effect for the cause. In order to execute, it is first necessary to conceive. Our earliest ancestors built their huts only when they had a picture of them in their minds. It is this product of the mind, this process of creation, that constitutes architecture and which can consequently be defined as the art of designing and bringing to perfection any building whatsoever. Thus, the art of construction is merely an auxiliary art which, in our opinion, could appropriately be called the scientific side of architecture.

—Étienne-Louis Boullée, *Architecture, Essay on Art*ⁱ

Thinking Architecture

Among the disciplines and professions, architecture has always held an ambiguous status, functioning at various times and in diverse combinations as an art, a craft, a trade, a set of doctrines, or a mode of inquiry, depending on the facet most in view at the time. Each of these identities bears with it a mode of thought and a body of knowledge. This collection of types of knowledge makes for a persistent set of tensions within the larger field: between an elevated perch among the fine arts and the “mere” craft of building, between the competing desires for speculation and certainty, between innovation and habit, and between ideals and facts, to name just a few.

In the passage cited above, Boullée argues that the building is an effect, and architecture itself a cause. Furthermore, he argues, architecture is a “product of the mind,” distinguished from the execution of the building through the art of construction. The purpose of the present text is to assert the thoughtfulness of building construction in its own right despite its traditional placement among the vast range of human pursuits as a lower order occupation than architecture would claim to be. It also considers how thinking relates to the physical experience of (the) building, both as an act and as an object.

For Boullée, the terms “art” and “science” do not have the same oppositional relationship that they would acquire later. For him and his contemporaries, the term “art” would indicate a craft acquired through practice, and “science” a form of knowledge acquired through study. The “art of designing,” he seems to say, is the higher aim of architecture, and the art of building a lower, if necessary, function, an “auxiliary art” that is the “scientific side” of architecture, although he stops short of calling it a science.²

The arts, for Boullée, would include the actions and products of artifice, both those of a higher order, the fine, beautiful *beaux arts*, and a lower order, the crafts. Architecture is of the highest order, among the fine arts. The early 19th century architect, chef, and culinary author Marie-Antoine Carême’s purported statement that “the fine arts are five: painting, sculpture, poetry, music, and architecture, of which pastry is the principal branch” reflects, with some whimsy, this higher order.³ The lower order of arts would include many forms of artisanry as it relates to crafts and trades, including those associated with the construction of buildings. In Carême’s terms, the building trades are perhaps more like stew than pastry.

In the passage cited earlier, which marks the beginning of Boullée’s introduction, Vitruvius stands in for those who would equate architecture with the art of building. In the rest of Boullée’s text, a certain “Péroult” bears the brunt of the criticism, as does “Vitruvius’s Commentator.” Both are, of course, labels for Claude Perrault, whose edition of Vitruvius would, in Boullée’s time, still have been a key text and a relatively rare example of an illustrated set of detailed descriptions of construction practices, in contrast to the many texts depicting the completed building rather than the processes of its coming into being.⁴

Boullée states that the builder of the original hut had to have an image in the mind. In so doing he transforms the “savages” of so many prior accounts of the origins of architecture into “savants” in that their capacity to form a mental concept indicates the presence of thought and ultimately knowledge (*savoir*).

The words “savage” and “savant,” neither of which Boullée uses in this passage, but which other authors known to him would have tied to a primitive state and a knowing state, respectively, are false cognates. Savages in the texts with which Boullée would have been familiar would be forest dwellers (from the adjective *sauvage*, from the Latin *silva*, or forest), with the implication that they would be rustic, rough, and primitive. Savants, in contrast, are knowledgeable (from the verb *savoir*, related both the knowledge and taste). Boullée chooses a different term, *premiers pères*, or “first fathers.” His ascription of the capacity for forethought elevates the primal architectural act, the pursuit of shelter, from a primitive reflex to a conscious intention.⁵

The roles of mind and hand in the making of buildings is arguably more central to Vitruvius’s text than the oft-cited “triad.” He is clear about his debt to prior writers in setting out his observations. Alberti’s description of *lineamenta* goes on to posit an aspect of architecture that can exist as an image in the mind that is perfect, uncorrupted by matter and mistakes.⁶ For Boullée, as for his predecessor Marc-Antoine Laugier, and many others, this is the preferred state of architecture: residing in the intellect as its true environment. The mess of the construction site occurs in a lesser, distasteful “other place.”⁷

Despite the hierarchical devaluation of the art of building, and even in the face of increasing automation and the proliferation of communication modes, the physical actions of the construction and occupation of buildings continue to exert their presence in architectural thinking. The complete untethering of architecture from these physical realities has been merely a periodic flirtation. Even in cases of theoretical distancing, those physical realities remain today at the core of architecture.

Time in Architectural Thought

Thinking in architecture, as in other domains, can be both reflective and projective. Architects assess past and present and project toward the future. We glean knowledge of the past and present from our own experience, accounts of others, and extant evidence. We prefigure yet unbuilt conditions through drawings, models, text, or other modes. We anticipate problems and try to forestall decay, decline, assault, and failure.

Knowing is a fruit of reflective thought. In the eighteenth century, discourse on aesthetics in architecture and other arts distinguished between the knowledge (*savoir faire*, imperfectly translated as know-how) that comes through practice and the knowledge (*connaissance*, related to connoisseurship) that derives from an understanding of rules and principles. The latter type of knowing would require no direct experience in the production of the work, indeed a connoisseur could “master” such knowledge of many domains, Laugier argued in the midst of his rapid production of critical essays on architecture, music, and painting.⁸

The actions required to bring a building into existence, like many other kinds of actions, have their basis in a combination of different kinds of thought. The notion that an architect must be informed about many disciplines is at least as old as the oldest extant writing about architecture in the Western tradition, as well as some outside that tradition, such as the Asian, Arabic, and Persian texts that address aspects of architecture and urban design from standpoints such as ritual, medicine, and social structure.

At the same time, the tradition recognizes and, at times, contests, the role of “the art of building” as a practical concern proper to the larger domain of architecture. Those who embrace the identification of the art of building with architecture see the physical production of buildings as central to architecture itself. Those who reject it do so not by affirming that the production of buildings is irrelevant, rather that it is not the highest aim of architecture.

Building Thinking

Leon Battista Alberti’s “veil,” the screen of projection and the mediating layer, functions as threshold not only between matter and mind, but also between past and future. In Alberti’s triangular interpretation of the triadic structures he inherited from Vitruvius, the mind-eye is the apex, matter is the base, and the plane of representation as the mediator. Similarly, as his *Dinner Pieces* show, society and buildings both have layers in a clear hierarchical relationship, with the heavy, lower layers bearing the lighter, more “noble” parts, mediated by a middle layer of action (negotiation or *neg-otium*, not-leisure).

The relationship between past, present, and future maps onto this structure. When Alberti refers to the past as a shipwreck (*naufragium*), it implies that it is a pile of rubble as heavy as the foundation stones of his story in his *Dinner Pieces* about the temple dedicated to the goddess *Tussis* (the Latin word for cough).⁹ The future, in that it is projective, aligns with the mind’s-eye. The fleeting, active present mediates between the vast, heavy, inert accumulation of the past and the brilliant possibility of the future.

Alberti seems, however, to view the future with anxiety, aware of the possibility that today’s and tomorrow’s constructions will one day become part of the rubble of the past. He ends his *De Re Aedificatoria* with a description of ways that buildings fail. Not unlike the parallel between construction site and ruin that Louis Kahn would famously popularize centuries later, for Alberti the fruit of the act of building contains the seeds of the demise of the building as an object.¹⁰ That part of architecture that is not attached to the physical building, on the other hand, eludes the fate common to tangible objects.

The cognates edifice and edification (*aedificare*, for Alberti) are testament to the connection between thought and building in European languages with a debt to Latin. This is distinct from the connection of the German *bauen* with dwelling, and ultimately with being, a separate argument that we will skirt here.

For the purposes of this examination, the term “building” refers to the edifice itself and to the actions connected with its production and not to dwelling, nor home, nor to judgements about “being” as it relates to human inhabitation and the social importance of grounding.¹¹

Kahn’s parallel of the construction site and the ruin implies that the forward gaze of the act of building holds within it the inevitability of the decline, with the birth and death of the building as an object bundled into the same thought. Decisions about how to construct a building are, inevitably, decisions about how it will fall apart. In the face of budget limitations, an increase in complexity of the forms could mean a decrease in the quality of the cladding. That same complexity might mean a proliferation of vulnerable surfaces that further hasten the demise of the building, or costly efforts to rehabilitate it with a facelift aimed at forestalling further signs of decline and preserving the external appearance of freshness.

Thinking Together

Thoughts related to building include both the recognition of past and present circumstances and the pre-cognition of possible futures. In the production of a building, architectural thought does not function alone, but is instead part of a network of different kinds of thought. The architect enters into a series of conversations with communities, clients, and tradespeople. All of these bring to the building process thoughts connected to their roles, with attention to a range of scales and types of information, including detail to urban scale, and quantitative, visual, and verbal communication. Alongside the specialized knowledge of the architect, the ability to bridge these other kinds of knowledge is essential to construction.

The mere fact of its physical bulk and imposition on the landscape ensures that a building will involve thought in its production and reception in ways that another artifact, say a park bench or a table, might not. The bench or table, most of the time, finds its place and does its job without a lot of decision-making or questions of meaning. Under ordinary circumstances it is just there, available and unremarked. Seen as objects subject to the same rules and constraints of fabrication and use as buildings, the bench and table need to be stable, indeed, most of the time they employ construction similar to the much-evoked “primitive hut” to which various authors from Vitruvius to Le Corbusier attribute the origins and model of architecture: materials assembled so as to withstand loads and persist in their environment.¹²

The building that is stable, present, and usable, like the table and bench, is a subset of architectural thought, and the relative importance a thinker about architecture will ascribe to it might vary according to positioning with regard to a style, movement, ideology, or school of thought. For the purposes of this essay, building (the action) and the building (the object), understood in the most basic manner, are the focus, separate from any debates about the merits of any individual building or set of processes in bringing it into being.

The kinds of thought that go into a particular building will depend on its situation. Sometimes the thought may manifest itself in gestures that largely elude language, image, and number. This has been the case throughout history, as the vast majority of buildings have come into existence through a reliance on this kind of know-how. Architect-designed buildings have always been a relatively small portion of the building stock.

Other times the thought that goes into building could involve one or more modes borrowed from a range of specialized practices such as mathematics, science, or philosophy. Architecture owes a debt to these other vocabularies for their help in articulating the tacit and tactile thinking that remains the vast majority of the thought that brings a building into being. At the same time, there is a thought proper to building as a process. This is distinct from the thought or thoughtlessness that occurs in, through, about, and around buildings as objects.

Those who receive the building – critics, occupants, and members of the broad category of “public” – may find it lacking in innovation or decry perceived recklessness, or they may admire it, but most of the time people pass through buildings, and think about matters other than the building that they are occupying at the time. A lesson of Walter Benjamin’s evocation of the “state of distraction” is that a building does not, in fact, need to be a thing to think about.¹³ It can, instead, be a place to think about other things. This has, at times, been something of a contentious issue, as, Benjamin’s comments notwithstanding, architects and the public appreciate the role the building plays as an art object to be studied, sometimes to the chagrin of those who seek to place art within it.¹⁴

Many instances of architecture, including some of the most provocative and influential ones, “exist” outside of the realm of physical buildings, as image or description. Examples include Piranesi’s prisons and Mies van der Rohe’s Friedrichstrasse tower.¹⁵ Some architectural images test the boundaries between an image that evokes a space that has some plausibility as a building, however unexpected, and one that provides the viewer no obvious way to imagine an occupiable space.¹⁶ (Figure 1)

Just as speculative drawing is a way of thinking through building, so, too, is the physical act of building an act of thinking, however humble that thinking might be at times during the process. Each gesture of the process, whether dramatic and collective, such as assembling structural elements, or modest and private, such as caulking around a bathtub, requires thought. The ability to do each task well demands knowledge, including awareness of conditions and materials and a sense of how details relate to the whole. It also requires self-awareness such as proprioception (sense of placement of the body and its parts in space), pacing, balance, and assessment of the relationship between one’s own strength and that required for the task. Thinking, knowledge, and judgement thus tie together in the building site even in the absence of architectural intention. Architectural intention then layers upon the thoughts and knowledge embodied in the building process another set of thoughts and knowledge. These have to do with anticipation.

Quips such as “architecture is what is left after the building burns down”¹⁷ illustrate the degree to which the notion that architecture is, or should be, an elevated mental practice that transcends material conditions. Counter-quips, such as “architecture gets its theories from the dumpster behind the philosophy department,”¹⁸ seek, on the other hand, to dismiss or at least downgrade the intellectual ambitions of the field, presumably in favor of the construction materials in the dumpster outside the building site. Some form of this split has persisted in the field at most times and in most places, to the extent that the tug-of-war between ideas and matter would seem to be a defining characteristic.

The label of “architecture” appears in association with entities and constructs that are not physical buildings or their representations. These include policies, systems, programs, and organizations. Philosophy, too, relies on spatial and constructive terms such as grounding, foundation, framework, structure, distinctions between up and down, in and out, and entrances and exits. Architecture itself, whether in the guise of a discipline or a profession, partakes of such conceptual “architecture.”¹⁹

Stubborn Building

Conceptual architectures notwithstanding, building in its non-metaphorical and most basic sense is a physical rather than verbal act, a sequence of gestures, whether by hand, tool, or machine, that manipulate matter. Many if not most buildings have come into existence with little in the way of a written account, and often even without much visual documentation, leaving the traces of the thought that went into them in the physical structure itself, to the extent that these traces are legible.

Although architecture has a long-standing relationship with philosophical discourse, borrowing back the building metaphors, and finding inspiration in its forays into ungrounded structures and warped or folded spaces, the realities of building remain stubbornly constrained by the way gravity and geometry work within the scale of the body. Although extreme conditions such as outer space or the deep sea provide some unique challenges, buildings on earth generally need some attachment to a ground, not an abyss. In the words of Henry Wotton, “First then concerning the Foundation, which requireth the exactest care; For if that happens to dance, it will marre all the mirth in the House.”²⁰ To make a building appear to defy our basic understanding of gravity or geometry requires deft deployment of that very understanding. The thinking that occurs within and through “the art of building” thus may or may not be informed by articulated philosophical arguments.

This is also not the place to delve deeply into “design thinking” as it has emerged to describe the application of models of decision-making that occur in the design of objects and information (industrial, graphic, and related design, often for commercial, medical, or other applied purposes) toward other domains such as business, organizations, military operations, and vice versa. Design thinking, understood broadly, benefits from and fosters such cross-fertilization.

“Design thinking” in its current guise, as it relates to commercial object and information design, bears strong connections to the burgeoning fields of branding and marketing, endeavors tied to increasing consumption. These are not entirely new nor alien ideas in architecture. Le Corbusier’s interest in advertising bordered on obsession.²¹ Architecture’s role in developing, implementing, and promoting products and lifestyles, fruit of affinities with industrial, graphic, and fashion design, came into full flower during the twentieth century and continues apace.

At the same time, architectural thinking has long had a resistive streak, pushing back against consumer culture. Whether in the Renaissance embodiment of a cosmic order or in the critical theories that emerged during the twentieth century, there was usually a sense of resistance to the popular marketplace in favor of the elite position of the architect as the first or highest (*arché*) of the arts (*techné*) or, in modern terms, the master-planner. Exceptions, such as Denise Scott-Brown’s “deferred judgement,” found in the embrace of the landscape and imagery of popular culture, form of resistance to that elitism.²²

Building as Cultivation

In his essay “Composers as Gardeners,” the artist and musician Brian Eno contrasts the architect, whom he compares to the traditional composer, as “someone who carries a full picture of the work before it is made” with the “gardener,” whom he compares to a new type of composer, as “someone who plants seeds and waits to see exactly what will come up.”²³ He argues that “the ‘composer as architect’ metaphor is a transitory historical blip.”

The “full picture” that Eno evokes resembles the “picture in their minds” described by Boullée. This mental picture that Boullée describes, and Durand develops further, is central to the process and product that architects would, in fact, label “composition”: a planned arrangement, developed as a “full picture” before implementation, according to a framework or set of principles, or the process of coming up with that arrangement.

This notion of composition contrasts with the incremental process, analogous to plant growth, that Eno describes. Although it is not clear that the parallel is intentional, Eno’s evocation of the planting of seeds relates to Heidegger’s description of building as cultivation. In a passage of his “Building Dwelling Thinking,” Heidegger compares cultivation to the building and care of dwelling places, as opposed to the aspect of edification mentioned earlier, which he compares to the building of ships and temples:

Building in the sense of preserving and nurturing is not making anything. Shipbuilding and temple-building, on the other hand, do in a certain way make their own works. Here building, in contrast with cultivating, is a constructing. Both modes of building - building as cultivating, Latin *colere*, *cultura*, and building as the raising up of edifices, *aedificare* - are comprised within genuine building, that is, dwelling.²⁴

Eno's argument about musical composition notwithstanding, one might debate whether all architects do indeed start with a "full picture of the work," or if the architect, too, experiences moments analogous to providing a nurturing environment for a seed and waiting, however impatiently, to see what emerges. In a passage in his manuscript treatise, Antonio Averlino, known as Filarete gives the architect such a nurturing role when he describes how the patron or client "inseminates" the architect with the seeds of an idea so that the architect may carry it, as if in a pregnant belly, for months before birthing the building:

The building is conceived in this manner. Since no one can conceive by himself without a woman, by another simile, the building cannot be conceived by one man alone. As it cannot be done without a woman, so he who wishes to build needs an architect. He conceives it with him and then the architect carries it. When the architect has given birth, he becomes the mother of the building. Before the architect gives birth, he should dream about his conception, think about it, and turn it over in his mind in many ways for seven to nine months, just as a woman carries her child in her body for seven to nine months. He should also make various drawings of this conception that he has made with the patron, according to his own desires.²⁵

Marco Frascari, in an unpublished lecture in the late 1990's, discussed a similar contrast between pre-conceived "framework" thinking, which he associated with wood and metal and other constructions of linear elements (similar to Heidegger's "ships and temples), and the "incremental" thinking typified by bricklaying. The "problem" of the Tower of Babel (Figure 2) that necessitated its destruction, he argued, was that it demonstrated the power of the accumulation of small moves, in contrast to the preconceived framework.²⁶ More recently, the members of Interboro Partners have articulated an "endogenous" approach to urban design based in gathering the stories of the people in a place, assessing emerging characteristics, and working to bring these to light rather than imposing a "Master" plan.²⁷

The games existed, the Circus not yet

A building's durability in place and its ability to be occupied enable it to persist into a future. Non-building structures described as architectural, such as a plan or government or institution, bear that analogy out of hope that their structures, too, will be durable. In projecting a physical space to accommodate a desired social or political condition that does not exist, the architect supports aspirations of those who hope to achieve this change. In some cases, this involves evocation of past forms, and in others, a search for previously unseen forms.

Much thinking in and about architecture is a projective act (anticipating the act of building, anticipating decline and decay). Knowing, on the other hand, is reflective, upon what has happened or is happening. The thoughts that go into bringing a building into existence are distinct from those of its “users” or “occupants.” Both words imply that these bodies have a temporary and even exploitative relationship with the space. Their “state of distraction” it is not due to a lack of thought, rather to thinking about something else while passing through architecture, a condition that the architect ought not begrudge. This is neither a connoisseur’s nor a critic’s thinking, but the know-how of “spatial practices” and habitual uses, including transit, resting, tending, mending, and cleaning.

Thinking and knowing as they relate to building both exist in relationships with time: reflective thinking looks backward to individual and collective histories, and projective looks “toward an architecture” (*vers une architecture*, in the original words of Le Corbusier’s title, translated into English as *Towards a New Architecture*) to a potential future implied by a plan or concept. Knowing about buildings, likewise, divides between know-how that accrues through experience, and critique that aims toward influencing subsequent reception and practice. The latter echoes the aforementioned distinction between the *savant*, whose knowledge of the craft is direct, and the *connoisseur*, whose judgement derives from understanding of the principles of the arts, including architecture.

As a form of knowing, know-how involves correlating past, in-progress, and projective thoughts as well as a network of communications among different participants in the building process. Connoisseurship, on the other hand, involves re-cognition, an assessment often (and increasingly) based on a graphic image only, not the sound or smell or social dynamics of a place. To use an idiom often associated with politics, the connoisseur assesses the sausage (the finished product in the form of law, rule, image, completed building, or other end result) while the *savant* engages in the unaesthetic process of sausage-making.

An example of the evocation of the past to project a future condition is Boullée’s discussion of the Coliseum. He argues for national celebrations as public entertainment as a supplement to punishment to “reinstate morality through the lure of pleasure.” In describing the social and political role of the coliseum as a site for sporting events and other national celebrations, he describes the presence of the crowd in the vast structure he proposes:

Imagine three hundred thousand people gathered in an amphitheatre where none could escape the eyes of the crowd... The spectators would be the elements of this surprising spectacle and they alone would be responsible for its beauty.²⁸

Here Boullée proposes not only a physical structure but also a mode of interaction among people unlike anything existing at the time in France, but both of which, together, reflect a projection of a social and political future that the projected architecture intends to both accommodate and enact. To find a precedent for such a structure, he evokes a speech by the Abbé Brotier that describes Rome, and specifically,

the transition of Rome from the notorious Tarquins²⁹ through the Republic and on to the Imperial phase, with the physical space expanding in scale in tandem with the ambitions of Roman political domination. When Brotier states that “The games existed, the Circus not yet,” he succinctly ties political intentions to architecture.³⁰ The games, as an activity, find their place in the Circus, a physical space that comes into being as a result of a political and social need, then, once in existence, conditions further political and social functions.

Thinking Back

Critique stands in opposition to know-how, as a judgement of ends rather than means. Laugier, as a connoisseur, is a critic in the sense that he assesses a work of art, music, or architecture according to his understanding of the system of rules that he has acquired not through practice, but through study.³¹ By the mid-twentieth century, however, architects had embraced expanded notions of critique. For Manfredo Tafuri, for example, critique is “resolutely negative, the vigilant denunciation of existent or historical architectural ideologies.”³² In this interpretation, critique looks backward, indeed Tafuri’s historical studies contributed to a political understanding of architecture during the second half of the twentieth century. Inversely, in the invocation of Utopia, or in contemporary, seemingly ubiquitous exhortations to “create change,” critique takes on a projective and activist role.

This complicated relationship between reflection and projection, between theory and praxis, and between critique and action, is not by any means exclusive to architecture. It is rather a problem that attaches itself to architecture by virtue of architecture’s inescapable connections to political structures. The embrace of praxis entangles the practitioner in the messiness of things-as-they are, risking accusations of resignation.³³

Laugier’s exhortation that we “never lose sight of our little rustic hut,” despite its charming promise of simplicity, stands alongside his denunciation of the “chaotic mess” of the construction as call to the same higher order of architecture as a “picture in the mind” evoked in the passage by Boullée at the beginning. The “primitive” hut is not messy, because it is not a building. Instead it is a mental model, hygienic in its avoidance of compromise, intended to advance architecture toward a more perfect future.

Meanwhile, here in the present day, wherever we find ourselves, however distant or proximate Utopia might seem, (the) building persists as an activity and as an object in which our bodies and minds participate. This participation is in the choreographies of construction and maintenance, in the wandering and rest within, and in the decay engendered by physical contact through wear and by lack of such contact through weathering, neglect, and disrepair.

The mind and body alike occupy the building through drawings and other representations both projective and reflective and through physical encounters of construction, use, and occupation. The conceptual aspects of architectural thinking contribute to the ability to project, assess, and remember even buildings that never existed. The embodied thinking through buildings is, however, the necessary, active thought that erects and maintains buildings, inhabits or neglects them, and participates in their wear, decline and decay, until we mend, amend, and rebuild them, demolish them, or wander their ruins.

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Figure 1. Mies van der Rohe, "Hochhaus aus Eisen und Glas, (Skyscraper in Steel and Glass)," 1921

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The photomontage showing the model for a skyscraper on Berlin's Friedrichstrasse set among rough sculptures of older buildings against a backdrop of trees appeared in Hannes Meyer's article, "Die Neue Welt" in *Das Werk* – volume 13 (1926), number 7, 205-23.

In the accompanying article, mirroring the original Babel project, Hannes Meyer evokes Esperanto as the "construction of a supra-national language" (*übernationale Sprache*) (Meyer, 222). It subsequently appeared in the short-lived Ukrainian journal *Nova generacija: žurnal revoljucijnoï formacii mystectv* (Kharkiv, 1928), Number 10.



Figure 2. Athanasius Kircher, *Turris Babel sive Archontologia...* (Amsterdam: Jansson-Waesberge, 1679) Public Domain. Source: Universitätsbibliothek Heidelber <https://digi.ub.uni-heidelberg.de/diglit/kircher1679/0059/image>.

“...when Nimrod had selected and summoned architects from everywhere... he disclosed his entire plan to them, instructed them as carefully as possible in pursuing everything that concerned said construction, prescribed the measurements of the whole, showed a model or prototype made of wood or clay...” (p. 41. trans. P. Van Minnen).

Notes

- 1 Étienne-Louis Boullée, *Architecture, Essay on Art*, trans. Sheila de Vallée, ed. Helen Rosenau (London: Academy Editions, 1976), 83.
- 2 At the time Boullée produced his manuscript, the educational and professional pathways of architecture, located among the fine arts, and engineering, which would include the expanding sciences of construction, had begun to separate. The distinction would, however, remain contested for some time.
- 3 The widely repeated phrase is attributed to Marie-Antoine Carême, author of *La Pâtissier Pittoresque* and other early 19th c. works on culinary and architectural arts. See Lawrence Gasquet, “Gastronomie & Maniérisme : L’Art de Manger avec les Yeux en France à partir du XVIII^{ème} siècle” in *transtext(e)s transcultures 10 | 2015 : Manger, Représenter: Approches transculturelles des pratiques alimentaires* <http://journals.openedition.org/transtexts/607>. This scholarly article also contains a discussion of the relationship between taste and cognition.
- 4 Boullée alters the spelling of Perrault’s name in a way that would result in a different pronunciation, reminiscent of *pér os* (the medical term for “by mouth,” describing oral ingestion of a remedy, perhaps a jab at Perrault’s primary role as a medical doctor). A comparable modification of Boullée’s name would result in the word “boule,” or ball, a connotation perhaps not lost on Boullée himself given his attachment to spherical forms.
- 5 Boullée, *Essaie sur l’Art* in Papers of Étienne-Louis Boullée, *Bibliothèque Nationale de France*, Id. [ark:/12148/btv1b9061529g](https://gallica.bnf.fr/ark:/12148/btv1b9061529g) <https://gallica.bnf.fr/ark:/12148/btv1b9061529g/f1.item>.
- 6 Leon Battista Alberti, *On the Art of Building in Ten Books*, trans. Rykwert, N. Leach, and R. Tavernor (Cambridge, MA: MIT Press, 1988), 5-7.
- 7 Michel Foucault, “Of Other Spaces: Utopias and Heterotopias” (March 1967 lecture originally published as “Des Espace Autres” in *Architecture /Mouvement/ Continuité*, October 1984) in *Rethinking Architecture: A Reader in Cultural Theory*, ed. Neil Leach (New York: Routledge, 1997), 330-336.
- 8 Marc-Antoine Laugier, *An Essay on Architecture*, trans. Wolfgang and Anni Herman (Santa Monica: Hennessey & Ingalls, 1985).
- 9 Leon Battista Alberti, “The Temple” [Templum] in *Intercenales*, in *Dinner Pieces*, trans. David Marsh (Binghamton: Center for Medieval and Early Renaissance Studies, 1987), 175-6.
- 10 William JR Curtis, “Louis Kahn: The Space of Ideas,” *The Architectural Review* 23 (October 2012) <https://www.architectural-review.com/louis-kahn-the-space-of-ideas/8637503.article>
- 11 Martin Heidegger, “Building Dwelling Thinking” in *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper and Row, 1975), 143-62.
- 12 Under some circumstances within architectural thought, though, the status of the desk or the bench can present itself as more complicated, as in Peter Eisenman’s complaint concerning Jacques Derrida’s comments about the design of a space at Parc de la Villette in Paris: “He wants architecture to stand still... in order that philosophy can be free to move and speculate... he wants architecture to be real, to be grounded, to be solid, not to move around ... he said things to me that filled me with horror: “How can it be a garden without plants?” “Where are the trees?” Where are the benches for people to sit on?” This is what philosophers want, they want

to know where the benches are.” Jacques Derrida, cited by Peter Eisenman, cited by Jeffrey Kipnis in *Architecture Theory since 1968*, ed. K. Michael Hays (Cambridge, MA: MIT Press: 2000), 713. Graham Harmon, on the other hand, uses the table as an example as he seeks to contribute to the identification of alternative descriptions of the modes of existence of objects. Graham Harmon, “The Third Table,” in *100 Notes, 100 Thoughts: Documenta Series 085* (Hatje Cantz, 2012).

- 13 Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction” in *Illuminations*, ed. Hannah Arendt, trans. Harry Zohn (New York: Schocken Books, 1969), 217-220.
- 14 During a screening of a precise and meditative film by the Canadian film installation artist Mark Lewis for an exhibition at the Kunsthaus, in Graz, Austria, in 2004, a mechanical malfunction caused several moving elements of the room to operate simultaneously in a frenzy of activity. During informal comments afterward, Lewis spoke about his sense that the building was competing for attention with the art held within it. For information on Lewis, see: <http://marklewisstudio.com/>
- 15 For examples of the Friedrichstrasse drawings by Mies van der Rohe, see: <https://www.moma.org/collection/works/787> and <https://www.phaidon.com/resource/mies-p66.jpg>
- 16 See, for example, certain compositions by Lebbeus Woods UTOPIX series (2008) by Lebbeus Woods <https://www.architectural-review.com/marginalia/rendering-speculations-london-uk/8600510.article> and <https://lebbeuswoods.wordpress.com/2010/07/15/rendering-speculations/>
- 17 Recollection of conversation with unidentified architecture professor, mid-1980’s.
- 18 Recollection of conversation with Richard J. Betts, citing another unidentified architecture professor, late 1990’s.
- 19 Catherine Ingraham, “The Faults of Architecture: Troping the Proper,” *Assemblage*, No. 7 (Oct. 1988): 6-13.
- 20 Henry Wotton, *The Elements of Architecture* (London: John Bill, 1624), 22-23.
- 21 Beatriz Colomina, “L’Esprit Nouveau: Architecture and Publicité” from *Architectureproduction*, (Revisions, Volume 2) ed. Beatriz Colomina and Joan Ockman (New York: Princeton Architectural Press, 1988) in Hays, *Architecture Theory*, 626-40.
- 22 See Andreea Mihalache “On ‘Deferred Judgment:’ Historical and Contemporary Perspectives” Unpublished paper presented at *Architectural Theory Now?* conference, April 5, 2019, University of Pennsylvania. Citation courtesy of the author.
- 23 Brian Eno, “Composers as Gardeners” interview in *Edge, Conversation: Culture*, November 10, 2011. https://www.edge.org/conversation/brian_eno-composers-as-gardeners
- 24 Heidegger, *Poetry, Language, Thought*, 147-8.
- 25 Antonio Averlino (Filarete) in *Filarete’s Treatise on Architecture: Being the Treatise by Antonio Di Piero Averlino, Known as Filarete*, trans. John R. Spencer (New Haven: Yale University Press, 1965), 15
- 26 Marco Frascari, Unpublished lecture, University of Illinois at Urbana-Champaign, late 1990’s.

- 27 See, for example, Tobias Armbrorst, Georgeen Theodore, and Daniel D'Oca, "NORCS in New York" in *Socio-*, ed. Jonathan Crisman (Thresholds 40, 2012), 189-208. https://www.mitpressjournals.org/doi/pdf/10.1162/thld_a_00145
- 28 Boullée, *Architecture, Essay on Art*, 101.
- 29 Architects in 18th century Europe, such as Francesco Milizia, admired the Tarquins for their development of the physical infrastructure of Rome. See Rebecca Williamson, "The Breath of Cities" *Aeolian Winds and the Spirit in Renaissance Architecture*, ed. Barbara Kenda (New York: Routledge 2006), 162-3. The Tarquins are also famous for the rape of the Sabine women, which Brotier paints in a positive light as a way to eliminate conflicts through the mixing of tribal stock.
- 30 Abbé Brotier cited in Boullée, *Architecture, Essay on Art*, 102.
- 31 Laugier, *An Essay on Architecture*, 7-9. For Laugier's activities as a musical critic, see Benjamin C. Young, "Eloquence and Music: the Querelle des Bouffons in Rhetorical Context," Unpublished PhD Dissertation, Columbia University, 2013.
- 32 Manfredo Tafuri, cited in Jameson, cited in Hays (ed.) *Architecture Theory since 1968*, 444.
- 33 Theodor W. Adorno, *Critical Models: Interventions and Catchwords*, trans. Henry Pickford (New York: Columbia University Press, 1998), 289-93.

About the Author

Rebecca Williamson is an architect with experience in practice in Europe and the US. Her research explores the roots of contemporary problems in architectural and urban design practice. Since March 2016, following many years of focus on design studio teaching, she has coordinated the MS and PhD Programs in Architecture at the University of Cincinnati.