

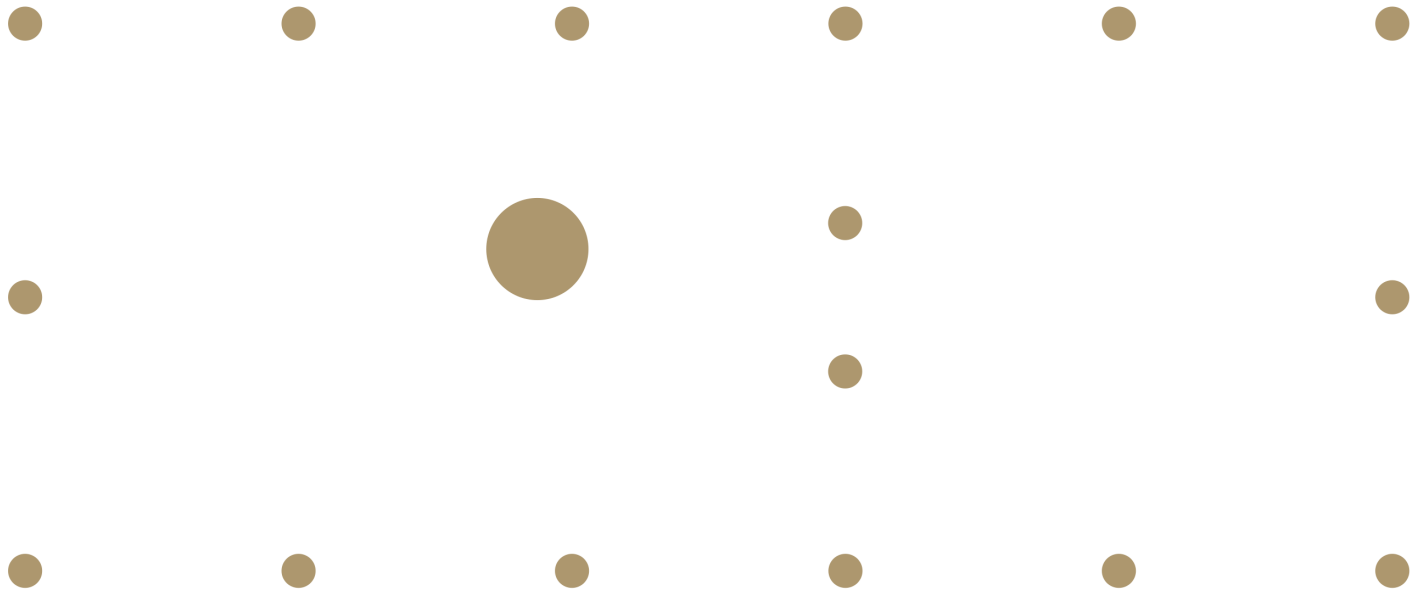
gta papers

# FOUNDING MYTHS

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**gta papers 3**

FOUNDING MYTHS

**gta Verlag**



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## Introduction

### Laurent Stalder

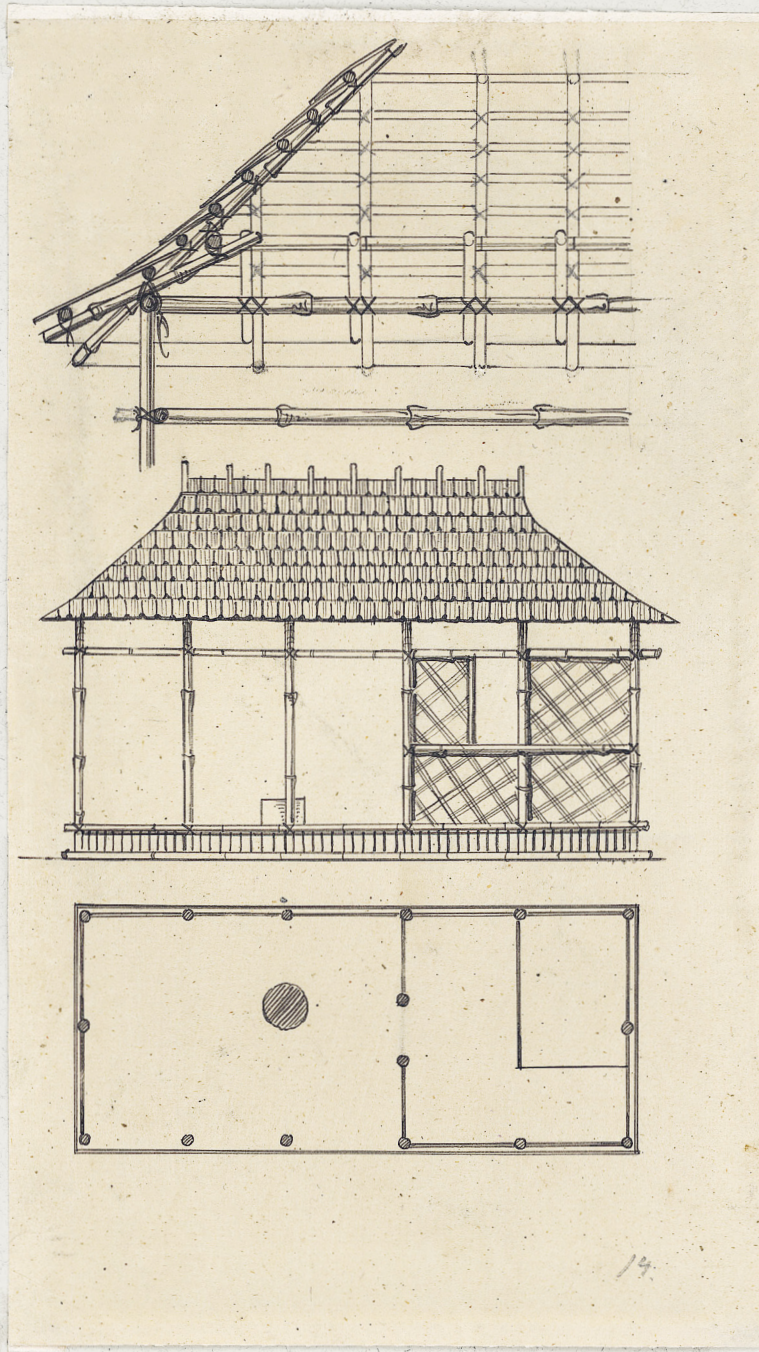
Laurent Stalder is Professor of the Theory of Architecture at ETH Zurich.

Founding myths of architecture are persistent. Even though the scientific-minded nineteenth century tried to banish them to the black hole of history as irrational troublemakers and twentieth-century historiography transformed them into a matter of historical investigation, founding myths have maintained an astonishing topicality in architecture independent of such critiques. Numerous are the examples in the last two hundred years of imaginary constructions aimed at explaining either a supposedly original form or founding principle of architecture. Eugène Emmanuel Viollet-le-Duc – usually celebrated for his rationalist approach to architecture – prefaced his own world history with a flimsy hut of bent branches, while Le Corbusier, another allegedly rationalist, used the “primitive temple” to demonstrate the normative character of the *tracés régulateurs*. Even where the recourse to a primitive dwelling does not seem at first glance to be particularly adapted, as with modern building technology, it has found entry, if not as myth, then as “parable” of an original form of occupation: for example, the camp fire as primitive model of the “power-operated solution” in Reyner Banham’s writings. <sup>1</sup>

1 Eugène Emmanuel Viollet-le-Duc, *Histoire de l'habitation humaine* (Paris: J. Hetzel, 1875), 4–7; Le Corbusier, *Towards a New Architecture* (London: Architectural Press, 1927), 65–68; Reyner Banham, *The Architecture of the Well-Tempered Environment* (1969; Chicago: University of Chicago Press, 1984), 19–20. See also Hans-Jürg Leibundgut, *LowEx Building Design für eine ZeroEmission Architecture* (Zurich: vdf, 2011), 5, where the opening sentence reads: “Am Anfang war das Feuer” (In the beginning there was fire).

A good proof of this persistency are the various documents relating to founding moments that have made their way into the archives of the Institute for the History and Theory of Architecture (the gta) at ETH Zurich during the last fifty or so years. These include a slightly blurred photograph of the wooden hut built by Paul Artaria where Swiss modernism was supposedly born; the stilt houses, precursors of the modern *piloti*, to which Adolf Max Vogt would devote a whole book; the countless photographs of infrastructural buildings, which are referred to for their seemingly spontaneous plasticity or ingenuity; several drawings by Siegfried Giedion of prehistoric traces, constituting the “Beginnings of Art” of his *Eternal Present*; and the geometric figures of Sinbad, cited at the thirtieth anniversary of the institute. These documents should not be conflated with the ones relating to ground-breaking or topping-out ceremonies, the foundation of a movement, or the approval act for a new institution, events whose dates can be precisely reconstructed; for instance, the documents relating to the opening of the gta (January 1, 1967), its inauguration ceremony (June 23, 1967), or even its rebirth after the first generational crisis (September 1, 1986). Such documents might record a foundational event, but they defy the dimension of the myth. Myths in architecture do not record facts. Rather, they figure, in their diversity, as attempts to give a meaningful framework to a discipline that escapes any final definition.

fig. 1 Gottfried Semper, drawing of the “Caribbean Hut” for the second volume of *Style in the Technical and Tectonic Arts* (1863).



Karastine Kille.  
Zu Jungpinks 8.

One of the most compelling examples from the gta Archives is Gottfried Semper's "Caribbean Hut." <sup>1</sup> At times it has served to explain the structural origin of architecture, at times its textile origins, and at times its fundamental laws of metabolism. Yet, the hut's triumph — its worldwide success over one and a half centuries — is all the more astonishing because little is known about it. Reportedly, it made an appearance at the Great Exhibition of 1851, in the Trinidad section. But apart from a brief report by its discoverer — including a small, quarter-page depiction with ground plan, elevation, and a section through the roof framework — along with a short description (in the official catalog) of the articles it contained (which were of Spanish or West Indian origin, as "pure" Caribs no longer existed), hardly anything else is documented about it or has been handed down to us. <sup>2</sup> Its size, sponsor, builder, and whether it was an original construction brought for the exhibition or newly built — all of these things remain a mystery.

<sup>2</sup> Franz Bosbach, *The Great Exhibition and Its Legacy*, Prinz-Albert-Studien 20 (Munich: Saur, 2002), 85. Elena Chestnova, whom I thank for this bibliographic reference, is currently working on tackling the riddles around Semper's hut.

As frustrating as this might be for the historians, it has done nothing to diminish the hut's influence. On the contrary, as a reference point bereft of historical age it encompasses — if not as a "speculative" then at least as an "exotic" model — all of the qualities that constitute a founding myth. It keeps marking, with the primary and at the same time spontaneous nature of its form, the beginnings of architecture and symbolizes a congregation of the four elements of architecture from which the entirety of world architecture can be derived. It finds its *raison d'être* not because it is authentic but because it has an effect. <sup>3</sup> This might explain why the institute has devoted more research to the legacy of Semper's work than to any other writing in the archive in the last fifty years. Indeed, archives are not only collected by but also make the history of institutions.

<sup>3</sup> See Karen Armstrong, *A Short History of Myth* (Edinburgh: Canongate, 2005), 10.

Remarkably, at least at first glance, for an institute that bears the term *history* in its title and whose official duty is to conduct "scientific research," as stated in its first statutes, figures of origin are not limited to its archives. <sup>4</sup> The inauguration of the Institute for the History and Theory of Architecture on June 23, 1967, was interspersed with several references to such figures, beginning with a "furrowed mollusk engraving" from Conrad Gessner's *Thierbuch* (1557), offered by the president of the ETH board, Jakob Burckhardt, as a christening gift. Presented as "the most consummate of buildings," the gift was a way to define the position of the institute as a "Sonderling" (oddball) inside a polytechnic institution. The gift served to question how far the "intuitive" would have to cede the path to the "exact-scientific work" as practiced otherwise in the school, and by this to acknowledge other forms of knowledge as present in artistic practices. <sup>5</sup> Similarly, Vogt,

<sup>4</sup> "Satzungen des Instituts für Geschichte und Theorie der Architektur, ETH Zürich," April 26, 1974, gta Archives, ETH Zurich.

<sup>5</sup> Jakob Burckhardt, "Begrüßung," in Jakob Burckhardt, Adolf Max Vogt, and Paul Hofer, *Reden und Vortrag zur Eröffnung*, gta 1 (Basel: Birkhäuser, 1968), 7–9, here 8.



the first head of the gta, in his inaugural address built up his argument around not Semper's primitive hut but that of the abbé Marc-Antoine Laugier. Vogt thereby introduced a research interest that would be followed by his successors. Since its foundation, therefore, the gta has engaged with founding myths in a way that makes it a fitting place to outline the changing role of these myths in historiography over the last fifty years.

The choice of Laugier undoubtedly reflected Vogt's own research and interest in the French architecture of the seventeenth and eighteenth centuries. Yet, beyond Laugier's hut, Vogt was concerned with something far more general. He wanted to demonstrate the relationship between theory and practice and between the present and the past – a quadripartite that has served the institute as a basis with much success. The question was not whether the French abbé's theory – the hut with the four tree trunks, four top beams, two frontispieces and a ridge beam (a structure similar, according to Vogt, to that of the Roman temple of the Maison Carrée in Nîmes) – is eccentric or not. Instead, its significance was, according to Vogt, the impact of its theoretical assumptions on classicism around 1800. As he pointed out in his conclusion on the role of theory within architecture, "Quirky theories can likewise yield profound 'facts,' namely entire architectural epochs." Not coincidentally, he then cited as a further example *Space, Time and Architecture*, "an account ... in which the great architectural groups of the Western world" could recognize themselves. <sup>6</sup> With these two fundamental exemplars – one of them supposedly ringing in classicism, the other in modernism – Vogt delineated not only the institute's early fields of research but its goals and ambitions within the ETH's faculty of architecture: the operative dimension of theory.

Vogt thus not only tried, from the perspective of a historian, to describe the framework of the history of ideas in which the power of founding myths takes effect. He also, from the perspective of the theorist, wanted to legitimize the operative role of the founding myth in the determination of a reference system for an architecture to come. Seen from this vantage point, the boundaries between the explanatory potential of founding myths and theoretical constructs become fluid. Who can definitively determine where the lines might be drawn between the abbé's theses on the structural system of architecture and the "universally valid principle" of "transparency" postulated by Bernhard Hoesli? <sup>7</sup> Or between the conventions of regional architecture and the conventions of linguistic systems in architecture as pursued by Martin Steinmann and Bruno Reichlin? <sup>8</sup> Or between the frequently renewed analysis of the ground plans of historical cities here at

<sup>6</sup> Adolf Max Vogt, "Das Institut, seine Aufgabe, seine Verpflichtung," in Burckhardt, Vogt, and Hofer, *Reden und Vortrag* (see note 6), 13–19.

<sup>7</sup> Bernhard Hoesli, "Transparente Formorganisation als Mittel des Entwurfs," in Colin Rowe and Robert Slutzky, *Transparenz*, gta 4 (Basel: Birkhäuser, 1989), 73–107, here 73.

<sup>8</sup> Martin Steinmann, "Wirklichkeit als Geschichte: Stichworte zu einem Gespräch über Realismus in der Architektur," in *Tendenzen – Neuere Architektur im Tessin: Dokumentation zur Ausstellung an der ETH Zürich vom 20. Nov.–13. Dez. 1975*, eds. Martin Steinmann und Martin Boga (Zurich: Organisationsstelle für Ausstellungen des Institutes gta, 1977), 9–14; and the questionnaire on architecture and semiotics compiled by Bruno Reichlin and Fabio Reinhart in *Das Werk: Architektur und Kunst* 58, nos. 4, 6, 10, 12 (1971), and 59, no. 2 (1972).

the institute (as pursued by Paul Hofer, André Corboz, and Vittorio Magnago Lampugnani from continually new standpoints) and the invention of form as analyzed two decades ago on the occasion of the institute's thirtieth anniversary? Or even the lines between the principles apparently embodied in a primitive Caribbean hut and the four elements of architecture?

A further perspective is necessary, one that relativizes the operative character of the founding myth. As Werner Oechslin, Vogt's successor at the gta, would point out in several essays, the resort to tales or legends from far-off, fabled times seems to be particularly useful "whenever philosophical inquiry proved to be too difficult and demanding."<sup>9</sup> A good example is the legend around the philosopher Aristippus, who discovered geometric figures on the beach at Rhodes after being shipwrecked and enthusiastically judged them to be a sign of human existence. Vitruvius would use this legend to substantiate the rationalness of human activity in general and by this the scientific character of architecture via its affinity to mathematics.<sup>10</sup>

However, to interpret such myths as alibis intended to evade confronting complex material would be an oversimplification. Rather, the exercise is to understand myths not only as an explanation or justification for one's own actions but as a genus in the individual fundamental questions of architecture, which in their complexity and contradictory nature can be continually re-posed anew. For this purpose, they prove particularly insightful. This perspective narrows the character of the founding myth yet at the same time opens it up. It narrows it by relativizing the myth's operative and explanatory character: the principles of the hut in the woods as they served Laugier in the context of classicism, or the theory of clothing disclosed in Semper's Caribbean hut as it served the protagonists of postmodernism. And it simultaneously opens it up by respecting that founding myths allow a fundamental architectural stance to be assumed. This is what constitutes the founding myth's lasting significance for architecture, explaining its persistence throughout history. And it is also why primitive huts and the theoretical models derived from them still enjoy such currency and validity.

Yet, due to the systematic appraisal of this genus, architecture and its history and theory seem to be characterized by almost too many founding myths in recent years.<sup>11</sup> Suddenly it is Adam who was the first architect, suddenly Cain; in one place it is Daedalus, in another the noble savage; then animals again, or the figure of the precisely calculating engineer; then Nature, that great architectural craftsperson, all-provident and all-legitimizing. Correspondingly, in the texts of authors as varied as

<sup>9</sup> Werner Oechslin, "Geometry and Line: The Vitruvian 'Science' of Architectural Drawing," *Daedalus* 1 (1981): 20–35, here 21.

<sup>10</sup> Ibid.; Werner Oechslin, "Dinocrates and the Myth of the Megalomaniacal Institution of Architecture," *Daedalus* 4 (1982): 7–26.

<sup>11</sup> See Joachim Gaus, "Die Urhütte: Über ein Modell in der Baukunst und ein Motiv in der bildenden Kunst," *Wallraf-Richartz-Jahrbuch* 33 (1971): 7–70; Georg Germann, "Höhle und Hütte," in *Jagen und Sammeln: Festschrift für H. G. Bandi*, eds. Rudolf Fellmann, Georg Germann, and Karl Zimmermann (Bern: Stämpfli, 1985), 121–30; Joseph Rykwert, *On Adam's House in Paradise: The Idea of the Primitive Hut in Architectural History*, Museum of Modern Art Papers on Architecture 2 (New York: Museum of Modern Art, 1972).

Vitruvius, Filarete, Rivius, Laugier, Goethe, Garnier, Loos, Banham, Kurokawa, Virilio, Sloterdijk, and many others, the “huts” originate in caves, then in cosses or in tents or in timber edifices or in stone edifices; or, depending on climate and building material, in reverse order; then again in shrouds, membranes, or spheres (round, oval, or cylindrical); in tombs or in monuments, in silos or in ship’s cabins, in Atlantic bunkers or in fortified towers. In one case the beginnings lie in geometry, in another in bare necessity, in a further case in the four elements, in yet others in “fire” or language.

Two aspects can be derived from this. The first is that what distinguishes founding myths is that when taken together they do not form a closed whole. As outlined by Claude Lévi-Strauss in his *Mythologiques*, the longer one examines myths, the more sweeping and broader the “swathes of mist” become that describe them, without ever making the domain that they occupy any more comprehensively or permanently intelligible. As myths relate to human life, no clear circumscription of their limit is ever possible.<sup>12</sup> This applies to founding myths in architecture in the same measure. The second aspect is that, even when the historian’s task lies in attaining an understanding of the individual founding myths in their historical peculiarity and significance, myths nonetheless evade historical classification. They are, in the words of the religious scholar Gerard van der Leeuw, “exemplary,” “archetypal,” and “eternal,” and, as such, “beyond temporality.”<sup>13</sup> In this sense, founding myths convey less about the architecture of particular epochs and instead express the ways and means by which particular epochs have attempted to conceive the infinite realm of architecture. The ultimate point is not only what influence the Caribbean hut had on the architecture of the nineteenth century but in which ways the nineteenth century prompted architects to no longer think simply in terms of European architecture and its classical tradition and instead to think in terms of architecture from throughout the world.

The systematic reappraisal of founding myths thus brings with it an opening of the corpus that marks the domain in which architectural argumentation operates today. The differing aspects that can be identified throughout the history of the gta might also be read as different moments in how history and theory have been practiced at the institute: the setting out and institutionalization of the principles of historical research in an architectural school with the call to grant theory an operative role; the aim of establishing historical research as an academic discipline dedicated to the history of architecture and its theory in its entire historical scope and depth and which, as a consequence,

<sup>12</sup> Claude Lévi-Strauss, *Mythologiques: Le Cru et le cuit* (Paris: Plon, 1964), 7–40, here 10

<sup>13</sup> Cited in “Mythos, Mythologie,” in *Historisches Wörterbuch der Philosophie*, vol. 6, eds. Joachim Ritter and Karlfried Gründe (Basel: Schwabe, 1984), 281–318, here 303.

simultaneously relativizes the operative and speculative dimensions of theory; and, finally, the necessity to perform against the background of a historiography increasingly dominated by fragmentation and relativism. In this regard, the question of the search for the origin must, by necessity, be questioned in favor of a genealogy that attempts to reconstruct the circumstances of individual practices in their singular and therefore also unique character – an approach that completes the shift from the search for universal knowledge (what is architecture? what are its origins?) to an empirical evaluation (which architecture? which standpoint?).<sup>14</sup>

<sup>14</sup> See Manfredo Tafuri, "The Historical 'Project,'" *Oppositions* 17 (1979): 54–75; Michel Foucault, "Nietzsche, la généalogie, l'histoire," in Suzanne Bachelard et al., *Hommage à Jean Hyppolite* (Paris: PUF, 1971), 145–72.

If this calls for an individualizing approach, then it is not meant in the sense either of a personification of the author – which would demote architecture to a question of taste – or of a new methodology – which would overshoot the subject and result in further fragmentation. What is required is an approach based on individual questions that, because they differ continuously, entails a constant series of unique standpoints from which architecture is examined.<sup>15</sup> At stake, therefore, are less the precise moments of foundation and more the fundamental questions addressed to architecture, such as the position of the architect, the role of theory, the actors involved in the creation of a material, the question of style, or the definition of autonomy. This is the approach taken in this issue of *gta Papers*: the engagement with founding myths does not aim at any search for origins but rather at constituting again and again an appropriate axiomatic frame of reference within architecture – a discipline lacking any axiomatic foundation.

<sup>15</sup> In relation to the work of art, see Gilles Deleuze, "Les signes de l'art et l'essence," in *Proust et les signes* (1964; Paris: PUF, 2006), 51–65.

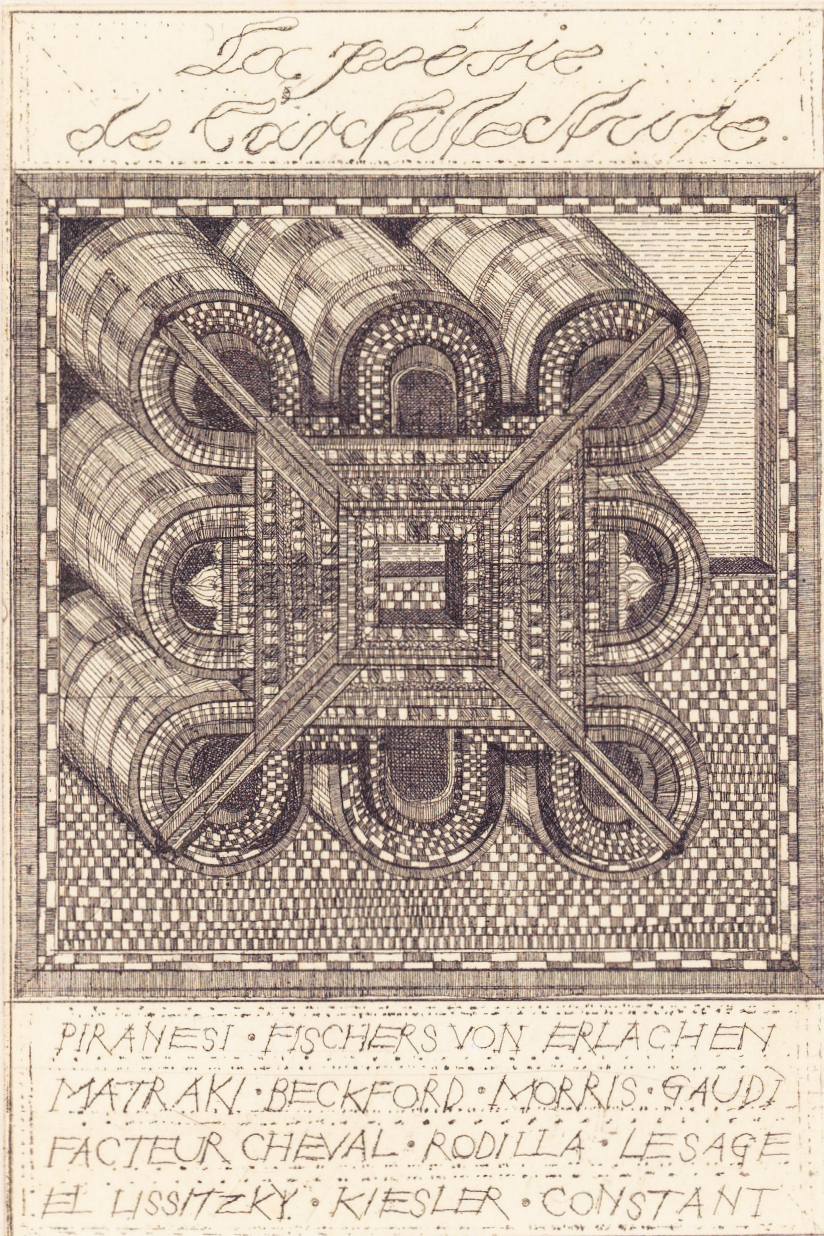
Irrespective of the fact that perspectives and expectations attached to founding myths may have changed in the last fifty years and that these shifts are reflected in the history of the *gta*, what seems to linger as the institute's tacit foundation are the four cornerstones that were established in 1967: the interrelation between history, the present, theory, and practice. Not pure theory but epistemological endeavor; not pure history but historical awareness. The main focuses may have shifted, standpoints may have taken on new definitions, and problems may have changed, but the institute has remained faithful to this quadripartite. Credit, however, is not due to the institution. The institution may set out the framework, but its achievements are due to the work of all its collaborators.

# From the gta Archives

## Compiled and commentated by Sabine Sträuli, Filine Wagner, and Lukas Zurfluh

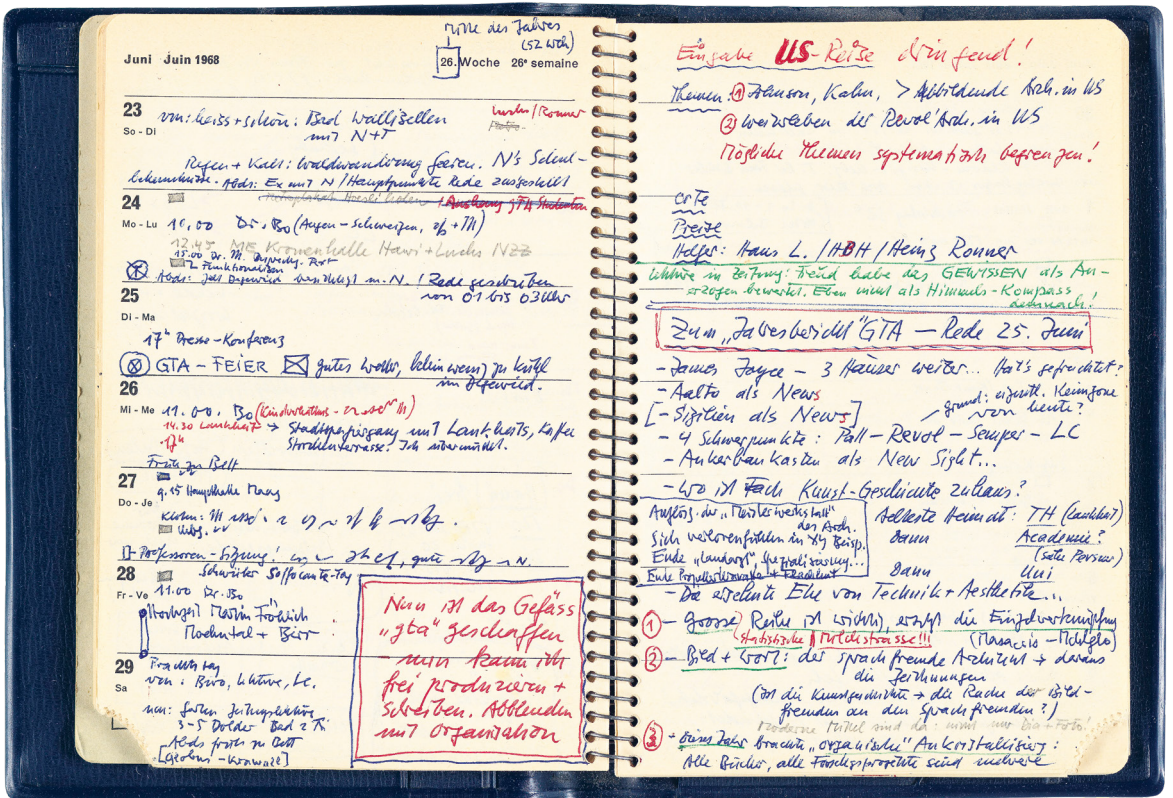
1 Johannes Gachnang,  
*La Poésie de l'archi-  
tecture*; etching; first  
printing, 30 copies  
numbered and signed,  
1967; Bequest of Adolf  
Max Vogt, gta Archives,  
ETH Zurich.

The Zurich artist and  
architect Johannes  
Gachnang created this  
etching for the invitation  
to the official inaugu-  
ration ceremony of the  
gta institute on June  
23, 1967. The etching  
references both the  
historical and present-  
day "Saint Andrew's  
cross," as well as the  
theory and practice that  
Adolf Max Vogt would  
mention in his speech  
as the first director  
of the gta. Gachnang  
had worked in Hans  
Scharoun's studio in  
Berlin, where he com-  
pleted a first cycle of  
fantastic architectures,  
from which the etching  
was taken.



2 Adolf Max Vogt, page from his 1968 pocket diary; Bequest of Adolf Max Vogt, gta Archives, ETH Zurich.

A year after its inauguration, the gta Institute was a fait accompli. Next to his entry on the annual celebration on June 25, 1968, Adolf Max Vogt, driving force of the institute and its long-standing director, expresses relief at having created the container "gta" and finally being able to produce and write freely while reducing organizational tasks. On the opposite page, the notes for his speech give insight into the unremitting endeavor to shape the institute's profile through research topics and to position it within the field of architecture and art history.



*Kunstformenlehre*

# DER STIL

*oder der Stil und seine pract. Anwendung  
in den*  
technischen und tektonischen Künsten.

Ein Handbuch

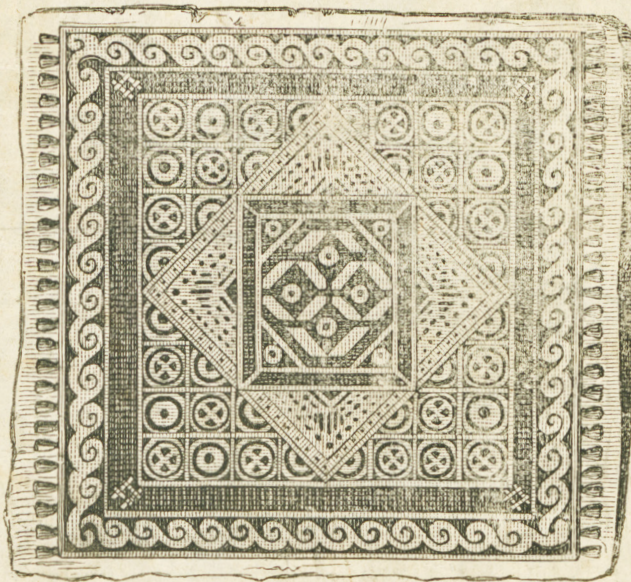
~~der~~  
~~praktischen Aesthetik~~

für

Techniker, Künstler und Kunstfreunde

von

**Gottfried Semper.**



Erster Band.

FRANKFURT.

Verlag der Hermann'schen Buchhandlung.

3 Gottfried Semper, *Der Stil in den technischen und tektonischen Künsten, oder praktische Aesthetik* (1860/1863); draft of the title page with corrections, ca. 1860; Bequest of Gottfried Semper, gta Archives, ETH Zurich.

Known mostly for his built oeuvre, Gottfried Semper also gained fame for his prolific writings about architecture. His meticulously crafted *Der Stil* is considered to be a fundamental work of architectural theory. Based on four elements—the hearth, the roof, the enclosure, and the mound—his foundational story goes beyond the boundaries of architectural and art history, reaching into such fields as the history of culture and language, evolutionary biology, and anthropology.

*Handwritten note on the right side of the page, partially obscured by the binding edge. It appears to be a library or collection stamp or a personal note.*

*Handwritten note at the bottom center: "für Kunst- & Tischgesch." and "1859".*

4 Sigfried Giedion, *The Eternal Present, The Beginnings of Art* (1962); layout for a page-spread with drawings based on photographs of cave painting in Niaux, ca. 1960; Bequest of Sigfried Giedion, gta Archives, ETH Zurich.

In the decades after the Second World War, Sigfried Giedion became increasingly interested in the principles of paleoarchaeology and paleoanthropology. In his ample publication *The Eternal Present*, published in two volumes in 1962 and 1964, he traces the origins of art and architecture in prehistory. For both volumes the art historian undertook journeys to places like the Cave of Niaux in south-western France. He accurately documented the objects of his investigations, using them for research and to lavishly illustrate his narration.







5 Ernst Gladbach, "Bern"; watercolor of the timber structure of a rural building from the canton of Bern; second half of the nineteenth century; Bequest of Ernst Gladbach, gta Archives, ETH Zurich.

The founding of Switzerland as a federal state in the mid-nineteenth century also saw the rise of an engagement with timber structures as an expression of national architecture. Ernst Gladbach, then professor at the Polytechnikum and author of many books on "Swiss woodwork style," was a pivotal figure in researching and disseminating vernacular architecture. In his educational panels, like this watercolor of a building from the canton of Bern, he did not represent actual houses but created hybrids by unifying in one drawing all the features of the regional tradition.

**6a** Paul Artaria, cottage in Prêles, ca. 1920; photograph; Bequest of Paul Artaria, gta Archives, ETH Zurich.

Due to its elementary form and its simple construction, the tent-like cottage in Prêles, built by Paul Artaria in 1920, was soon dubbed the "primitive hut" of Swiss modern architecture. The site did play a crucial role during the formative years of modernism. In June 1923, representatives of the architectural avant-garde, including Artaria, Hans Schmidt, and Hermann Baur, convoked a meeting at the cottage above Lake Biemme to contest the rather conservative result of the competition for the Hörnli cemetery in Basel, thus fostering different directions for Swiss architecture.



6b "Die Zusammenkunft der Architekten" (The gathering of the architects); announcement and program for the meeting of avant-garde architects in Prêles, 1923; author unknown; Bequest of Hermann Baur, gta Archives, ETH Zurich.

**A DIE ZUSAMMENKUNFT DER ARCHITEKTEN**

findet statt:

**B SAMSTAG / SONNTAG,**

6./7. Juni, 1923

**C in PRÊLES (Bielersee).**

VIR ERWARTEN IHRE FRÜHZEITIGE UND IHRE BEFRIEDIGUNG AN DER AUSSTELLUNG.

**HINFAHRT** Samstag 6. Juni, abends

Zürich	ab 18.27	
Biel	an 21.14	(via Olten)
Basel	ab 19.25	
Biel	an 21.06	(via Grenchen)
Bern	ab 19.47	
Biel	an 20.43	(via Lyss)
Biel	ab 21.28	
Neuveville	an 21.43	

**UNTERKUNFT** in Ferienhütte (1. Std. ab Neuveville)  
für die am Samstag ankommenden Teilnehmer.

**HINFAHRT** Sonntag 7. Juni, morgens

Zürich	ab 7.00	
Biel	an 9.31	(via Olten)
Basel	ab 7.50	
Biel	an 9.24	(via Grenchen)
Bern	ab 9.08	
Biel	an 10.06	(via Lyss)
Biel	ab 10.52	
Ligersz	an 11.11	
Ligersz	ab 11.28	
Prêles	an 11.59	

**ESSENZEN** Sonntag 7. Juni mittags im "Bären" in Prêles.  
Für einfaches Mittagessen wird gesorgt.

**AUSSTELLUNG** und Besprechung von Plänen etc. im Saal des  
"Bären". Alle Teilnehmer sind eingeladen, Arbeiten und weiteres Material mitzubringen oder Diskussions-themata zu stellen.

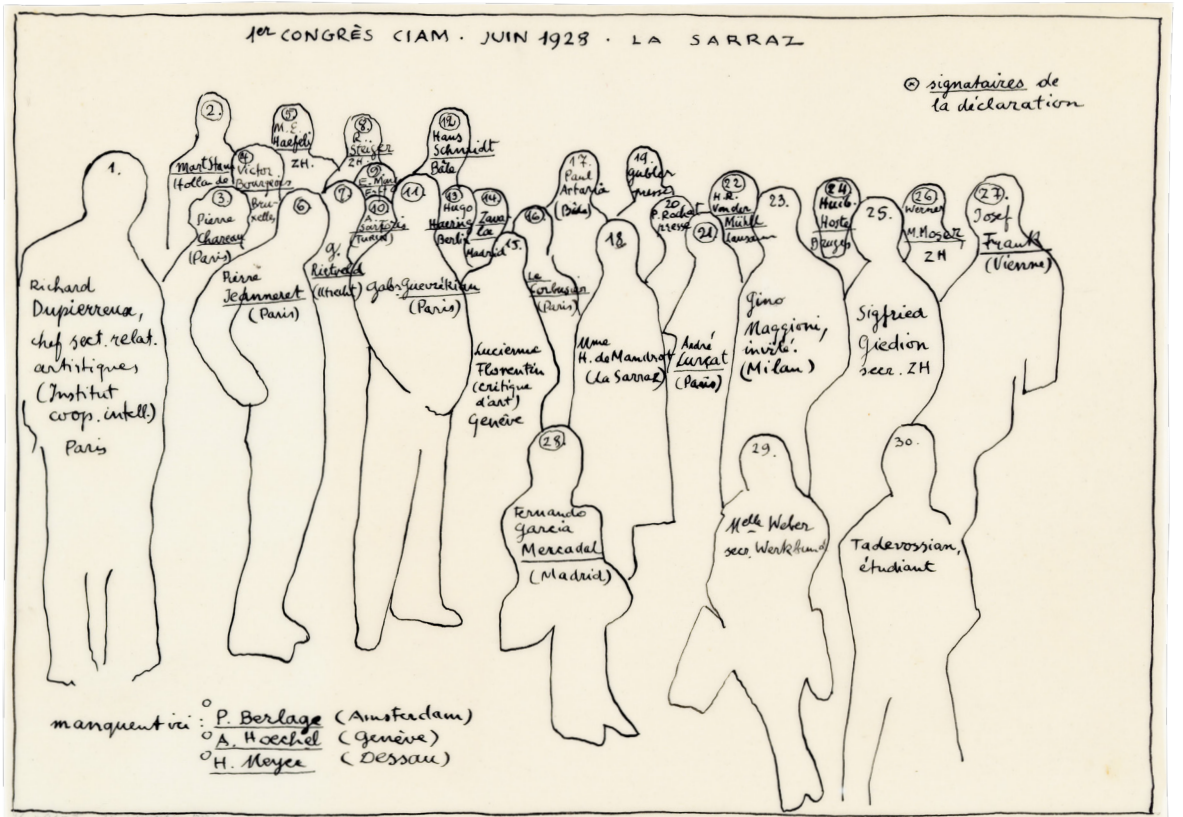
**RUECKFAHRT** Sonntag, 7. Juni, abends

Biel	ab 20.43	
Zürich	an 23.22	(via Olten)
Biel	ab 20.53	
Basel	an 22.31	(via Grenchen)
Biel	ab 22.10	
Bern	an 22.54	(via Lyss)

Jede weitere Auskunft erteilt die Administration des  
A B O  
Augustinergasse 5 Basel

7 Founding congress of the Congrès Internationaux d'Architecture Moderne (CIAM) in La Sarraz, June 26–29, 1928; photograph and corresponding template; CIAM Archives, gta Archives, ETH Zurich.

In 1928, the International Congresses of Modern Architecture were founded at the chateau of Madame Hélène de Mandrot in La Sarraz. The reason for this meeting was the defeat of the "modern" projects in the competition for the League of Nations palace in Geneva in 1927. The photograph shows the participants and the hostess in front of the castle's chapel. A corresponding template fries to retrace and identify them.



Ausst. "Die Tessiner"

Suozzi 11.12.73

Die frühe Moderne i Tessin

~~Christow~~  
~~Suozzi~~

20/30 } deutsche Flüchtlinge  
2 } Fehrenkampff  
Weidemeier  
Segel

die mittl. Generation

4 } Tami  
Camenrind  
Jäggli

die neue Generation

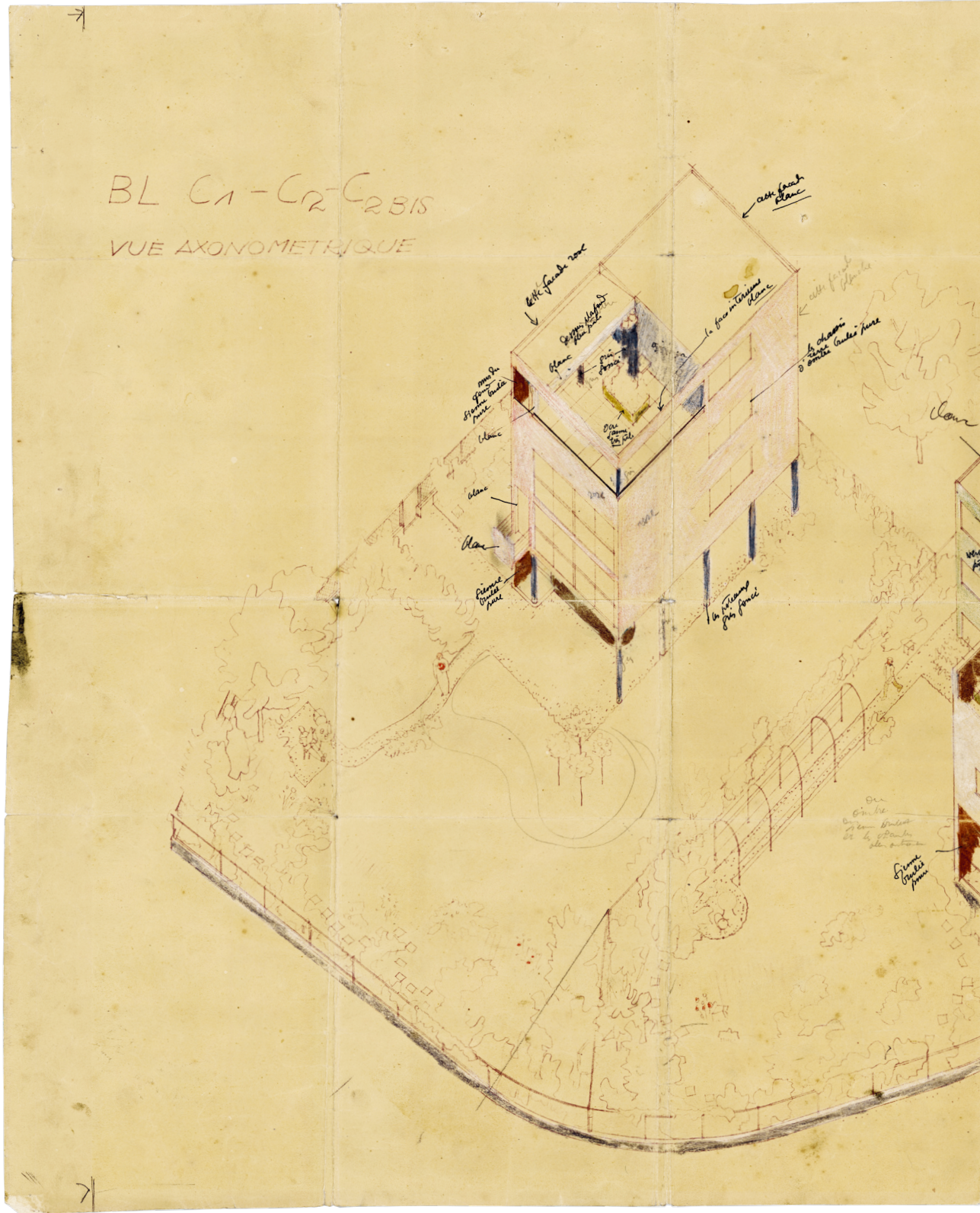
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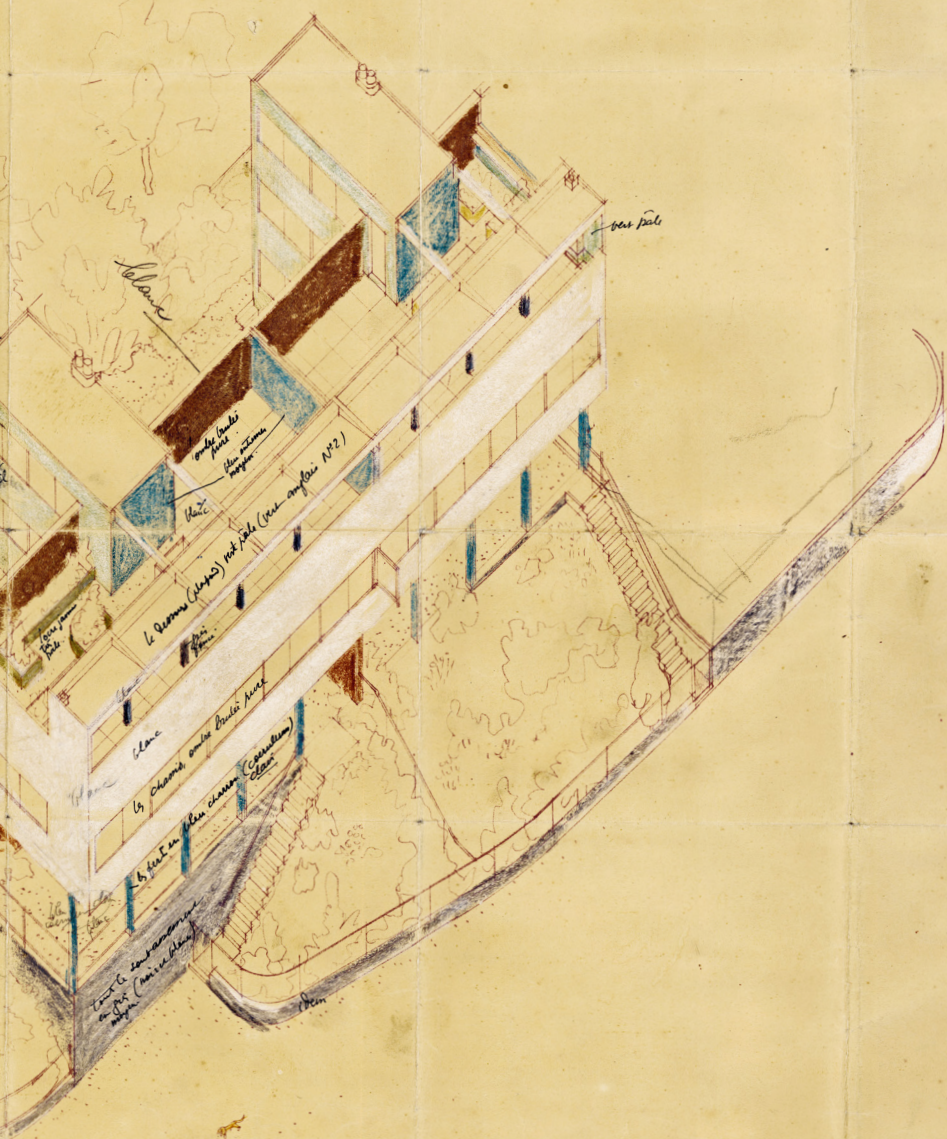
Schnebli  
Pauli  
(Grisel)  
(Dolinden)  
(Studer)

8 Heinz Ronner [?], "Ausst. 'Die Tessiner'" (Exhib. "The Ticinesi"); research notes for the exhibition *Tendenzen - Neuere Architektur im Tessin, 1973*; Collection gta Ausstellungen, gta Archives, ETH Zurich.

With the exhibition *Tendenzen - Neuere Architektur im Tessin* in 1975, the gta showcased the work of architects emerging in the late 1960s and early 1970s in the canton of Ticino. The exhibition sought to grasp the tendencies of a new generation - an autonomous and formally heterogeneous movement rooted in regional tradition and practices, though considerably indebted to contemporary Italian discourse. The seminal exhibition put Ticinese architecture on the national and international map and was highly influential for the work of subsequent generations of Swiss architects.

9 Le Corbusier and Pierre Jeanneret's single-family house and twin house at the Weissenhof Estate; axonometric projection with instructions by Le Corbusier on how to color the walls, 1927; Bequest of Alfred Roth, gta Archives, ETH Zurich.





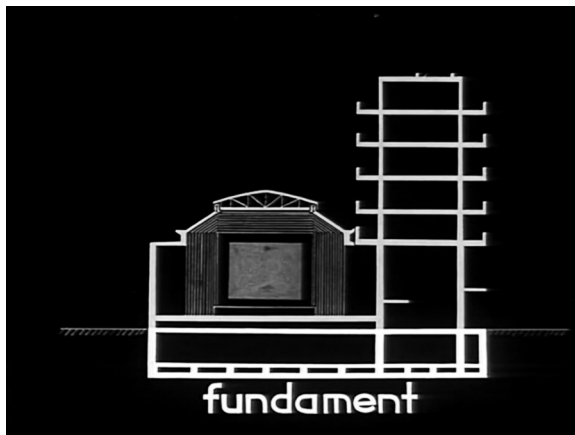
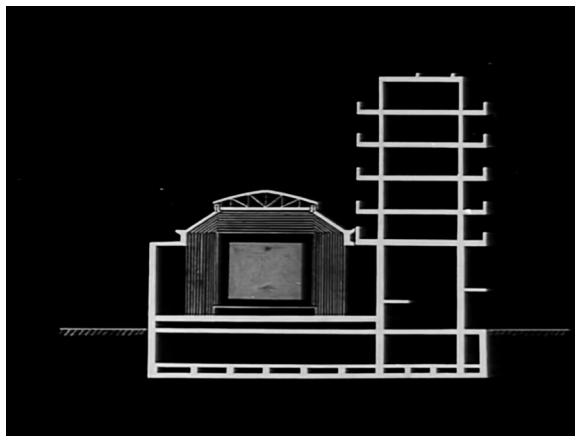
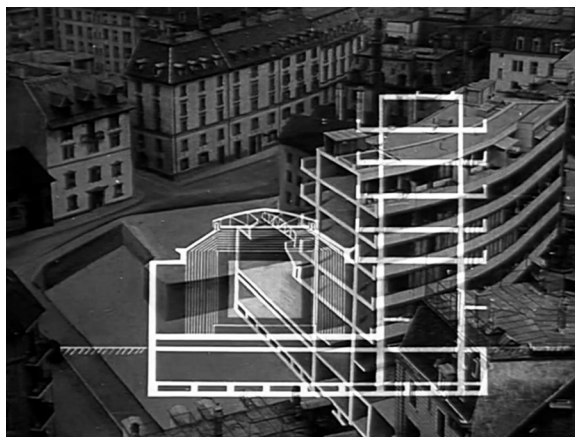
In 1927, Le Corbusier and Pierre Jeanneret contributed two dwellings to the Weissenhof Estate in Stuttgart, a built manifesto of the Neues Bauen movement. Their semi-detached two-family house, overseen on site by architect Alfred Roth, marks an attempt to apply "the five points of a new architecture." The first point, or principle — the pilotis: a grid of reinforced concrete stilts lifting the structure off the ground — not only offers the basis for a new aesthetic but, by providing the rooms with light and air, literally represents the pillars of modern architecture.

STUTTGART LE 6 JUIN 1927

gehört Alfred Roth und  
 Prof. Dr. Ing. Techn. Hochschule  
 Familie

10 *Zett-Haus*, ca. 1932; film stills of the animated section and the laying of foundations for the construction; author unknown; Cinematheque, gta Archives, ETH Zurich.

No medium was more apt than the moving picture at mirroring the technical and functional novelties of the *Zett-Haus*, a multiuse building comprising apartments, commercial spaces, a cinema with a movable roof, and a swimming pool on the terrace. Designed by Rudolf Steiger, Flora Crawford-Steiger, Carl Hubacher, and Robert Winkler, and executed in 1932, it was a key representative for modern architecture in Zurich. The film reveals not only the entire construction process of this innovative building, starting with the laying of the foundations, but its role within the transformation of the city during the first decades of the twentieth century.







11 Gottfried Semper, Polytechnikum, Zurich; photograph of the fundamentals of the east facade during renovation, ca. 1920; Bequest of Gustav Gull, gta Archives, ETH Zurich.

The massive foundation walls of the Polytechnikum, built by Gottfried Semper in 1858 and still towering over the city of Zurich, symbolize what was meant to be the basis of the then still young Swiss Confederation: education. Although the stone foundation had to be replaced by concrete for structural reasons, Semper's work is still one of the pillars of the school. A good hundred years after the building was erected, ETH gave the so-called Semper Archive to the gta. Since the institute's founding in 1967, Semper's drawings, writings, and letters have been an integral part of teaching and research, and, in a figurative sense, form the foundation of the institute.

12 Radoslav Begic,  
Max Bosshard,  
Marianne Crivelli,  
Urs Diefler, Axel Fickert,  
Heinrich Helfenstein,  
Stefan Hilbrand, Bruno  
Jenni, Renato Magginetti,  
Paul Schröder, and  
Margareta Peters  
(lead), "Solothurn:  
Zusammenhängende  
Grundrissaufnahme,  
Erdgeschoss" (Solothurn:  
continuous floor plan,  
ground floor), 1978;  
Collection Chair for  
Town Planning, gfa  
Archives, ETH Zurich.





The "Solothurn Project" – an experimental design course taught in 1977/78 by Paul Hofer, Bernhard Hoesli, and Aldo Rossi at the ETH Department of Architecture – was based on an overall ground-floor plan of the city of Solothurn. Starting from a morphological analysis, the students designed new buildings as a collective undertaking based on Hofer's concept of the "dialogical city" and Rossi's understanding of the city.

13 Lisbeth Sachs at the cornerstone ceremony of the Kurtheater in Baden, December 14, 1950; photograph by Werner Nefflen; Bequest of Lisbeth Sachs, gta Archives, ETH Zurich.

The cornerstone ceremony marks the initial public act of construction. The photograph shows architect Lisbeth Sachs at the construction site of the Kurtheater Baden (built 1951/52) surrounded by male colleagues, craftsmen, and official representatives. The modern theater, characterized by a glazed dodecagonal foyer set in a historical spa garden, ranks among the first of a very few public buildings created by female architects in 1950s' Switzerland.





**14** Fabric produced for the roofing ceremony of the Kongresszentrum Davos extension by Ernst Gisel in 1989; Bequest of Ernst Gisel, gta Archives, ETH Zurich.

Traditionally, the last beam to be mounted is celebrated with flags and ribbons tied to the building's highest point. During the postwar period, the sanatorium town of Davos in the Swiss Alps evolved into an international congress hub. Thanks to a collaboration with architect Ernst Gisel, whose culture and sports center adjoined by a congress venue was designed as a multiuse event location, the mountain resort successfully reinvented itself by blending leisure and business from 1959 onward.

# The Architect's Hand: Making Tropes and Their Afterlife

## Alina Payne

Alina Payne is Alexander P. Misheff Professor of History of Art and Architecture at Harvard University and Paul E. Geier Director of Villa I Tatti (Florence).

<sup>1</sup> I refer to Howard Sutcliffe of the Canadian firm of Shim Sutcliffe Architects (Toronto).

An architect friend of mine in Canada includes something made by his own hands in every building he builds. <sup>1</sup> I have always found this a singular desire, habituated as we all are to see the architect distant — above or at least at a remove — from the object being built. And yet I wondered whether we — as architects, as writers about architecture, as users — have not sublimated something that perhaps exists there, deep in the bowels of this paradoxical art — paradoxical because it is an art “in translation,” where each stage (from drawing to model to construction) translates across materials, across ways of making, and across the many players who collectively are involved in this making. In short, what the architect “makes” is never what we see as architecture. Perhaps then to go right back to origins — to the first definitions of architecture — may be a promising way to find out if and when the question of the architect’s manual involvement emerged, was attended to, and (it would seem) disappeared.

**1** Origin myths have always been seen to have a didactic meaning and indeed a didactic intent: those with a negative slant admonishing against (fatal) faults and those with a positive one recommending the appropriate paths to take. There are origin myths for all the arts, but for architecture these have been particularly potent, especially at a didactic rather than poetic or purely philosophical level. For an art with no external referent to be evaluated against (not being mimetic), the mythical origins of architecture acted as the ultimate and necessary means of validation for later shifts in definitions and inventions. As a result, and uniquely perhaps, architecture’s myths and its history are deeply imbricated. And it is this didactic and normative aspect of architectural origin myths that makes them an appropriate starting point for reflection on the changing definition of the architect on the anniversary occasion of a major architectural academic institution.

Of course, myths have many layers, their compactness belying their complexity, and volumes can and have been written about them. Here, however, I would like to concentrate only on one particular aspect to the degree that I can disentangle it from intersecting themes: Who/what is the architect (rather than what is architecture)? And what are his skills? This may seem an obvious way of getting at the issue of architecture as artifact and the architect as potential artisan, yet in fact architecture myths that focus on making are not plentiful, and one must dig deep and read between the lines. Surprisingly, the same is

true of the other visual arts. Given, then, that this issue has been pushed to the margins, across the board it might be useful to examine first how myths about the visual arts in general compare, and how, as a group, they illuminate definitions of practice – both historically and now.

**2** The primary ancient myth for the origin of painting is retold by Pliny the Elder: Kora, a young Greek woman from Corinth, drew the profile of her lover (a shadow against the cave wall) who was about to go away (or to war, depending on the version). <sup>2</sup>/fig.1 As such, this first man-made image was a keepsake, a gesture of love and memory (the remembrance of a loved face). Nature is its principal object, since it is an attempt to copy a real figure, yet by virtue of it being the outline of a shadow, it is an abstraction at the same time. Interestingly, this story is also that of the birth of



sculpture, since the girl's father, Butades of Sicyon (an artisan who made clay roof tiles), eventually models a relief in clay from this outline, which later leads him to ornament the ends of roof tiles with human faces, an invention that thus heralds the birth of figural sculpture. The vexed relationship and competition between relief, painting, and sculpture in the round – causing sometimes acrimonious debates at the very least since the Renaissance if not before – may then also have an origin here. <sup>3</sup> The other, equally powerful, origin myth for painting is the story of Narcissus. Taken up from Ovid's *Metamorphoses* by Leon Battista Alberti in his *Della pittura* (1435), it became a frequent topos and reference point for painters from the Renaissance onward, even though no actual painting takes place in the story. Narcissus (son of a nymph and a river god) falls in love with his own image reflected in a pool and drowns seeking to embrace it. Like the story of Kora, this, too, associates love with the invention of picture-as-imitation, though in this case it is self-love (which leads to death). <sup>4</sup> Reflection on the craft aspect of the art does not figure in either story.

A second group of origin stories for painting that relate to specific artists' biographies come closer to dealing with the physical making of pictures. A leading story is that of the ancient Greek painter Zeuxis, likewise retold by Pliny and many times illustrated

<sup>2</sup> "It was through his daughter that he [Butades of Sicyon] made the discovery; who, being deeply in love with a young man about to depart on a long journey, traced the profile of his face, as thrown upon the wall by the light of the lamp [umbram ex facie eius ad lucernam in pariete lineis circumscrisit]." Pliny the Elder, *Natural History*, Loeb Classical Library 394, vol. 9 (Cambridge, Mass.: Harvard University Press, 1952), book 35, ch. 15.

fig.1 Jean-Baptiste Regnault, *L'Origine de la peinture*, 1786.

<sup>3</sup> For a history and its modern consequences, see Alina Payne, "On Sculptural Relief: *Malerisch*, the Autonomy of Artistic Media and the Beginnings of Baroque Studies," in *Reframing the Baroque*, ed. Helen Hills (London: Ashgate Press, 2011), 39–64.

<sup>4</sup> For two seminal reflections on the invention of painting and the associations to love, death, and mourning, see Jacques Derrida, "By Force of Mourning," trans. Pascale-Anne Brault and Michael Naas, *Critical Inquiry* 22, no. 2 (1996): pp. 171–92, in turn responding to Louis Marin, *Des Pouvoirs de l'image: Gloses, L'Ordre philosophique* (Paris: Éditions du Seuil, 1993).

**fig. 2** Giorgio Vasari, *Storie di Zeusi* (detail), Casa Vasari, Florence, ca. 1570.

**5** Pliny, *Natural History* (see note 2), book 35.

by artists (e.g., the rendition Giorgio Vasari painted in his own house in Florence). <sup>5</sup>/fig. 2 This is not quite an origin myth, though it was made to fill that role by Pliny's Renaissance readers; instead, it is about artistic behavior, about how painting is done (or practiced). Zeuxis, so the story goes, is invited to paint a Venus by the citizens of Croton and unable to find a perfect model, he asks to behold several young beauties so as to select their best features and thus obtain that elusive perfect body. Only laterally about painting as craft, the story (much commented on from Cicero to Erwin Panofsky) was generally seen as a statement on the fundamental relationship between art and nature: Does it look to *natura naturata* or to *natura naturans*? <sup>6</sup>



**6** Ibid. For a review of the story and its changes along the centuries, see Erwin Panofsky, *Idea: A Concept in Art Theory* (Columbia: University of South Carolina Press, 1968).

**7** Giorgio Vasari, *Le vite de' più eccellenti architetti, pittori, et scultori italiani: da Cimabue insino a' tempi nostri* (Florence: Lorenzo Torrentino, 1550).

**8** Marc Gotlieb, "The Scene of Instruction," in *The Italian Renaissance in the 19th Century: Revision, Revival, and Return*, eds. Lina Bolzoni and Alina Payne (Florence: Officina Libraria; Cambridge, Mass.: Harvard University Press, 2018), 189–212.

However, not all origin myths are ancient. A more recent origin-of-painting as origin-of-artist story, this time narrated by Giorgio Vasari in his *Vite* of 1550, is also biographical and concerns Cimabue's "discovery" of Giotto. <sup>7</sup>fig. 3 This is not an origin myth as such, but like the story of Zeuxis and the Crotonian maidens it became equally potent as an "origin of artists" story or anecdote. As Vasari recounts, Giotto is discovered as a young shepherd tending his flock and scratching images in the sand. Struck by his talent, the older and established painter Cimabue, who accidentally passes by, takes him on as apprentice, and in time, Giotto confirms Cimabue's intuition and becomes the watershed artist for the Renaissance. <sup>7</sup> There are many intersecting themes here, though only one pertains directly to practice. As Marc Gotlieb has shown, what is at stake is not only the discovery and the artist's relationship to nature, but also "the scene of instruction" — the relative roles of the nature-boy (not to say savage artist) and his teacher — that is, where and how art is taught (if at all). Is Giotto a self-taught prodigy of nature who breaks with tradition precisely for this reason, or does he need a teacher (and a workshop) all the same? <sup>8</sup> In fact this anecdote is itself a



trope since it rehearses the ancient story of the sculptor Lysippus from Pliny the Elder, which in its turn depends on an even earlier story, also about Lysippus, told by Duris of Samos. At Vasari's hands, however, this becomes "the Giotto story" and thereafter recurs as "biographical padding" (as Kris and Kurz call it) in many other biographies. 9

Clearly there is a core message to these myths and anecdotes: of love that calls forth art-making in imitation of nature (as likeness of the beloved); of the childhood miracle (needing no schooling since the child is already close to nature) and of the accidental discovery of the prodigy; finally, it is also about the relationship to a master, for in many of these stories the ultimate object is to genealogize. So much for painting.

A number of origin myths are also associated with sculpture, in addition to that of Butades of Sicyon. Surprisingly, the craft aspect of the art is marginal here too. As was the case with painting (and architecture, as we will see), accident plays a role here as well: as Leon Battista Alberti recounts in his *De statua* (1462), a rough piece of wood or a clod of clay set off the artistic act/imagination such that the first sculptor only enhances what is already there. 10 In a way this is a pendant to an ancient anecdote about painting: in a Jackson Pollock-like story *avant la lettre*, the Greek painter Protogenes, so Pliny recounts, is inspired by the stain left by a wet sponge he throws against the wall. The story evidently hit a nerve as there is also a later, Renaissance version of this anecdote/myth involving Leonardo and the inspirational effects of cloud formations upon his painting.

To be sure, the most famous sculpture myth remains that of Pygmalion and Galatea (of the sculptor who falls in love with his own creation), which was popularized by Ovid in his *Metamorphoses* just like the story of Narcissus. Not strictly an origin myth, this story nevertheless condenses thought about lifelikeness, making art as love, and the liminality between nature and art—a recurring theme in many stories. Finally, a much later though popular vignette that exploits the childhood and body connection between art and artist and hints at the origins of manual practice—perhaps a sculpture pendant to the Giotto story—is included in the life of Michelangelo. As we are

9 Ernst Kris and Otto Kurz, *Legend, Myth, and Magic in the Image of the Artist: A Historical Experiment* (New Haven: Yale University Press, 1979), 30.

10 Leon Battista Alberti, *De statua*, ed. Marco Collareta (Livorno: Sillabe, 1998), 5.



fig. 3 Léon Bonnat, *Giotto gardant les chèvres*, 1850.

childhood and body connection between art and artist and hints at the origins of manual practice—perhaps a sculpture pendant to the Giotto story—is included in the life of Michelangelo. As we are

told by his biographers Ascanio Condivi and Vasari, Michelangelo absorbed the marble-carving talent through the milk of his wet nurse, the wife of a stone carver from Settignano (a major quarrying center on the outskirts of Florence).<sup>11</sup>

<sup>11</sup> Ascanio Condivi, *Vita di Michelangelo Buonarroti* (Rome: Antonio Blado, 1553).

**3** Unlike the origin stories for the figural arts, which tend to revolve around a real or mythical figure, architecture's myths fall into two distinct categories: those with architects and those without (i.e., myths with and without a protagonist). The myths *without architects* are more primordial: they are about the invention of shelter, of building, and only subsequently of a "learned" (intellected), deliberate architecture, in that order. One of the most important such myths — much rehearsed by the reception — is the invention of building as recounted by Vitruvius in *De architectura*.<sup>fig.4</sup> In his account, the invention of man-made shelter (rather than ready-made caves) is occasioned by the accidental discovery of fire, which sets off a chain reaction: as a result of congregating around the fire, man begins to speak; this leads to sociability and, as a consequence, also to the production of things (man's hands and fingers being flexible and able to manipulate materials), and eventually also to ingenuity and invention. "Hence" — Vitruvius concludes — "after thus meeting together, they began, some to make shelters of leaves, some to dig caves under the hills, some to make of mud and wattles places for shelter, imitating the nests of swallows and their methods of building. Then observing the houses of others and adding to their ideas new things from day to day, they produced better kinds of huts."<sup>12</sup>



<sup>12</sup> Marcus Pollio Vitruvius, *On Architecture*, Loeb Classical Library 251, vol. 1 (Cambridge, Mass.: Harvard University Press, 1931), book II, ch. 1.

<sup>13</sup> Marc Antoine Laugier, *Essai sur l'architecture* (Paris: Duchesne, 1753). For the popularity and afterlife of the story, see Joseph Rykwert, *On Adam's House in Paradise: The Idea of the Primitive Hut in Architectural History* (New York: MoMA, 1972).

Of this story of first principles, its best-known avatar and most often repeated version was that of the primitive hut by Marc Antoine Laugier prominently displayed on the frontispiece of his *Essai sur l'architecture* (1753).<sup>13/fig.5</sup> Its tremendous power, however, lay in the sleight of hand that collapsed two myths into one: the origin of building and the origin of architecture. For Vitruvius, these were two separate moments, and even occurred in different parts of the text. In his account, architecture (rather than shelter/building) comes into being when number, order, and form are added to raw matter. Instead, for Laugier, raw matter

already anticipates architecture (the primitive hut anticipates the temple format), somewhat in the manner of the sculpture origin story in which the piece of wood or clod of earth already contained the seeds of the image for the sculptor.

Collective invention also extends to “learned” architecture, not only to basic shelter. There, too, chance plays a determining role. Thus, in Book IV Vitruvius turns to the origin of the columnar orders: “For in Achaea and over the whole Peloponnese, Dorus, the son of Hellen and the nymph Phthia was king; by *chance* he built a temple in this style [*genera*] at the old city of Argos, in the sanctuary of Juno.”<sup>14</sup> Thereafter, he continues, the people and their “genera” move to Asia Minor, where the original form is developed into the mature Doric by an anonymous “them” and “they,” with no specific person/architect attached to it. The Ionic order is likewise invented by an anonymous and collective “they.” As such, the origin of the orders, the architectural device that *orders* basic building and turns it into architecture (through both number and form), is semi-mythical: the orders come into being through the agency of the offspring of gods and anonymous groups of people, by chance, accidentally—created in “*illo tempore*,” to use Mircea Eliade’s resonant term.<sup>15</sup>

There are few myths with named architects. Perhaps the oldest is that of Daedalus, though his is less a story of the invention of architecture as such (he builds a labyrinth for the Minotaur) than more generally of the dangers of invention if it challenges the order of things (the wings he makes to escape imprisonment by flying collapse and cause his son Icarus’s death).<sup>16</sup> The story of Dinocrates of Rhodes, who becomes Alexander’s architect, appears to be a Lysippus type of myth, an example of an accidental meeting and an artist’s rise out of anonymity. Yet, although

the trope of the accidental encounter and the genius plucked from the crowd seems to be shared with painting and sculpture, in fact Dinocrates is not chosen for being an artist prodigy but for standing out, for his appearance and his boldness. Closer to a bona fide myth of architecture with an archi-



14 Vitruvius, *On Architecture* (see note 12), book 4, ch. 5. My emphasis.

15 Mircea Eliade, *Le Mythe de l'éternel retour: Archétypes et répétition* (Paris: Gallimard, 1949).

16 On this myth and links between architectural myths and classical philosophy, see Indra Kagis McEwen, *Socrates' Ancestor: An Essay on Architectural Beginnings* (Cambridge, Mass.: MIT Press, 1993).

fig. 5 Marc-Antoine Laugier, frontispiece and title page to *Essai sur l'architecture*, 1755.

17 On this myth, see Alina Payne, “Living Stones, Crying Walls: The Dangers of Enlivenment in Architecture from Renaissance *putti* to Warburg’s *Nachleben*,” in *The Secret Lives of Artworks: Exploring the Boundaries between Art and Life*, eds. Caroline van Eck, Joris van Gastel, and Elsje van Kessel (Leiden: Leiden University Press, 2013), 301–39.

tect as its main protagonist is a Romanian legend, versions of which are found throughout the Balkans, the Middle East, and Central Asian regions as far as Inner Mongolia.<sup>17</sup> The richest

and most famous of Romanian monastery churches endowed by the then reigning prince Negru Vodă was built in the first quarter of the sixteenth century (1512–1517) by a Master Manole. <sup>fig.6</sup> As he and his workmen were building the church, so the story goes, it collapsed time and again such they began to despair and pray, and in response to these prayers Manole had a vision: God advised him to immure the first woman to arrive at the site that day, that is, to build her into the church wall. Only thus would the building stand. Knowing that his beautiful and much beloved wife was about to arrive carrying his meal, Manole prayed that she would not reach the building site – but whatever came in her way, she triumphed over it and driven by her love for her husband she overcame all obstacles, thus walking to her death. The sacrifice worked, and the more beautiful the part of her immured body, the more beautiful also that part of the wall.

A similar sacrificial element is embedded in the birth moment of the Corinthian order as recounted by Vitruvius – probably also the survival of a Greek myth like so much else in his work. <sup>fig.7</sup> The maiden dead in the flower of her youth, on whose tomb an acanthus grew entwined around the offering basket that contained her possessions, is the agent that sparks the imagination of the sculptor Callimachus and allows him to bring a new architectural order into being. <sup>18</sup> This story is not that distant from Manole's, for though there is no actual sacrifice on Callimachus's part, the architecture that emerges is nevertheless conditioned by a death and transformation into stone, and once again a woman is the "ritual" victim. Indeed, in the mid-fifteenth-century the architect Francesco di Giorgio shows an immured maiden animating the column, literally encased in it, enlivening it with her grace and spirit. The myth of the caryatids condemned to remain in their prisoner status for eternity holding up the superstructure of the temple is one other instance of an equally terminal and dangerous cross-over between body and (beautiful) architecture. <sup>19</sup>

Biographies of real-life rather than mythical architects are present as well, though they are more recent. Neither Pliny-like in style, nor theory commonplaces, as was the case with Giotto's, over time they nevertheless acquired some level of normative power. Condensing evaluations with didactic intent into pithy anecdotes (unlike the biographies of the figural artists), Vasari's

**fig.6** Curtea de Argeș Cathedral, Romania, 1512–1517.

**18** Vitruvius, *On Architecture* (see note 12), book 4, ch. 1.

**19** *Ibid.*, book 4, ch. 8.

**fig.7** Roland Fréart de Chambray, Callimachus inventing the Corinthian order, 1650.





20 Gülrü Necipoğlu, *The Age of Sinan: Architectural Culture in the Ottoman Empire* (Princeton, NJ: Princeton University Press, 2005); Howard Crane and Esra Akin, eds., *Sinan's Autobiographies: Five Sixteenth-Century Texts*, *Muqarnas, Supplements* 11 (Leiden: Brill Publishers, 2006).

architect biographies – the lives of Baccio d'Agnolo, Giuliano da Sangallo and Antonio da Sangallo the Younger, Donato Bramante, Baldassare Peruzzi, and so on – thus functioned as reference points if not as bona fide myths. The same is true of some coming from outside of the European corpus of stories, such as the lyrical autobiography of Sinan, the great architect of Suleiman the Magnificent. 20 To be sure, starting in the Renaissance, Vitruvius became something of a myth himself, initiating the modern phenomenon of the “writing architect” that ultimately became that of the *architecte philosophe*. And it is here, in these biographies, that we might expect more answers to the question of architectural craft. Where does the origin of architectural knowledge lie? How is it transmitted?

Like the biographies of painters, these questions, too, bear on the education of the architect: with or without a master? Even if the relationship between Giotto and Cimabue elicits interpretation, the former is nevertheless an apprentice in the master's workshop. With the architects – and I emphasize that this applies even to the “pure” architects, those few who did not practice other visual arts – there was no passing of a baton, no master/student relationship. Each one was an autodidact of sorts, starting with the inimitable Filippo Brunelleschi, whose career began as a goldsmith. If anything, in Vasari's biographies most architects start with knowledge of other crafts (carpentry, woodcarving, metalworking, perspective construction, sometimes sculpture, sometimes painting), and it is only by absorbing what each has to offer that they finally synthesize the knowledge and become architects. Indeed, it would seem that much of becoming an architect has to do with learning manual crafts, the operation of instruments, and the nature of materials. The same is true of Sinan's rise to the top of his profession – from carpenter to ship builder and janissary (hence acquiring military knowledge), and finally to architect. 21 But most important, what becomes clear is that, unlike the other arts, architecture is not about spontaneous prodigy or genius. Architecture is the *archae*, the coming together of all the arts. And this is the origin and myth of architecture to which all biographies ultimately refer.

21 Crane and Akin, *Sinan's Autobiographies* (see note 20).

We have been following two types of architecture myths: of the art and of its practice through the artist (whether real or mythical). Some (the oldest) are about the relationship between architecture and nature, which is much more problematic than in the case of painting: architecture displaces (or interferes with) nature, so it must make its peace with it. One way of achieving this reconciliation is by following nature's laws, building “with” nature – and this the community does (the Dorians and Ionians),

rather than any single architect; the other way is expiatory (for having interfered with nature), hence the sacrificial component of some myths (e.g., of Manole).

Ultimately what all these myths are about is *agency*. Where does it lie? With the architect or with external circumstances? It would seem that in all instances the human (artist's) body comes into play and is the site of agency: either it must mitigate for the interruption of nature (with loss of life and redemption, as per the myths), or (as in the biographies of real architects) it is a knowing body that has accumulated and assimilated — metabolized — physical experience, knowledge of craft, of making. In Vitruvius's words, "When, however, by daily work men had rendered their hands more hardened for building, and by practicing their clever talents they had *by habit* acquired craftsmanship ... *then from the construction of buildings they progressed by degrees to other crafts and disciplines, and they led the way from a savage and rustic life to a peaceful civilization.*" <sup>22</sup>

**22** Vitruvius, *On Architecture* (see note 12), book 2, ch. 1. My emphasis.

**4** In the face of these thin references to making in myths and other stories, it seems legitimate to ask: Having metabolized knowledge of various types and contemplated if not actually experienced the deep tie between building and body through bodily sacrifice, is the architect a maker, is s/he a craftsman as well as an intellectual? Does s/he need to be both in order to be a good architect? In *De architectura*, Vitruvius seems to separate (or



connect) the two activities when he distinguishes between *fabrica* and *ratiocinatio*: "Opera ea nascitur et fabrica et ratiocinatione." <sup>23</sup> But this is not so much an origin myth as an Aristotelian moment in Vitruvius's effort to systematize architectural knowledge. More

**fig. 8** Office for Metropolitan Architecture, China Central Television Headquarters, 2002–2012.

in keeping with a transmitted myth is his origin of shelter story, where building is the ur-instinct, and from there come all the crafts. Elsewhere, in the other myths, the architect is in fact a craftsman (witness Manole and Callimachus) as is Daedalus, the paradigmatic Bronze Age architect after whom Manole's figure is certainly modeled: credited with the Cretan labyrinth and a temple to Apollo in Sicily, his name actually means "finely crafted objects" (*daidala*) in Homer's Greek, thus suggesting an artisan working in bronze, on armor, vessels, buckles, and so on.

**23** *Ibid.*, book 1, ch. 1.

Yet, despite these occasional appearances, crafting as such is not generally foregrounded in architecture's origin stories. And the biographies of Renaissance architects, for all their references to deep knowledge, contribute to this erasure of making. Despite the fact that most architects were also artisans and artists, and that quite often architecture and sculpture merged to the point of being indistinguishable, little is said about the architect's physical agency – the architect's hand – even by Vasari, who records the many crafts architects must master. <sup>24</sup> Was the architect's hand, and therefore his body, not seen to be implicated at some level at least? Danger certainly threatened it: falling, breaking bones, heavy equipment or stones collapsing and crushing him... <sup>25</sup> But what about the body's positive contribution? On the whole, the corpus of stories – and the historiography – have avoided these and all episodes of making. And since architectural history started in earnest in the later nineteenth century, it inevitably told it with a modern bias. Despite a brief moment of concentration on crafting in the second half of the nineteenth century – a direct result of anxieties about manufacturing occasioned by the Industrial Revolution, and which included participants like Gottfried Semper, who claimed textile weaving was the ur-craft of architecture – the theoretical thinking on this topic has been marginal if present at all. <sup>26</sup>

Today, making may seem the last trope to consider. And if Rem Koolhaas is right and contemporary architecture – the post-architecture, post-theory condition – is about "bigness," the gigantic, and the overscale, rhetorically exaggerated to make the point, then craft and the hand have nothing to do with it anymore. **fig.8** Koolhaas's architectural models might suggest otherwise, but this apparent miniaturizing has the same effect: it suggests a gigantic (planetary?) perspective from which these enormous elements of the city actually look tiny. **fig.9** Exaggerated smallness suggests exaggerated bigness. Likewise, in drawing, since AutoCAD has taken over and the keyboard has eliminated the pencil, the gesture and the choreography of the hand on paper have also disappeared. Is drawing also obsolete? Not only the body's agency in tracing lines but also the sketch itself, with its unfinished and highly suggestive quality, is a thing of the past: the computer can model everything and anything in space and gives it a deceptively finished and complete look. The hand has disappeared, so has the body, and what belonged to the body – love and sacrifice. Where is the prodigy,

**24** For a discussion of this trope and its absence, see Alina Payne, *L'Architecture parmi les arts: Matérialité, transferts et travail artistique dans l'Italie de la Renaissance* (Paris: Hazan/Louvre Éditions, 2016), ch. 3.

**25** There are many stories of architects – Antonio Gaudi, Carlo Scarpa, and others – dying in the exercise of their work, just as there are many stories of workmen dying during construction from the days of Brunelleschi's dome to the 1960s Autostrada del Sole, for whose "fallen" the church of San Giovanni Battista "Chiesa dell'Autostrada" was built by architect Giovanni Michelucci (1960–1964).

**26** On this as it pertains to architecture and the rise of modernism, see Alina Payne, *From Ornament to Object: Genealogies of Architectural Modernism* (New Haven: Yale University Press, 2012).

**fig.9** Office for Metropolitan Architecture, model of Les Halles project, 2003.





and where lies the talent? What happened with the myths? Are they still informing architecture and architects as they did for millennia, or are we “post-myth” as well?

And yet. Renzo Piano, for example, still holds that things need to be understood through making before they are exploded in scale. In his office all details are made of wood, studied, turned, made physically available before they are translated into final destinations of scale and materials. His studio is a model-maker's shop. <sup>fig.10</sup> Clearly, this approach connects to his deep history with boat making, the personal history of a genuine Genoese. And he



**fig.10** Model-making workshop, office of Renzo Piano Architects, Genoa, 2017.

is certainly not alone. Over the *longue durée* many architects produced full-scale details of buildings to assess their assemblage and appearance. But in the context of bigness as contemporary paradigm and commentary on where architecture is headed, is Piano's approach now an anachronism? Or is nevertheless something left between bigness and the human hand? Might there still be a space where one can think about this? The hand develops the thought as *embodied* knowledge, as *techne*, and the knowledge of the draftsman, like that of the

craftsman, is mediated by the hand. Instead, with computer-aided design and in industry, the *techne* is not that of the creator; it comes out of calculations and other intellected operations and is no longer a function of the body performing movements at the intersection with thought.

Are we then facing a loss? And, if so, what are its consequences? Does my architect friend's deep visceral desire to make something by his own hand in every building he designs manifest this loss and some deep condition of architecture that neither old nor new myths voice? Is there a place left for the architect's hand today? Modernism is said to have embraced and proselytized the chasm between the artisan and the machine that the Industrial Revolution permitted. Perhaps looking at the Bauhaus — a classic, by now almost mythical site where this parting of the ways was consecrated — is a way to think again about education on this occasion of the gta's anniversary. <sup>fig.11</sup> The well-known recruitment brochure with the hand calling young people

**fig. 11** Hannes Meyer,  
*junge menschen kommt  
ans bauhaus!*, 1929.



to the Bauhaus recalls many things, among them Adam's hand by Michelangelo on the Sistine ceiling and even Lord Kitchener's hand calling young men to join the army in the First World War. But, more important, to me it recalls the examples of Giotto's "site of instruction," for the Bauhaus was also a "site of instruction." Perhaps even at the very heart of modernism, with its claims to have effected a *tabula rasa* and embraced industry, the hand was nevertheless central and meant to be involved — a hand that was led, and taught, but was present.

## The *Idea* of Architecture and the Origins of the Primitive Hut Maarten Delbeke

This contribution advances the hypothesis that the emergence of the primitive hut in architectural discourse in the mid-eighteenth century coincided with the definition of *architecture* as an abstraction, an entity that can be understood and thought independently from concrete examples rooted in history and practice but that relies on “theory” for its existence. This “architecture” is an art, like painting and sculpture, but unlike its sisters has no direct model in nature. If in painting and sculpture “theory” serves to explain how models relate to their representation, in architecture it operates on a different level: as the demarcation of an ideal subject. This subject is visualized by means of the primitive hut, a vehicle that allows us to imagine relationships between this idea and more concrete models, such as Greek architecture or nature. The primitive hut is thus concomitant with the emergence of “architecture” as a notion that encompasses but does not coincide with the art of building, the system of the orders, the rules of proportion, the types of public and private buildings, and building methods, because it designates a realm that can be defined only by means of “theory.”

This is the claim Marc-Antoine Laugier puts forward in the introduction to his *Essai sur l'architecture* (1753), and the following pages outline a genealogy of this idea using specific examples from the history of French architectural theory. By sketching this highly selective – and therefore debatable – genealogy, I want to put up for discussion some implications of this claim. According to this genealogy, “architecture” emerged as a theoretical construct in eighteenth-century France in relation to specific and closely connected discussions about ornament and taste. If this is the case, it is worth asking to what extent these discussions defined the figure of the hut. This is not merely a matter of historicizing the primitive hut but of understanding the stakes in making “architecture” the subject of “theory” rather than history.

### Perrault's *Abrégé* and the Origins of the Primitive Hut

“[D]ans cet *Abrégé* on a mis seulement ce qui peut servir précisément à l'Architecture.”<sup>1</sup> With these words Claude Perrault distinguishes his *Abrégé* (summary) of Vitruvius's *Ten Books on Architecture* from its source, the ancient treatise that Perrault himself had translated, edited, and published. In Perrault's view, the sole purpose of much of Vitruvius's original text was to buttress the authority of its author. As a man of limited practice and little dexterity in the ways of the court, writing at a time when architects were held in low esteem, Vitruvius had relied on displays of

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**Note:** This essay tests an idea that warrants far more careful and elaborate historical considerations, and explicit engagement with earlier work on the authors discussed here. I hope to do so in the near future. References to secondary literature are limited to contributions on which I have relied for specific historical points. My understanding of Laugier is indebted to my conversations with Richard Wittman, my thinking on the primitive hut has been sharpened by teaching with Berthold Hub, and some of the source material has been collected by Linda Bleijenberg. Translations are mine unless indicated otherwise.

<sup>1</sup> Claude Perrault, preface to *Abrégé des dix livres d'architecture de Vitruve* (Paris: Coignart, 1674), 1–12, here 9–10.

2 Ibid., 6. My emphasis.

3 The best recent discussion of the *Abrégé* is Olga Medvedkova, "Un 'Abrégé' moderne ou Vitruve selon la méthode," in *La Construction savante – Les Avatars de la littérature technique: Actes du colloque "Les Avatars de la littérature technique, formes imprimées des savoirs liés à la construction," organisé par le Centre d'Histoire des Techniques et de l'Environnement du Conservatoire National des Arts et Métiers et l'Institut National d'Histoire de l'Art en mars 2005*, eds. Jean-Philippe Garric, Valérie Nègre, and Alice Thomine-Berrada (Paris: Picard, 2008), 43–53.

4 Perrault, advertisement to *Abrégé* (see note 1), n.p.

education and erudition to convince his readers of his credibility. Had he not done so, Perrault states, "the precepts that he has left us would not have *the authority they require.*"<sup>2</sup> With a trademark backhanded compliment to the ancient author, Perrault declares that at the time of his own writing, in the 1670s, Vitruvius's authority had become so firmly established as to render the original armature of the *Ten Books* superfluous. Stripping Vitruvius's text of its now perfunctory erudition would open the way to dealing only with "all that can serve specifically to architecture."

Perrault published his *Abrégé des dix livres d'architecture de Vitruve* in 1674, one year after his critical translation of the *Ten Books on Architecture*. The *Abrégé* followed the ancient practice of excerpting authoritative works — *auctoritates* — into more manageable collections of citations.<sup>3</sup> The extracts collected in the *Abrégé* are identified by means of marginal references to the original. These fragments become a running text through the insertion of Perrault's own comments. Placed between quotation marks, that "which is added ... to link the discourse and to render it more clear" is clearly distinguished from what is "drawn" directly from Vitruvius.<sup>4</sup> Thanks to this efficient and transparent editorial strategy, the *Abrégé* provides fast and reliable access to key fragments of Vitruvius's treatise.

If this strategy is probably a sufficient explanation for the success of the *Abrégé*, its actual effect on architectural discourse might hinge as much on some of its inevitable side effects. Perrault's editorial strategy imposes a particular reading on Vitruvius's foundational text. In fact, Perrault's assessment of the ultimately limited value of the entire body of the *Ten Books* implies a fundamental reconfiguration of its subject. Perrault distinguishes that which belongs to "architecture" from that which is accessory to it. The body of knowledge that pertains to Vitruvius as a historical agent is separate from but attendant to another entity, "architecture." The existence of this entity does not depend on the historical agent, Perrault suggests, but seems to find its rationale in a realm of its own.

The division between the subject of "architecture" and the contingencies of its articulation is further enacted in the structure of the *Abrégé*. Perrault organizes the work in two sections, the first treating those questions that matter to modern and ancient architecture alike, the second about what pertains to ancient architecture alone. The first part thus offers a systematic explanation of architecture, while the second provides a historical treatment. The ancient building types Vitruvius discusses, Perrault writes, belong to the second part; they might be studied as historical examples that sharpen one's judgment and foster erudition, but they hold

no direct relevance for contemporary practice. Knowledge of the properties of stone, on the other hand, does remain relevant to the moderns, just like the composition of the orders, and is therefore treated in the first part.

Following the logic of Perrault's dismantling of Vitruvius's textual edifice, these are the topics that constitute the real subject of architecture, built from elements and principles that transcend history. Perrault's construction of "architecture," however, immediately raises important questions. What is "architecture" if not the name for a collection of historical artifacts? What determines its elements and principles, and what is their exact nature? If they are not bound to history, where can they be found? Once they are established, what exactly do they define or constitute? Or, simply put, what is this "architecture" that the *Abrégé* intends to treat "specifically"? Perrault does not address these questions head on, but he offers a first – implicit – blueprint for a figure of thought that would become crucial to their treatment: the primitive hut.

That Perrault finds reason to discuss the origins of architecture in an *Abrégé* that claims to strip the *Ten Books* of anything that is not strictly necessary to an understanding of "architecture" is in itself remarkable. After all, Vitruvius's account of the origins of building in Book II can be read as a quite imprecise history that is far too elaborate for its ostensible purpose: explaining how building depends on the materials nature provides. The actual purport of Vitruvius's origin story is to intertwine the emergence of architecture as an art with the origins and development of civilization, a matter more relevant to the authority of the architect and the legitimacy of architecture than to actual building practice. The ancient author's discussion of the origins of the orders, or *genera*, and some of their ornaments (mainly the Doric entablature and the Corinthian capital) in Book IV again offers histories that are too extensive for the implicit hints about decorum they contain. Vitruvius's different origin stories thus seem to belong exactly to the kind of erudition that has only an indirect relevance for "architecture" but serves to bolster the author's claim on authority.

By treating the origin of architecture in the introductory section of the *Abrégé*, Perrault seems to acknowledge its importance in the definition of architecture. Still, he reduces Vitruvius's extensive histories about the origin of civilization to an absolute minimum, framed with qualifiers such as "it is said" or "claimed that." Instead, Perrault offers in his own voice an account where architecture emerged from the imitation of first natural and then artificial models: "just like trees and rocks and other things that nature provides of itself had been taken as model ... so the same

5 Perrault, *Abrégé* (see note 1), 23.

6 The passages in question are Book II.1 (on the origins of building), IV.2 (on the Doric entablature), and V.1 (on the superposition of columns in imitation of tapering trees).

7 On the removal of the quotation marks in subsequent editions, see Medvedkova, "Un 'Abrégé' moderne" (see note 3).

way was used in order to arrive at something more perfect: since by passing from the imitation of the natural to that of the artificial, all ornaments of buildings were invented." <sup>5</sup> This process is illustrated with Vitruvius's various passages dealing with origins of building elements and is followed by a third stage where these ornaments are structured according to the different orders.

Perrault makes good on his promise of efficiency by combining related but dispersed passages in Vitruvius into a single section of the *Abrégé*. But the logic of this editorial operation should not mask its radicality. To my knowledge, it marks the *Abrégé* as the first publication treating the separate origin myths recorded in Books II, IV, and V as components of a single narrative. <sup>6</sup> This gesture would be reinforced in subsequent editions of the *Abrégé*, which do not signal Perrault's editorial intervention by means of quotation marks, eliding the distinction between the voices of Vitruvius and his editor and further streamlining Perrault's montage of Vitruvian fragments. <sup>7</sup>

The implications of this new construction are important. Rather than pertaining to a body of unrelated but situated histories, the origin of architecture becomes the subject of systematic development. Contrary to Vitruvius's excursus on the primitive building practices found across the Roman Empire or in the stories about the origins of the Doric, Ionic, and Corinthian *genera*, Perrault's origins involve an unlocalized process developing over an unspecified period of time. As a consequence, Perrault's new construct emphasizes the primacy of the apparently universal creative principle of imitation over the historical circumstances of its application. It is this principle that establishes "architecture." Two different but related forms of imitation—the imitation of nature and of artifacts—generate architecture and provide the ratio for its ornaments. Vitruvius's indications about the provenance of certain architectural elements are generalized into an overarching theory of imitation.

### **The *Idea* of Architecture and the Discipline of Ornament**

Perrault's attempt to liberate "architecture" and its principles from the vicissitudes of history and its attendant mythology was rooted in increasing suspicion toward architectural practice as the prevailing benchmark for architectural beauty. The authority transferred onto contingent historical models was held responsible for the arbitrariness of architecture in the present. This point is made explicit in an important precursor to Perrault's endeavors, Roland Fréart de Chambray's *Parallèle de l'architecture antique et de la moderne*, published in 1650. The preface of Fréart's tract protests against the creative license pervading both the works of

uninformed artisans and architects who are driven by an unwarranted desire for novelty. Fréart situates the origin of this license in antiquity itself, when the Romans thought it fit to add to the three Greek orders two inventions of their own, the rustic and the composite. In Fréart's view, the rustic is vulgar, while the composite and its inherent hybridity opened the floodgates of invention and, thereby, creative license.

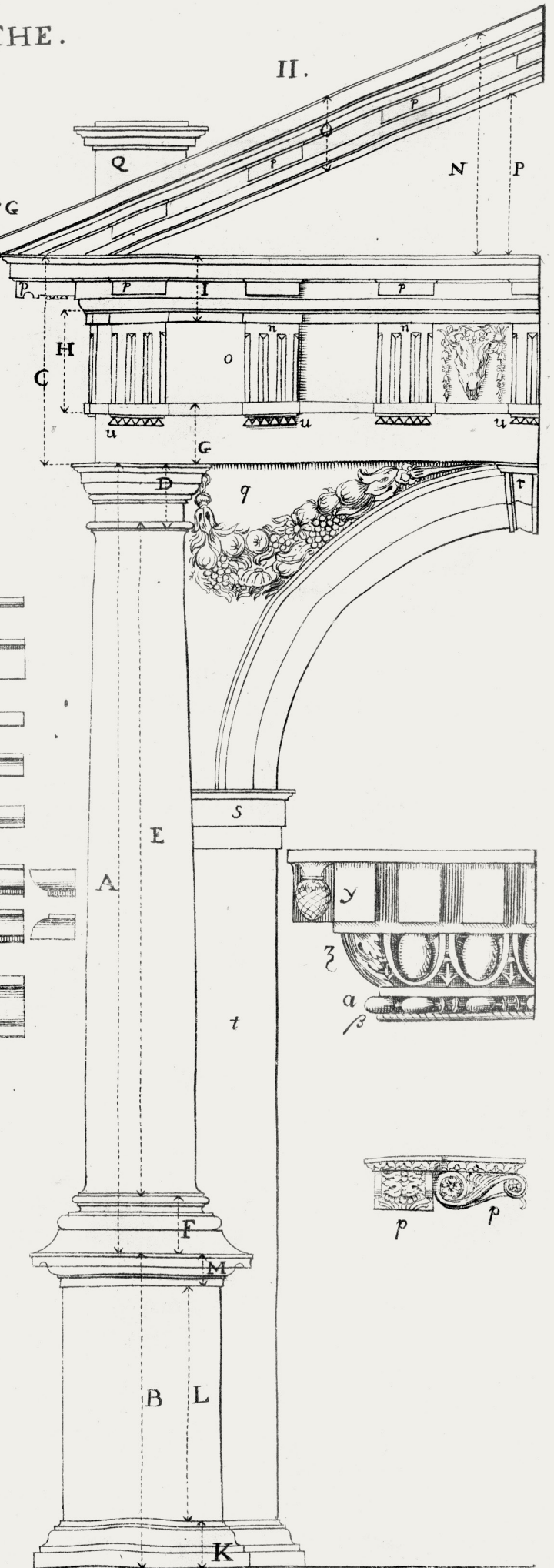
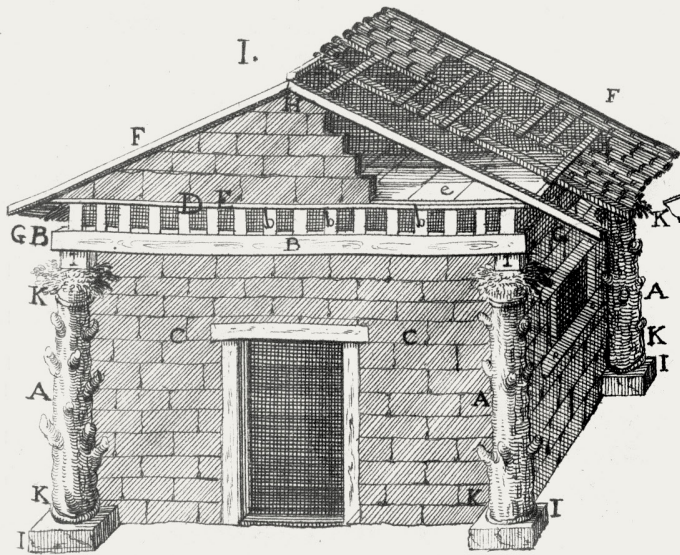
Fréart's answer to this state of affairs is an appeal for a return to the "sources" of architecture, the three Greek orders: "I would want, if it were possible, to reach back to the source of the orders, and draw there the most pure images and ideas of those admirable masters [Greek architects]." <sup>8</sup> The wording of Fréart's lamentation ("if it were possible") indicates the limited feasibility of his project: not only are the masters of old long dead but Greece is out of reach as well. Another century would pass before reliable representations of Greek monuments were made available in print, so whatever could be known in Fréart's day about the Greek orders had been transmitted through Roman architecture and its subsequent imitations. As a consequence, Fréart is unable to provide historical models of perfect architecture. He turns to a systematic comparison of the orders as they are found in ten "modern" authors and a highly selective sample of Roman monuments to provide a panorama that should "accustom" students to good examples. Tellingly, Fréart emphasizes the *difference* between his samples by providing back-to-back comparisons of the orders, so as to appeal to the judgment of the contemporary architect. This judgment is not sustained by individual preference – the gateway to license – but by "general approval": "by means of this comparison each has the liberty to choose according to his fantasy and to follow who he wants from the authors I propose, because they are all commonly approved." <sup>9</sup>

<sup>8</sup> Roland Fréart de Chambray, *Parallèle de l'architecture antique et de la moderne* (Paris: Edme Martin, 1650), 2.

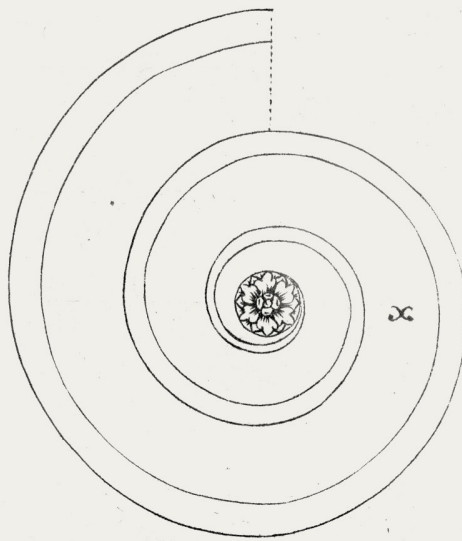
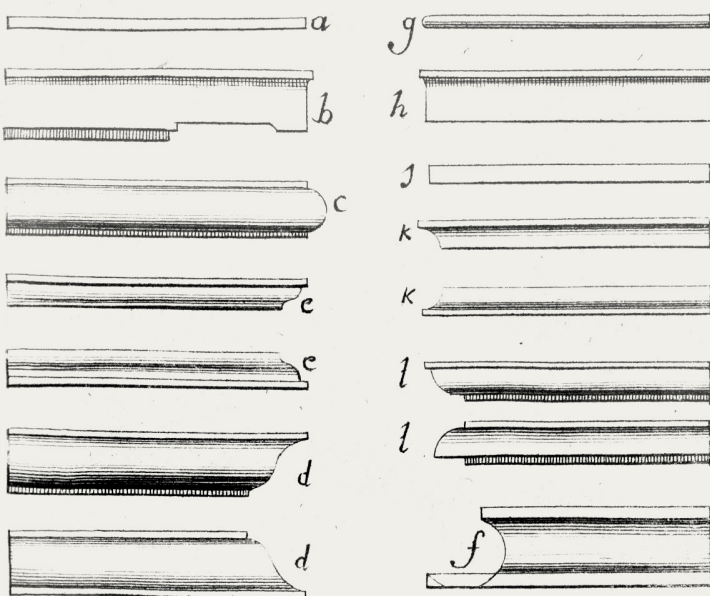
<sup>9</sup> *Ibid.*, 5. My emphasis.

Fréart's attempt to extract architecture from the vicissitudes of practice and to establish sound rules that generate beauty leads him toward two principles. On the one hand, he turns to an elusive "source" of good architecture: the Greek orders in their purest and therefore irretrievable state. On the other hand, he validates the peer pressure of a professional community whose general approval limits individual license. These two principles stand in seeming contradiction: if the first is only historical in name but actually an abstract "idea of perfection," the other is rooted in the highly contingent professional realm of architectural practice. But these two principles actually work together, moving architecture away from historical examples as guides for design. Fréart suggests that the collective body of the profession – that is, not the artisans nor the individual designer but the community providing

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“general approval” — is capable of activating the good and the beautiful that lies hidden in the handpicked samples his *Parallèle* provides. To ensure the success of this procedure, Fréart heavily edits his chosen samples, providing detailed drawings of orders whenever his sources failed to do so, or “purifying” his historical examples, as when the Pantheon altar illustrating the Corinthian order is denuded of all references to its polychromic revetment. That is, his samples, too, are already abstractions from which an informed professional community is invited to operate. <sup>10</sup>

Fréart’s point is taken up further by his Roman counterpart Giovanni Pietro Bellori in the latter’s *Idea*, the introduction to the *Lives of the Modern Painters, Sculptors and Architects* published in 1672. Bellori argues that all artists strive to imitate an “idea” of beauty — painters and sculptors by correcting the defects that nature inflicts on the forms found in reality; architects by remaining true to the principles of Greek architecture: “the Greeks instituted the norms and the best proportions for [architecture]; these, confirmed by the most educated ages and *by a consensus and succession of learned men*, became laws of a marvelous Idea and an ultimate beauty.” <sup>11</sup> Again, an abstract and distant “idea” established by the Greeks is perpetuated through the ages by means of a consensus among professionals, which transfers the “idea” from one great building to another. This “idea” carries history, not the other way around.

The quest for an “idea” of architecture was rooted in historical circumstances. Fréart and Bellori were motivated by a deeply seated concern about contemporary attitudes toward ornament. Bellori writes of contemporary architects who indulge in a “nonsense of angles, broken elements, and distortions of lines, deforming buildings and the very cities and monuments; they break up bases, capitals, and columns with fakery of stuccoes, fragments, and disproportions.” <sup>12</sup> In his brief discussion of the Pantheon altar, Fréart laments that most contemporary architects will judge his example to be “very poor,” since they prefer to indulge in doubling, tripling, bending, and breaking every conceivable part of the architectural system. <sup>13</sup> For Fréart and Bellori, departure from the “idea” of architecture is most manifest in the abuse of ornaments, the “secondary” elements of which the orders are composed. These elements should be subjected to regulation by common approval and consensus by professionals schooled in the “idea” of architecture.

As a stalwart of the “moderns,” Perrault is much less driven by the cultural pessimism that pervades Fréart’s *Parallèle* or Bellori’s *Idea*, which side firmly with the ancients. Neither is his version of the origin of architecture in the *Abrégé* motivated by a desire to

**fig. 1** The first plate from François Blondel’s *Cours d’architecture enseigné dans l’Académie royale d’architecture* (1675–1683).

<sup>10</sup> On Fréart’s editorial strategies, see Frédérique Lemerle, “Fréart de Chambray ou les enjeux du *Parallèle*,” *XVIIe siècle* 49, no. 196 (1997): 419–53.

<sup>11</sup> Gian Pietro Bellori, *The Lives of the Modern Painters, Sculptors and Architects: A New Translation and Critical Edition*, trans. Alice Sedgwick Wohl (Cambridge, Mass.: Cambridge University Press, 2005), 61b. My emphasis.

<sup>12</sup> *Ibid.*, 62a–b.

<sup>13</sup> Fréart de Chambray, *Parallèle* (see note 8), 82.

regulate architectural practice, as in the — ultimately unsuccessful — case of Fréart. Yet to some extent the *Abrégé* takes Fréart's position to a logical next step: if history offers only indirect access to the true principles of architecture and should therefore be handled with the greatest of care, then an attempt to lift "architecture" from its clutches makes sense. Crucially, in both the case of Fréart and Perrault this realization comes with a profound acknowledgment of the importance of professional or social consensus to regulate practice. Perrault's deconstruction of the *Ten Books* in the *Abrégé* makes exactly this point, because it historicizes Vitruvius's alleged attempt to garner approval for his treatise. In his translation of Vitruvius, Perrault emphasizes how human it is to crave the authority to buttress one's judgments and produce consensus. <sup>14</sup> In the *Ordonnance des cinq espèces de colonnes* of 1683, Perrault finally vindicates the profound contingency of aesthetic judgment in architecture, coupled with the human tendency to value these contingent judgments as absolute. In Perrault's view, this mechanism legitimizes his own reconstruction of a simple and "original" system for determining the proportions and ornaments of the orders, peeling away centuries worth of arbitrary solutions to the problem. <sup>15</sup> Like his "ancient" counterparts Fréart and Bellori, Perrault understands the fickleness manifest in all testimonies of architectural practice as a call to dig beyond history toward a system worthy of "architecture," which allows for the forging of consensus — good taste — in the present.

### The Idea of Architecture and the Matter of Origins

Perrault's take on the origins of architecture in the *Abrégé* offers one possible version of this system: a process of imitation that generates the entire body of architectural ornament. In Perrault's telling, this process does not yet coalesce into a single artifact. Instead he evokes an undetermined process of imitation that eventually yields the basis for "architecture." One year after the publication of the *Abrégé*, François Blondel would propose the model of a primitive hut that emerges from the same process. He casts the hut as "the most simple and the most natural of all [manners of building], and which the ancient architects of Greece proposed to themselves as the model to imitate in their most beautiful edifices, and they have used all its members as a model." <sup>16/fig.1</sup> This model carried over into the eighteenth century. The *Dissertation sur les ordres de l'architecture*, first published in 1738 by Amédée-François Frézier and deeply indebted to Fréart, Perrault, and Blondel, circumscribes this process further: it becomes a "faithful imitation of natural architecture." <sup>17</sup> Echoing Perrault and especially Blondel, Frézier claims to follow Vitruvius's

14 Claude Perrault, preface to *Les Dix livres d'architecture de Vitruve, corrigez et traduits nouvellement en François, avec des notes & des figures* (Paris: Coignard, 1673), n.p.: "[C]ar la beauté n'ayant guere d'autre fondement que la fantaisie, qui fait que les choses plaisent selon qu'elles sont conformes à l'idée que chacun a de leur perfection, on a besoin de regles qui forment & qui rectifient cette Idée."

15 Claude Perrault, preface to *Ordonnance des cinq espèces de colonnes selon la méthode des anciens* (Paris: Coignart, 1683), i–xxvii, here passim and esp. xxii–xxiii.

16 François Blondel, *Cours d'architecture enseigné dans l'Académie Royale d'Architecture* (Paris: de l'imprimerie Lambert Roulland, 1675), vol. 1, 2–4, with the quote on page 3. Given that the *Cours* records lectures given from 1672 onward, Blondel's version will have circulated before 1674. See also Joachim Gaus, "Die Urhütte: Über ein Modell in der Baukunst und ein Motiv in der bildenden Kunst," *Wallraf-Richartz-Jahrbuch* 33 (1971): 7–70, who points out (18–19) that Palladio and Scamozzi prepared the notion of the primitive hut as a model. Fréart's translation of Palladio, especially of the chapter "on abuses" of Palladio's Book I, provides the crucial link between the Italian treatises and the French texts discussed here.

17 Amédée-François Frézier, *Dissertation sur les ordres d'architecture* (Strasbourg: Doulsseker, 1738), 12, included as an appendix to Amédée-François Frézier, *La Théorie et pratique de la coupe des pierres et des bois*, vol. 3 (Strasbourg: Doulsseker, 1739).

ideas about the origin of building in order to argue that all ornament is rooted in nature:

*"These origins are not an effect of my imagination, the most famous architects agree about this on the basis of Vitruvius, who said that the ancients haven't imagined anything except after nature, and have recognized no other constant beauty than what it drew from its origin. And it is of this simple and natural architecture that they have made the model for the decoration with which they have dressed the most sumptuous buildings."* <sup>18</sup>

<sup>18</sup> Ibid., 10.

Frézier finds further proof that all ornament is rooted in "natural architecture" in the primitive constructions recorded by history or retrieved in the colonies of his own day and age. These examples induce Frézier to skip both the transition from the imitation of nature to that of "artificial models," which in Perrault's thinking is still a necessary step to understand how architecture could emerge from the essentially nonarchitectural models nature provides, and the intervention of Greek architects, who, according to Blondel, were the true inventors of architecture. Now only natural models remain.

It would fall to Laugier to propose the primitive hut as the single and original embodiment of a now entirely natural process. The erection of the "*cabane rustique* by primitive man ... is the step of simple nature: it is to the imitation of her proceedings, to which art owes its birth." <sup>19</sup> In his *Essai sur l'architecture*, first published anonymously in 1753, Laugier sets out to found architecture in "theory": rational principles dictated by nature itself. Bemoaning the fact that architecture is the only art left without such theory, still based on the imitation of historical models and texts such as Vitruvius, Laugier attempts by means of an empirical experiment to arrive at the principles that generate beauty. This experiment, he implies, yields the primitive hut as the origin and model for all architecture: four branches placed in a square, forming posts, supporting a further four horizontal branches as beams, covered with a wooden roof. <sup>20</sup>

<sup>19</sup> Marc-Antoine Laugier, *Essai sur l'architecture* (Paris: Duchesne, 1753), 12.

<sup>20</sup> Ibid., preface and 12.

Thanks to Charles Eisen's frontispiece to the second edition of the *Essai*, Laugier's construct is perhaps too well known to be looked at afresh. <sup>fig.2</sup> But its absurdity is worth considering. Laugier proposes, as the final benchmark for determining whether something is "architecture," a construction where

*"I can see nothing but columns, a floor or entablature; a pointed roof whose two extremities each of them forms what we call a pediment. As yet there is no arch, still less of an arcade, no pedestal, no attic, not even a door, no window. I conclude then with saying, in all the order of architecture, there is only the column, the entablature, and the pediment that can essentially*

enter into this composition. If each of those three parts are found placed in the convenient situation and form, there will be nothing to add for the work to be perfect.”<sup>21</sup>

<sup>21</sup> Ibid., 14–15. Translation adapted from Marc-Antoine Laugier, *An Essay on Architecture; In Which Its True Principles Are Explained* (London: Osborne and Shipton, 1755), 13.

As critics such as Giambattista Piranesi were quick to point out, this rustic hut is hardly a building, and the question of how this primitive structure relates to built architecture is a problem that pervades the very fabric of the *Essai*. Laugier essentially limits the applicability of the hut to his theory of the orders and the design of churches, which he imagines as glass-filled skeletons. And in order to transform huts into buildings, Laugier admits that the architect relies on the very elements he sought to regulate — “licenses,” now understood as “the parts introduced out of necessity,” such as walls and their openings.<sup>22</sup> These licenses are not determined by the principles of architecture embodied in the hut but, in essence, by taste — rules dictated by what Laugier deems to be common sense.

<sup>22</sup> Laugier, *Essai* (see note 19), 24. Chapter 1, article 5 is dedicated to doors and windows.

Laugier’s construct reifies the polarity governing architecture already encountered in Fréart and Perrault: between an abstract “idea” and the informed practice of its actualization. But it also performs an important inversion. The “idea” of architecture is now firmly materialized in a primitive construction of wooden posts and beams, while ornament — understood as the collection of “secondary” elements that give flesh to the building — literally disappears into the void. This inversion is made explicit in Eisen’s frontispiece, where the personification of Architecture turns her back to fragments of ornaments in order to point out the hut. The architectural matter Fréart and Perrault saw as the testing ground of consensus, where “architecture” becomes real in the here and now, is by Laugier only grudgingly allowed out of “necessity.”

The extraordinary afterlife of Laugier’s hut suggests that this inversion holds an enormous appeal. It promises the existence of an “architecture” that is as easily imagined as it remains elusive in practice — an “architecture” that also lays claim to theory for its design but keeps its distance from reality; an “architecture” that is premised on its own contamination, not on its production by practice and contingency. As the materialized yet unattainable “idea” of architecture, the primitive hut allows this contamination to become legitimate to the extent that the contamination produces the legitimacy of “architecture” itself. Impurity becomes proof of the existence of an infallible “idea.” “Theory” is complicit in this trade-off, as it defines the realm where “architecture” is thought to exist before or next to its contamination. The primitive hut holds out the promise that this trade-off is not only feasible but desirable.

**fig. 2** Charles Dominique Joseph Eisen, design for the frontispiece of the second edition of Marc-Antoine Laugier’s *Essai sur l’architecture*, ca. 1755. Pen, ink, and gray wash on paper, 154 × 92 mm.



Gravelot

## Diachronic Dialogues: A Sketch of Shared Themes at the gta 50 Roundtable Talks Matthew Critchley

Any attempt to summarize, in brief, the fine grain of contributions made during the talks in the Semper Aula on September 29, 2017, on the occasion of the gta's fiftieth jubilee is impossible and undeniably unfair. The day had been framed to scrutinize interactions between "history" and "presence," the subjects of the two roundtables held in the morning, and between "praxis" and "theory," the two afternoon roundtables. Rather than capture the many key points exchanged, what I shall try to do here is trace a few of the concerns, beliefs, and reflections that were shared, in order to sketch a figure of the day's discussions.

Unsurprisingly, the existential question mark, ever hanging over history in an architectural faculty, remained an ongoing concern. But the traditional formulation of the question in terms of history's relation to contemporary practice was not entirely the problem. This familiar anxiety was well parried by several participants, chiefly on the grounds that the serious study of history is crucial in combatting the most tired received ideas, those whose thoughtless repetition has reached the harmful state of naturalization. The most valuable potential of history, particularly pre-1850 history, might therefore be the untimeliness of its systems of knowledge when compared to our own.

The distant past gives us the chance to deal with a distinct otherness whose shifted perspective may have an inherent creative potential. History seemed therefore to be in a strong position. It was noted that in recent years we have seen a reconnection with the past in contemporary practice, and that in research the ongoing expansion of architecture history into other fields has strengthened its constitution. This demonstrated adaptability should help to ensure the survival of architecture history within the larger ecosystem of the humanities. But if the relevance and vitality of historical studies itself appears robust, the existential question was nonetheless re-posed precisely within larger institutional mechanisms.

Joan Ockman explained how in the United States, "history theory," "history & theory," or "history/theory" were being usurped by "research." She did not mean history is no longer being practiced. Quite the contrary. Unlike theory, history, with its wealth of untapped archival material and ever-widening field of inquiry, can neatly fit into the new dominance of "research." The problem instead lies in the fact that history is slowly being permeated by the logic of research, albeit research couched in the terms of the market, with its emphasis on quantifiable outcomes. Neutral results are valued more and more, and the critical impulse, which had been so important to architectural history in the second half of the twentieth century, is concomitantly discouraged. Even if we may have overcome the old

questions of history's relevance in architectural studies, Ockman's contribution rephrased the problem away from an existential one toward an awareness of constitution. She pointed not to history but to what we have valued in architectural history: its criticality, its awareness of ambiguity.

But this brings us to one of the subtle contradictions present in the roundtables when seen as a whole. Throughout the day the historian's optic was generally praised. Its plurality of perspectives and widening of what constitutes architectural studies were lauded as the breakers of both nineteenth-century historicism and the modernist *tabula rasa*. However, several times during the talks an unrequited desire for ideology was named. There was even a warning that if architecture did not embrace ideology it was in danger of alienating a coming generation that might be more politically aware than its predecessors. What was curious about this desire was that participants simultaneously appeared to share an aversion to the simplifications seen to be inherent within "positions" in architectural history, prompting the question: How can we bring ideology back into the practice of architectural history? How this ideological desire can be consummated without instrumentalizing history is difficult to see. In fact, the complex plurality of history might well be one of the contingent factors that have led to the absence of ideology in the first place.



Despite the plethora of examples discussed, the meaning of *history* itself seemed relatively stable. The same cannot be said for *theory*. Two forms of theory appeared to be at play throughout the day. Theory with a capital “T,” known as the product of the treatise and the operative use of precedents, which was the subject of rebuke and appeared almost as an anachronism. And theory with a small “t,” consisting of a hard-to-define set of shifting ideas that inform practice but cannot so easily be written down into a cohesive scheme. Peter Eisenman suggested this conception of theory was better captured by the Italian term *progetto*, and this looser definition of theory appeared to be the one participants were more willing to rally around. For one contributor, its existence and relevance were so axiomatic as to warrant no further discussion.

This particular definition of theory — as an open field of entangled ideas — conspicuously mirrored the figure of history simultaneously being sketched during the roundtable discussions, suggesting that we may be witnessing a dominance of history over theory. This is reinforced by the fact that, for some, the new existential threat is to theory, not history. Echoing the concerns of several participants from the United States, it was remarked that, while an awful lot of money is available for “research,” little is available for “theory” or “thinking.” While still practiced, the latter’s relevance has been subsumed under more institutionally sanctioned topics.

Among the many suggestions for future investigations was a repeated request for the geographic widening of the discipline. This began with a call — seconded by several participants and reiterated at the end of the day with a strongly felt sense of urgency — to study how cultural networks within different geographic regions affect one another, the idea being to move away from histories built on the logic of center and periphery in order to realize multipolar narratives. In one of the final contributions, Murray Fraser remarked that the room was hopelessly Euro-American, which cannot possibly be acceptable in today's world and that we must overcome what seems to be an apparent resistance to becoming a truly global form of inquiry.

As pertinent as this call is, the methods by which studies in architecture expand globally may be fraught with more obstacles than we assume. They will hopefully not be problems attached to the commodification of academia, which will more than likely welcome more global histories as a widening of the field of seemingly “neutral valued” research. Instead they will come from the very way we practice history and theory today. As the roundtables in the morning indicated, we have benefitted greatly from historiographic research showing how writing on the architecture of the past is itself historically contingent. Such research has demonstrated that the histories we practice are not normative. This should inevitably lead us to be wary in our geographic expansion not

to transmit anachronistic European ideas to locations steeped in entirely different traditions. We should follow the call to expand beyond our Euro-American confines but at the same time capitalize on the self-awareness of our historiographic work, thus avoiding the positivist's trap.

## Rocky Starts – Ephemeral Beginnings

### Mari Hvattum

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Consider the following scene in Wim Wenders' much-celebrated film *Der Himmel über Berlin* (1987): the main character Damiel (Bruno Ganz) has just forsaken his status as angel in order to pursue his love of the trapeze artist Marion. After having pawned his angel's armor and equipped himself with what he considers a more suitable mortal outfit, he rushes to the site where her circus used to be. He comes too late: the circus has already moved on. Only a patch of sawdust remains where the circus tent once stood. Desperate with lovesick frustration, Damiel starts running around the circular patch of what used to be the circus floor. He runs like a circus horse, around and around. <sup>fig.1</sup> The moment lasts for only a few seconds before Damiel slumps to the ground, depressed to death. But for that little moment something interesting is going on. It is as if, in Damiel's mind, the act of running can somehow bring back the situation to which this running belonged, that is, the circus tent with all its content. As if the act can revoke its own physical setting. Those few seconds when Ganz runs through the mud and sawdust of a Berlin gap site form a sort of foundation myth in reverse. Rather than starting with a building, we here start with an act – a strangely primeval act, a sort of ceremonial conjuring – from which architecture, or at least some kind of built reality, follows. The building is conjured by the ritual act, as it were.

<sup>1</sup> See, for example, Joseph Rykwert, *On Adam's House in Paradise: The Idea of the Primitive Hut in Architectural History* (Cambridge, Mass.: MIT Press, 1981).

<sup>2</sup> William Chambers, *A Treatise on Civil Architecture, in Which the Principles of That Art Are Laid Down, and Illustrated by a Great Number of Plates, Accurately Designed, and Elegantly Engraved by the Best Hands* (London: J. Haberkorn, 1759), 2.

<sup>3</sup> *Ibid.*, 1.

<sup>4</sup> Chambers studied under Jacques-François Blondel in Paris and was strongly influenced by French Enlightenment architectural theory. He was also influenced by English thinkers such as Edmund Burke. See, for example, John Harris and Michael Snodin, eds., *Sir William Chambers: Architect to George III* (New Haven: Yale University Press, 1996). Similar origin stories can be found in Julien-David LeRoy, *The Ruins of the Most Beautiful Monuments of Greece* (1758), trans. David Britt (Los Angeles: Getty Publications, 2004), 209–10.

### The Vitruvian Tradition and Its Challengers

For all its originality, Wenders' reversal belongs to a long tradition. The running scene echoes a way of thinking about the origins of architecture that runs in parallel with, and at times in opposition to, the so-called Vitruvian tradition. Despite its name, the latter was shaped less by Vitruvius than by his eighteenth-century interpreters. <sup>1</sup> A typical representative is William Chambers, who in his *Treatise on Civil Architecture* (1759) includes what was at the time a near-compulsory section on the origins of architecture. The first human beings lived in caves, Chambers proclaims, but once they left their caves and started building, their buildings were "rough and uncouth." <sup>2</sup> Only after generations and generations did any kind of adornment enter into the picture, in the form of moldings. "Insensibly mankind improved the Art of Building" Chambers writes, "and invented methods to make their huts ... handsome, as well as convenient." <sup>3/figs.2 a–b</sup>

Chambers is not much read these days, perhaps because he is not very original. <sup>4</sup> For our present purpose that is a virtue, however, for Chambers' somewhat uninspired origin tale presents us with the Vitruvian tradition in its most basic form. The argument



is as typical as it is sensible: first you build something and make sure it stands up, then you decorate it. Structure is primary, adornment secondary. Like so many of his contemporaries, Chambers locates the origins of architecture in the archi-

**fig.1** Damiel (Bruno Ganz) running, in *Der Himmel über Berlin* (1987), directed by Wim Wenders.

tectural structure itself, albeit in an “uncouth” and primitive form. In doing so, he established a firm hierarchy between structure and ornament, according to which the unadorned structure is the primordial architectural form and the ornament is a secondary layer.

Precisely this hierarchy would come under attack some hundred years later, when a handful of nineteenth-century theorists turned this commonsensical but self-referential notion of the origins of architecture resolutely on its head. This essay is about that upheaval. From Chambers and the Vitruvian tradition’s “rocky starts,” I turn to a tradition that cultivated more ephemeral beginnings – beginnings that might still provide fresh and interesting insights. They might even point to the way foundation myths – their formulation as well as their deconstruction – potentially impact contemporary architectural discourse and practice.

## Ephemeral Beginnings

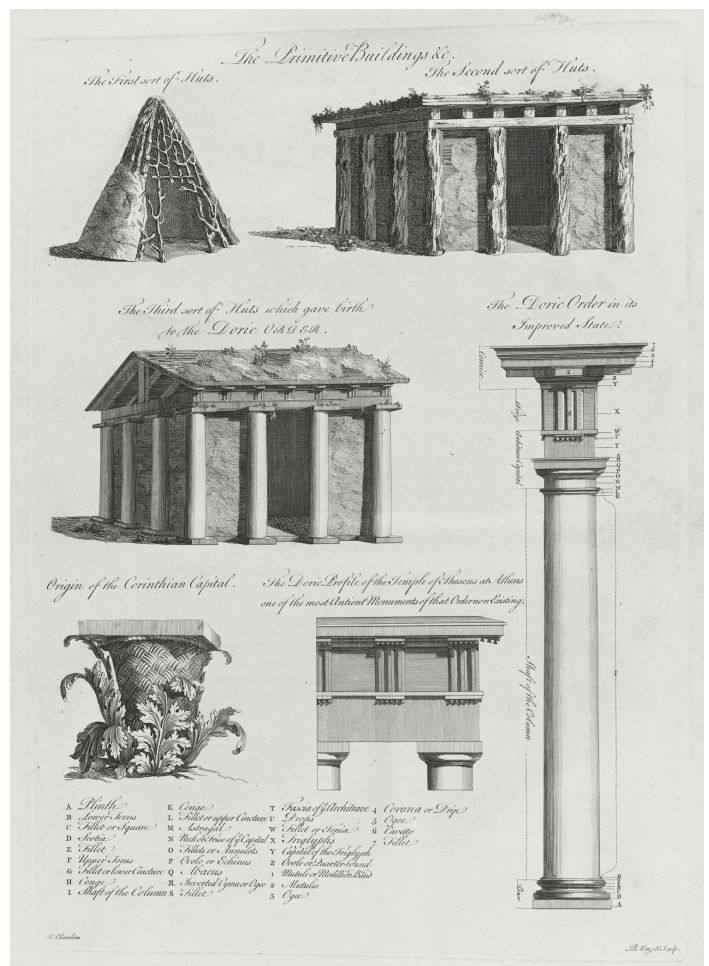
The German architect and historian Karl Bötticher is an apt, if perhaps somewhat surprising, place to start such an investigation. Bötticher’s theory of *Kernform* and *Kunstform* (core-form and art-form), as presented in *Die Tektonik der Hellenen* (1852), seems, at first glance at least, to confirm the Vitruvian hierarchy. An architectural member such as a column or an architrave, Bötticher argues, exists on two levels. On the one hand, it possesses a structural core; on the other hand, it displays a decorative surface that gives the mute core its outward expression. “The core-form of each member is the *mechanical* and *necessary* component, the structurally functioning scheme. The art-form, by contrast, is only the functionally *clarifying characteristic*,” Bötticher writes, thus establishing a seemingly autonomous notion of architecture where the architectural ornament is seen as a mere representation of the inner, structural working of the architectural member. <sup>5</sup> The origin and essence of architecture is sought in the unadorned structure for which the ornament is but an added, expressive layer. <sup>6</sup>

<sup>5</sup> “Die Kernform jedes Gliedes ist das mechanisch notwendige, das statisch fungierende Schema; die Kunstform dagegen nur die Funktion-erklärende Charakteristik.” Karl Bötticher, *Die Tektonik der Hellenen*, 2 vols. (Potsdam: Riegel, 1852), 1:xv. Bötticher’s *Tektonik* has not been translated into English, although Harry Francis Mallgrave translated a small extract in *Architectural Theory*, vol. 1: *An Anthology from Vitruvius to 1870* (Oxford: Blackwell, 2006), 531–32, from which the present translation is taken. On the question of the autonomy of architecture in Bötticher’s thinking, see Caroline van Eck, *Organicism in Nineteenth-Century Architecture: An Enquiry into Its Theoretical and Philosophical Background* (Amsterdam: Natura & Architectura Press 1993), 163–74; Mari Hvattum, *Gottfried Semper and the Problem of Historicism* (Cambridge: Cambridge University Press, 2004), 57–63.

<sup>6</sup> This is an ambiguous point in Bötticher, discussed further in Hvattum, *Gottfried Semper* (see note 5), 209 n.57.

**figs. 2 a–b** William Chambers, *A Treatise on Civil Architecture, in Which the Principles of That Art Are Laid Down* (1759).

The Vitruvian hierarchy in Bötticher's tectonic system is soon cast into doubt, however. In the second volume of *Die Tektonik* he presents a rather different story about the origins of architecture. He writes about the origin of the Greek temple, which he believes previous scholarship has neglected. Why, Bötticher asks, has nobody examined "the origin and concept of the Hieron" not as built form but as institution, as use? <sup>7</sup> He would later explore this issue in a thoroughly revised second volume of *Die Tektonik*, published in 1881 under the title *Der Tempel in seiner räumlichen Anordnung und Ausstattung* (The Temple in its Spatial Arrangement and Equipment). <sup>8</sup>



**7** Bötticher, *Tektonik der Hellenen* (see note 5), 2:2. Unless otherwise indicated, translations are by the author.

**8** Karl Bötticher, *Die Tektonik der Hellenen*, vol. 2: *Der Tempel in seiner räumlichen Anordnung und Ausstattung*, 2nd ed. (Berlin: Ernst & Korn, 1881).

**9** Karl Bötticher, *Der Baumkultus der Hellenen nach den gottesdienstlichen Gebräuchen und den überlieferten Bildwerken dargestellt* (Berlin: Weidmannsche Buchhandlung, 1856), 9.

**10** *Ibid.*, 9, 16. The original German reads, "Ja, weil der Baum das ursprünglich erste Gottesbild ist, trägt er nicht bloß der Gottheit Namen wie das spätere menschengestaltige Kultusbild, sondern wird auch eben so wie dieses schon mit den Attributen und Hoheitssymbolen derselben bekleidet, in vielen Fällen sogar mit Gesichtsmaske, Gewanden und Kleidung ausgestattet um die Adoration mit allen den heiligen Riten des Kultus so zu empfangen wie sie später auf das Tempelbild übertragen wird."

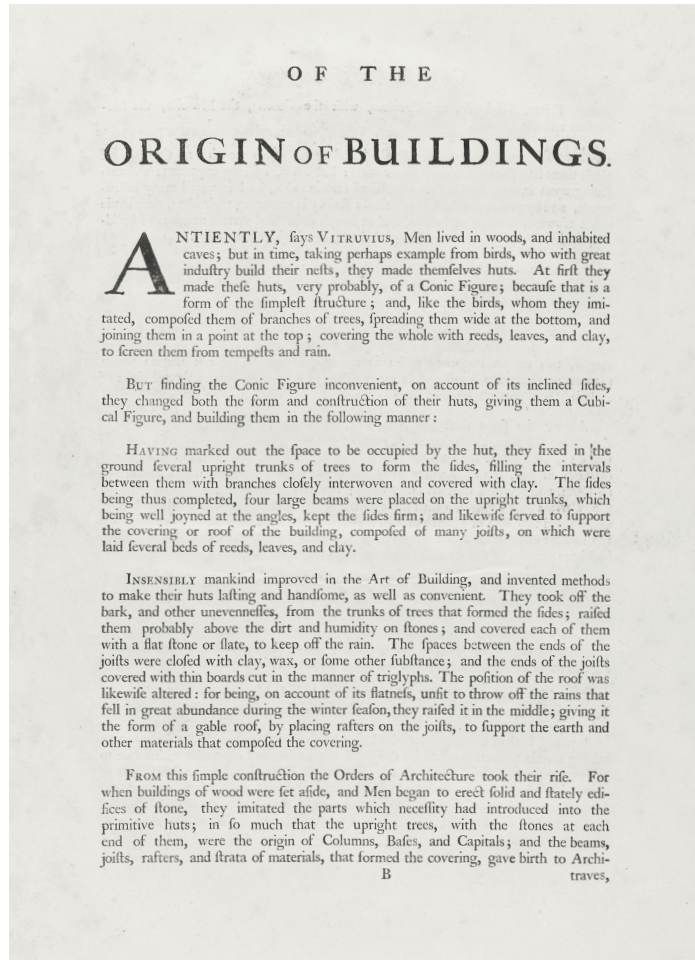
The updated volume is an examination of precisely what Bötticher accuses his fellow architectural historians of ignoring; namely, the origin of the temple – and with it the origins of architecture – not in stone or wood but in cultic practice. **figs. 3 a–c**

This agenda comes even more clearly to the fore in a little book Bötticher wrote in 1856 between the two editions of *Die Tektonik*; namely, *Der Baumkultus der Hellenen nach den gottesdienstlichen Gebräuchen* (The Greek Tree Cult According to its Worship Practices). Bötticher here goes back to a time before architecture, to what he calls "the time without temples." <sup>9</sup> He traces the beginnings of the temple not in the primitive hut but in the ephemeral arrangements in and around sacred trees. "Trees are the first temples for the Gods," he writes: "Yes, as the tree is the first and original idol, it does not merely carry the name of the deity, like later human-formed cult images, but is also clothed with the same attributes and symbols, in many cases equipped even with face masks, draperies, and clothing to receive the sacred ritual of the cult that is later transferred onto the image of the temple." <sup>10</sup> The temple in the form of a building emerged only long after the shrine had been established around the tree. Bötticher describes the slow process of differentiation by which architecture

gradually separated itself from its cultic beginnings and gained an autonomous existence. Only at the end of this process did the temple “emerge independently from the tree.”<sup>11</sup> The temple’s origin, however, must be sought in the cultic practice of which the tree was the nucleus.

A key factor in Bötticher’s tree-to-temple transformation is the adornment used to decorate the sacred trees. The wreath and the ribbon are the oldest forms of such adornment, he asserts, describing them less as formal attributes and more as parts of carefully choreographed rituals, metamorphosed into material

form.<sup>12</sup> Bötticher outlines a gradual transfiguration of the divine, starting from the religious ritual, transferred into the materiality of the wreath, the ribbon, and other forms of adornment, and finally manifesting itself in the temple proper. He illustrates the process in sixty-three delicate engravings showing trees in various stages of adorned transformation, such as the trees dedicated to Dionysus hung with bells and garlands and Artemis’s trees adorned with ceremonial weapons and tied with ribbons. Gradually, built structures appeared



around the sacred trees, such as the curious tree sacella copied from Henri Roux’s 1840 book on Herculaneum and Pompeii; or the arched tympanum with fluttering ribbons accompanying a sacred tree, a motif Bötticher had seen in the archaeological museum in Naples.<sup>13</sup> Architecture here is not the self-referential translation of structure into ornament that we so often associate with Bötticher’s tectonic theory, but a far more quirky, original, and imaginative way of thinking about the origins of architecture. Architecture, Bötticher hints, is a transfigured ritual, an ossified gesture, an embodied act. It does not originate in the unadorned hut. Quite the contrary: architecture originates in the act of adorning.

<sup>11</sup> “Erst mit Beginn der Zeit welche menschgestaltige Gottesbilder aus seinem Holze macht und diese dem Baume beifügt, oder ein Tempelhaus zu deren Aufnahme daneben gründet, scheiden sich diese Begriffe, es tritt Bild und Wohnung selbständig aus dem Baume heraus.” *Ibid.*, 17.

<sup>12</sup> *Ibid.*, 14–17.

<sup>13</sup> *Ibid.*, 541, note to fig. 36: “FIG. 36. *Baumsacellum*, von einer thürförmigen Aedicula überbaut und mit Binden bekränzt; auf den Akroterien der Aedicula Opfergefäße, vor ihr unter dem Baum ein Götterbild (Trivia?); Thyrsen oder Fakkeln ebenfalls vor ihm angelehnt. Vgl. Cap. 10, §3.—Pompejanisches Wandb. bei Roux *Pomp. Sér. 5 T. 19*.“ The image reference is to Henri Roux, *Herculaneum et Pompéi: Recueil général des peintures, bronzes, mosaïques, etc.* (Paris: Didot, 1840). The note to fig. 33 reads, “FIG. 33. *Baum-Sacellum mit Aedicula*. Der Stamm des heiligen Baumes durch Binde bezeichnet; Götterbild auf einem Fussgestell dass mit geweihten Binden belegt ist darunter: ein geflügelter Löwe (Mithras) mit männlichem Antlitz auf der Mauer des Sacellum die mit geweihter Binde behangen ist. Auf den Akroterien der Aedicula Tympana; vom Gebälk hängt ein geweihtes Tympanon an Binden herab; von der Mauer ebenfalls geweihte Binden (licia) herabhängend welche die Votivschriften tragen. Vgl. S. 150. 154.—Mus. Borbon. Vol. 12 T. 8. Die Staffage, eine sitzende Priesterin und ein herzuschreitender Mann mit Opfergaben, ist wegelassen.” Bötticher, *Baumkultus der Hellenen* (see note 9), 540.

## Architectural Metamorphosis

Bötticher's alternative foundation myth points us to his contemporary, Gottfried Semper, who also told an inverted origin story, one more complex than Bötticher's, perhaps, but with certain parallels. Semper was a well-known critic of the Vitruvian tradition, calling the story of the primitive hut a "homebred theory" and dismissing the eighteenth-century debate about the origins of architecture as a futile dispute. <sup>14</sup> If, for Vitruvians like Chambers, the structural reality of the hut preceded its adornment, for Semper it was precisely the opposite. The motifs of adornment were far older than architectural construction, he argues, existing long before the first hut or temple. <sup>15</sup> That Semper begins his magnum opus, *Der Stil in den technischen und tektonischen Künsten, oder Praktische Aesthetik* (1860–1863), with analyses of the string (under which he includes the wreath), the band, and the textile cover should not surprise us. These are the root forms of architecture, he claims: original motifs that are "*much older than architecture and had already in premonumental times – even before the sacred hut, the house of God, acquired the monumental framework of its art-form – achieved their fullest and most marked development in movable domestic furnishings.*" <sup>16</sup>

Like Bötticher, Semper broke with the Vitruvian tradition and located the origins of architecture in the act of adorning. The insight carried very different weight for their respective oeuvres, however. While Bötticher treated the ritual origins of the Greek temple as a historical episode, Semper elevated it to a theoretical principle. The complex metamorphosis of ritual action into the motifs of the technical arts and from there into architecture became a key feature in his architectural theory, articulated most fully in the concept of *Stoffwechsel* (metamorphosis). In the prolegomena to *Der Stil*, Semper outlines how the primitive human being imitated the rhythms of nature through bodily movement and how these movements were slowly reified into objects and adornment.

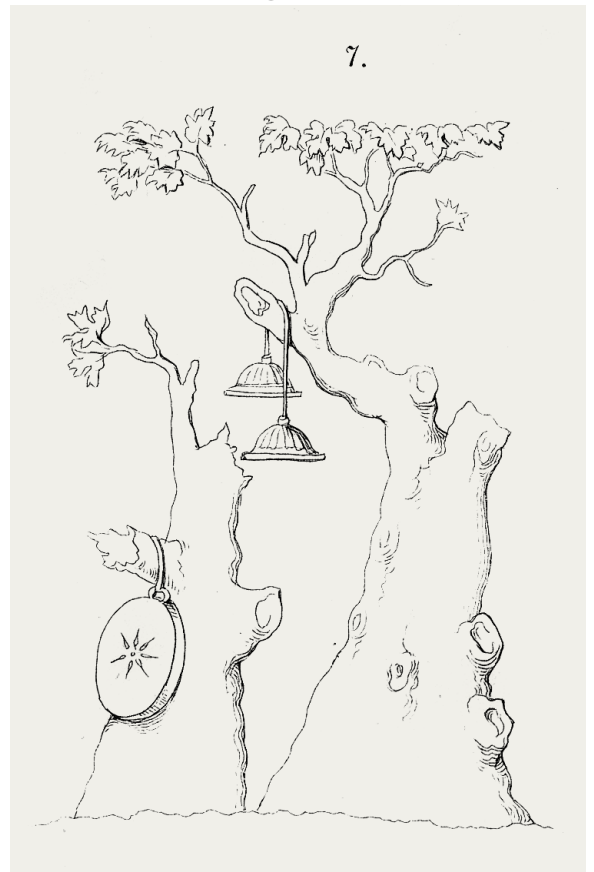
*"Primitive human beings delight in nature's creative law as it gleams through the real world*

<sup>14</sup> Gottfried Semper, *Der Stil in den technischen und tektonischen Künsten, oder praktische Aesthetik*, 2 vols. (Frankfurt: Verlag für Kunst und Wissenschaft, 1860/63). Published in English as *Style in the Technical and Tectonic Arts; or, Practical Aesthetics*, trans. Harry Francis Mallgrave and Michael Robinson (Los Angeles: Getty Publications, 2004), §145, 665. All subsequent quotations are taken from this English edition with original emphasis. However, because of the notorious difficulty in translating nineteenth-century German into modern English, I also give the original German for particularly important quotations.

<sup>15</sup> *Ibid.*, §130, 623: "The Formal Language of Tectonics Was Fixed before Its Use in Monumental Architecture."

<sup>16</sup> *Ibid.* The original German reads, "Nun sind aber diese Wurzelformen der Tektonik viel älter als die Baukunst und bereits in vormonumentaler Zeit an dem beweglichen Hausrath zu vollster und sehr ausgesprochener Entwicklung und Ausbildung gelangt, ehe die heilige Hütte, das Gottesgehäuse, das monumentale Gezimmer seine Kunstform erhielt." Semper, *Stil* (see note 14), vol. 2, §128, 210.

**figs. 3 a–c** Plates from Karl Bötticher's *Der Baumkultus der Hellenen* (1856).





in the rhythmical sequence of space and time movements, in wreaths, a string of pearls, scrolls, round dances, the rhythmic tones attending to them, the beat of an oar, and so on. These are the beginnings out of which music and architecture grew.”<sup>17</sup>

Semper found a particularly important example of this metamorphosis in weaving, which he saw as simultaneously a ritual imitation of cyclical time and the technical origin of the architectural wall. “[I]t is certain,” he states, “that the beginning of building coincides with the beginning of textiles.”<sup>18</sup>

Semper’s metamorphic origin story comes together in section 60 of the first volume of *Der Stil* (section 62 in the second edition on which the English translation is based), discussing the masking of reality in art. Having established that the architectural wall derives from the textile enclosure, he traces both textiles and buildings back to the festive celebration:

*“the outward reason for monumental undertakings has always been, and still is, the wish to commemorate or immortalize some religious or solemn act. ... [T]he first beginnings of a monumental art ... was in an analogous way suggested to its founders by similar festive celebrations. The festival apparatus – the improvised scaffold with all its splendor and frills that specifically marks the occasion for celebrating, enhances, decorates, and adorns the glorification of the feast, and is hung with tapestries, dressed with festoons and garlands, and decorated with fluttering bands and trophies – is the motive for the permanent monument.”*<sup>19</sup>

The origin of architecture, for Semper, is not found in a building – real or imaginary – but in human action. figs. 4 a–b

The quotation above well illustrates one of the most fascinating and radical aspects of Semper’s origin theory; namely, his blatant refusal to equate simplicity with originality. Just because primitive man builds primitively, Semper held, does not mean the primitive hut is original. In fact, what we consider primitive today is more likely to be a product of decay than a testimony to originality. “The most primitive tribes we know present us with an image not of primeval human condition but of its impoverishment and stultification,” Semper proclaims.<sup>20</sup> Insisting on the complexity of architectural origins, Semper considers these origins an anthropological rather than an art-historical entity.

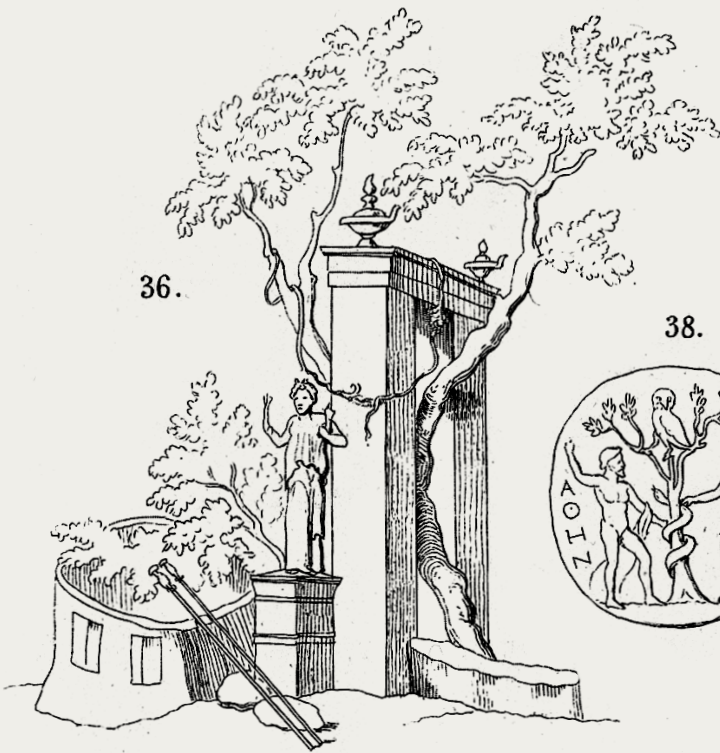
The dismantling of neoclassical origin theory in Semper’s and Bötticher’s writings entails some delicious paradoxes. These mid-nineteenth-century thinkers locate the origins of architecture not in Chambers’ dumb and unadorned primitive hut but in highly complex, metamorphic origin motifs manifested not in stone or wood but in dance, festivals, and fluttering ribbons. In doing so, they turn the hierarchy of structure and ornament on

<sup>17</sup> Semper, *prolegomena to Style* (see note 14), 82. The original German reads, “während es ihn schon erfreut das Gesetz der bildnerischen Natur, wie es in der Realität durch die Regelmäßigkeit periodischer Raumes- und Zeittfolgen hindurchblickt, im Kranze, in der Perlen-schnur, im Schnörkel, im Reigentanze, in den rhythmischen Laufen womit der Reigentanz begleitet wird, im Takte des Ruders, u.s.w. wiederzufinden. Diesen Anfängen sind die Musik und die Baukunst entwachsen.” Semper, *prolegomena to Stil* (see note 14), vol. 1, xxi–xxii.

<sup>18</sup> Semper, *Style* (see note 14), §62, 247. The original German reads, “immer bleibt gewiss, dass die Anfänge des Bauens mit den Anfängen der Textrin zusammenfallen.” Semper, *Stil* (see note 14), vol. 1, §60, 227.

<sup>19</sup> Semper, *Style* (see note 14), §62, 249. The original German reads, “indem ich hier vorläufig darauf hinweise, wie der Wille irgend einen feierlichen Akt, eine Religio ... commemorativ zu vereigen noch immer die äussere Veranlassung zu monumentalen Unternehmungen gibt, und wie ... den ersten Begründern einer monumentalen Kunst ... der Gedanke daran durch ähnliche Festfeiern gekommen sei. Der Festapparat, das improvisirte Gerüst, mit allem Gepränge und Beiwerke welches den Anlass der Feier näher bezeichnet und die Verherrlichung des Festes erhöht geschmückt und ausgestattet, mit Teppichen verhangen, mit Reisern und Blumen bekleidet, mit Festons und Kränzen, flatternden Bänden und Tropäen geziert, diess ist das Motiv des bleibenden Denkmals.” Semper, *Stil* (see note 14), vol. 1, §62, 229–30.

<sup>20</sup> Semper, *Style* (see note 14), §1, 104.



36.



38.



37.



38a.



39.

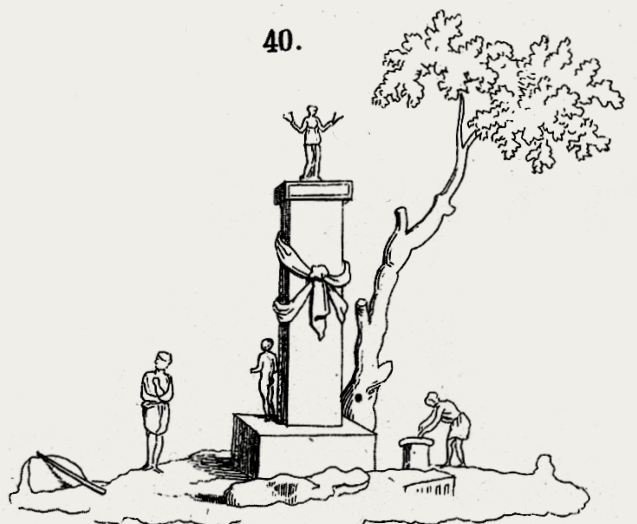


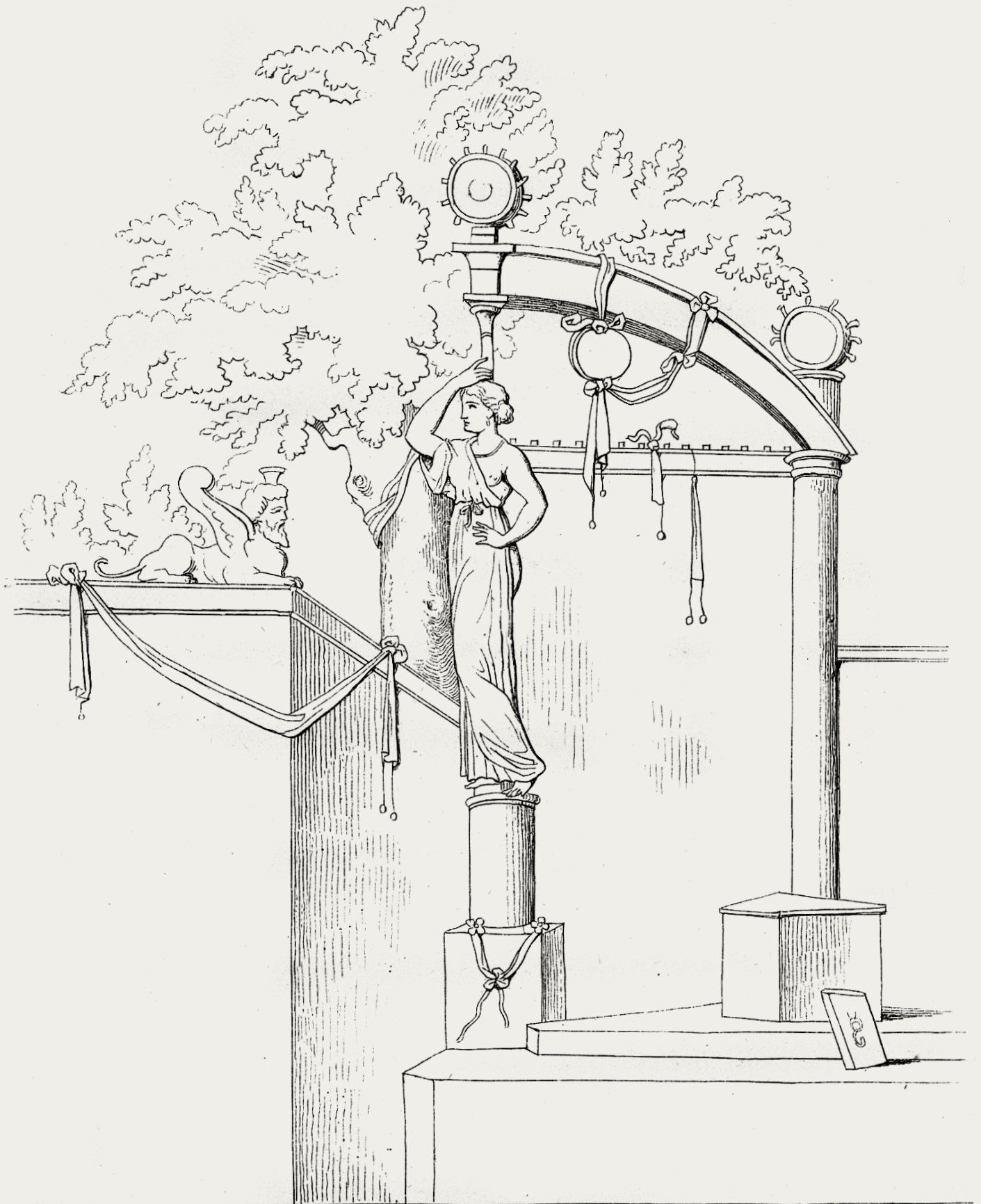
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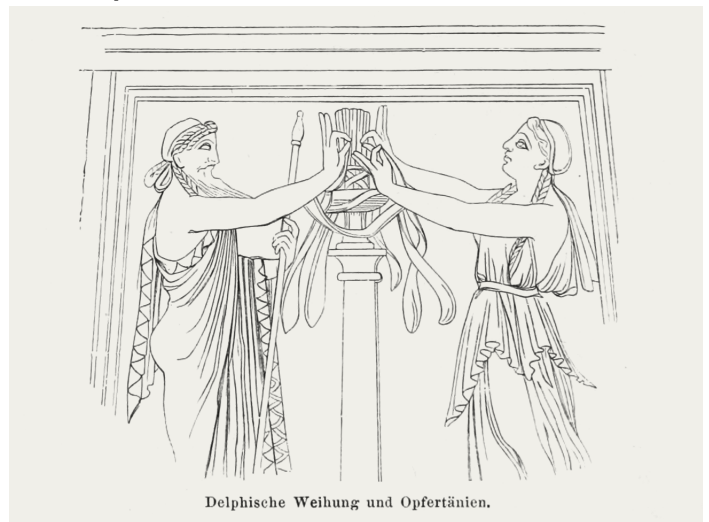


its head, proposing the wonderfully counterintuitive theses that the most flimsy decoration precedes the sturdiest wall and that ephemeral acts are more fundamental to architecture than any built structure. By locating the origin of architecture in movement, dance, and ritual action, they overturn the principle of autonomy underlying the Vitruvian hut and put forward a radically different foundation myth for architecture.

In his classic study *On Adam's House in Paradise*, Joseph Rykwert argues that foundation myths are mobilized whenever architecture is forced to defend or redefine its legitimacy. The radical reworking of architecture's origin narrative around the middle of the nineteenth century is no exception. With the authority of the classical tradition gradually waning, nineteenth-century thinkers were seeking new ways to legitimize architecture beyond the aesthetic autonomy of the Vitruvian model. A discipline that seemed to

figs. 4 a–b Plates from Gottfried Semper's *Der Stil in den technischen und tektonischen Künsten* (1860/63).

offer such a new point of departure was anthropology – roughly equivalent to the German *Ethnologie*, *Völkerkunde*, or even *Kulturgeschichte*. Both Semper and Bötticher were influenced by early nineteenth-century anthropologists and their studies of ritual practice;



Semper's reliance on his Dresden colleague Gustav Klemm, for instance, is well known.<sup>21</sup> This "anthropological turn," as Caroline van Eck calls it, did not imply a diminished concern with aesthetics, however.<sup>22</sup> Semper and Bötticher were interested not in action as such but in the complex ways various forms of cultural practice (most notably, ritual) metamorphose into adornment, artifacts, and eventually into architecture. This new focus on ritual allowed them to turn the Vitruvian hierarchy on its head. Instead of essentializing the architectural structure as Chambers and other proponents of the Vitruvian tradition had done, Bötticher and Semper (though the latter more forcefully than the former) considered adornment to be architecture's essence and origin.

<sup>21</sup> See, for example, Harry Francis Mallgrave, "Gustav Klemm and Gottfried Semper: The Meeting of Ethnological and Architectural Theory," *RES: Journal of Anthropology and Aesthetics* 9 (1985): 68–79. See also Mari Hvattum, "Origins Redefined: A Tale of Pigs and Primitive Huts," in *Primitive: Original Matters in Architecture*, eds. Jo Odgers, Flora Samuel, and Adam Sharr (London: Routledge, 2006), 33–42.

<sup>22</sup> Caroline van Eck, *Art, Agency and Living Presence: From the Animated Image to the Excessive Object* (Berlin: De Gruyter, 2015), 203–5. Van Eck uses the term in relation to Aby Warburg, but it seems equally fitting applied to Bötticher and Semper in the 1850s.

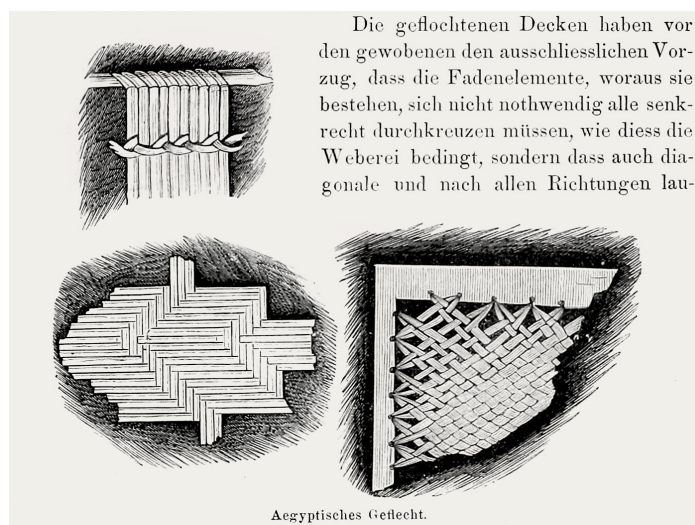
<sup>23</sup> Institut für Geschichte und Theorie der Architektur (gta), letter of invitation to the gta50 Founding Myths conference, February 28, 2017.

## Rejection or Reformulation

Do origin stories still have a role to play, or are they obsolete narratives with historical interest only?<sup>23</sup> The first thing to note is that foundation myths are rarely static or stable. Origin tales in architecture have always been subject to critique and deconstruction,

which is what has made them so important. And if foundation myths have, historically speaking, served as fruitful, critical tools, it is not least because they have been continually challenged, just like Bötticher reformulated the origin of the Greek temple and Semper that of architecture in general. Yet, the question remains: Do foundation myths have a mission in contemporary architectural discourse, or should we – like the French Academy of Sciences did in 1866 – give up discussions of origins altogether?

An example from the near past may start to address that question. For a generation of architects educated toward the end of the twentieth century – myself included – structural honesty was an unquestioned ideal. Structure should never be covered up; materials should never be made to look like other materials; a brick – heaven forbid! – should never be split. The essence of architecture resided in its structural core, of which the adornment



(if any were admitted) had to be a loyal representation. In the face of such a seemingly incontestable dogma, foundation myths have a radical potential. Semper and Bötticher's inverted origin story, then, provides a liberating antidote not only to the Vitruvian tradition but to the dogmatism of

late modernism. By overturning the hierarchy between structure and ornament, they open the possibility of overturning all kinds of other relationships: beginnings and ends, copies and originals, pasts and presents. Foundation myths – endlessly reformulated and deconstructed – provide ways of critically engaging with architecture, be it contemporary or historical. They offer a kind of resistance, a license to question unquestioned truths.

The notion of structural honesty is not the only concept to lend itself to Semperian deconstruction. The autonomy of architecture – another favorite preoccupation of the 1980s – is also a candidate. For those who followed Bernhard Tschumi's search for an architecture that "means nothing" or Peter Eisenman's celebration of architecture "as a representation of itself" with some skepticism, Semper and Bötticher's anthropologically founded theory of architecture provides a refreshing alternative. <sup>24</sup> Architecture, they propose, is not a representation of itself. Rather, it is an attempt – however imperfect – at accommodating and representing human life and action in as rich a

<sup>24</sup> Bernhard Tschumi, "Parc de la Villette" (1981), in *Deconstruction: Omnibus Volume*, eds. Andreas Papadakis and Catherine Cook (London: Academy Editions, 1989), 175–84, here 181; Peter Eisenman, "The End of the Classical: The End of the Beginning, the End of the End," *Perspecta* 21 (1984): 154–73, here 167.

25 "[D]en Menschen in allen seinen Verhältnissen und Beziehungen zur Aussenwelt." Gottfried Semper, "Ueber Baustile" (1869), in *Kleine Schriften von Gottfried Semper*, eds. Hans Semper and Manfred Semper (Berlin: Spemann, 1884), 397–426, here 403.

manner as possible. Semper knew that particularly well, and his origin theory brings it out lucidly. It was he, after all, who defined the subject matter of architecture as "humans, in all their relations and connections with the world."<sup>25</sup> His insight accords well with contemporary architectural concerns in which political action and ethical engagement have made a powerful comeback. And although this shift can hardly be attributed to Semper, he certainly offers a way of making sense of it.

The formulation of, dismantling of, and dispute over architecture's foundation myths produce narratives and counternarratives that are essential to the discipline. Such disputes allow one to think about things in different ways and to turn seemingly self-evident truths upside down. That is why, perhaps, Damiel's strange little run around the muddy circus site seems so relevant to the question of foundation myths in architecture. Like Semper's primordial weaver, Damiel recreates the world through rhythm and movement. He does not make the circus tent reappear, but by evoking the tent, with all its hustle and bustle, his run consoles him enough to carry on looking for Marion — just as we carry on looking for architecture.

## Myths of the Origins of Modern Concrete

### Adrian Forty

Myths of origin have their moments. An origins myth that suits one epoch cannot be relied upon to serve another. No better demonstration is there of the time-bound nature of myths of origin than those attaching to concrete.

When we talk about concrete, we need first of all to distinguish between the substance invented by the Romans, using naturally occurring pozzolana as a binding agent, the art of which was partially lost sometime after the fall of the empire, and the modern stuff, made with manufactured cements, invented in the early nineteenth century. But whether we are referring to the ancient or the modern material, it has been a notoriously myth-attracting substance – myths of all kinds, not only of origins, stick to it like flies to flypaper. Even before the modern reinvention of concrete in the nineteenth century, there were stories of the existence of artificial concretes in ancient, even prehistoric times: the myth *preceded* the substance. In the sixteenth and seventeenth centuries, the great works of antiquity and of prehistory – the Pyramids, Stonehenge, Egyptian obelisks, objects such as Pompey’s Pillar in Alexandria, a monolithic 29-meter column – were widely thought to have been formed *in situ* out of an artificial stone, the secret of which was known only to the ancients: for how else could such large pieces of stone have been quarried and transported? Even after these myths were refuted in the eighteenth century, they continued to be repeated, if only to be denied. A residual credence in the *pierre fondue* of the ancients became an incentive to discover a modern equivalent, as was to happen in the early nineteenth century. <sup>1</sup> Modern concrete was, therefore, in part a rediscovery of a material that had never existed other than in people’s minds.

Origin myths did not cease with the modern invention of cement. On the contrary, they multiplied, and the new concrete of the nineteenth century gave rise to successive versions of who invented it, where, and when – each of which is as inconclusive as the other. What makes the existence of so many versions of the story surprising is that, for most of its short history, it has generally been more important for concrete *not* to have a history than it has been for it to have one. Concrete is an *anti*-historical medium. Compared to, say, stone, which is a *historical* medium, concrete has been valued precisely because it is *not* encumbered by a history. Concrete has often been talked about as a medium whose full potential has not yet been realized, a medium that belongs to the future rather than to the past. The attention has tended to be on its *destiny*, on what it is yet to become, and in this is

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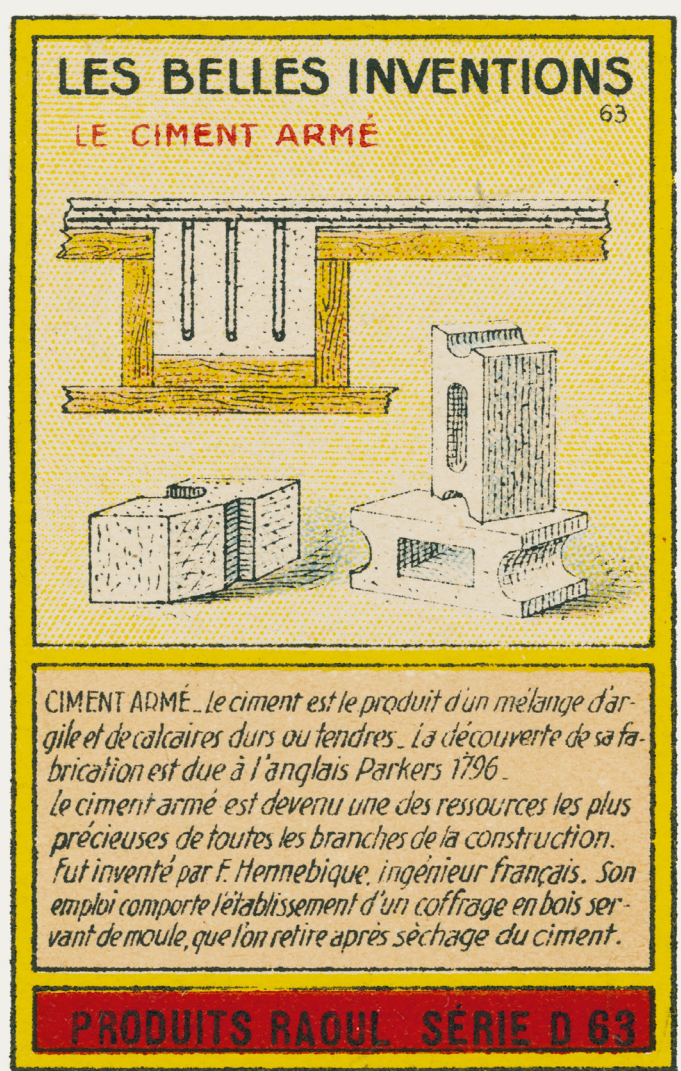
<sup>1</sup> Roberto Gargiani, *Concrete – From Archeology to Invention, 1700–1769: The Renaissance of Pozzolana and Roman Construction Techniques*, trans. Stephen Piccolo (Lausanne: EPFL Press, 2013), ch. 1, esp. 12–18; Adrian Forty, “Pompey’s Pillar,” in *Images of Egypt*, eds. Mari Lending, Eirik Arff Gulseth Bøhn, and Tim Anstey (Oslo: Pax, 2018), 156–57.

fig. 1 Origins in individuals. Early twentieth century French advertising card citing François Hennebique as the inventor of reinforced concrete.

seen its value as a “modern” material. <sup>2</sup> In these circumstances, to admit that concrete has a past – and thus draw attention to its origins – amounts to something of a betrayal.

An event so recent as the invention of concrete might not be thought to pose much difficulty of historical explanation – but the matter turns out to be far from straightforward. We have to bargain with the tendency of concrete to throw all certainties to the wind. Broadly speaking, during the twentieth century there have been three versions of the story of the origin of modern concrete. Although they overlap chronologically and more than one has been current at a time, they are roughly sequential, with each bearing the marks of the time of its making. The oldest identifies the origins of synthetic cement, concrete, and the addition of steel reinforcement, with a cast of named individuals. The second, which dates from the 1960s, shifts the origins to anonymous craft procedures and processes. The third emerged in the 1990s in the shadow of Michel Foucault’s thinking about the sciences, and may, given Foucault’s resistance to all notions of origins, mythical or otherwise, be considered something of a paradox.

For most of the twentieth century the customary story (and it is still often repeated) was that concrete came into being through the inventions of several individuals whose discoveries followed a progressive sequence. First, we have the discovery of hard, hydraulic-setting cement by chemists, principally Joseph Vicat in France, followed by the development of industrial manufacture of cement by an English entrepreneur, Joseph Aspdin. Then comes the application of cement to building and other kinds of construction by a diverse cast of characters such as François Coignet in France, James Pulham in Britain, and Thomas





Edison in the United States — but the list is extendable. Finally comes the development of steel reinforcement, attributed to yet another cast of characters, starting with Joseph Lambot's iron-reinforced boat exhibited in 1849 and including the Frenchman Joseph Monier's patent for iron-reinforced flowerpots; the English engineer James Wilkinson's use of steel cables as reinforcement; the American William Ward, who first identified the need to place metal bars in the lower part of beams to increase their tensile strength; and another American, Thaddeus Hyatt, who showed that cement and steel have the same coefficients of expansion. For the first reinforced concrete buildings there are other contenders: the German Gustav Adolf Wayss, who bought Monier's patent; the Belgian contractor François Hennebique; or Ernest Ransome in the United States. These are just some of the names that are said to have pioneered concrete construction. The choice of "the inventor" depends to some extent on nationality: the French tend to favor Vicat, Coignet, and Lambot; the Germans, Monier and Wayss; the British, Aspdin and Wilkinson; and the Americans, Ward, Hyatt, or Ransome. The cast list expands or contracts depending on the story to be told. In the most extreme cases, it is simplified to just one character — as with the French advertisement card that claimed Hennebique as the sole inventor of reinforced concrete, wrongly stating him to be French and an engineer, neither of which was true. fig.1

The names of the potential discoverers of concrete construction grew steadily during the twentieth century, and the list was much augmented by the research of the architectural historian Peter Collins, whose 1959 book *Concrete — The Vision of a New Architecture* also marked the foundation of the second myth, with a new origins story. Collins saw the beginnings of concrete as lying in eighteenth- and early nineteenth-century experiments by artisanal builders in France using pisé construction. fig.2 Employing various combinations of materials, and sometimes lime mortars, the decisive feature for Collins of this process was that the building was *molded*. Collins saw the presence of formwork, and the fact that the building was shaped within a mold, as the precondition for concrete. This argument served his purposes well, for the aim of his book was to legitimate the work of Auguste Perret as the "true" course of concrete — and Perret, in whose work trabeation was key, made no secret of his belief in the importance of wooden formwork in the formal definition of reinforced concrete. According to Perret, "It is the use of wooden formwork that gives reinforced concrete the appearance of a great timber frame and makes it resemble antique architecture; antique architecture was an imitation of timber construction and, since reinforced concrete

3 Auguste Perret, "L'Architecture," *Revue d'art et d'esthétique* 1–2 (1935): 41–50, cited by Réjean Légault, "Introduction," in Peter Collins, *Concrete: The Vision of a New Architecture*, 2nd ed. (Montreal: McGill-Queen's University Press, 2004), xxi–lix, here xxxv.

4 Bernard Rudofsky, preface to *Architecture without Architects: A Short Introduction to Non-pedigreed Architecture* (New York: Museum of Modern Art, 1964), n.p.

5 Cyrille Simonnet, *Le Béton: Histoire d'un matériau* (Marseille: Parenthèses, 2005), 39.

6 *Ibid.*, 111.

7 Michel Foucault, *The Archeology of Knowledge*, trans. A. M. Sheridan Smith (London: Routledge, 1994), 25.

8 *Ibid.*, 38.

also makes use of wood, there is a family resemblance due especially to the repeated use of the straight lines that wood imposes." <sup>3</sup> Collins's shifting of the origins of concrete away from technical inventions by named individuals and toward a *process* — *pisé* construction — carried out by anonymous builders coincided with the growing interest of the 1950s and 1960s in vernacular architecture. Whether in Western or non-Western contexts, attention to what Bernard Rudofsky called "non-pedigree architecture" — and others labeled "vernacular," "anonymous," "spontaneous," or "indigenous architecture" — stressed the importance of building traditions as against the role of the individual creative genius in determining the history of the built environment. <sup>4</sup> Collins's privileging of the anonymous builders of eighteenth-century rural France in the invention of concrete was, whether he intended it or not, a new myth that suited the times in which he was writing.

Our third myth starts with a debunking of the previous two myths. Cyrille Simonnet's 2005 book *Le Béton* is the most recent study to address the question of where modern concrete began. According to Simonnet, at "the middle of the nineteenth century, the economic, cultural and social environment is 'ready' for concrete to be invented. In fact, it will be invented many times, and in multiple places, without its originality in terms of mechanical effectiveness always being perceived." <sup>5</sup> At a stroke, Simonnet disposes of all the myths that attached the origin of concrete to particular people or places; furthermore, he dismisses assumptions that the "inventors," whoever they were, knew where their inventions might lead. Instead, he presents a version of concrete's origins that draws its authority from notions about the development of scientific knowledge put forward by Foucault in his 1969 book *The Archeology of Knowledge*. While Simonnet makes only one explicit reference to Foucault, that is not the point. <sup>6</sup> For an invention to be said to have happened many times, in multiple places, without the people concerned knowing what it was they were inventing, is a claim credible only in a post-Foucauldian world.

Foucault's *The Archeology of Knowledge* was full of warnings about origins — the whole book was an attack on searches for origins, mythical origins in particular. "We must renounce ... a wish ... that beyond any apparent beginning, there is always a secret origin." <sup>7</sup> In proceeding, "one may be compelled to dissociate certain *oeuvres*, ignore influences and traditions, abandon definitively the question of origin, allow the commanding presence of authors to fade into the background." <sup>8</sup> Foucault was concerned with the development of scientific theories, but concrete provides an analogue equivalent in its formation to the discourses Foucault

was interested in. Concrete exists as much as idea, as “discursive practice” (to borrow Foucault’s terminology), as it does as substance or material. Simonnet recognizes this: “At bottom, reinforced concrete has no intrinsic, necessary, essential rationality, other than the discourses to which it is joined. ... The ‘birth’ of reinforced concrete is in part the formation of discourses which describe it, carry it to the diverse settings where it is put on show, exposed, and end up proposing two apparently antagonistic tectonic solutions, either as a monolith, or as a composite.”<sup>9</sup>

<sup>9</sup> Simonnet, *Béton* (see note 5), 111.

If concrete is a discursive practice, as Simonnet suggests, the task, according to Foucault, is to discover not its origins but the system of rules that brought it into action: “the system of rules that must be put into operation if such and such an object is to be transformed, such and such a new enumeration appear, such and such a concept be developed.”<sup>10</sup> Where, then, might we find such a system of rules for concrete?

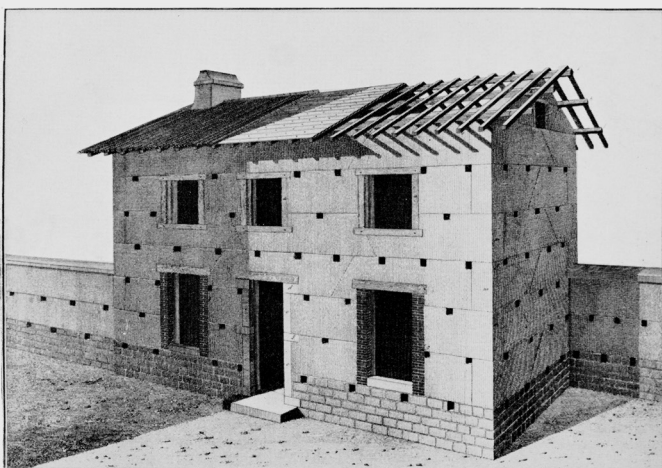
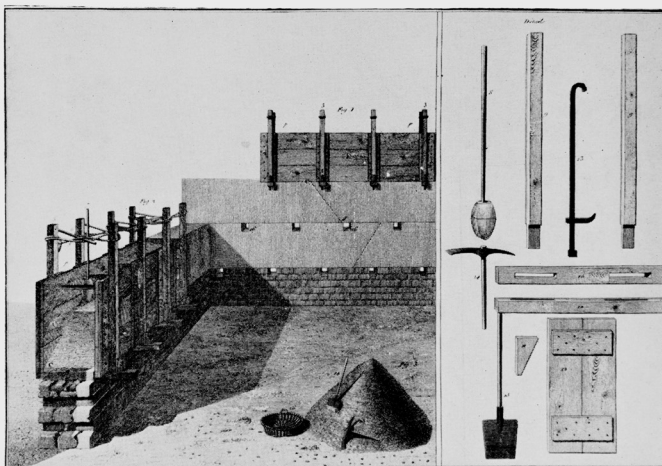
<sup>10</sup> Foucault, *Archeology* (see note 7), 74.

Simonnet’s answer lies in the period of latency, between the 1820s and 1850s, when, despite the invention of cement by Vicat and the existence of patents for the manufacture of Portland cement, nothing much happens. Concrete exists, but

no one knows what to do with it. During this period, he writes, “concrete is not yet a demonstrable material – it is buried, immersed.”<sup>11</sup> Simonnet is especially interested in the fact that – while hundreds of patents for the manufacture and application of cement were taken out in Britain, France, and the United States during the nineteenth century, and many more experiments weren’t reported or patented – the results were negligible. Like Lambot’s boat, which was exhibited in 1849 but then disappeared to the bottom of a lake, where it remained until the 1930s, these inventions went nowhere. Simonnet’s telling

**fig. 2** Origins in a process. “The Origins of Modern Concrete,” illustration from Peter Collins’s *Concrete* (1959).

<sup>11</sup> Simonnet, *Béton* (see note 5), 33.



THE ORIGINS OF MODERN CONCRETE

I. The Technique of Pisé Construction

(From Rondelet: *Traité de l'Art de Bâtir* (1812), Vol. I, article 12, Plates V and VI)

of the story between the invention of cements and the effective application of concrete to construction relies on the notion of the “technical imaginary” – that only once a process has been fully realized in the imagination can it actually happen. For much of this period, concrete, though it existed physically, had no place in builders’ imagination as a constructional medium. No one had imagined what they could do with it other than to use it as a substitute for existing substances, either as a binding agent or as a surface render. “Matter” had yet to become “material.”<sup>12</sup> The transition, Simonnet says, came about through the development of an idea of “compactness.” “When, progressively, the craft of working it starts to be controlled, when it is subjected to experimental changes that can be modelled, it acquires then the potential status of a constructive category.” Though concrete could not be *demonstrated* – for there was nothing much to show – it was the shift into the world of the scientist or engineer, and the gradual emergence of an idea of “compactness,” that provided the “rules” for its formation and, for Simonnet, for its entire subsequent history. “The principle of compactness opens up conceptual and experimental configurations of resistance; within the mass, there is enclosed a dynamic potential, an internal articulation. Soon the idea of substance will no longer be antagonistic to structure, nor even to that of elasticity. That then would be the moment for the invention of reinforced concrete.”<sup>13</sup> The “rules,” then, are first of all, a transfer of knowledge to a class of people who are not themselves builders and, second, the development of an ability to think about matter as having dynamic, rather than purely inert, properties.

12 Ibid.

13 Ibid., 33–34.

In Simonnet’s account, one person in particular fulfills the role not of *inventor*, because all the inventions for making concrete were already in place, but is the one who seizes the opportunity of the conditions that might allow concrete to “take.” That person is Coignet, and through him are condensed all the various preconditions and determining factors enabling concrete to become a demonstrable constructional medium.<sup>14</sup> But in no sense was Coignet the “inventor” of concrete – Simonnet is careful not to make that claim. Rather, Coignet drew out what was previously buried and immersed in a kind of constructional preconsciousness.

14 Ibid., 41.

Coignet’s significance for Simonnet is that he was not a builder but a businessman, an industrial chemist who in 1851 diversified into construction. Combining the technique of *pisé* using fixed shuttering with a slag mortar, both of which were already known, he did what no one before had done, which was to patent this as a process. No one before had considered such

commonplace, everyday site processes to be patentable. Coignet took well-known procedures, familiar to many builders, and turned them into a commercial product, from which he could exclude all competitors. Out of this, he created an extremely successful business, executing many contracts in the second half of the century – among them the spectacular Yonne viaduct that carried Georges-Eugène Haussmann’s Parisian water supply. What marked Coignet out from his contemporaries was the appropriation of knowledge away from the building site and into the businessman’s office. The shift in the location of knowledge, rather than any particular discovery regarding materials, is what, according to Simonnet, allowed concrete to happen.

Simonnet’s story of concrete has another parallel, one that locates it more precisely with the period of the research and writing of his book. The parallel is with a further work in the history of science, Bruno Latour’s *The Pasteurization of France*, first published in 1984. While there is no evidence that Latour’s book had any direct influence upon Simonnet’s account of concrete, the coincidences between them are such as to put Simonnet in tune with the then new thinking about the social consequences of scientific discoveries. Latour wanted to understand why Pasteur alone had gained all the credit for the extraordinary authority exercised by hygienists in almost every walk of life throughout France and its colonies by around 1900. His argument was that, before Pasteur and his fellow microbiologists came on the scene, a “contagion environment” already existed, a widely shared view attributing the spread of disease to contact between people, animals, and sometimes objects, but with no satisfactory explanation for the unpredictable variations in the virulence of epidemics. The microbiologists provided a scientifically verifiable answer to the question of how diseases spread – and in addition means of inoculation against some, though not all, of the diseases. “Pasteur was not the one who arrogantly claimed the new hygiene as his own work. It was the hygienists who needed to turn ‘Pasteur’ into the advocate of all their decisions.”<sup>15</sup> Had it not been for the existence of the “contagion environment” and of experts on hygiene, epidemiology, social policy, city design, and so on all looking for justification for their arguments, Pasteur’s discoveries would have gone nowhere. “Pasteur’s work does not ‘emerge in society’ to ‘influence’ it. It was already in society; it never ceased to be so.”<sup>16</sup> Latour’s argument shifted the “discovery” of microbes away from Pasteur and onto the receptivity of powerful interest groups in French society.

<sup>15</sup> Bruno Latour, *The Pasteurization of France*, trans. Alan Sheridan and John Law (Cambridge, Mass.: Harvard University Press, 1988), 55.

<sup>16</sup> *Ibid.*, 91.

The parallel between Latour's account of the discovery of microbes and Simonnet's of the discovery of concrete lies in the way they both diffuse invention into a wider field that provides the precondition for its subsequent discovery to "take." For Latour the "contagion environment" of the hygienists, for Simonnet the "constructive imaginary" of builders, make the inventions a possibility. A second parallel occurs in the function of the laboratory. Latour attributed to the "laboratory" a crucial role in Pasteur's ascendancy. "Their [the Pasteurians] 'contribution,' if we insist on this term, is to be found in a certain style of movement that was to allow them to connect 'diseases' with the 'laboratory'" — a place of which nothing had previously been expected. <sup>17</sup> Latour continues, "In the laboratory, the work of a normal man is scaled up. ... [P]henomena are finally made smaller than the group of men who can dominate them." <sup>18</sup> The laboratory is a place of displacement and of transfer. Laboratories do not so much create new knowledge; rather, by translating already existing knowledge into a different setting, they give it authority.

<sup>17</sup> Ibid., 62.

<sup>18</sup> Ibid., 73–74.

All this has a parallel with Simonnet's account of the early development of cement. Traditionally, lime was burned by the builder who was going to build with it, because this was the only certain way to guarantee its quality: lime production was a local affair, dispersed among many, many producers who were also builders. But when, in the early nineteenth century, chemists became interested in the production of stronger mortars, they went to the chalk quarries that were known to produce the best limes, and they analyzed their composition. With this knowledge, the chemists were able to manufacture high-grade limes synthetically, which they were then able to market nationally. Lime production, and later cement production, moved from being dominated by many local producers — builders making lime for themselves — to industrial concerns, where the know-how and the guarantee of quality came from the laboratories of the chemists. This shift is, for Simonnet, a decisive precondition for the subsequent development of concrete — and it is a narrative very different from Collins's stress on artisanal experiments with pisé and molding techniques. "The pre-history of construction in cement, in concrete," Simonnet writes, "is not only a matter of the building site/laboratory of the engineer, but also of future commercial exploitation of chalk quarries" — made possible by the work of the chemists' laboratories. <sup>19</sup> Whereas Collins accorded no particular role to the laboratory, for Simonnet it is a decisive agency. In the seemingly banal commodification of lime and then of cement, Simonnet says, lay the germ of a revolution in building: "insidiously, the mastery of solidity was transferred from

<sup>19</sup> Simonnet, *Béton* (see note 5), 28.

a bodily activity (in the work of building) to the management of supplies.”<sup>20</sup>

<sup>20</sup> Ibid., 22.

But does Simonnet’s exceptionally intelligent and nuanced account of the origin of concrete constitute a “myth”? It certainly dispels the two previous myths – the individual inventors and the anonymous artisanal process of working with a molded material – and replaces them with what is, at least for the present, a much more credible story of origins. For the time being, it is the best we have, but there is no guarantee it will be good for all time – it will last only so long as no other version of the origin of concrete comes to supersede it, when it, too, will come to be seen as a myth. Simonnet’s account is not free of uncertainties and aporias. In particular, it relies on the gestation of a “technical imaginary” in the minds of unidentified, and unidentifiable, builders. Here we are obliged to accept something to which we have no access: the thought processes of unknown men, in whose minds a notion of “compactness,” of “density,” allegedly took hold, making it possible for “matter” to become “material.”<sup>21</sup> In the current post-Foucault, post-Latour climate of the history of sciences, we are receptive to the “technical imaginary” – but for how long? Nothing lasts. Even the very authors of those doctrines seemed to turn against their own progeny. Foucault, shortly before his death, surprised everyone by announcing his lifelong debt to Martin Heidegger, an origins man if ever there was one: “My entire philosophical development was determined by my reading of Heidegger.”<sup>22</sup> And in the 1990s Latour issued a kind of product recall to retract Actor-Network-Theory, of which *The Pasteurization of France* had been a prototype.<sup>23</sup> Myths of origin are only as good as the times they are made for.

<sup>21</sup> Ibid., 33.

<sup>22</sup> Michel Foucault, “Final Interview,” *Raritan Review* 5, no. 1 (1985): 1–13, here 8.

<sup>23</sup> Bruno Latour, “On Recalling ANT,” *Sociological Review* 47, no. S1 (1999): 15–25.

On *gta Films*:

## Opening Boxes in Architectural Archives

Andreas Kalpakci, Jacqueline Maurer,  
and Daniela Ortiz dos Santos

Dark corners, narrow understairs, busy corridors, main entrance halls, and formal exhibition spaces. For three months these settings housed a diverse set of objects – beamers, tablets, screens, television boxes, headphones, and chairs – each setting a stand-alone installation displaying one of fifteen films pulled out of archival boxes. Each installation beckoned the students, professors, staff, and visitors who crossed its loosely defined zone of display and shared with them testimony of the many affairs twentieth-century architects have had with film to design, document, communicate, and promote their work. In turn, each display magnified the film's own characteristics: photography, montage, animations, sometimes even the soundtrack, provoking passers-by to reflect on the milieus within which these films were once entangled.

Bridging the archival recesses and the corridors of the Department of Architecture at ETH Zurich, *gta Films* curated a twin metamorphosis. VHS cassettes were replayed, studied, digitized, and thus transformed from dusty archival materials to sources of architectural histories. With them, the corridors in the Hönggerberg campus were transformed from circulatory spaces to stations of vision, and their users into involuntary spectators of architecture's filmic past.



Recordings included TV productions, such as *Messias des Neuen Bauens* (1989), an East German documentary about Hannes Meyer, whose screening intersected with the final acts of the Berlin Wall. Others revealed



amateur productions, such as the tryouts for *Bella Lui* (1930), which testifies to Carl Hubacher's and the couple Flora and Rudolf Steiger's use of film to communicate their projects. But each recording tells a story of how film has intertwined with the gta during its fifty years of existence. Since the moving image gives an account of things that dif-

fers from that of other documents — models, drawings, writings, and other “static” media — these stories do not always match with known records.

Visits to *gta Films* started in the department's gallery. There the main exhibition, *Phantom Theory*, celebrated the institute's jubilee in fifty-two vitrines. Among them, a pillar stood out as multiscreen signage animated by five filmic portraits of Swiss architects Alberto Camenzind, Hannes Meyer, Rudolf Olgiati, Andreas Studer, Alfred Roth. Close-ups of these historical figures were interspersed with other imagery, constructing a visual biography. Occasionally, all five faces appeared at the same time across all five screens, thus revealing the commonalities among the films, such as the staging of the architects' own houses. In this way, the pillar disclosed the

mechanisms underpinning all of the films as a *dispositif* used for the architects' individuation. At the same time, the pillar was revealed as an installation that, by prompting visitors to move about it, allowed them to see what the curators' guided tours of the exhibition colloquially referred to as "talking heads." The reference to institutional ancestry was anything but subtle: the pillar was better known as the "Totem."

The other installations were scattered throughout the department. Some were unavoidable, like the "Totem." Others were noticeable only from specific viewpoints. For example, one installation was situated in a double-height hall by the main entrance, near the Info Center, the library, the elevators, and various lecture rooms. On the ground floor it was barely detectable. On the first floor, however, users walking along the gallery that opens onto the hall encountered a surprising scene: László Moholy-Nagy's *Architects' Congress* projected on a white screen just below, laid out on the dark Pirelli rubber flooring. This film was commissioned by Congrès Internationaux d'Architecture Moderne (CIAM) organizer Sigfried Giedion to promote the association and boost its membership. It records CIAM's fourth congress, held in 1933 aboard the cruiser *Patris II*, where the film was also shown for the first time. Visitors leaned on the gallery's balustrade, as if on a boat,



to see the moving spectacle below. Between classes, students would gather to watch and discuss the film, mirroring its use of cruising as a mode of debate and vision. With this one detail, the installation conveyed all the peculiarities of Moholy-Nagy's film — its original subject, photography, and display.

One day, the student association *architektura* took control of the Moholy-Nagy installation. Students framed the hall with black drapes, hacked the beamer, diverted its projection, and quite literally infiltrated



themselves among the CIAM modernists. With this appropriation, the students reshaped the installation to launch an independent program of debate. Without notice, the installation displaying the silent journal of a historical encounter was transformed into a stage for contemporary architectural criticism. This was not an isolated event. Interactions

between students and *gta Films* took place regularly. One of the most frequented installations displayed Niklaus Morgenthaler's *Halen* (1964/1989), an exploration of the namesake settlement built by Atelier 5 near Bern from 1955 to 1962. The architect's film was shown on a small tablet within a large and otherwise empty bulletin board at the busiest crossroads of the department, connecting the school's main staircases with the auditoria. The installation was attention-getting because the bulletin board operated

as a sound box, magnifying the soundtrack produced by the tablet's small speakers: The Rolling Stones' "Goin' Home" evoked the 1960s optimism for collective domesticity, while Bobby McFerrin's "Don't Worry Be Happy" contextualized the moment Morgenthaler edited the 16mm footage to narrate the life of Halen's inhabitants.

In using these spaces as exhibition sites, *gta Films* kept away from the white-cube approach. This had unexpected consequences. The *gta Exhibitions* team had to check each device every day, as they were routinely sabotaged. Nonetheless, this uneasiness furthered the visitors' experience of the estrangement produced by these films, a phenomenon *gta Films* further examined in a brochure, a seminar, guided tours, and guest lectures. We are not used to architectural histories being told through the medium of film. Although films can be found in the archives, they are often in precarious condition, and rarely have they informed the narratives of architectural historians. Yet, the dozens of films in the institute's vaults are strong evidence that films are neither isolated nor occasional incidents but are the result of significant intersections with architecture. Thus, we should keep asking — all the more so in jubilee years — which boxes are we unaware of not having opened yet?

**Note:** *gta Films* was curated by the authors and Samia Henni.

**fig.1** The "Totem" in the main jubilee exhibition. Photograph by the authors.

**fig.2** *Architects' Congress* in the main hall. Photograph by the authors.

**fig.3** *Halen* in the bulletin board. Photograph by the authors.

## Zero Point – Birobidzhan and Tel Aviv: Annotations to a Letter from Hannes Meyer to Arie Sharon Ita Heinze-Greenberg

On September 26, 1937, Hannes Meyer (1889–1954) sat down at the desk in his temporary Geneva apartment in the Corbusier-designed Maison Clarté to write a letter to his former student and office assistant Arie Sharon (1900–1984). Almost seven years had passed since they had handed over the Bundesschule in Bernau to its future users. Sharon, in 1930 the principal architect in Meyer's Berlin office, had been in charge of supervising the

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**fig.1** Founding photograph of Tel Aviv. Lottery of the parcels in the sand dunes off Jaffa, 1909. Photograph by Avraham Soskin.

general construction on site. With the Bundesschule, probably the best edifice Meyer had ever conceived, the since-dismissed Bauhaus director and his younger collaborator had shown what they understood by building. In Adolf Behne's words, "It pretends nothing, it represents nothing, it marks nothing, it *is* what it *is*, in the simplest, clearest, most sympathetic way. ... One can certainly describe the basic attitude of this building as one in the best and richest sense Marxist." <sup>1</sup> Soon after completing the Bundesschule, Meyer's and Sharon's paths diverged. On October 11, 1930, Meyer left for the Soviet Union. <sup>2</sup> Sharon took a detour to Mandatory Palestine, from where he had set off in summer 1926 for his training at the Bauhaus. Despite positive impressions of Moscow gained during a visit to the Vkhutemas as one of three student delegates of its sister institution in Dessau, Sharon resisted the attractive offers he received from Meyer in Moscow and from Mart Stam in Magnitogorsk. <sup>3</sup> Both had urged him to join up and "to work where the real proletarian art is forged." <sup>4</sup> Doubtlessly tempted, Sharon nevertheless decided to put his professional

<sup>1</sup> Adolf Behne, "Die Bundesschule," *Soziale Bauwirtschaft* 10, no. 17 (1930): 376.

<sup>2</sup> Klaus-Jürgen Winkler, *Der Architekt Hannes Meyer: Anschauungen und Werk* (Berlin: Verlag für Bauwesen, 1989), 131.

<sup>3</sup> Arie Sharon, *Kibbutz + Bauhaus: An Architect's Way in a New Land* (Stuttgart: Karl Krämer; Tel Aviv: Massada Publishing, 1976), 30–31.

<sup>4</sup> Hannes Meyer in *Pravda*, October 12, 1930, cited in Winkler, *Hannes Meyer* (see note 2), 131.

experience at the service of the Zionist project – the national revival of his own people on its biblical land.

The address on the envelope of Meyer's letter places Sharon at Pinsker St. 14, Tel Aviv. This north–south street branches off from the busy Allenby Street and merges after seven hundred meters into the prominent Dizengoff Square, an icon of modern Tel Aviv that was still under construction in autumn 1937. The more southerly developments of the 1920s on Allenby, Nachlath Binjamin, Yavne, Achad Ha'am, and other streets are characterized by an eclectic mix of styles in the nineteenth-century fashion

**fig. 2** Tel Aviv, Allenby Road, corner Nachlath Binjamin, 1920s.



of the East European hometowns from which the architects and their clients had emigrated. Some were even tempted to refer to the new town on the Mediterranean (Tel Aviv was founded in 1909) by nicknames such as “Little Odessa” or “Little Warsaw.”<sup>5</sup> Sharon, on his return from Berlin, had nothing but disillusioned words for what he saw: “I remember, when I came back from the Bauhaus after six years of absence, I walked through Tel Aviv, and I was depressed by its architecture. After Berlin, which in the late twenties, was the liveliest city in the world, Tel Aviv was a shock.”<sup>6</sup> /figs. 1–2 The comparison was unfair. The first Jewish city in the world – endowed with its own city rights by the British Mandate for Palestine in 1923 – was only twenty-three years old at the time of Sharon's walk. In 1932, Berlin had more than four million inhabitants; Tel Aviv had sixty thousand. However, together with other “suffering colleagues,” Sharon set out in the following years to transform Tel Aviv into a modern metropolis. Inspired by the Berlin association of avant-garde architects Der Ring, they founded the Chug (Ring), in which a recently immigrated, younger

<sup>5</sup> For a huge collection of contemporary descriptions of the city, see Joachim Schlör, *Tel Aviv – Vom Traum zur Stadt: Reise durch Kultur und Geschichte* (Berlin: Insel, 1999).

<sup>6</sup> Sharon, *Kibbutz + Bauhaus* (see note 3), 46.

generation of Tel Aviv architects joined forces: Ze'ev Rechter and Sam Barkai, both just returned from Paris as convinced Corbusians; Carl Rubin and Joseph Neufeld, who had worked with Erich Mendelsohn in Berlin; Benjamin Chlenov, a Parisian Beaux-Arts graduate; and many more. All brought experience from within the circles of the contemporary European avant-garde. <sup>7</sup> The journalistic mouthpiece of the Chug was the magazine *Habinyan* (Building), edited by Julius Posener for some time. Posener himself arrived in Palestine in autumn 1935, and after a short interlude in Mendelsohn's Jerusalem office he settled in Tel Aviv. In his suitcase Posener had a letter from Le Corbusier, allowing him to acquire commissions in his name. In the end, however, no projects were forthcoming. <sup>8</sup> Nonetheless, Pinsker St. 14 and many of the buildings in its vicinity testify to the successful assertiveness of the young architects in using a modern vocabulary that is named "Bauhaus" in Israel today.

<sup>7</sup> See Ita Heinze-Greenberg, *Europa in Palästina: Die Architekten des zionistischen Projekts 1902–1923* (Zurich: gta, 2011), 124–25. For an overview of the Jewish architects active in Mandatory Palestine in the 1930s, see Gilbert Herbert and Ita Heinze-Greenberg, "The Anatomy of a Profession: Architects in Palestine during the British Mandate," *Computers and the History of Art* 4, no. 1 (1993): 75–85.

<sup>8</sup> Le Corbusier to Julius Posener, Paris, September 10, 1935, in *Julius Posener – Ein Leben in Briefen: Ausgewählte Korrespondenz 1929–1990*, eds. Matthias Schirren and Sylvia Claus (Basel: Birkhäuser, 1999), 52.

## The Letter, Part One

Meyer's letter – written in lower case – starts with a keen interest in the work of his ex-student and in the architecture of the region:

*"dear a. sharon, while traveling through zurich recently, bella ullmann and your wife told me about the building activity of the last few years, especially yours. i would like to obtain information about what you have achieved there and would like to know whether there are any suitable professional publications."* <sup>9</sup>

The just-printed August 1937 issue of *Habinyan* would have fit the bill, but Sharon is not likely to have included it in his response to his former teacher. Published in Hebrew, the old-new language being revitalized as part of the national Jewish project in Mandatory Palestine – or, in Zionist terminology, Eretz Yisrael (Land of Israel) – the issue was devoted to "Planning of Co-operative Houses" and included an editorial by Sharon. <sup>10</sup> Without question, the theme would have been of utmost interest to Meyer; it was the very topic that had turned Sharon into Meyer's disciple at the Bauhaus. <sup>11</sup> Both men shared a common interest in the alliance of agriculture and

<sup>9</sup> Hannes Meyer to Arie Sharon, Geneva, September 26, 1937, Archive of Arie Sharon, <https://www.ariesharon.org/Archive/Bauhaus-and-Berlin/Letters-from-Hannes-and-Lena/i-rkRpFCp> (accessed March 7, 2019). Translated from German by the author. Sharon's first wife was Gunta Stölzl, head of the Bauhaus weaving workshop. They had a daughter, Yael. Stölzl-Sharon went to Switzerland in 1931 and, after some initial difficulties, established herself as a weaver in Zurich. The second woman mentioned in the letter, Bella Ullmann, was educated at the Bauhaus weaving workshop under Stölzl from 1929 to 1931.

<sup>10</sup> Arie Sharon, editorial for the first issue of *Habinyan: A Magazine of Architecture and Town Planning* 1 (1937): n.p.

<sup>11</sup> See also Zvi Efrat, "Arie Sharon und die Architektur des neuen Staates Israel," in *Hannes Meyers neue Bauhauslehre: Von Dessau bis Mexiko, Bauwelt Fundamente* 164, ed. Philipp Oswald (Basel: Birkhäuser, 2019), 466–82.

12 See Heinze-Greenberg, *Europa in Palästina* (see note 7), esp. 159–90. The city of Basel played a major role in both the Swiss cooperative movement and the Zionist movement.

13 For further information on Konrad von Meyenburg's lectures at the Bauhaus and his early impact on Meyer, see Gregory Grämiger, "Landwirtschaft und Siedlungsbaulehre bei Konrad von Meyenburg," in *Hannes Meyers neue Bauhauslehre*, (see note 11), 316–27.

14 Arieh Sharon, notes from lectures by Hannes Meyer and Konrad von Meyenburg, Archive of Arieh Sharon, <https://www.ariehsharon.org/Archive/Bauhaus-and-Berlin/Bauhaus-Materials-1927-29/i-HQqKFq> (accessed March 7, 2019); designs for kibbutz Gan Shmuel, <https://www.ariehsharon.org/Archive/Bauhaus-and-Berlin/Cooperative-Dormitory-For-A/i-BqwF49h> (accessed March 7, 2019).

15 Meyer to Sharon (see note 9).

16 For comprehensive accounts on Birobidzhan, see Vyacheslav Kostikov, *The People and Land of Birobidzhan: The Jewish Autonomous Region* (Moscow: Novosti, 1979); Robert Weinberg, *Stalin's Forgiven Zion—Birobidzhan and the Making of a Soviet Jewish Homeland: An Illustrated History 1928–1996* (Berkeley: University of California Press, 1998); Antje Kuchenbecker, *Zionismus ohne Zion—Birobidzhan: Idee und Geschichte eines jüdischen Staates in Sowjet-Fernost* (Berlin: Metropol, 2000); Ber Boris Kotlerman and Smuel Yavin, eds., *Bauhaus in Birobidzhan and Eretz Israel: 80 Years of Jewish Settlement in the Far East of the USSR* (Tel Aviv: Bauhaus Center, 2008); Masha Gessen, *Where the Jews Aren't: The Sad and Absurd Story of Birobidzhan, Russia's Autonomous Region* (New York: Schocken, 2016).

communal forms of settlement. Meyer's cooperative housing estate Freidorf, which he had not only planned but inhabited, had been informed by theories such as the *Freilandbewegung* (freiland movement) that were equally referred to by the leaders of the Zionist movement.<sup>12</sup> This cross-fertilization had become apparent to Sharon in the courses taught by Meyer and by guest teachers such as Konrad von Meyenburg on the development of the co-op system and on the natural connections between agriculture and settlement.<sup>13</sup> Sharon would find in these courses the theoretical platform for the kibbutz model he had practiced before joining the Bauhaus. He produced meticulous transcripts of the respective lectures, and his first student works were an extended layout scheme for Gan Shmuel and a kibbutz dormitory.<sup>14</sup> During the 1930s in Tel Aviv, he would apply the co-op idea as an urban model.

## The Letter, Part Two

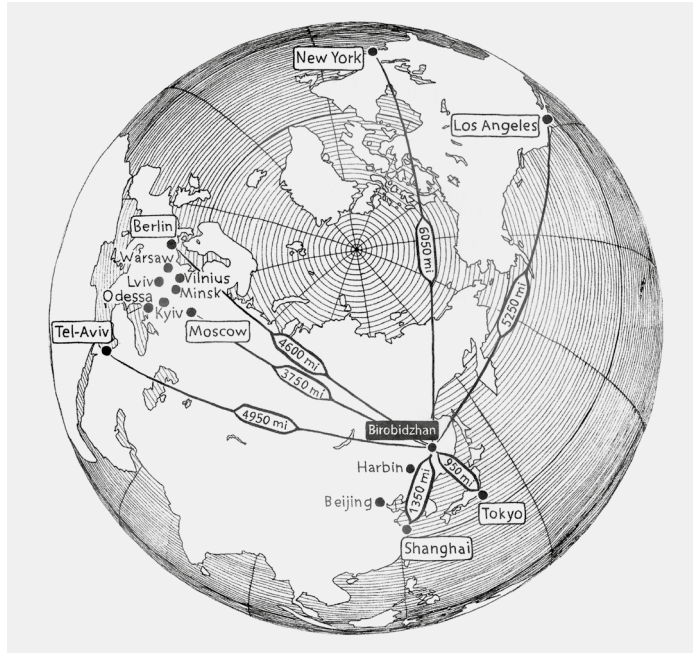
In the following passage from his letter, Meyer refers to the topical purpose of his writing:

*"since i got involved with the urban development organization in BIROBIDZHAN in 1933/34, i would also be interested in the character of jewish construction. are there also attempts to create a special national-jewish style? even if it were the purest kind of pretentious kitsch, i would be interested. is there a comprehensive work about the Jewish settlement and the activities of the last year, in which also the economic conditions are outlined? do you have any printed material of your own buildings? bella ullmann told me about a hospital construction?"*<sup>15</sup>

Birobidzhan was one of the major projects Meyer was engaged in during his five-year stay in the Soviet Union. As chief architect at the Moscow-based Giprogor Urban Planning Institute, he was assigned to the Eastern Siberia and Far East sectors. His involvement in Birobidzhan related directly to Josef Stalin's objectives in the USSR's second five-year plan (1933–1937): the industrialization of Siberia and the implementation of Vladimir Lenin's nationality policy. In 1928, Stalin had designated a 38,600-square-kilometer area (almost the size of Switzerland) as an autonomous Jewish settlement realm.<sup>16/fig.3</sup> The project was to serve two purposes: to give the scattered Jewish people a territory where they could settle and live largely according to their own rules; and to provide the Communist Party with the means to colonize and cultivate previously underdeveloped areas far from the center (the designated territory was 6,000 kilometers from Moscow, close to the Chinese border). Tichonkaya, a village at the intersection of the Trans-Siberian Railway and the Bira and



Bidzhan Rivers, was chosen as the future capital but soon adopted the name of the entire region: Birobidzhan. At the end of May 1933, Meyer, accompanied by an economist and an engineer-architect, both Russians, traveled 197½ hours by train from Moscow to the Soviet Far East. Their commission was to draw up a development plan for the designated capital that would turn the existing small town, which had a population of about five thousand in 1933, into a city with a prospective 37,000 inhabitants, laid out in such a way as accommodate future expansion to 75,000. Meyer and his colleagues worked on the project from spring 1933



to autumn 1934, including several months spent on-site. They produced a detailed master plan for Birobidzhan based on careful studies of topography, vegetation, temperature, hydrology, and wind conditions. 17 The future architectural design of the buildings played an important role from the start. In accordance with the self-image of the Bolshevik state as a federation

fig. 3 Distances from Birobidzhan to Tel Aviv and other world cities, map by Darya Oreshkina.

17 Winkler, Hannes Meyer (see note 2), 162–63, 164–67 (for the development plans). The plans are also published in Deutsches Architekturmuseum et al., *Hannes Meyer, 1889–1954: Architekt, Urbanist, Lehrer* (Berlin: Ernst & Sohn, 1989), 283–85. Meyer describes his journey to Birobidzhan as well as his stay there in his letters to his later wife, Lena Bergner, partly published in Hannes Meyer, *Bauen und Gesellschaft: Schriften, Briefe, Projekte*, ed. Lena Meyer-Bergner (Dresden: Verlag der Kunst, 1980), 131–39.

of national autonomies, the character of each nation should be reflected in its cultural production. For Birobidzhan, this meant that Meyer's conception should "equally reflect the cultural greatness and distinctiveness of Jewishness and the very nature of a capital in a socialist country." 18

18 Hannes Meyer, "Bericht einer Stadtbaubrigade," in Meyer, *Bauen und Gesellschaft* (see note 17), 139–47, here 146.

Ideologically, Meyer was in complete agreement with the Soviet requirements for national stylistic manifestations: "I fully approve," he wrote to Carola Bloch, "of the 'national shift' that architecture (and other cultural productions) ... must take. This is simply a political necessity in a world where 'national concerns' have become the weapon of cultural defense." 19 Meyer's extensive exploration of the designated settlement area, which was to inform, among other things, his analysis of local Jewish building traditions, led to a diagnosis similar to the one Sharon had made about Tel Aviv's jumble of styles. "With its colorful pattern map of various construction methods," Meyer observed, "the town looks more like a somewhat chaotic housing exhibition of the most diverse peoples of the earth." 20 He identified a range of building materials — "wood, reeds, straw, clay, sand, gravel, lime and limestone" — that "in the hands of the settlers" were "transformed into

19 Hannes Meyer to Carola Bloch, Geneva, August 13, 1937, cited in Deutsches Architekturmuseum et al., *Hannes Meyer* (see note 17), 292–93, here 292.

20 Meyer, "Bericht" (see note 18), 143.

21 Ibid. For Russian, Hebrew, and English translations of the entire report, see Kotlerman and Yavin, *Bauhaus in Birobidzhan* (see note 16), 30–36, 98–111.

fig. 4 Street in Birobidzhan. Photograph by Hannes Meyer, 1933.

22 The phrase “Old New Land” refers to a novel of the same title in which Theodor Herzl outlines his concept for a future Palestine under Jewish control. The novel was originally published in German as *Altneuland* (Leipzig: Seemann Nachfolger, 1902). For a discourse on Hebrew style, see Heinze-Greenberg, *Europa in Palästina* (see note 7), esp. 148–53.

23 For a linguistic and philosophical differentiation of the terms *origin* and *beginning*, see the studies of Emil Angehrn; in particular, *Die Frage nach dem Ursprung: Philosophie zwischen Ursprungsdenken und Ursprungskritik* (Munich: Fink, 2007), 23–29.

the blockhouse construction of Latvian or Belarussian Jews or into the two-story clay brick construction of the Reichs-German Jew, depending on their origin.”<sup>21</sup> As solid as his research and analysis was, he remained at a loss as to how to define a mutual stylistic denominator that could reflect Jewish identity on the basis of national tradition. **fig. 4**

The question of how the Jewish nation would express itself played an equally important role for the Zionist project in the Levant: Where to find common ground, a collectively shared platform for the founding of a new homeland? During the 1910s and 1920s, the Zionist discourse engaged in several controversial positions but ultimately focused on two polarizing approaches, Occidental or Oriental, each fostered by a competing ideological orientation: political Zionism and cultural Zionism. Theodor Herzl and Max Nordau intended to transport European culture

to Asia. Achad Ha’am and Martin Buber, on the other hand, had hoped for an inner cultural renaissance of the Jewish nation through contact with the land of its forefathers. While the revitalization of the Hebrew language had tied in to the Jews’ Semitic tradition and thus



harmoniously combined national goals with integration into the region’s linguistic family, an equally satisfying solution was missing in respect of architectural vocabulary. There were simply no role models of traditional Hebrew architecture that would differentiate the Zionists’ architectural vocabulary from that of its Semitic-Arab neighbors. The idea of linking to an own past in the “Old New Land” through a reception of Arab culture, an approach advocated by a group of Jewish artists and architects, was commonly rejected, as it would have amounted to a new assimilation.<sup>22</sup>

The 1930s brought about a realignment of the architectural discourse. The needle of the Zionist compass, which previously had pointed to the past, was now oriented toward the future. The myth of the origin was replaced by the pathos of a new beginning.<sup>23</sup> The new direction was triggered by the immigration of young professionals from Europe who carried the tool kits and mindsets of modernism in their luggage. Among them were many architects who had just graduated from the various technical universities in Europe, including the Bauhaus. They set about making Tel Aviv into an international metropolis, applying what would



eventually be coined “International Style.” It fit well with Zionist practices, matching closely with the multi-geocultural origins of its immigrants while also serving as a common formal denominator. The unconditional rationale of modern architecture provided a suitable projec-

**fig. 5** Arie Shanon, cooperative housing on Frishman Street, Tel Aviv, 1934–1936. Photograph by Itzhak Kalter.

tion screen for the “New Hebrew,” which had to be extracted or re-created out of the diversity of Jews who had immigrated from the diaspora. The *tabula rasa* attitude of the Neues Bauen accommodated the Zionist idea of a national new beginning from point zero by leveling the various preexisting identity models and fostering a general alignment. The “White City” of Tel Aviv, created by Sharon and his colleagues during the 1930s, stands for a lack of history turned into a virtue. The very idea of tradition-less novelty became the essence of the city’s urban character and a symbol for a national new beginning. <sup>24</sup>

On the other hand, the *tabula rasa* stance seems to contradict the geohistorically founded Zionist claim of a return to the land of ancestors. But here, too, modern architecture proved to be operable. The flat-roofed, white cubic buildings of the twentieth-century architects were indebted to the enduring vernacular building culture of the Mediterranean region and thus transported notions of timeless duration and belonging. Posener liked to hint at the fortunate coincidence that connected the new immigrants from Germany and Central Europe with the Neues Bauen in Eretz Yisrael. He meant that between Jews and modernism, both loathed by the Nazis, something like a mutual declaration of solidarity was emerging in a new homeland. And the modern architecture of Mandatory Palestine appeared, like the migrants, as if it was making a return from Europe to its land of origin, to its Mediterranean roots. In that way Posener also explained the broad acceptance of classical modernity among the new Jewish immigrants. <sup>25</sup> Modern architecture in Tel Aviv seemed to display Janus-like qualities. Situated at point zero, it gestured toward both the past and the future and thus referred to both place and time, origin and new beginning. **fig. 5**

**24** Ita Heinze-Greenberg, “Zionistische Architektur zwischen Moderne und Traditionalismus,” in *Exil und Architektur: Kulturtransfer und architektonische Emigration von 1930–1950*, ed. Bernd Nicolai (Trier: Porta Alba, 2003), 87–100. For a literary studies perspective, see Barbara E. Mann, *A Place in History: Modernism, Tel Aviv, and the Creation of Jewish Urban Space* (Stanford, Cal.: Stanford University Press, 2006), 13.

**25** Author’s recollection of conversations with Julius Posener between 1980 and 1994.

Sharon’s 1935 co-op building block in Tel Aviv was an example par excellence of the architectural style that successfully established itself for the Zionist project in Mandatory Palestine. However, it could hardly provide a useful answer to Meyer’s burning

26 For a fictional answer to Meyer's question that is both witty and informative, see Zvi Efrat, "Is There Such a Thing as Jewish Architecture?" in *Israel*, special issue, *bauhaus 2* (2011): 15–16.

27 Winkler, *Hannes Meyer* (see note 2), 156.

28 See Hannes Meyer, "Der Architekt im Klassenkampf," in *Schweizer Städtebauer bei den Sowjets* (1932–1935), eds. Hans Schmidt and Hannes Meyer (Baden: Lars Müller, 1990), 24–30, here 25.

29 Heinrich Heine, "Geständnisse: Geschrieben im Winter 1854," in *Sämtliche Schriften*, vol. 6.1, ed. Klaus Briegleb (Munich: Hanser, 1975), 443–501, here 483.

30 Zvi Gitelman, "Introduction," in Weinberg, *Stalin's Forgotten Zion* (see note 16), 12–26.

31 Mordkhe Schaechter, "Yiddish Language Modernization and Lexical Elaboration," in *Language Reform: History and Future*, vol. 3, eds. István Fodor and Claude Hagège (Hamburg: Buske, 1984), 191–218, here 195–96.

32 Weinberg, *Stalin's Forgotten Zion* (see note 16), 33.

question, which remained unanswered. 26 His interest "in the character of Jewish construction" that might be applicable to the contemporary Soviet Union was directed to an existing or revived national tradition. Edifices in the wake of the Bauhaus buildings in Dessau or the Bundesschule in Bernau would have been criticized in Moscow as abstract, cold, soulless, inhuman. 27 Meyer accounted his own conforming development from functionalist to proletarian architect as personal progress. He saw his earlier rejection of artistry at the Bauhaus as a relic of a collapsing bourgeois-capitalist society, and he welcomed his new access to art at the service of the masses. 28 His request for examples "even if [they] were the purest kind of pretentious kitsch" was meant seriously — for the sake of the collective will. Yet, identifying an indigenous artistic expression that could be instrumentalized for the goals of Stalin's nationality policy proved difficult in the case of the Jews. The "People of the Book," whose history in the Russian Empire as elsewhere had been for centuries repeatedly marked by forced exoduses, had hardly had time to build firm houses, let alone develop their own architectural style. The ethnic identity of the Jews in the diaspora was preserved solely by the Holy Scripture, which contained all that was fundamental for sustaining national existence: history, myths, and laws. Heinrich Heine thus aptly had coined the Torah the "portative fatherland" of the Jews. 29

In Stalin's Jewish enterprise, as in the case of the Zionist project, the determination of the national language had been a matter of quick settlement. In contrast to Eretz Yisrael, in Birobidzhan the old struggle between Hebrew and Yiddish was won by the latter. The decision was based on a mutual agreement between the Communist Party and its Jewish representatives. Yiddish was deemed to be the voice of the "afflicted masses," while Hebrew was considered to be the language of the "class enemy" — the bourgeoisie, Zionists, religious orthodoxy — and thus declared illegal. 30 Yiddish, an East European vernacular based on German with Hebrew elements and strong Slavic coloring, connected its speakers to the Soviet realm in much the same way as Hebrew connected the Jewish immigrants in Palestine to the Semitic linguistic family of the Middle East. Yet, other than Hebrew, Yiddish had been the living everyday language of the East European Jewry since the early Middle Ages. 31

The establishment of a Jewish homeland rooted in Yiddish and committed to socialist principles was, apart from being the USSR's effort to solve its Jewish question, decidedly conceived as an alternative to the Zionist project in Mandatory Palestine. 32 Both homeland ventures drew successfully on language as a common

denominator of national identity, each opting for a site-specific solution. Yet, the world's two Jewish state projects differed fundamentally in their goals and their means, starting with the crucial fact that the one in the Middle East was launched from bottom up, while the development of its counterpart in the Soviet Far East was dictated from above. The final goal of the Birobidzhan enterprise was total integration of the Jews into the Soviet federation. In this, it followed the logic of Lenin, who had condemned discrimination against Jews and ordered assimilation in the belief that without Jews there could not be a Jewish problem.<sup>33</sup> With a few exceptions, which advocated the integration of the Jewish state into a Semitic Commonwealth, the Zionist answer to the Jewish question came from a basically anti-assimilationist stance.<sup>34</sup> It advocated a self-expression that would clearly distinguish itself from the neighboring Arab countries. *figs. 6–7*

Tel Aviv and Birobidzhan, in a sense the founding capitals of two state projects, both share the myth of a zero point. The soil in which their foundations were laid—sand on the Mediterranean coast, mud on the banks of the Bira—is described in both cases as precarious ground for the construction of buildings,



thus invoking the topos of the difficult beginning and its mastery by the heroic work of pioneers. At both locations, architecture was discursively integrated into the process of national identity formation and tasked with launching groundbreaking sociopolitical processes. And in both locations, diametrically opposed international and national values were fused. In Tel Aviv the International Style was used to promote the national alignment of immigrants from various countries. In Birobidzhan a stylistic solution was sought to express the

federal structure of the Bolshevik state, which defined itself as international in spirit and national in structure.

<sup>33</sup> Zvi Gitelman, "Introduction," in Weinberg, *Stalin's Forgotten Zion* (see note 16), 12–26, here 18.

<sup>34</sup> On the exceptions, see Erich Mendelsohn, "Palestine and the World of Tomorrow" (1940), in Erich Mendelsohn — *Gedankenwelten: Unbekannte Texte zu Architektur, Kulturgeschichte und Politik*, eds. Ita Heinze-Greenberg and Regina Stephan (Ostfildern-Ruit: Hatje Cantz, 2000), 144–53.

**fig. 6** Poster celebrating the establishment of a Jewish Autonomous Region in Birobidzhan, as decided by the Central Executive Committee of the USSR, 1933.

## The Letter, Part Three

Meyer concludes his letter to Sharon with indications that he has not yet ruled out a return to the Soviet Union:

*"if other bauhäuslers are in your vicinity, please give them my regards. from time to time i could send you some material about building + architecture from the USSR if you expect a counter service. i can probably be reached at this address in Geneva until spring 1938.*

*are there also attempts in the field of painting and sculpture? with best regards from lena and me. hannes meyer"* <sup>35</sup>

When Meyer wrote the letter, the commission for a children's home in Mümliswil was on his desk. However, Switzerland did not offer a long-term option for him at the time. A month earlier, he had complained in a letter to Bloch about the harassment of Jews in Zurich and the smearing of Nazi symbols

on the facade of the Bern synagogue. <sup>36</sup> Above all, the increasing reports of the persecution of Jews in Germany made the Birobidzhan project appear more topical than ever for Meyer. Before returning to Switzerland in early 1936, he had spoken on Soviet city planning and architecture during an extensive lecture tour through Czechoslovakia. Since that country was an important exile destination for Jewish refugees from Germany, he had used the example of the Jewish autonomous republic of Birobidzhan when describing Lenin's nationality policy. The



<sup>35</sup> Meyer to Sharon (see note 9).

**fig.7** Poster, *Eretz Yisrael*, by Franz Krausz, 1934.

<sup>36</sup> Hannes Meyer to Carola Bloch, Geneva, August 13, 1937, cited in Deutsches Architekturmuseum et al., *Hannes Meyer* (see note 17), 292–93, here 293.

twenty-two stops of his tour started with an event in Prague, to which the Society of Friends of Birobidzhan had invited him. <sup>37</sup> By the mid-1930s, thousands of Russian Jews and several hundred Jews from other countries had moved to the Jewish Autonomous Oblast in the Soviet Far East. Meyer's master plan for its capital was largely used as a blueprint for its urban development. Birobidzhan was granted town status in 1937. By then, the number

<sup>37</sup> Winkler, *Hannes Meyer* (see note 2), 178.

of Jewish inhabitants in Stalin's Zion had reached 20,000, about one-fifth of its total population. <sup>38</sup> Before a Jewish architectural style could be found or invented, however, let alone be implemented in Birobidzhan, the Stalinist purges started.

Yiddish-language activists began disappearing in Moscow first. By 1937, when Meyer wrote his letter to Sharon, the Great Terror had reached the Soviet Far East. Joseph Liberberg, a scholar of Yiddish culture and head of the Birobidzhan regional executive committee, was among the first to be arrested. He had promoted Jewish settlement in the region, which he hoped could be developed into an all-Soviet Jewish cultural and academic center. He was executed on 9 March 1937 on charges of bourgeois nationalism. Further arrests and executions followed. The Jews of Birobidzhan were targeted for the very reasons they had moved to the region: national values and their own language. In 1938, Klaus Meumann, Antonin Urban, Béla Scheffler, and Philipp Tolziner, four of the seven Bauhäuslers who had gone to Moscow with Meyer, were arrested, taken to the notorious Lubyanka Prison, and charged with "espionage." Whereas his three friends were killed, Tolziner, after torture and a blackmailed "confession," was sent to a work and re-education camp for ten years. <sup>39</sup> In February 1938, the former Bauhaus secretary, Margarete Mengel, who had followed Meyer to the Soviet Union, was arrested on suspicion of spying. She was executed a few months later. <sup>40</sup> Stalin's purges would profoundly affect Birobidzhan, which in the end was destined to become "one of the world's two Jewish states—the one where the Jews did not live." <sup>41</sup>

<sup>38</sup> The percentage of Jewish inhabitants never exceeded one-third of Birobidzhan's population. After the great migration wave of Soviet Jews to Israel in the 1990s, the percentage of Jews in the Birobidzhan oblast fell to below 1 percent. See Zvi Gitelman, "Former Soviet Union," *American Jewish Yearbook* 102 (2002): 480–89, here 486.

<sup>39</sup> Winfried Nerdinger, "Philipp Tolziner: Lebenswege eines Münchner Bauhäuslers," *Münchner Beiträge zur Jüdischen Geschichte und Kultur* 6, no. 2 (2012): 55–61, here 59–60.

<sup>40</sup> "Mengel, Margarete," in Bundesstiftung zur Aufarbeitung der SED-Diktatur, *Biographische Datenbanken*, <https://www.bundesstiftung-aufarbeitung.de/wer-war-wer-in-der-ddr-%2363%3B-1424.html?ID=4772> (accessed March 12, 2019).

<sup>41</sup> Gessen, *Where the Jews Aren't* (see note 16), 8. For information on Birobidzhan's further development, see Frank Grüner, *Patrioten und Kosmopoliten: Juden im Sowjetstaat 1941–1953* (Cologne: Böhlau, 2008), esp. 316–25.

## First Aid Stanislaus von Moos

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**fig.1** Repatriation of American and Canadian civilians from Shanghai by the Japanese ocean liner *Teja Maru*, 1943.

1 The voyage is documented in "Missions du Comité international," *Revue Internationale de la Croix-Rouge* 26, no. 307 (1944): 525–38. The facts and observations underlying the present essay are presented in greater detail in my book *Erste Hilfe: Neues Bauen und Alte Stadt nach 1940* (Zurich: gta Verlag, forthcoming).

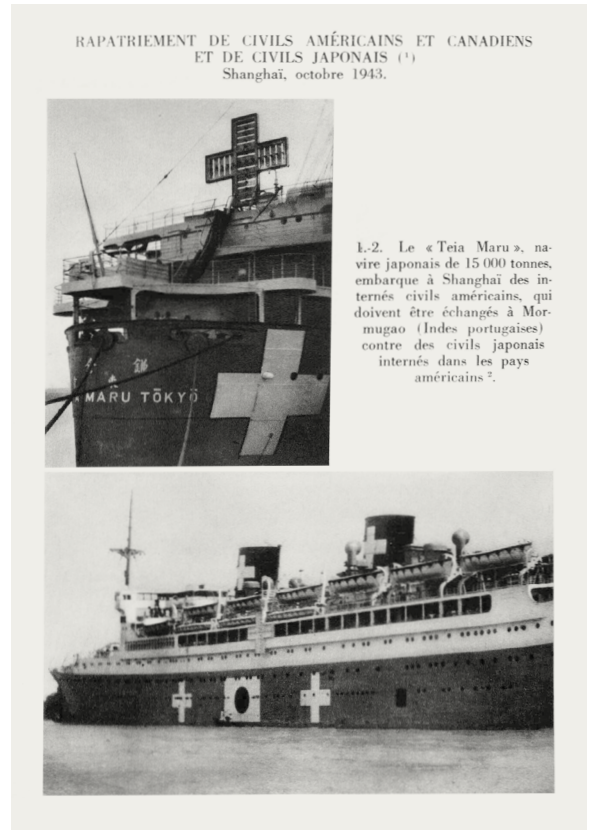
2 Hubert Damisch, "Noah's Ark," *AA Files* 72 (2016): 115–26. See also Hubert Damisch, *Noah's Ark: Essays on Architecture*, ed. Anthony Vidler (Cambridge, Mass.: MIT Press, 2016), 1–23; "G" [abbé Edmé-François Mallet], "Arche de Noé," in *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers*, vol. 1, eds. Denis Diderot and Jean Le Rond d'Alembert (Paris: Briasson et al., 1751), 606–9; Jean-François Blondel, "Architecture," in *ibid.*, 617–18.

**fig.2** Noah's Ark, after Johann Jakob Scheuchzer's *Physica sacra* (1731/1735).

In early October 1943, a Japanese ocean liner registered under the name of *Teja Maru* left Shanghai, destination Mormugao in Goa, India. On board were American and Canadian civilians who had been surprised by the Japanese invasion of China and were being brought to Goa to be exchanged for Japanese civilians. While the body of the ship and its huge smokestacks were painted with white crosses and the Japanese coat of arms as tokens of national origin and the humanitarian nature of the convoy, a huge

cross at the rear of the liner indicated that the operation was organized by the International Committee of the Red Cross. **fig.1** Hundreds of similar convoys took place during the war (and not just on the high seas), but the *Teja Maru's* voyage stands out for the blatancy of its syncretism of messages and symbolic connotations. <sup>1</sup> That the ocean liner bore both the sign of the red cross and its negative in the form of the white cross may seem surprising. For even though the latter is often used to indicate the location of chemist's shops and dispensaries in the Anglo-Saxon world, the sign also happens to be the national emblem of Switzerland – an oddity I leave in suspension for the moment. More obvious is that the sign of the cross (white or red), when combined with a large vessel cruising the ocean, inevitably suggests the idea of rescue – and, by implication, its biblical archetype, Noah's Ark.

Today, when news about "boat people" no longer even make it to the headlines, the ark remains a haunting notion on the political horizon. It is also a powerful architectural metaphor. In one of his last published essays, entitled "Noah's Ark," Hubert Damisch reflects on "imminent disaster and the means of mitigating it," reminding us that in the *Encyclopédie* the article on the "Arche de Noé" (by abbé Mallet) is three times longer than the one on "Architecture" (by Jacques François Blondel). <sup>2</sup> Damisch offers several explanations for this apparent paradox. He sees the eighteenth-century fascination with the ark as yet another foreboding of a world subjected to the rule of mathematics, logistics,







GENESIS Cap. VII. v. II.  
Diluvii initium.

I Buch Mosıs Cap. VII. v. II.  
Anfang der Hündfluth.

**fig. 3** Cover of *Les Machines à guérir (aux origines de l'hôpital moderne)*, edited by Michel Foucault and others (1976).

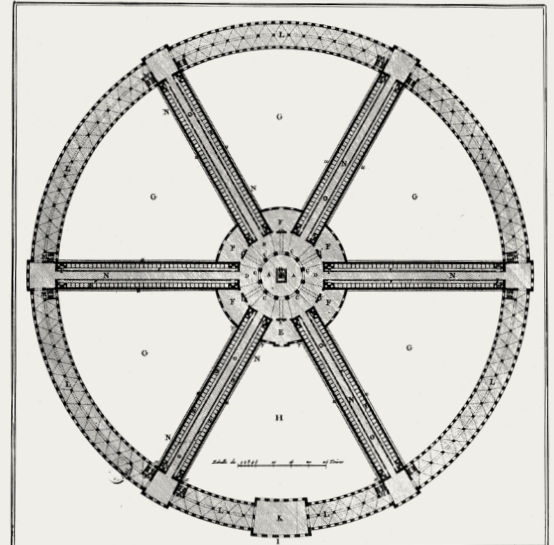
and statics (according to the Scriptures, the biblical ark was to be approximately 570 meters long — a measure never reached by any twentieth-century transatlantic liner: the *Flandre*, reproduced in *Vers une architecture*, was 140 meters, and the *Unité d'habitation* in Marseille is 138 meters long). Damisch further contends that, for the ark's eighteenth-century chroniclers, the flood and the gigantic rescue operation it prompted were overshadowed by the specter of yet *another* catastrophe: the revolution. Seen from this perspective, it is only logical that Damisch repeatedly refers to Le Corbusier in this context, in particular to *Vers une architecture* — and not only because of the role ocean liners played in that book's evocation of an architecture of salvation. Damisch sees the concluding chapter of *Vers une architecture*, entitled "Architecture et révolution: On peut éviter la révolution" as engaged in an old Enlightenment idea — the idea of architecture as prophylactic rescue from catastrophe. <sup>3</sup>

<sup>3</sup> Le Corbusier, *Vers une architecture* (Paris: Crès, 1923), 213–30. See also Jean-Louis Cohen, "Introduction," in Le Corbusier, *Toward an Architecture* (Los Angeles: Getty Research Institute, 2007), 1–82, here 25–27.

<sup>4</sup> Scheuchzer's *Physica sacra* was published in five volumes from 1731 to 1735. See Urs B. Leu, *Natura Sacra: Der Frühaufklärer Johann Jakob Scheuchzer (1672–1733)* (Zug: Achijs, 2012). On the illustrations — mostly done by Johann August Corvinus — see Jochen Hesse, "Zur Erläuterung und Zierde des Wercks: Die Illustrationen der Kupferbibel 'Physica sacra,'" in *ibid.*, 104–28.

## LES MACHINES A GUERIR

(aux origines de l'hôpital moderne)



DOSSIERS ET DOCUMENTS D'ARCHITECTURE INSTITUT DE L'ENVIRONNEMENT

### From Ark to *Machine à guérir*

The ark as discussed by abbé Mallet (and visualized in the *Encyclopédie* by the architect Bernard Lamy) thus turns out to be a fitting symbol for the project of modern architecture altogether, provided we understand that project as a rescue operation based on the natural sciences and rooted in a tradition that I shall only summarily evoke by citing Michel Foucault's concept of the "machine à guérir" as exemplified, for example, by Antoine Petit's unbuilt proposal for the *Hôtel-Dieu* in Paris. Note that the plate representing Noah's ark in Johann Jakob Scheuchzer's *Physica sacra*, published 1731–1735 (i.e., a few years before the *Encyclopédie*), is even more evocative in this context than Lamy's more laconic representation, as it visualizes the ark as a double-decker railway wagon of sorts crowning an extraordinarily long ship's body (Scheuchzer's theological interpretation of the ark is not of interest here). <sup>4/fig. 2</sup>

This is not the moment to discuss the long history of modern architecture's symbiotic alliance with the institutions of law and medicine, except to say that it may be fitting for some of

the emblematic prototypes of therapeutic, or indeed healing, architecture to be Swiss – granted that such is obviously *not* the case either with Petit’s proposed replacement for the old Hôtel-Dieu next to Notre-Dame (which was ruined by fire in 1772) or with any other among the many proposals elaborated in this context. <sup>fig.3</sup> Destined to form a center of hospitalization outside the city, Petit’s project combines a baroque concept of authority with modern techniques of control, thus introducing concepts of salubrity and hygiene as the necessary premise of a thorough regeneration of the city. As Bruno Fortier aptly writes, “In a history of modernity, the affair of the Hôtel-Dieu might well be one of those moments when architectural projects were no longer conceived on the basis of a simple relationship to history but in terms of a double imperative of technical rationalization and disciplinary efficiency, both in terms of economy and the exercise of power.” <sup>5</sup> Some 150 years later, Le Corbusier would apply a similar program of radical hygienization to the totality of Paris’s city center, turning the area between the Rue de Rivoli and the Grands Boulevards into a colossal air-conditioning apparatus, a cooling device, as it were. One cannot but help



to see a project such as Petit’s sanitizing “wheel” as the direct antecedent, if not the necessary premise, of such proposals. With Le Corbusier’s Plan Voisin, the urbanistic “cleaning up” implied *toilette sociale* as well as *toilette hygiénique* – for Paris was in this case thought to be largely cleansed of the gray matter of its former inhabitants. <sup>6</sup>

Since Sigfried Giedion proclaimed the sanatorium as a model for the “new city” in his little manifesto entitled *Befreites Wohnen* (1929), the roles of hospital and prison in the making of modernity have become pet subjects in cultural studies, and the same goes for the history of the lung sanatorium as the architectural instrument of “heliotherapy.” <sup>7</sup> Giedion’s beseeching plea that the “most recent studies undertaken in medical science on

<sup>5</sup> Bruno Fortier, “Le Camp et la forteresse inversée,” in Michel Foucault et al., eds., *Les Machines à guérir: Aux origines de l’hôpital moderne* (Brussels: Mardaga, 1979), 45–50, here 46. Translation by the author.

**fig.4** Olaf Nicolai, *International* (2003). Installation with the Chaise longue basculante by Le Corbusier and Charlotte Perriand (1928).

<sup>6</sup> I have discussed the “hygienist” implications of the Plan Voisin elsewhere. See Stanislaus von Moos, “Das Prinzip Toilette: Über Loos, Le Corbusier und die Reinlichkeit,” in *Verlangen Nach Reinheit oder Lust auf Schmutz? Gestaltungskonzepte zwischen rein und unrein*, ed. Roger Fayet (Vienna: Passagen, 2003), 41–58.

<sup>7</sup> Reference texts include Michel Foucault, *Surveiller et punir: Naissance de la prison* (Paris: Gallimard, 1975); Michel Foucault, “La politique de la santé au XVIIIe siècle,” in Foucault et al., *Les Machines à guérir* (see note 5), 7–18. See also Anthony Vidler, *The Writing of the Walls: Architectural Theory in the Late Enlightenment* (Princeton, NJ: Princeton Architectural Press, 1987). Useful for me were also André Tavares, *Arquitetura Antituberculose: Trocas e tráficos na construção terapêutica entre Portugal e Suíça* (Porto: FAUP Publicações, 2005), 107–16; Sven-Olov Wallenstein, *Biopolitics and the Emergence of Modern Architecture* (New York: Princeton Architectural Press, 2009); Beatriz Colomina, “X-Ray Architecture: The Tuberculosis Effect,” *Harvard Design Magazine* 40 (2015): 70–91. The role of Switzerland in this scenario has been studied by Bruno Fritzsche, “Neue Technologien und Industrialisierung,” in *Damals in der Schweiz: Kultur, Geschichte, Volksleben der Schweiz im Spiegel der frühen Photographie*, ed. Peter Keckeis (Frauenfeld: Huber, 1980), 209–18; Geneviève Heller, “Propre en ordre” – *Habitation et vie domestique, 1850–1930: L'exemple vaudois* (Lausanne: Ed. d’En bas, 1979). For a summary, see my “Das Sanatorium Europas,” in Stanislaus von Moos, *Industrieästhetik, Ars Helvetica* 11 (Disentis, Switzerland: Desertina, 1992), 133–58. The most complete study, however, is by Christof Kübler, *Wider den hermetischen Zauber – Rationalistische Erneuerung alpiner Architektur um 1930: Rudolf Gaberel und Davos* (Chur: Verlag Bündner Monatsblatt, 1997).

**fig. 5** The Swiss flag and the flag of the International Committee of the Red Cross combined in the International Relations pavilion at the Swiss National Fair, Zurich, 1939.

**8** Sigfried Giedion, *Befreites Wohnen* (Zurich: Orell Füssli, 1929), caption to fig. 57. Emphasis in original. Translation by the author. On Giedion and the question of the sanatorium, see André Tavares, "Modern Clumsiness: Befreites Wohnen and Sigfried Giedion's Loom," in André Tavares, *The Anatomy of the Architectural Book* (Zurich: Lars Müller Publishers, 2016), 61–105.

**9** Wilhelm Löffler, "100 Jahre Davos auf medizingeschichtlichem Hintergrund," in *Hundert Jahre Lungen-Kurort Davos*, eds. Felix Suter and Hans Meyer (Bern: Huber, 1966), 9–27, here 19. Translation by the author.

**10** The chaise longue basculante was jointly designed by Le Corbusier and Charlotte Perriand. See Arthur Rüegg (in collaboration with Klaus Spechtenhauser), *Le Corbusier: Möbel und Intérieurs 1905–1965* (Zurich: Scheidegger & Spiess, 2012), 116–17, 282–84.

hospital building all agree on a subject that now concerns the entire realm of architecture: the DOCTOR, too, calls for a total dissolution of the walls into glass, for a totally unimpeded access of light!" and the idea that only a quasi-military enforcement of discipline within such institutions can ensure success coincided

with the invention of penicillin (1928), an invention that put an end to the idea that exposure of the body to the sun is necessary to cure the lungs of tuberculosis. **8** Wilhelm Löffler, an eminent specialist of internal medicine in Zurich and a personal friend of Giedion's (Löffler had been an assistant doctor at one of the leading establishments of lung therapy in the Swiss Alps), has given us a slightly sardonic description of the house rules that governed life in one of the early lung sanatoria in the Alps. "The first order was: 'You make sure that after dinner the elevator is used either by women or by men only.' The second order: '3 minutes before two o'clock, not earlier or later, you take position on the commando bridge of the hall where the patients are resting, with your watch in your hand. On the stroke of two o'clock no movement will be tolerated in the hall, is that understood!'" **9**

Thus, by the logic of "heliotherapy," the ideal patient was thought of as lying down, immobile, on a sun terrace, in a position of absolute passivity—in silent obedience to the hierarchy that exists between the "perpetrator" and the "victim" of the modern art of medicine. Is it a coincidence that one of the best-known furniture designs by Le Corbusier and Charlotte Perriand conforms so neatly to this paradigm? And does not the artist Olaf Nicolai have a point when he associates the chaise longue to the symbolism of the red cross? **10/fig. 4**

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### "The Meaning of Geneva"

Given the number and the importance of the sanatoria in the Swiss Alps, the country has often been referred to as "Europe's Sanatorium." While the sanatorium is not a Swiss invention, the Red Cross is. Over the course of its history since 1864 (when the International Committee of the Red Cross, ICRC, was founded), Switzerland has steadily slipped into an ever more complex political



alliance with the organization. <sup>11</sup> The title for this section of the article borrows from a photomontage by John Heartfield (*Der Sinn von Genf*, 1932) in which the German artist associates the Swiss flag perched above the Palais Wilson, the then seat of the League of Nations, with the Nazi swastika, thus castigating at an early date what many have seen as a tendency of Swiss politics in the 1930s to align itself with fascism. <sup>12</sup>

The Swiss themselves favored another heraldic contamination: that between the Swiss coat of arms and the sign of the Red Cross. In times of crisis, when the relative moral vacuum of “perennial neutrality” nourishes



symbols was celebrated as the quasi-essence of national identity. <sup>13</sup> The locus of this cult was the Ehrenraum der Auslandschweizer (Hall of Honor of the Swiss Abroad), a chapel-like space served by the Höhenstrasse (Scenic Road), a ceremonial passerelle that formed the backbone of the exhibition. <sup>13</sup> The reciprocity of heraldic signs, one symbolizing national autonomy, the other international commitment, was impossible to overlook. So easy to represent graphically,



to lure the ICRC into cosponsoring his magazine, *CIVITAS*, by using a hybrid cross — neither fully a Swiss cross nor fully a red cross — symbolizing neutrality and charity or, rather, charity as an excuse for neutrality (or the other way around, depending on circumstance). <sup>14</sup>

<sup>11</sup> Perhaps slightly overstating the case, Jakob Tanner characterizes the Red Cross as a “karitatives Dienstleistungsunternehmen für die kriegführenden Mächte” (charitable service enterprise for the warring powers) in *Geschichte der Schweiz im 20. Jahrhundert* (Munich: Beck, 2015), 130. On the origins of the ICRC and the role of Switzerland in its creation, see Michael Ignatieff, “Die Ehre des Kriegers I,” in *Krieger ohne Waffen: Das Internationale Komitee vom Roten Kreuz*, ed. Hans Magnus Enzensberger (Frankfurt: Eichborn, 2001), 9–25. On the problems caused by the ICRC’s complicity with Swiss national politics, see Jean-Claude Favez (in collaboration with Geneviève Billeter), *Une mission impossible? Le CICR, les déportations et les camps de concentration nazis* (Lausanne: Éditions Payot, 1988); Hans Ulrich Jost, *Politik und Wirtschaft im Krieg: Die Schweiz 1938–1948* (Zurich: Chronos, 1998), 123, 126, 181. For a critical history of the Red Cross idea, see John F. Hutchinson, *Champions of Charity: War and the Rise of the Red Cross* (Boulder: Westview Press, 1996).

<sup>12</sup> On Heartfield’s photomontage and its political message, see Roland März, *Heartfield montiert: 1930–1938* (Leipzig: Edition Leipzig, 1993), 71–75.

<sup>13</sup> See *Die Schweiz im Spiegel der Landesausstellung 1939*, vol. 2, ed. Schweizerische Landesausstellung 1939 (Zurich: Atlantis-Verlag, 1940), 161.

<sup>14</sup> See *Die Schweiz im Spiegel der Landesausstellung 1939*, vol. 2, ed. Schweizerische Landesausstellung 1939 (Zurich: Atlantis-Verlag, 1940), 161.

Roth had seen the Ehrenraum der Auslandschweizer, though he was probably not impressed by its design. However, the contamination of signs presented there was no novelty, having seen its first heyday a generation earlier, during and after the First World War, when the mystique of the white cross changing into red and vice versa practically turned out to be a nurturing ground for the League of Nations, founded in 1919 (as well as, indirectly, the Congrès Internationaux d'Architecture Moderne, CIAM). A well-known League of Nations graphic shows US President Woodrow Wilson and Swiss Federal President Gustave Ador. Between them, pinned behind the American eagle, are twin flags honoring Ador's service, before entering the national government of Switzerland,

**fig. 8** Hotel Carlton, Geneva, serving as a center for the Children's Help activities organized by the Swiss Red Cross (1942–46).

**14** See Joëlle Kuntz, *Genf: Geschichte einer Ausrichtung auf die Welt* (Geneva: Éditions Zoé, 2011), 55. For basic information on the League of Nations, see *La Société des Nations, ses fins, ses moyens, son oeuvre* (Geneva: Secrétariat de la Société des Nations, 1938).

**15** The ICRC headquarters were then located in the Hôtel Métropole on the left bank of Lake Geneva (the League of Nations ended up occupying the Hotel National on the right bank, subsequently renamed as Hotel Wilson).

**16** The basics are summarized in my *Le Corbusier: Elements of a Synthesis* (Rotterdam: 010 Publishers, 2009), 226–33.

**17** Jacques Gubler, *Nationalisme et internationalisme dans l'architecture moderne de la Suisse* (Lausanne: L'Age d'Homme, 1975), 158. For a more detailed discussion of the CIAM's ideological affinity with the League of Nations see my forthcoming book (see note 1).

as president of the Red Cross. **fig. 7** "[B]ecause I am a Presbyterian," Wilson responded when asked why he had been so much in favor of Geneva (as opposed to Brussels) as the seat of the League of Nations. <sup>14</sup> The presence of the ICRC, with its already well-functioning bureaucracy, was undoubtedly another of Geneva's trump cards in this context.

One of Wilson's advisors even urged that the league establish its headquarters immediately next to the those of the ICRC. <sup>15</sup> As for CIAM, its origins owe to the "scandal" of the League of Nations competition (i.e., the failure of Le Corbusier and Pierre Jeanneret's project to win the consensus of the jury). <sup>16</sup> No wonder that, as an organization, CIAM should have directly modeled itself after the League of Nations statute, as Jacques Gubler plausibly demonstrates. <sup>17</sup> Today, with the ICRC headquarters located directly across the street from the Palace of Nations, the least that can be said is that the symbolism of this institutional tête-à-tête speaks for itself. (Granted, the image shown here does not correspond with the palace as built, nor with its actual site, the immediate



physical proximity across Geneva's Avenue de la Paix having in fact never been planned.) 18/figs. 8–9

## Brutalism's Ghost

For many, Jean-Luis Cohen's book *Architecture in Uniform* has been a powerful reminder of the impact the two world wars exerted on the careers of modern architects, if not on modern architecture altogether. 19 The part of Swiss architecture in this drama was marginal since the country was not militarily engaged in war – except if one were to place it into the context of the country's semiofficial vocation as the hub of a multifaceted international rescue operation. Nonetheless, given the unpredictable course of events in wartime, the possibility of massive demolition by bombs was as real in Switzerland as anywhere else in Europe, especially in the months after July 1941, when the government



adopted a defense strategy that concentrated all forces in the National Redoubt, thus abandoning the midlands to a potentially fatal destiny. By the time architects like Armin Meili or Alfred Roth had come around to outlining their ideas on how to reconstruct Zurich, Basel, or Geneva if such a "chance" were given, the threat of massive demolitions was no longer real. 20 And by 1944, to engage in reconstruction work meant trying to get a foothold in reorganizing and rebuilding the world beyond the national borders. Roth's *CIVITAS* project is a reflection of such ambitions, and even more so Max Bill's small book entitled *Wiederaufbau* (1945), a hastily concocted yet extremely useful international survey of prefabrication systems. 21

The quandary was a typical one: How can architecture respond to situations of emergency, of catastrophe? What is "reconstruction," and who needs to be in charge? Or rather, what needs to be done so that the right people (meaning CIAM people, since I am speaking of the two particularly vocal members of the Swiss CIAM chapter) are put in charge? Bill purposefully limited the scope of his little book to issues of architectural "first aid." While not ignoring the large-scale and long-term planning initiatives underway in such countries as France, the Netherlands,

18 Not until 1946 did the ICRC officially move to the former Hotel Carlton at Avenue de la Paix across the street from the present Palace of Nations. For details, see Kuntz, *Genf* (see note 14), 59; Joëlle Kuntz, "Le CICR: Une architecture de l'urgence," *Genève internationale*, n.d., <http://www.geneve-int.ch/fr/le-cicr-une-architecture-de-l-urgence> (accessed August 17, 2018). On the League of Nations Palace competition and the complicated search for an appropriate construction site, see Richard Quincerot, "Le Champ de bataille du Palais des Nations, 1923–1931," in *Le Corbusier à Genève 1922–1932: Projets et réalisations*, eds. Isabelle Charollais and André Ducret (Lausanne: Payot, 1987), 35–48; Katrin Schwarz, *Bauen für Die Weltgemeinschaft: Die CIAM und das Unesco-Gebäude in Paris* (Berlin: De Gruyter, 2016), 212–25.

19 Jean-Louis Cohen, *Architecture in Uniform: Designing and Building for the Second World War* (Montreal: Canadian Centre for Architecture, 2011).

fig. 9 Le Corbusier and Pierre Jeanneret, League of Nations Palace competition project (1927).

20 See Armin Meili, "Zürich heute und morgen: Wille oder Zufall in der baulichen Gestaltung," *Neue Zürcher Zeitung*, December 12, 14, and 15, 1944; Alfred Roth, "Civitas: Sammelwerk die menschliche Siedlung," *Werk 31*, no. 1 (1944): supplement. For an impressive documentation of the mix of fears and hopes European architects invested in the expected war bombardments from the late 1930s on, see Iörn Düwel and Niels Gutschow, *A Blessing in Disguise: War and Town Planning in Europe, 1940–1945* (Berlin: Dom Publishers, 2013).

21 Max Bill, *Wiederaufbau: Dokumente über Zerstörungen, Planungen, Konstruktionen* (Erlenbach-Zürich: Verlag für Architektur, 1945).

**fig. 10** War industry housing projects in the United States: workers' housing in Vallejo, California, and Vanport, Oregon (both 1941).

and the USSR, the bulk of Bill's book is dedicated to prefabrication systems that promise makeshift solutions for emergency situations. A Swiss army barrack equipped as an aid station is also shown in this context (including a rather archetypal version of the Corbusian chaise longue). Not surprisingly, Bill is fascinated by American prefab houses built to accommodate workers in America's war production sites — William Wurster's worker's housing in Vallejo, California, and George Howe and Louis Kahn's Carver Court in Coatesville, Pennsylvania, being emblematic examples in this context. <sup>22</sup>/fig.10

<sup>22</sup> Ibid., 51, 72, 155, and passim.



Industriearbeitersiedlungen / USA

51



Die Frage der demontierbaren Häuser spielte für die großen Industriesiedlungen eine hervorragende Rolle. Ein Teil dieser Siedlungen wird nun demontiert und nach England verfrachtet. Eine solche Stadt, aus Bauelementen errichtet, ist Vallejo in Californien (Arch. William Wurster). Ohne jede Bepflanzung, wie sie sich hier bietet, erscheint sie allerdings nicht im besten Licht, aber es ist immerhin festzustellen, daß der Versuch einer lebendigen Ordnung gemacht ist und daß jedes Haus seinen Platz an der Sonne und seine Freifläche in genügendem Ausmaß hat. Der hier gezeigte Ausschnitt zeigt ungefähr 250 Häuser für rund 1000 Einwohner. Die Amerikaner betrachten diese Anlage als sehr verbesserungsbedürftig.

Vallejo (Californien). Arch. W. Wurster. Fabrikmäßig hergestellte Reihenhäuser in Hügelgelände. Unbepflanzte, unfertiger Zustand. ca. 250 Häuser.



University-Homes, ein Teil von Vanport City für Henry Kaisers Schiffswerften. Mit Laubengängen um Höfe angeordnet.

One among the illustrations in the book, however, does not pertain to prefab housing; instead, it shows the remains of a ruined building and a piling up of bricks extracted from the rubble that looks like the beginning of a makeshift construction undertaken by the victims of a recent bombardment. No architect is around. The scene reveals what war damage actually looks like, and it reminds us of the lessons such a precarity might hold in store. For, is not the tectonic essence of a building best revealed once it has turned into a state of ruin or, alternatively, in the first stages of a spontaneous construction process, as shown in the image Bill uses as a warning? <sup>23</sup>/fig.11

<sup>23</sup> Ibid., 26. The original source of the image is "Warum geplant werden muss," *Plan: Schweizerische Zeitschrift für Landes-, Regional- und Ortsplanung* 2, no. 2 (1945): 45.

Bill was not interested in a Choisy- or Viollet-le-Duc-like moment of learning, nor was he moved by the primary gestures of survival among those hit by catastrophe. On the contrary, the "Red Cross mission" of architecture must prevent such things from happening, he argues in the accompanying text, or else the "new city" will never be built. Roth would have agreed. In an essay also published in 1945, he develops a scrupulously contrived timetable for the various stages of reconstruction to be observed in the case of bomb damage. The faster prefabricated wooden houses can be provided, the better the chance for avoiding "chaos." The ultimate "reward" for everybody would be the final solution of the Functional City organized according to the Charte d'Athènes and built with mass-produced building elements. <sup>24</sup>

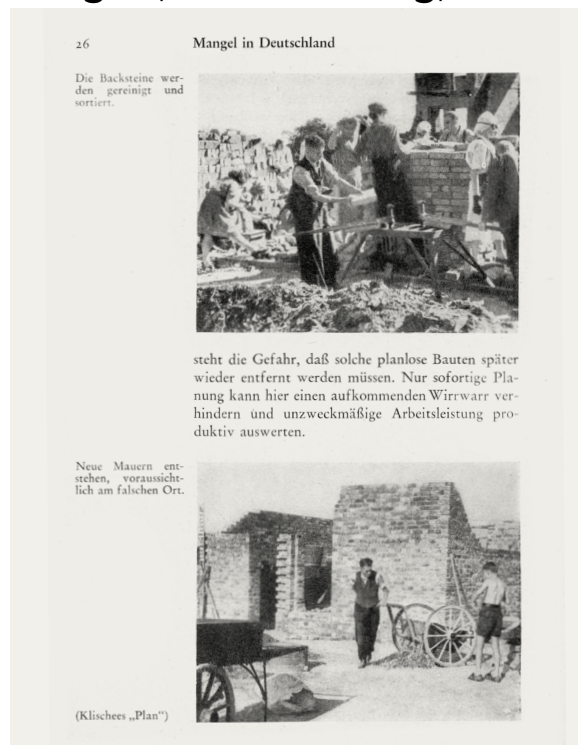
<sup>24</sup> Alfred Roth, "Der Wiederaufbau und die Probleme der Notsiedlung," *Werk* 32 (1945): 167–76. Roth proposes a strict periodization of reconstruction activities: (1) period of precarity, (2) phase of general planning evaluations, (3) phase of planning, (4) phase of building.



In real life, reconstruction has rarely followed this script, and, where it did, the “new city” tended to fall short of the hopes architects had invested in its conception. At times, with changing socio-economic conditions (the debacle of the German Democratic Republic, GDR, is the classic example), the attempt to solve the problem with functionalist housing units was granted a shorter life span than many of the world’s innumerable camps for refugees or prisoners. With the partial demolition of some of the GDR’s most emblematic *plattenbau* housing complexes, housing in the former Communist state—in many ways so exemplary in terms of the functionalist code—has come full circle to its origins in the *tabula rasa*.<sup>25</sup>

Perhaps Bill’s choice of image marks a symptomatic moment in postwar neofunctionalism, all the more since other European architects of the same generation, more directly confronted with the ravages of war, took quite different cues from this experience. For Alvar Aalto, the abandoned ruins of the villages hit by Soviet bombs in 1940 turned out first of all to be a lesson in community life as well as in construction. In Germany, Hans Döllgast, Otto Bartning, Rudolf Schwarz, and others discovered

the fragment and the ruin as a key to architectural regeneration. Franco Albini, Carlo Scarpa, and BBPR in Italy altogether redefined the art of building in terms of its dialogue with precarity, while Louis Kahn discovered the essentials of the art of building in the ruins of Rome and Ostia.<sup>26</sup> Le Corbusier, in turn, spent part of the years during and after the Second World War exploring his own version of the “ruin-” or “squatter-aesthetic,” cajoling his personal preference for the crude, the unrefined, the primitive, the pre-



carious, and thus in the long run anchoring the idea of progress in a mythopoetic universe of rambling archaism, with the Unité d’habitation in Marseille as one of the end points.<sup>27</sup>

## In the Logic of Purification

The Cité du Refuge, the Salvation Army hostel built in Paris by Le Corbusier and Pierre Jeanneret from 1928 to 1931, has often been identified as the typological blueprint behind the “phalansterian”

<sup>25</sup> See Reinier de Graaf, *Four Walls and a Roof: The Complex Nature of a Simple Profession* (Cambridge, Mass.: Harvard University Press, 2017), 47.

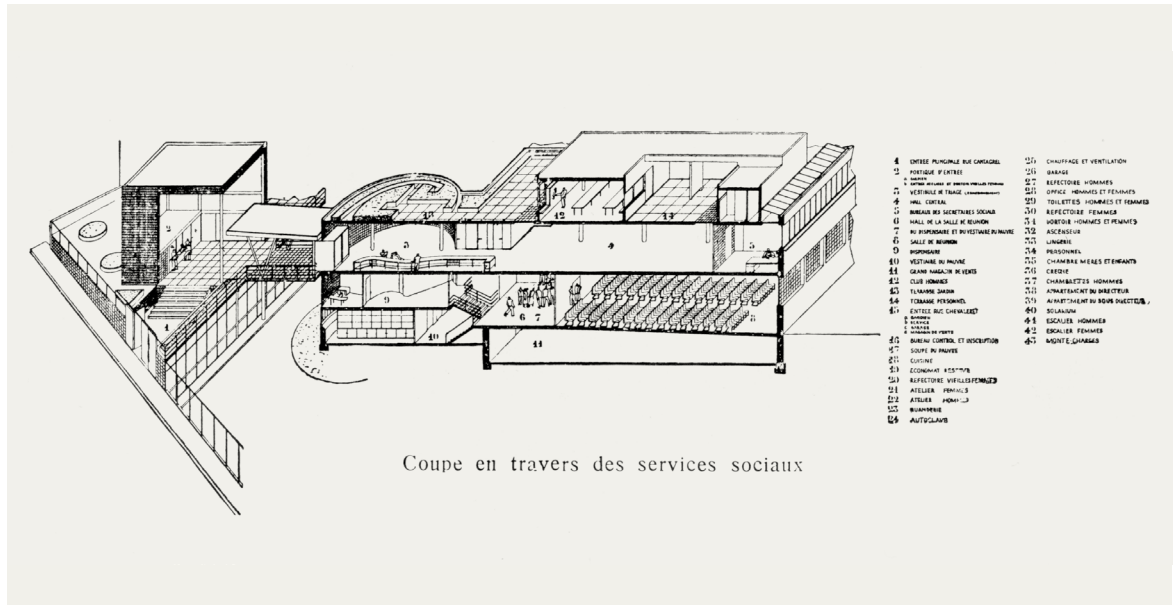
<sup>fig. 11</sup> “Bad” reconstruction that, according to Max Bill, should be prevented by thorough planning.

<sup>26</sup> Examples will be referenced and discussed in greater detail in my forthcoming book (see note 1).

<sup>27</sup> See Stanislaus von Moos, “Brutalism’s Ghosts—Le Corbusier, Art, and War,” in *What Moves Us? Le Corbusier and Asger Jorn in Art and Architecture*, ed. Ruth Baumeister (Zurich: Scheidegger & Spiess, 2015), 17–25.

distribution of individual and collective spaces within the Unité complex. But what about the client, the Salvation Army? What about William Booth, the founder, a man who saw himself as an antipode to Karl Marx and who was convinced that social progress cannot be achieved via class struggle but only via the inner purification of the individual as an ethical being – and whose sense of urgency was such that help needed to be administered via a radically enforced military discipline? If Booth promoted his institution in military terms by way of an annual “war congress,” a magazine called *The War Cry*, and, all in all, a “general” and

fig. 12 Le Corbusier and Pierre Jeanneret, Cité de Refuge. View of entrance porch and collective equipment (1927; 1928–1931).



28 On Booth and the Salvation Army, see Henning Ritter, *Die Schreie der Verwundeten. Versuch über die Grausamkeit* (Munich: Beck: 2013), 138–39. On the Cité de Refuge, see Brian Brace Taylor, *Le Corbusier: La Cité de Refuge – Paris 1929/1933* (Paris: L’Équerre, 1980); Gilles Ragot and Olivier Chadoin, *La Cité de Refuge – Le Corbusier et Pierre Jeanneret: L’Usine à guérir* (Paris: Éditions du Patrimoine, 2016). For an early discussion of the project’s ideological implications, see Stanislaus von Moos, “Wohnkollektiv, Hospiz und Dampf,” *archithese* 12 (1974), 30–41, 56; von Moos, *Le Corbusier* (see note 16), 151–55.

29 Le Corbusier, *Oeuvre complète: 1929–1934* (Zurich: Girsberger, 1935), 32–33. See in this context the exhaustive study by Katya Samardzic, “L’Asile flottant” (*Mémoire de DEA, Université de Genève*, 2004/5).

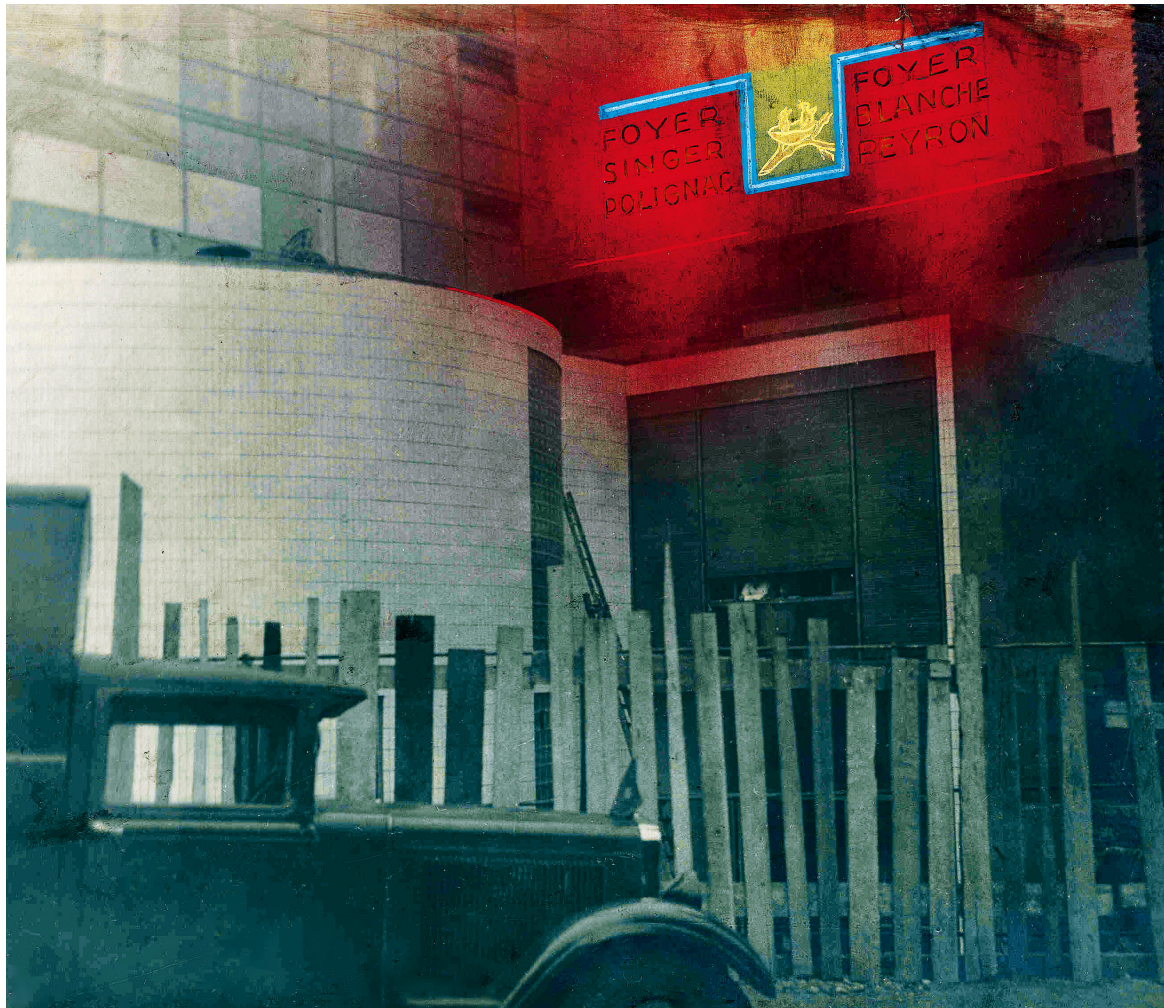
his uniformed “officers,” then for Le Corbusier to have called his building “L’usine du bien,” thus calling upon the factory as model, is only normal. 28 Access to the building is orchestrated as a “purifying procession” that starts with the grand portico of the main entrance, from where the *clochards* are dispatched over a kind of drawbridge into the belly of the building, a receptacle organized *hors-d’oeuvre*; here, in the Cité’s “lobby”, they are submitted to a succession of cleansing rituals, beginning with small cabins reserved for “troubling confessions,” before finally being handed over to further blessings of mercy and to either the beneficence of solar radiation or (depending on weather or season) the nuisance of unsupportable glare, heat, or cold. fig. 12

The most biblical among Le Corbusier’s “industrial” interpretations of modern charity is surely the *Asile Flottant* (which, alas, was submerged beneath the Seine during flooding in February 2018). In a more literal sense than the Cité de Refuge, this *péniche* is a miniature Noah’s Ark for those shipwrecked by life. 29 Something of this biblical charge is also inscribed in the very setup of the Unité d’habitation, which has so often been compared to an ocean liner.

## “Rescue”

On May 27, 1954, the abbé Pierre paid a short visit to the Unité in Marseilles. A few months earlier he had organized a relief action to benefit the innumerable victims of the 1954 February cold in Paris (“l’insurrection de la bonté”), which made him the ultimate French synonym of humanitarianism. A curious kind of poignancy attaches to the few photographs that record the abbé’s visit to the Unité. <sup>30</sup> Architects and planners, too, like to “help.” The capacity to show compassion is a token of professional and moral authority. The more urgent the need, the more the architect

**30** Photographs at the Fondation Le Corbusier, Paris. For “l’insurrection de la bonté,” see Axelle Brodriez-Dolino, *Emmaüs et l’abbé Pierre* (Paris: Presses des Sciences Po, 2008), 48–57.



**fig. 13** Le Corbusier and Pierre Jeanneret, Cité de Refuge. Sign above the entrance to the collective services wing showing a bird feeding its young, ca. 1928.

feels entitled to make radical choices. That the victim of extreme precarity has, in general, no voice is helpful; it allows the designer to come up with exemplary solutions. Coalitions with political bodies, institutions, or agencies are indispensable in such contexts. Nothing gets done otherwise. Such collaborations may be conviction-driven or no more than opportunistic. In the case of Le Corbusier’s liaisons with CIAM, the League of Nations, and the Salvation Army, they were both.

Surprisingly, given that the Cité de Refuge is among Le Corbusier’s and Pierre Jeanneret’s most thoroughly scrutinized works, one detail of the building – a small sign perched above the entrance – has remained hitherto unnoticed in the critical

literature. Negligible as architecture (unless one were to define the building as a “decorated shed”), it is all the more intriguing as a graphic logo. It shows a nest supported by a branch with two little birds in it. Their beaks are wide open in expectation of a little bite. <sup>fig.13</sup> While the image may fail to measure up to the notion of a “founding myth,” when stripped of its theological aura and reduced to the miserable format of a neon sign advertising a beer brand it represents the “ethos” of the Cité in a nutshell — if not the mission of the Salvation Army altogether — as simply and as eloquently as Booth’s motto, “Soup, Soap, Salvation.” Still, the sign in fact represents precarity rather than charity. Contrasting with the Nestlé logo, the obvious iconographic source, where the mother animal feeding her children dominates the scene, the chicks in this case remain unattended to. <sup>31</sup> Why is this? Who is going to feed the needy creatures? The answer may be given by the two larger inscriptions on either side of the sign above the entrance. They give the names of the two ladies without whose financial support the Cité de Refuge would not exist in its chosen form: Mme. Blanche Peyron, the Salvation Army general’s wife; and the Cité’s principal donor, Princesse Edmond de Polignac. <sup>32</sup>

But what about today? True, the humanitarian success of the projects referred to in these notes may be doubtful. Or rather: what we call “architecture” probably plays but a secondary (if not a marginal) role in their success or failure in terms of social benefits — granted the relativity of that notion. Yet the programs discussed and the design choices proposed address questions that are still unanswered. With a world caught in the maelstrom of growth, there is no end in sight for the spiraling numbers of human casualties, including casualties of war. Neither the Red Cross nor the United Nations nor even the Salvation Army will be out of work in the foreseeable future. On the other hand: if the romance of humanitarianism and modern architecture looks outlandish today, this might be a measure of the extent to which precarity as a human condition has disappeared from the discipline’s radar.

<sup>31</sup> Remember that Le Corbusier und Pierre Jeanneret designed a pavilion for Nestlé that was shown at the 1928 commercial fair in Liège. See Le Corbusier, *Oeuvre complète: 1910–1929* (Zurich: Girsberger, 1937), 174; *L’Architecture vivante*, Summer 1929, plates 28–29. Two symbolic Nestlé milk-powder cans displaying the firm’s logo were perched on the facade. For Le Corbusier’s sketches based on that logo, see H. Allen Brooks, ed., *The Le Corbusier Archive*, vol. 6: *Armée du Salut – Cité de Refuge* (New York: Garland, 1983), 358, 362, 392.

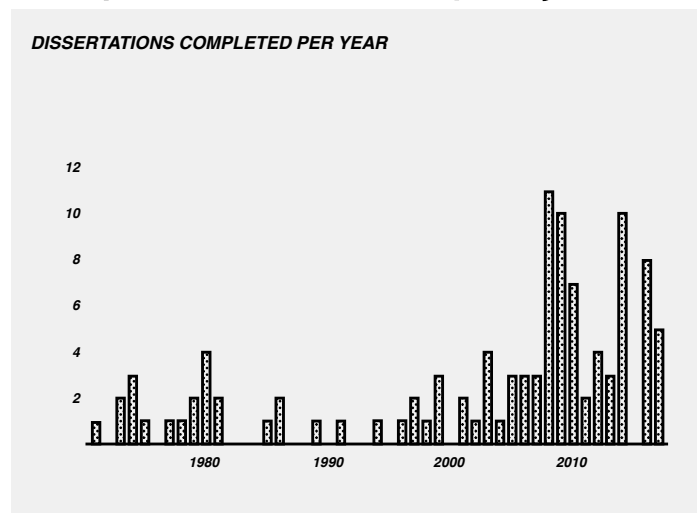
<sup>32</sup> On the latter, a philanthropist art lover and former subscriber of *L’Esprit nouveau*, see Winnaretta Polignac, *Souvenirs de Winnaretta Singer, Princesse Edmond de Polignac* (Paris: Fondation Singer-Polignac, 2000).

# Taking Stock: gta Dissertations in Review

## Sarah Nichols

*Mittelbau*. The term used to describe academic staff—the cadre of assistants and doctoral candidates engaged in teaching and researching—connotes a central role within the institutional edifice. Yet these load-bearing components are often hidden reinforcements, illegible within the overall structure. They cycle through each professorship on temporary contracts, and much of their paid labor is in support of the common goals of the professorship. When looking back at fifty years of the gta, where do we see their traces?

Dissertations provide a clear point of entry, as doctoral candidates have been a part of gta since its founding. Yet, dissertation writing is notoriously solitary, with each project intensely focused on a different topic—a productive myopia. Dissertations also reflect a mass of scholars and ideas that can be read as clear forms in a nebulous field. What “red threads” run through the dissertations? Are there common preoccupations or recurring themes? What longer trajectories are launched by the temporary work of a doctoral candidate? The following considers the 108 dissertations completed in the first fifty years of



different topic—a productive myopia. Dissertations also reflect a mass of scholars and ideas that can be read as clear forms in a nebulous field. What “red threads” run through the dissertations? Are there

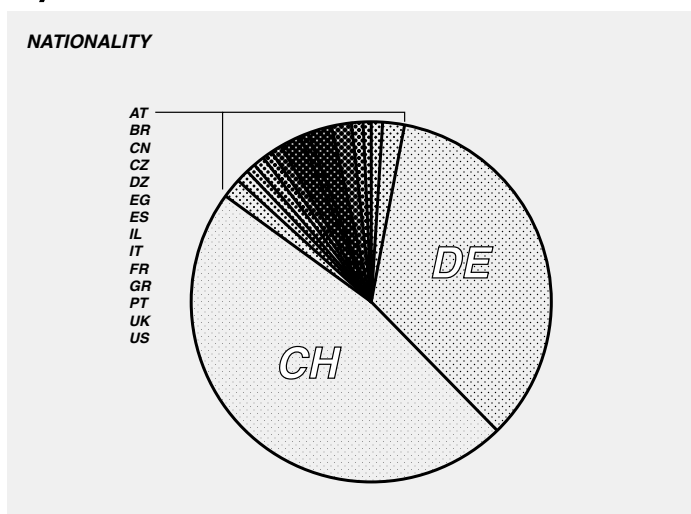
common preoccupations or recurring themes? What longer trajectories are launched by the temporary work of a doctoral candidate? The following considers the 108 dissertations completed in the first fifty years of

the gta to take the measure — using statistics both significant and arbitrary — of a body of work and people that is both bound together and atomized.

Of the “history” and “theory” in the institute’s name, the former seems to be the dominant format for doctoral research. Only a handful of dissertations explicitly prioritize theory; the vast majority are framed as histories, although historical periods are not all evenly represented. From the beginning, the gta has been writing histories of the not-

so-distant past. Two-thirds of the dissertations look at twentieth-century topics. At the same time, a certain temporal distance has been respected: few dissertations look at contemporary architecture.

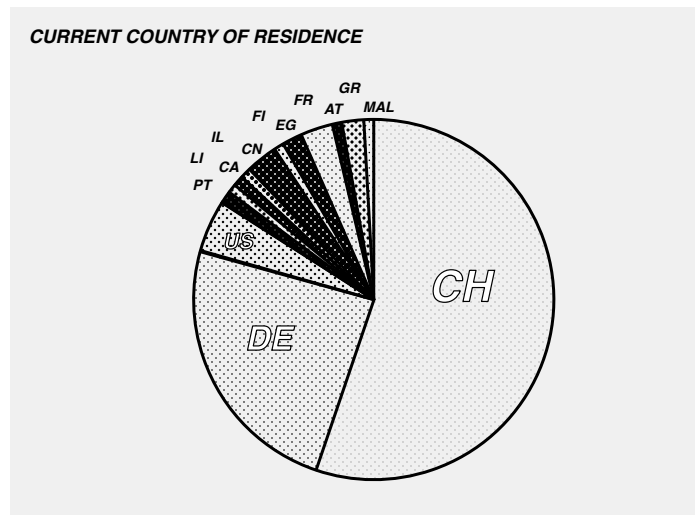
One-fifth are monographs. Five dissertations have been written about Le Corbusier. Four have been written on the architecture of the Middle Ages and four on topics related to Gottfried Semper. Three have been completed on the architecture of antiquity, two on Aldo Rossi, and one on Sigfried Giedion. The rate of production is increasing. Dissertations have become significantly longer. Those submitted in the first twenty-five years averaged two hundred and fifty pages; in the last twenty-five years their length has been closer to four hundred pages. The shift from typewriter to word processor — and denser



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line spacing — may mean that the actual difference in average length is even greater. Placed end-to-end, the pages of all the dissertations combined could plot out a return from the architecture faculty's current location at ETH H $\ddot{o}$ nggerberg back to its origin point, the Semperbau, just over five kilometers.



More dissertations are also being handed in. Well over half (sixty-four) were completed in the last ten years — an eightfold increase from the number completed in the first ten years. And, as of 2017, a

further thirty-nine dissertations were underway. Of the dissertations submitted, about one-half have been published. At least one of these books was financed using a crowd-sourcing campaign.

Just under half of all candidates are from Switzerland, and one third are from Germany. This distribution has remained consistent over time. No other nationalities — including other neighboring nations — are significantly represented. Just over half of the graduates have stayed in Switzerland after the completion of their dissertation. Two-thirds of those coming from Germany have returned to their home country. Subject matter has been more geographically diverse but still with a Germanic focus: 25 percent of dissertations have "Swiss" topics, and 15 percent have "German" topics — loosely

meaning that the architect, institution, or object(s) of study are largely based in Switzerland or Germany respectively. The remaining dissertations – just over half – are centered primarily on European topics, especially in France or Italy, with less than 20 percent concerning topics outside of Europe. Geographic diversity of subject matter has decreased in recent years from a peak around 1999–2008. Of the fifty dissertations completed since 2009, three (all completed in 2016 or 2017) dealt with topics outside Europe and the United States.

One-third of all gta dissertations have been supervised by the same gta professor. Two-thirds of dissertations were completed by men. Nearly two decades passed from the founding of the institute before a female candidate completed a dissertation within the gta in 1986. Since the turn of the twenty-first century, the number of male and female doctoral candidates has been about even. In the gta's fifty-year history, however, not a single dissertation has been completed under the primary supervision of a female professor.

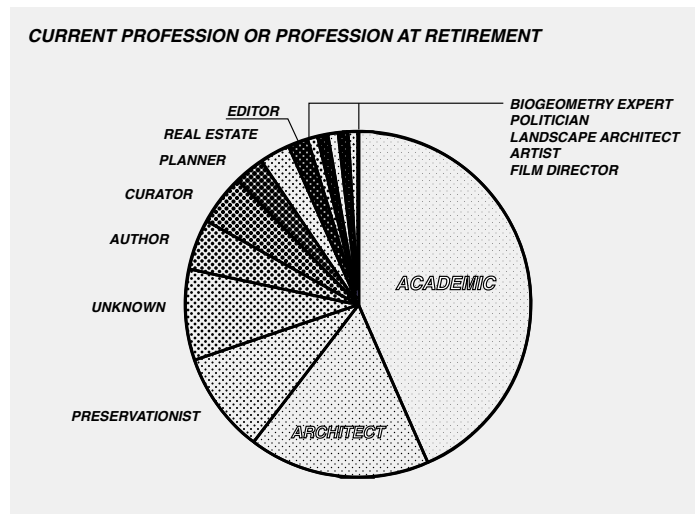
The language in which dissertations are written is shifting. Until 2000, most dissertations were written in German. The handful that were not in German were written in one of the other Swiss national languages. The first dissertations written in English were submitted in 2003. Since then, English has become increasingly common. In 2012 the gta doctoral program was established and, with it, dedicated courses



for doctoral candidates. Deviating from the bachelor's and master's programs, English was established as the teaching language. Of the thirteen doctoral fellows who have begun the program so far, all but one wrote or are writing in English.

Four in every ten of the graduates who could be located remained in academia after finishing their dissertation. Of these, half have the title of professor. One person who completed their dissertation at the gta was later named a professor there. After completion, just under 20 percent of graduates went on to practice architecture as their primary profession. Another 10 percent work in historic preservation, 5 percent as curators, and 5 percent as independent authors. One graduate has achieved particular renown as a television host, popular author, and consultant

for state clients studying "biogeometry." The "Dr. sc. ETH Zurich" conferred on completion is commonly referred to as a "Ph.D.," suggesting a dual nature to gta dissertations: philosophical study within the



Institute for the History and Theory of Architecture and the Department of Architecture, yet embedded within the empirical foundation of a technical university.

**Note:** This text is based on a research project and exhibition initiated by Prof. Dr. Ita Heinze-Greenberg, with Silvan Blumenthal, Mikel Martinez Mugica, Sarah Nichols, and Yue Zhao. Assistance from Michaela Pöschinger and Wilko Potgefer. Data and statistics are the sole responsibility of the author.  
**figs. 1 a–d** Illustrations by Sarah Nichols, 2019.

# Digitally Intelligent Architecture Has Little to Do with Computers (and Even Less with Their Intelligence)

Mario Carpo

Myths — classical myths — are a complicated matter. As the great classicist Paul Veyne famously asked long ago, did the Greeks themselves really believe in their myths? <sup>1</sup> Would Euclid, or Aristotle, for example — from what we know of them, not the kind of guys likely to abet improbable flights of fancy — really have believed that Athena leaped from Zeus's head, fully grown and armed, when Zeus complained of a headache after swallowing his pregnant mistress Metis whole, and someone cleaved Zeus's head with an axe to relieve him of his pain? There are many theories, of course, trying to account for the enduring power of classical myths over time — but post-modern myths, unlike Roland Barthes's modernist ones, no longer need any hermeneutic subtleties: as any dictionary will tell, today's myths are just fake news, often involving a supernatural protagonist, used as ploys to justify something otherwise inexplicable, or unpalatable. <sup>2</sup> Alongside real, classical myths inherited from the Vitruvian tradition, today's architectural history and theory offer plenty of examples of such opportunistic storytelling. The one I shall discuss here has the additional advantage of being apparently self-evident — a truism, almost: computer-aided design depends on computers. Who would deny that? Computer-driven architecture is what happens when architecture meets one of these mythical, almost magical protagonists: after all, not long ago computers were still called, in most languages, "electronic brains," and to this day some see them as endowed with supernatural (or "singular") powers. <sup>3</sup>

Yet the first encounters between designers and electronic computers in the years of postwar reconstruction were frustrating, and unfruitful. A low-added-value professional service dealing with complex problems and data-heavy images and drawings, architecture did not directly partake in the first age of electronic computing, if not as a ricochet: designers were, like everyone else at the time, inspired and excited by the development of

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<sup>1</sup> Paul Veyne, *Les Grecs ont-ils cru à leur mythes? Essai sur l'imagination constituante* (Paris: Seuil, 1983).

<sup>2</sup> Roland Barthes, *Mythologies* (Paris: Seuil, 1957).

<sup>3</sup> As a reviewer pertinently noted, by debunking this myth in this article I shall more or less inadvertently construe another one — that of a crucial "digital turn" in architecture that would have occurred in the early 1990s, brought about by the conflation of Deleuzian and deconstructivist theories in architecture, affordable computation, and the rise of spline-modeling software. But I have a vested interest in that historiographical construction: I first suggested it in 2004, when, together with its guest editor, Greg Lynn,

I republished the seminal *Architectural Design* issue on "Folding in Architecture" (March/April 1993), with new prefaces by Lynn and me; this republication was celebrated by a memorable conference in Vienna in the spring of 2005 ("Twelve Years of Folding — Deleuze and the IT Revolution in Architecture," Vienna, MAK — Museum für Angewandte Kunst, and the Kiesler Foundation, May 20–21, 2005). I have reiterated the notion of a crucial watershed in digital design theory around 1993 in all my subsequent publications and in my teaching; the same historiographical timeline has been adopted by other historians and critics (see in particular the series of events and publications organized by the CCA in Montréal under the title *Archeology of the Digital*), and it is now often taken for granted. Therefore, I may be forgiven for being more partial to this myth than to others I did not personally nurture; and I would suggest that myths we like, or myths that serve us well, may be seen as simple instruments or devices we sometimes use to compress a variety of diverse and often unrelated events into simplified, streamlined, and memorable narrations — which is, after all, a form of inductive generalization inherent in all cognitive processes. In that, as already noted by Walter Benjamin in *Der Erzähler* (1936), storytelling, historiography, classical myths, and Christian parables all serve similar purposes: by picking a few accidental events out of many unrelated ones, and putting them in some rational sequence, they make order out of chaos, and they present a causal interpretation of the unintelligible in a user-friendly format, which can be easily conveyed and remembered — together with the more or less esoteric meanings that each story may conceal.

new tools for electronic computation that, back then, were entirely out of their reach, and would have been of no use to them if they could have afforded to pay for them – which they could not. Some techno-friendly vaticinations and sci-fi visions of the age of cybernetics then took on a life of their own, and spawned the so-called high-tech style of contemporary architecture, which continues to this day. But there was not much that designers could have done with computers in the 1960s and 1970s, due to the technical limits of early electronic computation; pictures in particular, when converted into numbers, become big files, requiring more memory and computing power than was then commercially available: indeed, anecdotal evidence suggests that mainframe computers in a handful of major architectural firms that could afford them at the end of the 1960s were bought for bookkeeping, not for design purposes. <sup>4</sup> Even the first releases of affordable CAD software meant for workstations and early personal computers in the 1980s failed to bring about any significant architectural upheaval. Digital change in architectural design came only in the early 1990s, due to a combination of techno-cultural, social, and theoretical factors, and largely due to ideas inherent to and inscribed in the long duration of the history of architectural theory.

The 1946 ENIAC, often seen as the first modern computer, had a weight of 27 tons and occupied a surface of 127 square meters in the building of the School of Electric Engineering of the University of Pennsylvania, where it was built during the last years of the Second World War, as a part of the war effort. It was meant to help with ballistic calculations; it did little more than additions, subtractions, multiplications, and divisions – but did them faster than any other machine. Computers got smaller and cheaper, but not necessarily more powerful, after the introduction of transistors in the course of the 1950s. Mainframe computers priced for middle-size companies and professional offices started to be available as of the late 1950s, but a mass-market breakthrough came only with the IBM System/360, launched with great fanfare on April 7, 1964. Its more advanced versions from the late 1960s had the equivalent of 1/250th of the random access memory we find in most cell phones today. Yet the very expression “computer-aided design,” or CAD, had been around since at least 1959, when it was adopted by a new research program in the Department of Mechanical Engineering of the Massachusetts Institute of Technology (MIT), devoted to the development of numerically controlled milling machines. A PhD student in that program, Ivan Sutherland, wrote the first interactive software for CAD, called the Sketchpad, which used a light pen, or stylus, to draw and edit geometrical diagrams directly on a cathode-ray tube monitor (a TV screen).

<sup>4</sup> In 1968 one of the biggest architectural firms of the time, SOM, presented some programs for cost estimates and building area calculations as new and ground-breaking research carried out, apparently, on a machine they owned. See Daniel Cardoso Llach, *Builders of the Vision: Software and the Imagination of Design* (London: Routledge, 2015), 23–24. One noted exception was the global planning consultancy of Constantinos Doxiadis, who in 1964 established a computer center as an independent company to provide statistical analysis and other data processing to its own offices in Athens, Greece. See Alexandros-Andreas Kyrtis, ed., *Constantinos A. Doxiadis: Texts, Design Drawings, Settlements* (Athens: Ikaros, 2006), 455; Mark Wigley, “Network Fever,” *Grey Room* 4 (2001): 82–122, esp. 88, 98, 118.

5 Cardoso Llach, *Builders of the Vision* (see note 4), 49–72.

6 Oral communication from Philip Steadman (Centre for Land Use and Built Form Studies [LUBFS] at the School of Architecture of the University of Cambridge; cofounder, 1967). There are some slightly different anecdotal traditions on what Sutherland would have actually shown to his British colleagues in 1963.

7 Nicholas Negroponte, *The Architecture Machine: Toward a More Human Environment* (Cambridge, Mass.: MIT Press, 1970).

8 See Jasia Reichardt, ed., *Cybernetic Serendipity: The Computer and the Arts*, exh. cat. (London: Studio International, 1968). See at page 9 a digital scan of a photograph of Norbert Wiener, to the resolution of 100,000 b/w cells (known today as pixels; i.e., the scan would have had the size of 100 kilobytes). The caption describes the process and the technology used; the scan and print took sixteen hours of non-stop machine work.

9 See Usman Haque, "The Architectural Relevance of Gordon Pask," *Architectural Design* 77 (July/August 2007): 54–61; Molly Wright Steenson, *Architectural Intelligence: How Designers and Architects Created the Digital Landscape* (Cambridge, Mass.: MIT Press, 2017), 156–75. For the *Archigram* issue and *Instant City*, see <http://archigram.westminster.ac.uk/project.php?revID=2720> and <http://archigram.westminster.ac.uk/project.php?id=119> (accessed January 18, 2019).

Sutherland did not invent the light pen, which had been in use at MIT since the mid-1950s; the novelty of the Sketchpad was a program that allowed for the geometrical definition of scalable planar objects that could be cut, pasted, and resized. <sup>5</sup> When the program was shown in Cambridge, England, in 1963, it created an immediate sensation – but the demonstration only showed slides, or possibly some illustrations of the machine at work, because no computer in Cambridge would have been powerful enough to run Sutherland's software, and even the military-grade mainframe computers at MIT would have taken hours to recalculate and show each new diagram. <sup>6</sup> And regardless, the cybernetic excitement of the 1960s was not about what computers could actually do: it was about the expectation or the promise of what they would do – some day in the future. In 1970 Nicholas Negroponte, then twenty-seven years old, predicted that computers would soon become universal design assistants, enabling every end user, customer, or citizen to design almost everything all alone, without the need for any mediation or architectural expertise or advice to be provided by anyone else: the computer would replace the architect, and become the designer. <sup>7</sup> Even by today's standards, that would still be a tall order.

In the summer of 1968 in London, the now famous exhibition *Cybernetic Serendipity* celebrated the new age of electronic art; in the show, however, architecture was remarkable for its absence – and the few instances of computer-driven architecture that were shown were remarkably dull. The noted futurologist Gordon Pask participated with an interactive installation, *The Colloquy of Mobiles* – a game of reflecting mirrors. <sup>8</sup> Pask was the cybernetic consultant for Archigram's *Instant City* (1968) and the "cybernetic resident" in Cedric Price's *Fun Palace* (1963–1967); he contributed to the 8th *Archigram* magazine, and he went on to collaborate (alongside John and Julia Frazer) on Price's *Generator Project* (1976–1979). <sup>9</sup> No computer was used to make any of Archigram's, or Price's drawings – nor could have been, for the reasons just said; and no one can tell if any computer would have been needed to design and build any of those buildings – as none of them was buildable and none ever built. Why were these buildings meant to be "cybernetic," then, and in what did their "cybernetic" nature reside? To answer, we should first have a look at what *cybernetics* meant back then – as that is not what it means right now.

In the introduction to the first edition of his seminal book *Cybernetics; or, Control and Communication in the Animal and the Machine* (1948), Norbert Wiener recounts how the team of scientists gathered around him and the physiologist Arturo

Rosenblueth had invented the term *cybernetics* to designate a new discipline devoted to the holistic study of feedback in all processes of communication and control, whether machinic or biologic. The term they chose was derived from the ancient Greek *κῦβερνήτης* (*kubernētēs*, or steersman: hence the etymology of *governor* in English, or *gouverneur* in French, both in the navigational and in the political sense of the term), and it was meant to refer to the steering engines of a ship, seen as the earliest and best-developed forms of feedback-based servomechanisms (as well as, Wiener recounts, the starting point of his own studies on the subject, impelled by a war project on the self-correction of gun pointers aimed at airplanes with known or predictable trajectories).<sup>10</sup> In the same book Wiener emphasize the similarity between the binary operations of electronic computers and the reactivity of the living cells of the nervous systems, or neurons, which were already known to operate on an all-or-nothing, or binary, mode. This suggested a deeper correspondence between mathematical logic and neurophysiology, warranting the parallel study of computation in electronic machines and of “neuronal nets” in living beings. Wiener’s team further grounded the theoretical basis of the new science of cybernetics in a vast program of vivisection of the muscles of decerebrated cats, carried out at the National Institute of Cardiology of Mexico City.<sup>11</sup> Wiener claims that his ideas on cybernetics and electronic computing were endorsed by, among others, John von Neumann at Princeton and by Alan Turing at Teddington,<sup>12</sup> but in the late 1950s and early 1960s the field of cybernetics was seen as primarily devoted to the study of analog, electromechanical, or organic feedback – so much so that when John McCarthy, Marvin Minsky, and others convened the now famous first seminar on artificial intelligence (AI) at Dartmouth College in 1956, they studiously avoided the term *cybernetics* – and indeed, it appears they chose to call their seminar “The Dartmouth Summer Research Project on Artificial Intelligence” specifically to avoid any association with Wiener’s science and with Wiener himself, who was not invited.<sup>13</sup> When a few years later Minsky wrote a capital article often seen as the theoretical foundation of AI, he took care never to use the term *cybernetics* – except in a one-line footnote citing the title of Wiener’s 1948 book.<sup>14</sup>

Many years later, for reasons never fully elucidated, the science-fiction writer William Gibson famously adopted the prefix *cyber-* to create the expression *cyberspace*, popularized by his best-selling novel *Neuromancer* (1984). Without any direct reference to Wiener’s science, the term was soon generically and universally adopted in popular culture to evoke almost

<sup>10</sup> Norbert Wiener, *Cybernetics; or, Control and Communication in the Animal and the Machine*, 2nd enlarged ed. (Cambridge, Mass.: MIT Press, 1961), 11. The introduction is dated “Mexico City, 1947.”

<sup>11</sup> *Ibid.*, 14, 19.

<sup>12</sup> *Ibid.*, 15, 23.

<sup>13</sup> At the time of this writing the best source of information on the Dartmouth workshop, seen by many as the act of foundation of AI as a discipline, is a remarkable *Wikipedia* entry, [https://en.wikipedia.org/wiki/Dartmouth\\_workshop](https://en.wikipedia.org/wiki/Dartmouth_workshop) (accessed January 18, 2018). We must assume that in this instance, contrary to its terms of service, but faithful to its spirit, *Wikipedia* serves as an aggregator of oral traditions, mostly contributed by the protagonists of the story being told or by people that were close to them.

<sup>14</sup> Marvin Minsky, “Steps toward Artificial Intelligence,” *Proceedings of the IRE* 49, no. 1 (1961): 8–30.

anything related to electronics and computers — up to and including Gibson’s own style of fiction, known to this day as cyberpunk; in the course of the 1990s the term was metonymically extended to everything occurring on the Internet, and cyberspace became a moniker for any technologically mediated alternative to physical space. Back in the 1960s, however, the first AI scientists saw Wiener’s cybernetics as something quite separate from the mathematics of computation; even if the analogy between computers and neural networks was generally admitted, the cyberneticians’ sometimes sulfuric interests in neurophysiology were often met with reservations by the engineers and mathematicians that constituted the core of the AI community. <sup>15</sup>

<sup>15</sup> For an introduction to this discussion (but with the same disclaimer as in note 13), see Piero Scaruffi, *Intelligence Is Not Artificial* (self-published, 2018), 19–23.

In this context, Gordon Pask’s credentials as a cybernetician should be seen as a sign of his lifelong interest in the interactions between humans and machines, machinic responsiveness and feedback, and of this “cybernetic” line of research we find abundant evidence in some architectural works Pask participated in or otherwise mentored and inspired. Price’s visionary work, in particular, based as it was on modularity, assembly, and mechanical transportation, was pervaded from the start by ideas of automatic responsiveness embedded in buildings and building components, and this in turn invited the use of electronic computers to command and control the movements of various mechanical parts.

As Price did not leave blueprints for his most famous projects, we do not know precisely how computers would have managed to move and reposition the modular components that were plugged into the vast steel frame of his famous Fun Palace; Pask suggested in this instance to use a system of punched cards to memorize the best configurations and also to collect data on users’ satisfaction. Price’s Oxford Corner House project (1965–66) envisaged floors that moved up and down on demand, but the computer in the basement of that building (an IBM/360) was meant to feed educational and entertainment content to the various interactive terminals disseminated inside the building. Likewise, the Potteries Thinkbelt (1964–66) was a project of modular university buildings to be transported and delivered on rails, permanently reconfigurable on demand, but it is in Price’s later Generator Project (1976–79) that we find a fully developed attempt at the cybernetic governance of an entire built environment (a theme park that should have been built in a plantation in the South of the U.S.). All the installations in the park would have resulted from the recombination of a set of 150 modular room-size cubes, to be permanently moved around by cranes based on users’ feedback or automatic recalculations by a central computer. John and Julia Frazer made a model of the system with Plexiglas boxes, and

wrote a program for a Commodore PC that would have managed the movement of the various parts of the model. <sup>16</sup> Price appears to have claimed that his Generator Project was the world's first intelligent building, but we know today of at least one very similar precedent — Negroponte's *SEEK* installation of 1970, where cubes were moved around in a box by a robotic arm driven by a computer that interpreted, somehow, the intentions of a population of big rats. <sup>17</sup> Similar modular boxes were also the basis of Negroponte's *URBAN2* and *URBAN5* interactive design systems, all illustrated in Negroponte's seminal *Architecture Machine* of 1970 (*sans* rats, which were added as the free-will ingredient — the human factor in the cybernetic machine, in a sense — only in the show at the Jewish Museum in Boston, titled *Life in a Computerized Environment*). <sup>18</sup>

<sup>16</sup> Wright Steenson, *Architectural Intelligence* (see note 9), 127–75.

<sup>17</sup> *Ibid.*, 128, source not cited. Wright Steenson adds that the Generator Project “actually showed how artificial intelligence could work in an architectural setting.”

<sup>18</sup> Negroponte, *Architecture Machine* (see note 7), 104–5; Wright Steenson, *Architectural Intelligence* (see note 9), 185.

Fifty years later, it is easy to see a few reasons why the digital turn changed architecture in the 1990s, and cybernetics failed to do so in the 1960s. For a start, computers in the age of cybernetics were seen primarily as new technologies for information and communication, whereas designers as of the 1990s used them primarily as tools for design and fabrication. As a result, in the course of the 1990s computational tools successfully replaced traditional architectural notations (plans, elevations, and sections) with digital scripts. Such notational scripts are pure information, and they are eminently variable media: They are interactive, and they can be participatory, collaborative, crowdsourced, automated, self-optimized, even self-organizing. They can change and morph all the time because they are made of bits and bytes. Buildings are made of steel and reinforced concrete, and after they are built they cannot change that much. Good software is responsive and interactive, but even the smartest steel I-beam can provide only limited feedback. Software can be intelligent, to some extent, but the degree of self-determination expressed by even the most sophisticated of today's buildings remains confined to gadgetry or environmental controls (heating, ventilation, air conditioning). At the time of writing, self-driving cars seem promised a bright future, but research on self-building buildings is not yet booming. The cyberneticians of the 1960s wanted to make buildings as responsive and interactive as a web page is today. In this sense, their visions may indeed have prefigured some aspects of today's Internet, but they certainly did not prefigure any aspect of today's architecture. Price's and Pask's cybernetic approach to reconfigurable, stackable buildings pales in comparison with the computerized logistics still needed for handling even the dumbest shipping containers, but the one building their cybernetic visions did famously inspire, the Centre Pompidou in

19 Competition launched December 1969; results announced July 1971; construction started May 1972; building inaugurated January 31, 1977. Architects: Richard Rogers and Renzo Piano; engineering: Edmund Happold and Peter Rice at Ove Arup and Partners.

Paris, does not have any conspicuously moving parts, other than one big escalator; and it was built in the early 1970s without any computer at all. 19

While the Centre Pompidou was built, the cybernetic exuberance from which it derived was being quickly eroded by the energy crises and by the economic and political turmoil of the 1970s; by the end of the decade the techno-optimism of the 1960s had been entirely replaced by the technophobia of post-modernism, and in the course of the 1970s the terms *cybernetics* and *artificial intelligence* fell out of use. As of the early 1970s it became apparent that cybernetics and AI, in spite of the extraordinary expectations they had aroused, were not delivering any usable results; credits — particularly from the military — then dried up, and the most ambitious research projects were abandoned or retrenched. Computer scientists today disagree on the timeline and causes of “the winter of Artificial Intelligence” that set in around that time; however, while academic research on AI mostly went into hibernation, some smaller projects were opportunistically reoriented towards commercial electronics, with some unexpected results. 20

20 Wright Steenson, *Architectural Intelligence* (see note 9), 192–95; Scaruffi, *Intelligence* (see note 15), 62–75.

The cyberneticians and AI scientists of the 1960s had been dreaming of a techno-driven future made of bigger and always more powerful central computers; the digital revolution of the 1980s and 1990s came instead from smaller and smaller machines that did very little — almost nothing — but put that very little amount of cheap computation at everyone’s disposal, on everyone’s desktop. That was the PC revolution, which started with the IBM PC in 1981. Steve Job’s first Macintosh, in 1984, famously adopted a mandatory graphic user interface; but, unlike the MIT’s light pen, which cost millions, the mouse (made by Logitech in Lausanne) cost a few dollars apiece. Autodesk and Adobe were both founded in 1982, so as of the early 1980s all the tools needed for computer-aided design were available and affordable, and indeed by the end of the 1980s many schools of architecture in Europe, the U.S., and Canada offered some basic training in computer-based drafting. Yet, once again, this failed to bring about any significant change in architectural design, in the architectural discipline, and in the design professions at large.

Many multistory parking lots today are designed and built using the most advanced building information modeling software that money can buy, and muster more computer power than Frank Gehry and Dassault Systèmes could dream of to design and build the Guggenheim Bilbao in the 1990s. Yet the building type of the multistory parking lot, particularly in the Americas, has not changed for many decades, and if the adoption of digital tools



for design and fabrication may have made some parking lots cheaper or faster to build, that has not changed their architecture in the least. In purely architectural terms, the tools adopted to design and build most standard parking lots today are irrelevant — as all parking lots always look exactly the same anyways. On the contrary, to build a big metal fish floating over the beaches of Barcelona, as Gehry did for the Olympic Games of 1992, computer-aided design was a game changer — because using computers we can design and build a big fish, and without computers we cannot. That is one reason why big fish were seldom built before 1992. In that instance, famously, CAD software originally developed to solve aerodynamic problems in aircraft construction allowed Gehry to design and build complex streamlined lines (technically known as splines) that would have been too difficult to measure and draw by hand. <sup>21</sup>

<sup>21</sup> See Mario Carpo, *The Second Digital Turn: Design beyond Intelligence* (Cambridge, Mass.: MIT Press, 2017), 55–65.

It is not a coincidence that digitally intelligent design in the early 1990s was invented, encouraged, and promoted by designers that aimed at, and cherished, complexity: Bernard Tschumi, Peter Eisenman, Gehry, Coop Himmelb(l)au, Zaha Hadid. Their idea of complexity in design came from the architectural theory and ideas of deconstructivism. Architectural deconstructivists were evidently familiar with the work of Jacques Derrida, and when they read Gilles Deleuze's book on *The Fold: Leibniz and the Baroque* they found a long footnote by the young polymath, architect, and mathematician Bernard Cache, who explained that Deleuze's view of Leibniz's mathematics also served to explain how computer-aided design works: namely, by writing parametric notations of families of objects (or generic objects) that morph and change with every new set of parameters, just like the parametric notations of curves in differential calculus. This was, in a nutshell, the idea of digital mass-customization: one of the most revolutionary, disruptive ideas that designers ever came up with; an idea that has not only changed the history of global architecture — an idea that is now changing the world in which we live. The mass-production of variations at no extra cost, hence the technical logic of an industrial society without economies of scale — a flat-marginal-cost society — is so alien to our modern mentality that economists, politicians, and technologists, are still struggling to come to terms with it. <sup>22</sup>

<sup>22</sup> See Mario Carpo, *The Alphabet and the Algorithm* (Cambridge, MA: MIT Press, 2011), 81–106.

Whether we like it or not, this idea was invented by a handful of avant-garde architects and designers, in some schools of architecture, one generation ago. It was not an idea designers imported into design discourse from elsewhere — as designers sometimes do: it was an idea that was born straight out of design theory. And this happened when some new design technologies, and some new design ideas, crossed paths and started to

resonate in sync. Before these theoretical motivations emerged, in the 1990s, computers were of no use to architecture – and architects either did not use computers, or tried to put computers they did not have to tasks computers could not do, or used computers to do the same things they could have done without them. These considerations may be particularly timely today, as AI is emerging from the torpor of its long winter and going through an unexpected and spectacular comeback – in computation in general, as well as in computational design. But the revival of this vintage term, which harks back to the golden age of cybernetics, the space race, flared jeans, and Jefferson Airplane, may be misleading, as it belies the technical logic and the scientific nature of today's computational methods. <sup>23</sup> Nobody knows precisely what AI means today, nor why designers should care about it, but one thing for certain we can already learn from history: AI today does not mean what it meant in 1969, hence designers would be well advised not to repeat their early cybernetic blunders.

<sup>23</sup> See Carpo, *The Second Digital Turn* (see note 21), 70–98.

## Phantom Theory: The gta Institute in Postmodernist Architectural Discourse Sylvia Claus

The unwieldy dualism of “History and Theory” with which the founders of the gta Institute prefaced the word Architecture was deliberate. The relationship between history and theory is a dialectical one: Theory needs the concretization of history if it is not to become a phantom, just as history without reflection on the inevitability of (re-)construction and hence theorizing loses its critical dimension. The gta Institute was to set itself apart from tendencies indicative of a concern solely with theory or solely with history by intertwining the two, wisely foregoing an exact definition of the relationship between them and contenting itself instead with that most noncommittal of connections: the simple conjunction and. The problem of theory’s perpetual elusiveness – it being easier to grasp in retrospect than in any analysis of what is happening in the present – was thus present from the start. <sup>1</sup>

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### The Founding of the gta Institute: Context, Strategies, Protagonists

The gta Institute commenced work on January 1, 1967, at a time of political, social, and architectural upheaval correlated with the first stirrings of postmodernism. Critical analysis of social problems across disciplines and across borders became a preoccupation of the first order in the “long summer of theory.” <sup>2</sup> The rage for reading and debate was fueled by revolutionary fervor. Institutes with a strong theoretical bias sprang up at many universities, and there was an observable shift of emphasis toward science in the teaching of architecture too: the Massachusetts Institute of Technology in Cambridge, Massachusetts, launched a “History, Theory and Criticism of Art, Architecture and Environmental Studies” program; the Istituto Universitario di Architettura di Venezia inaugurated a Dipartimento di Analisi, Critica e Storia dell’Architettura that bore the unmistakable stamp of Manfredo Tafuri; and the University of Stuttgart opened the Institut für Grundlagen moderner Architektur und Entwerfen, which from its founding in 1968 was headed by Jürgen Joedicke. The independent Institute for Architecture and Urban Studies founded by Peter Eisenman and his acolytes in New York City in 1967 was part of the same development. In that same year, students and research assistants at the University of Stuttgart with ties to the philosopher Max Bense launched the *Arch+* journal on architecture-related environmental research and planning. The programmatic plus sign stood for what architecture means above and beyond itself – that is, for what it means to society, to the environment, to ordinary people.

<sup>1</sup> This text summarizes the findings of the exhibition *Phantom Theorie: Das Institut gta im Architekturdiskurs seit 1967*, which students in the author’s Master of Advanced Studies program at the gta Institute at ETH Zurich created in collaboration with the gta Archives, gta Exhibitions, and the gta Verlag to mark the fiftieth anniversary of the gta Institute in the summer of 2017. See also Ruth Hanisch and Steven Spier, “History Is Not the Past but Another Mightier Presence: The Founding of the Institute for the History and Theory of Architecture (gta) at the Eidgenössische Technische Hochschule (ETH) Zurich and Its Effects on Swiss Architecture,” *Journal of Architecture* 14, no. 6 (2009): 655–86.

<sup>2</sup> Philipp Felsch, *Der lange Sommer der Theorie: Geschichte einer Revolte, 1960–1990* (Munich: Beck, 2015).

Art history was also swept up in these changes. The founding of the Ulmer Verein by students and middle-tier academics from Germany's art history faculties in the fall of 1968 signaled a striving for more social and political relevance.

Against this backdrop the developments at ETH do not seem particularly revolutionary – at least not at first glance. Yet the restructuring of the architecture department that went hand in hand with the consolidation of institutes such as the gta would have been inconceivable without the student protests that preceded it. The students found influential supporters for their cause in the art historian Paul Hofer and the design teacher Bernhard Hoesli, both of whom became key players in the gta's founding phase. An ETH Institut für Orts-, Regional- und Landesplanung (Institute for Local, Regional, and National Planning, ORL) that would engage in "research, consultancy, coordination, and training" had been in planning since 1958 and finally commenced work – at the recommendation of the Department of Architecture but independent of any one department initially – three years later.<sup>3</sup> The success of that institute might well have been what the founders of the gta had in mind when, in 1966, they applied to the Swiss School Council for permission to set up an institute for the history and theory of architecture.<sup>4</sup> Still more institutes were founded in the years following: the Institut für Hochbauforschung (Institute of Building Research) in 1969 (disbanded in 1985), the Institut für Hochbautechnik (Institute of Building Technology) in 1972 (renamed the Institute of Technology in Architecture in 2009), and the Institut für Denkmalpflege (Institute of Historic Preservation) in 1972 (now the Institute of Historic Building Research and Conservation).<sup>5</sup> The mid-1960s also saw the restructuring of the Department of Architecture itself as the number of design professors was almost tripled (from three to eight).<sup>6</sup> The appointment of Hofer as associate professor of the history of urban planning and conservation on October 1, 1964, and the simultaneous hiring of Albert Knoepfli, hitherto a monument conservationist for canton Thurgau, to lecture on the "Conservation of Historical Monuments with Excursions" placed the humanities on a broader footing. Hofer and Knoepfli may have been on the staff of the Department of Architecture, but they were expected to collaborate closely with two art historians, Erwin Gradmann and Adolf Max Vogt.<sup>7</sup>

Their appointment as associate professors of art history in 1961 had been motivated by the fact that, unlike their predecessor, Linus Birchler, both men possessed a "legitimate relationship with modern art and even more so with modern architecture." They were also deemed to have "the will and the temperament to

3 Schulratsprotokolle (Council Minutes) 1959, "Sitzung Nr. 6 vom 07.11.1959, Traktandum 161 und 162," ETH Library, Archives, SR2. The former ORL Institute was integrated into the Department of Architecture's Network City and Landscape in 2002.

4 Board of the ETH Department of Architecture, "Antrag an den Praesidenten des Schweizerischen Schulrates betreffend die Errichtung eines Institutes für Geschichte und Theorie der Architektur an der ETH," June 29, 1966, gta Archives, ETH Zurich; Schulratsprotokolle (Council Minutes) 1966, "Sitzung Nr. 5 vom 08.07.1966, Traktandum 140," ETH Library, Archives, SR2.

5 On the development of knowledge management generally during this period, see David Gugerli, "Kybernetisierung der Hochschule: Zur Genese des universitären Managements," in *Die Transformation des Humanen: Beiträge zur Kulturgeschichte der Kybernetik*, eds. Michael Hagner and Erich Hörl (Frankfurt: Suhrkamp, 2008), 414–39.

6 See *The Training of the Architect at the Swiss Federal Institute of Technology* (Zurich: Architekturabteilung der Eidgenössischen Technischen Hochschule, 1965); Heinz Ronner, "Ein neuer Lehrplan an der Architekturabteilung der ETH," *Schweizerische Bauzeitung* 83, no. 47 (1965): 863–64; Gaudenz Risch, "Aufbau der Studienpläne an der ETH," *Schweizerische Bauzeitung* 85, no. 12 (1967): 211–14.

7 Schulratsprotokolle (Council Minutes) 1964, "Sitzung Nr. 2 vom 21.03.1964, Traktandum 44, 182," ETH Library, Archives, SR2.

work together and to engage critically with professors of architecture," it having been agreed that "art history must become a living part of the architecture program."<sup>8</sup> The choice of Gradmann, a native of Vienna who had won acclaim as conservator of the ETH's Graphische Sammlung, and Vogt, a "stalwart" – if not to say pugnacious – art critic at the *Neue Zürcher Zeitung* prized for his analytical skills and acute powers of observation, thus represented a programmatic commitment to the present, since "only a lecturer who also loves the modern can open students' eyes to the historical."<sup>9</sup> Vogt and Gradmann were also thought capable of arousing in architecture students an interest in the history of both art and architecture. Their proximity to the Department of Architecture was thus a given and was explicitly desired from the start, even if both men technically belonged to the Department XII for Liberal Arts (now the Department of Humanities, Social and Political Sciences). Viewed in this light, the history of the gta Institute is also a history of how art history came to be institutionally anchored in the Department of Architecture and of how its specialization in the history and theory of architecture came about.

Alongside Vogt as its chief initiator, the gta's founding members were Gradmann, Hofer, Knoepfli, and Hoesli, one of Switzerland's most influential teachers of architecture. An advisory board comprising architect Charles-Edouard Geisendorf, civil engineer Hans Heinrich Hauri (from 1968 to 1973 the president of ETH), and Alfred Roth

(one of the great champions of modern architecture in Switzerland) was soon enlarged to include other influential representatives of the Department of Architecture and so help embed the gta in that department. The application for permission to set up the gta Institute submitted to the Swiss School Council in June 1966 had emphasized the gta's role as a research center that would consolidate, intensify, and coordinate "all the currently uncoordinated scientific and critical work being done at ETH on the history and theory of architecture, urban planning, and conservation." Its proposed scope of

<sup>8</sup> Schulratsprotokolle (Council Minutes) 1960, "Sitzung Nr. 7 vom 12.11.1960, Traktandum 195, 779," ETH Library, Archives, SR2.

<sup>9</sup> *Ibid.*, 782, 786.



**fig. 1** Hans-Rudolf Lutz, cover of the first volume in the gta series, 1968.

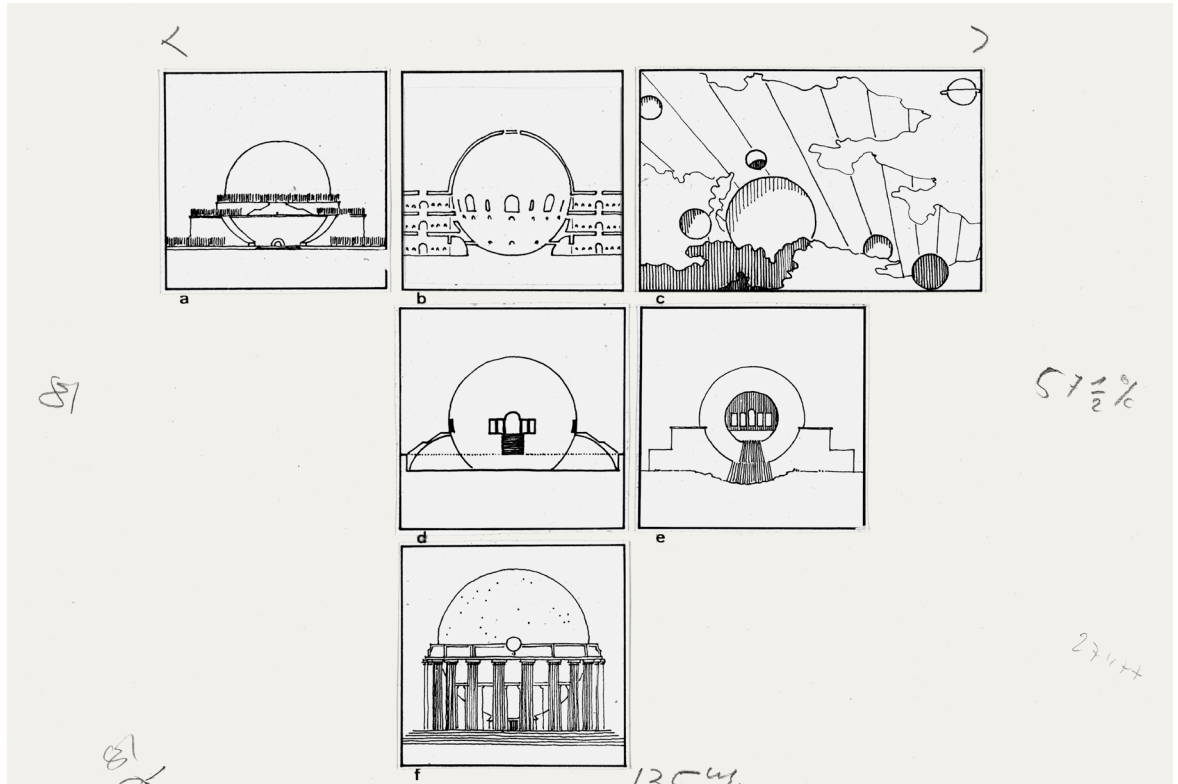
activities ranged from the joint acquisition of transparencies and books to ideas for advanced studies, the coordinated “supervision of dissertations,” the development of a postgraduate program, the “organization of excursions,” various art-historical and conservation projects, the “organization and attendance of guest lectures, exhibitions, and symposia in collaboration with the Department of Architecture,” and concerted publishing activities. <sup>10</sup>

<sup>10</sup> Board of the ETH Department of Architecture, “Antrag an den Praesidenten” (see note 4).

### The “Rainbow Series” as a Reflection of the Discourse

The gta Institute’s first four books were published in collaboration with Birkhäuser Verlag in what came to be known as the “Rainbow Series.” Like Willy Fleckhaus’s edition *suhrkamp designs*, the series owes its name to the dazzling array of colors produced when the monochrome books are lined up together. Until 1980, the typography was the work of graphic artist Hans-Rudolf Lutz, who thus defined the gta look. <sup>fig.1</sup> The first work in the series, *Reden und Vortrag zur Eröffnung*, was a compilation of the inaugural speeches made by Vogt, Hofer, and council president Jacob Burckhardt on June 23, 1967. The second, for which Klaus Lankheit, professor of art history and rector of the University of Karlsruhe,

**fig.2** Martin Fröhlich, drawings after Étienne-Louis Boullée, ca. 1968.



procured hitherto unpublished drawings by Étienne-Louis Boullée (1728–1799), provided strategic underpinning for the institute’s efforts to establish an international network – as well as revealing Vogt’s interest in revolutionary architecture. Vogt’s own book, *Boullées Newton-Denkmal: Sakralbau und Kugelidee*, was published as gta 3 in 1969, and Hoesli’s annotated German translation of Colin Rowe and Robert Slutzky’s “Transparency” essay

appeared as gta 4. Hofer's *Palladios Erstling* was published as gta 5 in 1968, followed by Gradmann's *Aufsätze zur Architektur* on Francesco Borromini, Adolf Loos, and Johann Bernhard Fischer von Erlach later that same year. The seventh book in the series, a monographic study of the Swiss-American bridge builder Othmar H. Ammann, was the work of his erstwhile mentee, Fritz Stüssi, emeritus professor of structural engineering, architecture, and bridge building. Published in 1974, the volume can be read as a tribute to the civil engineer and departing ETH president Hans Hauri — the author having himself been ETH president from 1949 to 1951. Alfred Roth's *Begegnung mit Pionieren* came out as gta 8 in 1973.

As much as the wide-ranging subject matter reflected the specific research interests of the institute's directors, it also exposed the lack of any clear program or method, as Stanislaus von Moos observed in 1970:

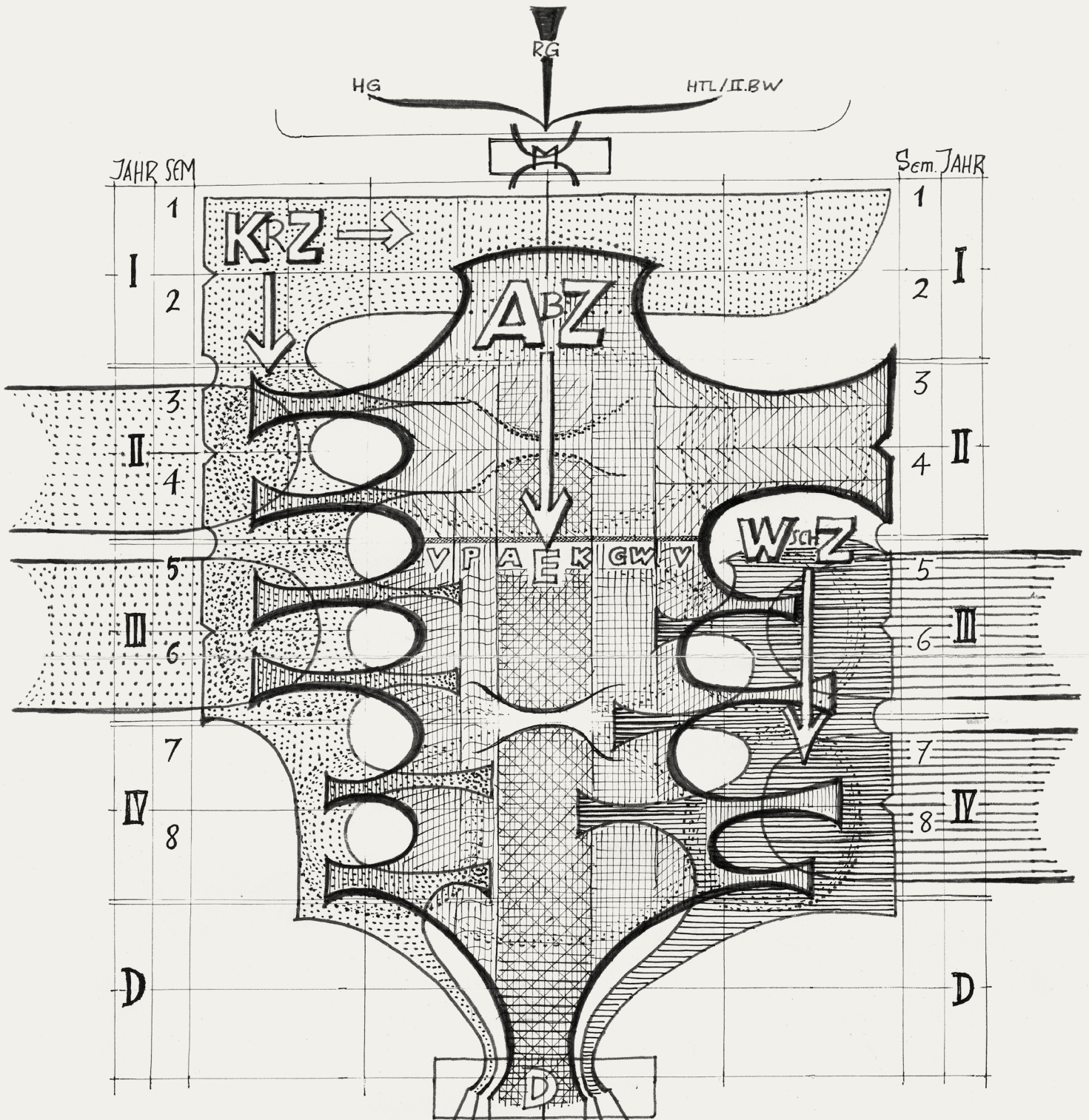
*"Every possible form of literary engagement with architecture is present here, from rigorous historical research work to the didactic comic strip, from the source edition to the essay, with all manner of texts in between. ... In certain instances, the somewhat coquettish presentation of these volumes might be read as symbolizing the late flowering of a science already in decline, or at least as evidence that the methods and academic style of these works are not quite on a par with the 'modernity' to which the typography so ostentatiously pretends."* <sup>11</sup>

Although von Moos ends on a conciliatory note, his critique is not easily refuted. So schematic are the illustrations that they risk excessive simplicity. On the dust jacket of the first work in the series, Vogt expressed his hope that it might "bridge the gulf between words and pictures so commonly found in books about architecture. The explaining should be done not by word alone, but also by drawing; the reader should always be a viewer, too, and hence able to verify the author's assertions in drawings and pictures." <sup>12</sup> How this might be achieved is exemplified by Vogt's own volume on Boullée's design for a cenotaph for Sir Isaac Newton. The first chapter of *Boullées Newton-Denkmal* is followed by 120 pages of "illustrations divided into three groups: Boullée, Ledoux, comparative illustrations." Among these are reproductions of drawings by Boullée and Ledoux, as well as photographs of comparable structures. Vogt's line of argument in the remaining eleven chapters nevertheless relies heavily on schematic drawings by Martin Fröhlich, one of the gta Institute's first research assistants and Vogt's own teaching assistant. <sup>fig.2</sup> Presumably von Moos had in mind these greatly simplified, though not simplistic, renditions when he spoke of "comic strips." Their

<sup>11</sup> Stanislaus von Moos, "Schriftenreihe des Instituts für Geschichte und Theorie der Architektur an der ETH Zürich," *Zeitschrift für Schweizerische Archäologie und Kunstgeschichte* 27, no. 4 (1970): 236–43, here 236.

<sup>12</sup> Jakob Burckhardt, Adolf Max Vogt, and Paul Hofer, *Reden und Vortrag zur Eröffnung*, gta 1 (Basel/Stuttgart: Birkhäuser, 1968), dust jacket text.

VORLÄUFIGE SKIZZE EINES MÖGLICHEN KONZEPTS FÜR DIE ARCHITEKTURABTEILUNG ETH-Z / zuhanden der Arbeitstagung vom 24.III.72



**KRZ** KRITISCHER ZUG  
 EXTERNE FACHLEUTE: WIRT. SCHAFT / POLITIK / SOZIALWISSENSCHAFTLER / PSYCHOLOGEN / PHILOSOPHEN [CASE STUDIES]  
 Interdisziplinäre Kombinierte Arbeitsgruppen

**ABZ** HAUPTZUG: AEK BERUFS-AUSBILDUNG

FACHRICHTUNGEN: P Planung und Städtebau / GW Geisteswissenschaften + DENKMALPFLEGE / V VARIA & SPEZIALDISZIPLINEN [INNENGEORDNETUNG UNVERBINDLICH; vgl. KONZEPTSCHNELLE]  
 I. VORDIPLOM: Nach 3. Sem. oder abtuschaffen?

ND  
 ↓

II. VORDIPLOM: Nach 6. Semester [Zulassung zum Diplom]

**WschZ** WISSENSCHAFTSZUG  
 MITARBEIT IN EXTERNEN FORSCHUNGSGRUPPEN + ABTEILUNGSINTERNE UNTERSUCHUNGEN [BAUFORSCHUNG / STÄDTETZAU] GEISTESWISSENSCHAFTEN / ARCHÄOLOGIE ETC

**LEERRÄUME:**  
 MÜSSE · EIGENE STUDIEN · FREIFÄCHER · SPORT · WIEDERHOLE KÜRZERE PRAKTIKA



purpose is to highlight certain aspects singled out by Vogt and so make his line of argument easier to understand. Most important, however, they support the ultimately ahistorical search for architecture's timeless principles and hence provide an aesthetic, referential basis for the design process. While Vogt was endeavoring to make art-historical inquiry an integral aspect of any theoretical engagement with architecture at the intellectual level, Hofer and Hoesli were busy furthering the integration of the gta Institute into the Department of Architecture both in their publications and even more so in their teaching.

fig. 3 Paul Hofer, sketch of an "école tentaculaire," March 1972.

### Urbanism Research and Design Theory

Hofer, the art historian who in 1964 was appointed ETH professor of the history of urban planning and conservation at the express wish of the Department of Architecture, with whose professors he was in "constant contact," according to the Council Minutes, had developed a student-focused style of teaching that was at once both nurturing and demanding and hence crucial to the gta's efforts to (re-)integrate history into the teaching of architecture. It was Hofer, for example, who in June 1967, shortly after the founding of the institute, organized an excursion to Lonedo in the Veneto so that the sixteen ETH architecture students and six photography students from the Kunstgewerbeschule Zürich could draw and photograph the Villa Godi Valmarana. The gta Institute celebrated its first anniversary in 1968 with an exhibition of the results of that venture, and the students' works also featured in *Palladios Erstling*, published as gta 5 later that same year. This was Hofer's first programmatic call for the kind of interdisciplinary style of teaching driven by the spirit of inquiry that he himself would go on to implement to great acclaim, in part in response to the student protests of 1968. His answer to the rebellious students' demands was to initiate a reform of ETH Zurich's architecture program and to champion a broad curriculum steeped in theory.

Hofer's proposal for a future school of architecture, an "école tentaculaire," was put up for discussion in 1972. It was a spectacular concept that envisaged flanking the "main tract" of the architecture program — also known as the "professional training course" — with both a "critical wing," for which Hofer wanted to enlist the services of external specialists in economic policy, social sciences, psychology, and philosophy, and a "scientific wing," within which the more advanced students were to be entrusted with research projects of their own. <sup>fig. 3</sup> Remarkably, Hofer argued fervently in favor of "incorporating the humanities taught in the Architecture Faculty not merely as a minor, but as part of the

13 Paul Hofer, "Zum Entwurf 'L'École tentaculaire,'" typescript of March 20, 1972, 2, Bürgerbibliothek, Bern.

14 Paul Hofer, "Die Dimension der Geschichte im Unterricht an Technischen Hochschulen: Gedanken zu den Fächern Geschichte und Theorie des Städtebaus, Denkmalschutz und Denkmalpflege (22.8.1963)," in *Paul Hofer an der Architekturschule: In der historischen Stadt das produktiv Lebendige, in der gegenwärtigen das Fortwirken des Vorausgegangenen* (Zurich: Institut gta, 1980), 52–55, here 53.

15 On the methodological differences between Hoesli and Rossi, see Judith Hopfengärtner, "Das 'Unternehmen Solothurn'" (MAS thesis, ETH Zurich, 2008); Judith Hopfengärtner, "Das 'Unternehmen Solothurn': Ein experimenteller Entwurfskurs mit Aldo Rossi, Paul Hofer und Bernhard Hoesli an der Architekturabteilung der ETH Zürich," in *Aldo Rossi und die Schweiz: Architektonische Wechselwirkungen*, eds. Ákos Moravánszky and Judith Hopfengärtner (Zurich: gta Verlag, 2011), 77–95.

16 On the Texas Rangers, see Alexander Caragone, *The Texas Rangers: Notes from an Architectural Underground* (Cambridge, Mass.: MIT Press, 1995); Werner Oechslin, "Transparenz: Die Suche nach einer verlässlichen Entwurfsmethode nach den Prinzipien der modernen Architektur," in Colin Rowe and Robert Slutzky, *Transparenz*, gta 4, 4th enlarged ed. (Basel: Birkhäuser, 1997), 9–20.

main tract, as a course fully integrated into the central training process." <sup>13</sup> To his mind, the history of art, architecture, and urbanism was not part of the adjunct "scientific wing" but an essential component of the basic training course. Hofer wanted history to be taught not merely as "what happened in the past" but as "another, mightier presence" that impacted on each new object and design project. Central to his work was constant dialogue with the design professors with the aim of integrating historical architecture "as the living present in the teaching of design." <sup>14</sup>

The course Hofer taught together with Hoesli and Aldo Rossi in the winter semester 1977/78 is paradigmatic of this approach. As guest lecturer in the Department of Architecture, Rossi had already taught two, now legendary, design courses in the years 1972 to 1974, and two years later he began teaching under Hofer, a professor whom he revered. The experimental design course taught jointly by Hofer, Hoesli, and Rossi entailed an in-depth exploration of the notion of "dialogical urban planning." Dubbed "Unternehmen Solothurn," it required students to study morphological views of the Swiss city of Solothurn and, through a process of abstraction, derive a wide range of typological structures from what was already there. These then served as the basic forms for their own design work – besides coinciding nicely with Rossi's interest in a rational reduction of architecture to its geometric and timelessly autonomous basic forms, especially those exemplified by the city's monuments or "elementi primari."

### **Transparency at the gta**

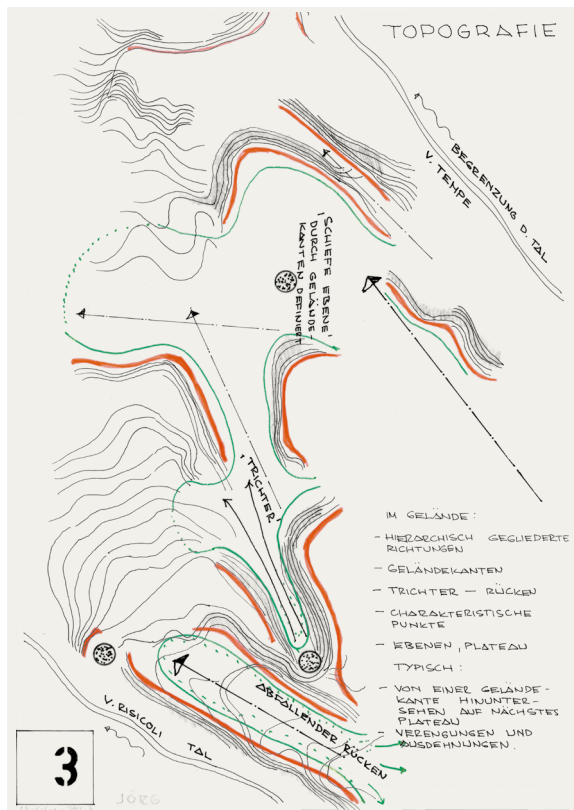
Rossi's more artistic and pictorial ("typological") design method was very different from Hoesli's more structural, analytical approach. <sup>15</sup> Hoesli had spent the years 1951 to 1957 teaching at the University of Texas School of Architecture in Austin, which in the 1950s was a hotbed of young talent and unconventional teaching methods. <sup>16</sup> There, along with Rowe, Slutzky, John Hejduk, and Werner Seligmann, he belonged to a group known as the "Texas Rangers" whose primary concern was with the teachability of modernist principles and whose experimental

# FORMELEMENTE FORMSYSTEME

VILLA ADRIANA  
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FLORIDA SOUTHERN  
COLLEGE

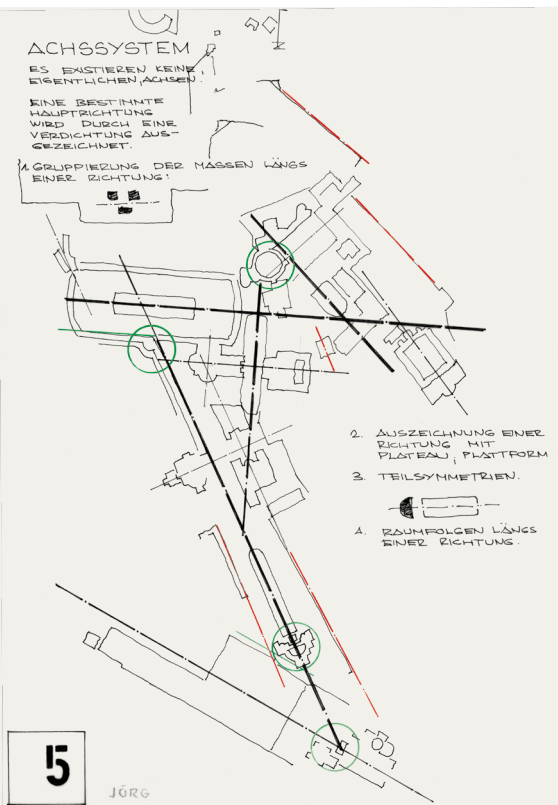
THEMA  
SCHIEFWINKLIGE  
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<b>1</b>	ÜBUNG PROF. B. HOESLI ETH ARCH. ABT. 8. SEM. 66	1315166 HU. JÖRG
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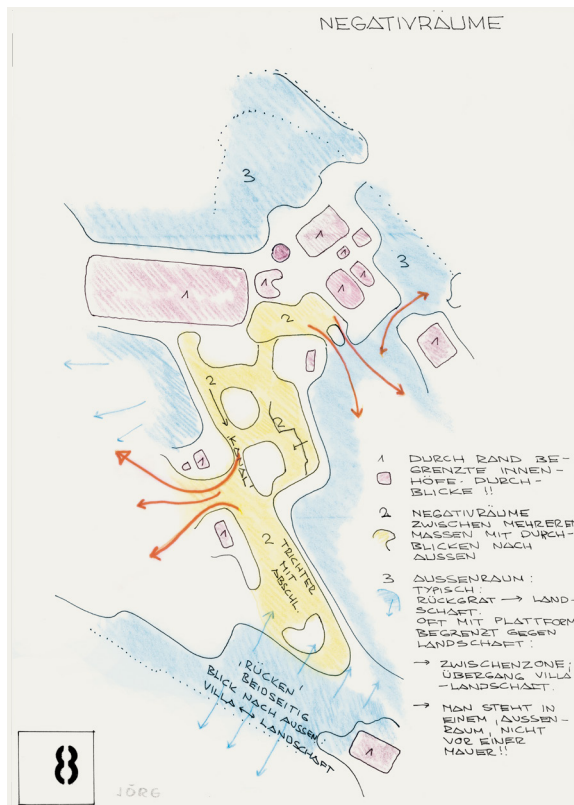


<b>3</b>	JÖRG
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figs. 4 a–d Hu. Jörg, 8th semester, project on “Form Elements, Form Systems” by a student in Bernhard Hoesli’s class at ETH Zurich, 1966.



<b>5</b>	JÖRG
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<b>8</b>	JÖRG
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17 Schulratsprotokolle (Council Minutes) 1959, “Sitzung Nr. 1 vom 07.02.1959, Traktandum 12, 95,” ETH Library, Archives, SR2; Presidential Decrees 1960, *Präsidentialverfügung Nr. 849 vom 02.04.1960, 849*, ETH Library, Archives, SR2. The course was initially taught by Hoesli together with Hans Ess, from 1960 to 1973 associate professor of graphic and color design and from 1973 to 1977 full professor in the same field. Max Uli Schoop, a sculptor known mainly for his animal sculptures who had been teaching figural drawing at ETH since 1957, was initially considered as sculptor but in the end was replaced by Heinz Ronner, who taught constructive design as part of the foundation course, while architectural design fell to Hoesli. See Schulratsprotokolle (Council Minutes) 1959, “Sitzung Nr. 5 vom 03.10.1959, Traktandum 149, 558,” ETH Library, Archives, SR2.

didactics focused heavily on space and on the design process itself. Hoesli first came to ETH in 1958 as a research assistant of Werner Max Moser, a major exponent of modern Swiss architecture. Appointed associate professor in 1960, he was instrumental in devising and developing the foundation course first taught in the winter semester of 1959/60, which, following the Austin model, was premised on intensive, ongoing dialogue with the students and was taught by an architect, a painter, and a sculptor. 17

Meanwhile, the exchange of ideas with the former Texas Rangers continued unabated, as is evident from the gta's list of publications, which, thanks to Hoesli, included German editions of the two most influential works produced by that circle: *Transparency* and *Collage City*. The concept of transparency was fundamental to the Texas Rangers' experimental teaching. Hoesli himself had made the artful layering and organization of space an integral part of his approach to design while still in the United States, and he was eager to incorporate it into his foundation course at ETH too. When he translated Rowe and Slutzky's 1963 work *Transparency: Literal and Phenomenal* into German in 1968, he enlarged it by adding his own notes and commentary. The third edition of 1984 also featured an addendum by Hoesli. To judge by the prominence he gave his own name, Hoesli regarded his contributions to the work as on a par with that of

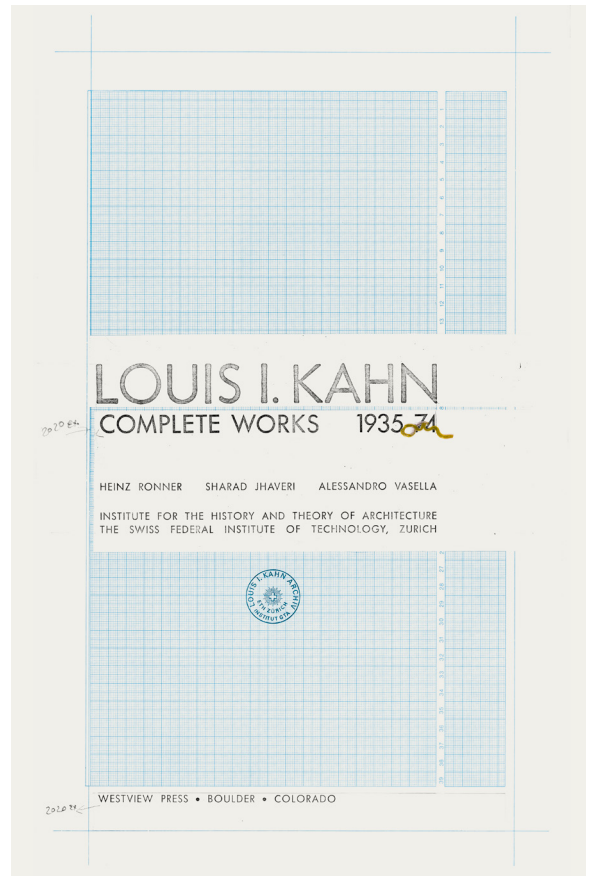


fig. 5 Title page layout for *Louis I. Kahn: Complete Works 1935–74* (1977), with stamp of the "Louis I. Kahn Archiv/ETH Zürich/gta Archiv."

18 *Transparence réelle et virtuelle*, an enlarged French edition of the same work with a foreword by Werner Oechslin, was published in 1992. A fourth German edition, enlarged to include an introduction by Oechslin, was published in 1997, followed by an English, and now a Chinese, edition.

19 Colin Rowe to Isabelle Rucki, Birkhäuser Verlag, copy of a letter dated September 18, 1996, Bibliothek Werner Oechslin, Einsiedeln. When Birkhäuser announced it was planning a new edition of *Collage City*, Rowe submitted a commentary on Hoesli's edition of 1984, enclosing with his letter a text about Hoesli, the German translation of which was included as an afterword in the edition of 1997: "Colin Rowe, Nachwort," in Colin Rowe and Fred Koetter *Collage City*, gta 27, 5th enlarged. ed. (Basel: Birkhäuser, 1997), 275–78, here 275.

of the authors – and not without justification, given that the visual comparisons provided in his commentary lent plausibility to the authors' concept of transparency, just as his activities as a teacher took that concept a stage further, elevating it to a kind of theory of design. This effort to fathom the notion of transparency, in all its complexity and historicity, and to ascertain its relevance to Swiss architectural discourse would remain a key focus of the gta's research activities until well into the 1990s. 18/figs. 4 a–d

The second text, "Collage City," by Rowe and the architect Fred Koetter – first published in *Architectural Review* in 1974 and translated into German by Hoesli as gta 27 ten years later – belongs to the context of Hoesli's own work on urbanism. The complex concept of the city espoused in the essay casts doubt on modernism's *tabula rasa* approach to planning, including that of the young Le Corbusier. For his translation of the essay Hoesli dispensed with any detailed commentary of his own but elaborated on the illustrations in such an inspired and illuminating way that Rowe hailed the translation "as superior to the English original, so that all in all, this edition, in my view, is the *editio princeps*." 19 Hoesli's work on the text trickled down into his teaching:

*"The tenets of Aldo Rossi's theory of architecture were discussed in my elective in the winter of 1975/76, and I acquainted my students with the ideas of the 'Collage City' in the elective 'Città analoga and Collage City' of the summer of 1976. This course was followed by the elective lectures 'bricoler [sic] – between memory and inventory' in the winter of 1976/77 and 'Collision City' in the summer of 1977. Paul Hofer and I together supervised the works of a design class that formed part of the Department of Architecture's fourth-year course 'On the city of complementary interlocking parts' in 1978/79. Our aim was to teach a forgotten language: the dialogical composition of buildings and space. Paul Hofer's works on the history and theory of urban planning together with 'Collage City' provided the basis of our teaching."* <sup>20</sup>

<sup>20</sup> Bernhard Hoesli, "Kommentar zur deutschen Ausgabe," in Colin Rowe and Fred Koetter, *Collage City* (Basel: Birkhäuser, 1984), 267–74, here 267.

As is evident from the work of both Hofer and Hoesli as well as Vogt's research, the research work being done at the gta was inseparable from the teaching being done in the Department of Architecture. Although the gta did not have any teaching obligations at first and was housed separately from the Department of Architecture, its history is also a history of its ever closer integration into that department.

### **Foundation: gta Archives, gta Verlag, gta Exhibitions**

In January 1967, Vogt penned the following note in his diary: "Organization GTA: ... Began copying Semper's Style III. This is my chance – of an edition almost as worthwhile as Boullée's 'Essai sur l'Art.' The chance of a source edition with commentary." <sup>21</sup> Vogt did indeed demonstrate extraordinary negotiating skills and far-sightedness when he took over the "further study of the Semper Archive" from the ETH Library. According to the Council Minutes, the "members" of the new gta Institute were especially interested in the Semper Archive "because the new institute was to concern itself primarily with the history of the nineteenth century." <sup>22</sup> While the cataloging and administration of the archive were still incumbent on the Main Library, a line of credit of 46,400 Swiss francs "for further work on the Semper Archive" was now at the disposal of "both the Main Library and the Institute for the History and Theory of Architecture, including for the editing and publishing of works on or from the Semper Archive." <sup>23</sup> Vogt's acceptance of the Semper Archive assured the gta Institute not only of material on which to work but of a means of financing that work, which would not have been covered by the 18,000 Swiss francs granted to meet its annual running costs (one research assistant, one secretary, one draftsperson), the one-off sum of 15,000 Swiss francs to be spent on furnishings, and the 50,000 Swiss francs to be used to finance publications. The result was two Semper catalogs:

<sup>21</sup> Adolf Max Vogt, *Notizbuch*, 1967, gta Archives, ETH Zurich.

<sup>22</sup> Schulratsprotokolle (Council Minutes) 1966, "Sitzung Nr. 7 vom 12.10.1966, Traktandum 223, 892," ETH Library, Archives, SR2.

<sup>23</sup> *Ibid.*, 893.

**fig. 6** Giovannella Bianchi, Ebe Gianotti, Paola Giuliani, Werner Oechslin, and Luca Ortelli, "Berlin MCMLXXXIV," site plan of the International Building Exhibition in Berlin, with views of individual projects, 1984. → 132/133



BER  
MCMLX



Fröhlich's of the drawings and Wolfgang Herrmann's of the theoretical writings, which were published as part of the gta series in 1974 and 1981 respectively.

24 Ibid., 891.

One after another, the archives of Gustav Gull, Ernst Gladbach, Karl Moder, and Otto Rudolf Salvisberg were transferred to the gta Archive from the Main Library's "Architects' Archive."<sup>24</sup> The gta also set up an Archiv für moderne Schweizer Architektur (Archive of Modern Swiss Architecture) and acquired estates and collections with which to fill it – proactively until well into the 1970s and since then passively – including those of Hans Schmidt, Hannes Meyer, and Hans Brechbühler. The archive of the Congrès Internationaux d'Architecture Moderne (CIAM), which like the Semper Archive is, strictly speaking, a collection rather than an archive, was installed at the gta at the instigation of Alfred Roth, with the estate of CIAM Secretary-General Sigfried Giedion at its core. Yet the gta Archive was never intended to be an end in itself. As a research facility and center of scholarship, it was there to provide a solid basis for the gta Institute's research and teaching activities. Its profile was thus molded by the institute's own research interests as well as those of its members. Publications like those on Semper, Martin Steinmann's on CIAM (gta 11), and the *Dokumente zur modernen Schweizer Architektur* (Documents on Modern Swiss Architecture) series attest to this, inasmuch as they are all based on the holdings of the gta Archives but at the same time supply a weighty argument for the acquisition of still more new material.

The *Dokumente zur modernen Schweizer Architektur* played an important role in establishing the gta Verlag. The collaboration with Birkhäuser Verlag had been terminated in the mid-1980s, and the last volume in the "Rainbow Series" to be published was the *Festschrift* for Vogt. After a brief collaboration with Ammann Verlag, which resulted in the publication of two major books to mark the centenary of the birth of Le Corbusier and Giedion in 1987 and 1988 respectively, the first *Dokumente* were published in 1985 by the new gta Verlag. Explaining the necessity of this step to the school administration, the then head of the gta Institute, Heinz Ronner, cited the growing, "postmodernist" interest in "historical themes" on the part of "researchers, practicing architects, and hence the ETH itself," to which the gta Institute should be in a position to respond more flexibly.<sup>25</sup>

25 Heinz Ronner to the ETH Executive, March 27, 1985, gta Archives, ETH Zurich.

Ronner, who taught construction and design at ETH from 1963 to 1991, had founded the Department of Architecture's Organisationsstelle für Architekturausstellungen (Office for the Organization of Architectural Exhibitions, OAA) in 1966. Like Hoesli, his aim was to "uphold the best traditions of modernism and to teach



methodical and systematic thinking in architecture with logical, learnable steps, exercises, and teaching materials.”<sup>26</sup> Several pioneering exhibitions were organized under his aegis, among them the 1969 exhibition on Louis Kahn, which was still doing the rounds ten years later and whose catalog remains the authoritative work on Kahn’s architectural oeuvre to this day. <sup>fig.5</sup> Shows on Rossi and Hejduk followed, along with the *Tendenzen* exhibition on Ticinese architecture by Steinmann and Thomas Boga. The OAA was affiliated to the gta Institute in 1975, and with it Ronner himself, who from 1983 to 1985 would also lead the gta. This was a time of upheaval for the gta Institute, however, which despite the launch of its publishing arm was in the throes of a crisis that threatened its very existence.

One founding member after another stepped down: Hofer retired in 1980 and was succeeded by the jurist André Corboz, who from 1967 to 1980 had taught history of architecture at the University of Montreal and had made a name for himself with his work on the interrelationship of town and country; Hoesli died unexpectedly in 1984; and Vogt retired in 1985. So grave was the situation that there was even talk of the gta being disbanded or reintegrated into Department XII, the ETH administration having long regarded it as too expensive, especially given all those cash-devouring exhibitions and publications. That the gta Institute still exists alongside the Department of Architecture today is essentially thanks to two men: Heinrich Ursprung, ETH president from 1973 to 1987, and Werner Oechslin, who first came to the school in 1987 and succeeded Vogt as professor of art history. Oechslin remained head of the gta Institute – with only a brief interruption – until 2006, and it was he, as Benedikt Loderer wrote in an article for the *Tages-Anzeiger*, who “taught the gta to walk again.”<sup>27</sup> But the tide had turned, nonetheless. Vogt, whom Hoesli in a letter once named an honorary citizen of *Collage City*, Hofer, and, above all, Hoesli himself stood for an approach to history and theory that, as Oechslin rightly noted, “sought architects – and not first and foremost fellow art historians – as readers.”<sup>28</sup> Oechslin for his part countered the narrowing of history to how it might be taught and its usefulness to design that had characterized the early days of the gta Institute with the historical (re-)construction in all its complexity and with all its many contradictions – and without ever turning away from the present. <sup>fig.6</sup>

<sup>26</sup> Ueli Pfammatter, “Entwerfen mit Methode und Argumenten,” *Werk, Bauen und Wohnen* 78, no. 12 (1991): 76.

<sup>27</sup> Benedikt Loderer, “Bilder aus dem Fundus,” *Tages-Anzeiger*, February 10, 1987.

<sup>28</sup> Werner Oechslin, “Das Verbindliche und das Schlackenlose: zu Adolf Max Vogts modernen kunstgeschichtlichen Linien und Überzeugungen,” in *Die Hunde bellen, die Karawane zieht weiter: Adolf Max Vogt Schriften* (Zurich: gta Verlag, 2006), 7–9, here 9.

## End of Theory? Philip Ursprung

Philip Ursprung is Professor of the History of Art and Architecture at ETH Zurich.

As with many human beings in their fifties, the fiftieth birthday of the Institute for the History and Theory of Architecture (gta) in 2017 revealed a kind of midlife crisis. This became manifest when the professors of the institute started planning the anniversary. We did not polish motorcycles, but we did tinker with the 1970s “gta” logo until its italics were more slanted, as if we wanted to express the eternally juvenile character of the institution. Nor did we open a microbrewery; instead, we hesitated, unsure whether we should celebrate at all. Were we looking backward or forward? Were we living up to the expectations of the institute’s founders? Had the institute become an anachronistic legacy, or was the best yet to come? Could we draw on the past in view of the development of the future? Eager to find out more about our past but anxious about facing our mirror image, we decided not to hide our uncertainty but to make fruitful use of it instead.

Our uncertainty is symptomatic of something more generalized; namely, that architecture today is in both an atheoretical and ahistorical phase. No theoretical framework, no grand narrative, and no normative system of values offer to orient today’s architects. Neither is there a clear idea of historical continuity. The narrative of “modernism” has lost its relevance, as has the narrative of “postmodernism.” Prognosis — that is, the ability to project the future using knowledge of the past — has lost much of its plausibility. The absence of a theoretical and historical horizon goes hand in hand with the segregation and specialization of the academic disciplines of architectural design, urban design, architectural technology, and architectural history and theory. Much ink flows in these disciplines. New paradigms and concepts are proclaimed. Every architecture biennale, every architecture journal, every architecture school, and even every office and chair is eager to proclaim their own new paradigms, themes, and concepts.

However, these new paradigms, themes, and concepts resemble individual design projects more than overarching theories. The themes that prominent designers such as Rem Koolhaas or Sharon Johnston and Mark Lee proposed for recent biennales — “Fundamentals” for the 2014 Architecture Biennale in Venice or “Make New History” for the Chicago Biennale in 2017 — affirm the attitudes of these designers and their peers, setting the tone for an exchange but not opening up a critical debate. The authority to propose such themes is, with few exceptions, in the hands of designers not theoreticians. The statement has, to some extent, absorbed critical discourse. At our own institute

we research historic and more recent architects, architectural elements, and themes. Yet what we produce is more a historicization of theories of the past than new theories. We react to the proposals of designers rather than actively contribute to the production of theory. Innovation takes place in reference to other fields of knowledge, such as anthropology, sociology, economy, technology, and political philosophy. Today, architectural theory is difficult to grasp. It is evoked as something that was or might be, as a phantom that haunts us or an immanence soon to be made solid. This is why we titled the exhibition that presented an outline of the history of our institute "Phantom Theory." As if it were a promise that has not (yet) been fulfilled, we compared theory to a ghost unable to find its rest.

New institutes – or, "labs" – for digital fabrication are mushrooming throughout the world's universities. Simultaneously, libraries are closing and archives are rotting. Many universities, particularly in the English-speaking world, are reducing their programs in the humanities, especially in the field of history. Today, no university president would want to found a new institute for the history and theory of architecture. Our institute is an "asset" in the newspeak of university administration. The scholarly "output" and "impact" is important and contributes massively to the excellent ranking of the Architecture School of ETH Zurich as a whole. But it is not on the list of fields that are growing or attracting massive investment. The strategic priorities of the ETH include topics such as "health," "digitalization," "big data," and "security" but not "memory," "criticality," or "reflection."

The situation was clearly different at the time of the establishment of the gta. In the late 1960s and 1970s, architectural theory was the future. Animated by the intellectual dynamics and the aspiration for cultural reforms of the student movements, the new generation of architects perceived the realm of theory as an opening in the obstructed discursive environment of twentieth-century architecture. To young architects in Zurich, New York, or Venice, theory must have appeared as a *terrain vague* full of possibilities, ready to be cultivated. It allowed an escape from the oppressive heritage of the heroic founding figures – Le Corbusier, Mies van der Rohe, Walter Gropius, Sigfried Giedion – whose monumental *oeuvres* spanned the century but whose influence had led to a static system of values. Theory offered an alternative to the homogenization of practice and form in the guise of an International Style. It provided new points from which to observe the fundamental historic changes unfolding under the eyes of the alert observers – whether, on the one hand, the decay of heavy industry, the transformation of economies, or the production of

spaces of labor and consumption; or, on the other hand, the independence of former colonies, the need to house masses of people coming from those former colonies to countries such as France, the Netherlands, and the United Kingdom, and the discovery of an architectural heritage beyond Western history. Theory was not seen as something apart from practice but as something within, or as a kind of condensation of, practice.

The gta was not the only institute of its kind established around this time. Peter Eisenman opened the Institute for Architecture and Urban Studies in New York in 1967, too, and launched the journal *Oppositions* in 1973. Many of the most influential voices of the 1980s and 1990s passed through his institute. A genuine institute for advanced studies, its resonance was much stronger than that of the gta, which mainly was set up as a place where education and research met. The Institut für Architekturtheorie, Kunst- und Kulturwissenschaften at the Technische Universität Graz was also founded in 1967, and the Institut für Grundlagen moderner Architektur und Entwerfen in Stuttgart followed in 1968. The journal *Arch+* was founded in Stuttgart in 1968, *archithese* in Zurich in 1971. Practitioners in the early days of these ventures had spare time to reflect on theory because the recession that followed the 1973 Oil Crisis paralyzed the construction industry and left many architects without jobs. Even in Switzerland, which was less affected by the crisis than the former centers of heavy industry in the United Kingdom, North America, Germany, France, and Italy, young architects in the 1970s were confronted with what they called a “vacuum.” Toward the end of the decade and during the 1980s this vacuum was filled with discussions and texts and the production of theory by authors such as Manfredo Tafuri, Charles Jencks, Henri Lefebvre, Kenneth Frampton, Robin Evans, Alan Colquhoun, Fredric Jameson, Anthony Vidler, Martin Steinmann, Bruno Reichlin, Kurt W. Forster, Diana Agrest, Jean-Louis Cohen, and many others. Of course, the past tends to appear in a golden light. We tried to reflect our relation to this period – and the fact that we project our own wishes onto an earlier phase – with a series of lectures entitled “Founding Myths.”

The prosperous phase of architecture theory faded out toward the millennium. Some of the institutes closed; some of the journals ceased to exist. The historicization of theory, and the publication of theoretical texts in readers, started around the same time. Theory lost its autonomy and its critical edge, its role as agent provocateur, its performativity. One finds it in the academic backseat, mostly occupied with its own history. Critical judgment has retreated to the final crits in classrooms or to niches in journals and online publications. Architects have not only delegated,

during the last two decades, responsibility for norms, materials, and techniques to experts, the industry, and the administration; they have also outsourced architectural theory to philosophers and sociologists, mostly of the recent past. The majority of them still quote the same authors who were invoked in the 1970s, as if time had come to a standstill. Furthermore, art, in some respect, has taken over the role of the theoretical horizon. Pop art, minimal art, land art, conceptual art, and more contemporary practices such as installations and participatory performances form points of orientation and critical reflection. Architecture exhibitions, particularly architecture biennales, copy the models of the more established art exhibitions. They form institutions of exchange and discussion and take over much of the function of academe, but affirmation prevails over critical reflection.

Our uncertainty in preparing the gta's anniversary celebration and the many potential exhibition, conference, and lecture formats we discussed correspond to the prudent tone of the current theoretical debate. Unlike in the late 1960s and 1970s, architecture theoreticians do not write manifestos. Rather they gather on panels. The production of meaning in the realm of architecture theory takes place in conversations and roundtables. Interviews have replaced the polemic essay. These malleable forms of interaction allow for immediate feedback and prevent the interlocutors from fixating meaning. Yet they also lead to a culture of compromise and agreement. What is left of theory remains constantly in flux, ready for adaptation and revision, void of normative functions, and virtually deregulated.

Nothing about the current situation is lamentable. Never in history has the time been better for architects; never have the attention, money, mobility, possibilities, talent, and exchanges been greater. What we were interested in was to ask why, in this phase of prosperity and expansion, theory has lost its momentum and impact. Why, in the golden phase of architecture and urbanism that lasted from the early 1980s until the early millennium, did theory become so meager? The roundtable "Perspectives," which gathered a large group of historians and theoreticians, was meant to offer a diversity of voices and generate ideas about the possible future of architectural theory, about new methods and concepts.

One hypothesis is that the very success of architecture in the wake of the economic boom of the 1980s, along with the personalization of the architectural author and their rise to the figure of the star-architect, has led to an absorption of history and theory. The generation entering the world of architecture in the late 1980s brought architecture center stage, made it attractive

to capital, politicians, and a widening public. It also colonized the field of theoretical reflection and autonomous criticism. Theoretical speculation shrank in the shadow of the producers' rhetoric and self-legitimation. In consequence, architecture theory withdrew—or was confined—to a field where it could do no harm. It remained busy with itself, debating two axioms that both stand in the service of the built reality. The first is the opposition of modernism and postmodernism; that is, the debate about the historicist place of architecture. This axiom is based on binary thinking and on the premise that the meaning of architecture relies on its relation to earlier architecture. The second axiom is the idea of urbanization, the mantra that more and more people live in cities. The narrative of urbanization and centralization is also based on binary thinking—placing the urban against the rural—and is in line with the older teleological idea of progress and linear growth. As if someone had thrown a bone to a group of bored dogs in order to divert them or keep them busy, architecture history and theory got entangled in these two unsolvable issues for decades.

The pragmatism, speed, and popularity of the figure of the architect as someone who can realize large-scale projects in every corner of the world led to a devaluation of theoretical speculation. While, in the 1970s, architects' status was defined by what they did not build, since the 1980s their status has depended on their built *oeuvre*. These issues were discussed by a panel that included Eisenman, Kurt Forster, and Jacques Herzog, three protagonists who embody precisely this shift from autonomous theory to absorbed theory. The panel's title, "End of Theory?" included a question mark to emphasize that we are not certain whether theory has actually ended.

The result of the panel, and of most of the other presentations and discussions, too, was actually encouraging. A clear outcome of the meetings was that the disciplines of history and theory of architecture can profit most if they overcome the separation from the designers and planners. Isolation and self-absorption will only deepen the gaps that are separating the chairs and institutes. The midlife crisis of our institute offered a mirror image showing where revisions of the premises and practices of the institution itself can take place. The current latency of history and theory in architectural practice, we found, is an occasion for new beginnings. The fact that so many scholars and students are asking about the current situation of architectural history and theory is also a sign of its vitality and relevance. The absence of a grand narrative leaves room for alternative and contradictory narratives. A large community of scholars already focuses on

the nature and future of architecture theory. Our meetings were packed with people, and the discussions have been ongoing in other formats and at other universities. There might be no more master narrative. But this is also a chance for innovation. Architecture theory, we found out, is obviously building up steam and waiting for its comeback. Perhaps it is already back. To subsist, it depends on institutions, on places where theory is taught, made, distributed. The aim of our institute is to continue to offer this support, act as a place of production and encounter, and be a basis for change.

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**Laurent Stalder**

**Introduction**

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