PUBLISHER: Institute for Philosophy and Social Theory, Kraljice Natalije 45, Belgrade, Serbia; Tel: +381112646242; E-mail: institut@ifdt.bg.ac.rs; Website: www.ifdt.bg.ac.rs

ELECTRONIC ACCESS: All articles published in *Khōrein* are available online at: khorein.ifdt.bg.ac.rs.

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ISSN 2956-1892 (Print)
ISSN 3009-3805 (Online)

Page Layout: Sanja Tasić

Printed in Belgrade, Serbia by Alta Nova; 200 copies. The price of one print issue is 1500 RSD/15 EUR/15 USD. The annual subscription price (2 issues) is 2500 RSD/25 EUR/25 USD. A printed copy can be ordered at khorein@ifdt.bg.ac.rs.

UDC 1+72 ISSN 2956-1892
e-ISSN 3009-3805

χōrein

Khōrein: Journal for Architecture and Philosophy

VOLUME II, Number 1

Change

Guest Edited by Catherine Ingraham

Published by the Institute for Philosophy and Social Theory
Belgrade, 2024

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BOOK REVIEWS

 DOI: 10.5281/zenodo.11486448

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Endless Change

Three phrases from John Ruskin, "Desire of Change," "Love of Change," and "Perpetual Change," serve to orient and give conceptual background to what we call—never fully understanding it—*change*. We have selected "change," transgressing the limits of a concept that is more than just a concept or even modal concept, but is the necessary part of any possible and future concept. We mark *change* in new ways, insisting on its infinite creative capacity to determine any potential architectural or philosophical act as such. It is ultimately an imperative and the mission of our engagement in reconstructing bonds and relations between architecture and philosophy. When we say Change or Changing, it is not just a noun or verb, not a description of something that is "instant" (change) or product (an end state) or process of production or actualization (of change), nor even a chain of events—rather, it is an imperative, order, and call to all to act, do something, create, to perpetually affirm the new. When we say CHANGE, we doubly bind the architect and the philosopher: as agents of various actions that necessarily have as their consequence some change, as well as initiators of the creative potential of change as such. Regardless of the complicated histories of failure and lack of thematization of this "protocol" (a word that also fits well with everything to do with *change*), our intention is to determine as closely as possible the direction in which the unfolding and presence of *change* is not an obstacle or resistance to the revealing of novelty (newness or precedent), but its unconditional condition. What would comprise the basic elements of a possible prolegomena or introduction into the theory of change? Or conversely, what needs to be immediately rejected as unacceptable in the construction of a continuous concrete change or continuum of myriad changes? Change begins with a glut of activity, with swift and urgent exchange of various actions, with repetition and exchange of actions and agents, with their interchange and effacement. Such is the origin of change. The number of actions or amount of activity provides the introduction for

any future construction of the concept of change. Aside from time (as it is a continuum), the exchange and quick transition of activities is an introduction into the connection between movement and change (in Aristotle, the words *metabolē* [change] and *kinēsis* [movement] stand in a complex symmetry or synonymy; Latin will take over these difficulties through *mutatio*, *alteratio*, etc.); further, it leads to endless shades of change (not all cut of the same cloth: substantial, incidental, relative, relational, proper, incomplete, accidental, etc.); it leads to the myth of invisibility of change, which is to say, negation and erasure of acts in the name of something as yet unachieved new or even (im)possible (the eternal *noch nicht*). We would like to assume and propose a few axioms of the "protocol of change" or "acts or facts of changing" that necessarily follow from the connection or from the *"and"* (in architecture *and* philosophy or architect *and* philosopher):

(a) "Change" can be classified as an "architectural" notion because it necessarily refers to movement, to "Spatial Relations: Place, Form, Size" (Carl Darling Buck).

(b) The architect and philosopher necessarily see not what is but what is yet to be or yet to be seen; at least three consequences follow: that what is real or actual is necessarily such as potential and in the process of becoming (as Hermann Lotze writes, "change must find its way to the inside of being"); what is actual is amended and corrected, erased and varied to better fit the concept that intervenes and produces the actual; the expression of the concept (a manifestation of the projective mind) is announced, noted, and visible.

(c) Change is verifiable, it is necessarily present and objective, it can be thought and perceived (in opposition to Henri Bergson); finally, architecture does not exist without the concept of change because change is perpetual modification of the objectification of the concept.

(d) Change is thus substantive and corresponds to the fourth designation in Aristotle concerning the "creation and destruction of substances" (Richard Sorabji, Norman Kretzmann); this means that form is compatible with the concept, and that true change is two-way: creative—when matter becomes the statue, for example; or destructive—when matter is de-formed, losing its distinction from its surrounding, becoming a ruin.

(e) "Change" can thus never be *une notion vide et abstraite*, nor ever be substituted with "transformation" or "a system of transformation" (as Michel Foucault seeks to make it), which are no more than accidental

alterations or simple shifts (*phora*), and not movement or change ("actuality of that which potentially is").

> That this is change is clear from the following: when that which is buildable is in actuality, in the respect in which we call it such, it is being built, and this is the process of building; and similarly with learning and healing and rolling and jumping and maturing and growing old. (Aristotle, *Phys*. 209a 15–18, trans. E. Hussey)

 DOI: 10.5281/zenodo.11486504

Catherine Ingraham*

The Word and the Work: (Dis/Con)junctions and Other Encounters with Change

By way of an introduction, I want to allow the assigned word to do at least some of the work. If words have economic value apart from their contexts, *change*, unlike *and* (which was the assigned word in *Khōrein* Nos. 1 and 2), is expensive. Whether deployed as noun or verb, there are high administrative costs. This word is not conjunctive. It breaks conjunctions in its insistence on restless and unpredictable work that takes time to unfold. It requires research into histories, speculative thinking, stochastic predictions, future and past scenarios. Even if we chose to stabilize it as merely change in a purse or pocket, one cares nothing about it as a piece of metal or paper. We see it more as a potentiality for spending. Change in the pocket, as with many technologies, is like a source of power (however small) waiting to be plugged in.

The word *and* would also seem to stabilize the relation between architecture and philosophy, whereas *change* disrupts this relation. The essays in this issue contend with disruptions, chiefly in architectural contexts that make both overt and subtle uses of philosophy, theory, and historiography. It seems not only interesting but right to first approach *change* as a force or a *tour de force*, as one of the essayists, Anna Neimark, would have it. Even if change is beneficial, which it often is, it seems to begin with a disruption of some kind, however small.

Aaron White writes, in the beginning of his historical run-up of architectural confrontations with *change* in this issue, "in the beginning [of nature, life, ideas, things] was the change." White's essay, which tries to honor the urgency that the pressure of change often demands, frequently returns to the word "parallel" in order to attach visits to different epochs to Lucretius's *clinamen* (the swerving of atoms that creates the

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world). Theorists throughout architectural history, White argues, feeling the pressure of change, consistently (although not always) resort to theories that ground and codify architecture, resisting change and classifying stature. The concept of beauty is one of the actors in these attempts.

White's essay helps reveal seminal dilemmas associated with bringing architecture into the aura of *change*. One of these dilemmas is architecture's loyalty to two conflicting concepts: design on the one hand and material practice and construction on the other. Both of these concepts are at work in the discipline as well as the practice. The first, design, which is associated with theory, ideas, plans, precedents and a multitude of other influences, as Anna Neimark notes in her sharp and specific essay about pedagogy and buildings, moves forward toward both intended and unintended *change*. The second, material construction, falls back. Neimark uses the construction of a fort, where walls are built to weather attacks and interiors are built to house, in a domestic fashion, those who are not fighting, the rear-guard. This set-up is what she calls "the geometric abstractions of war." The resistant rear-guard in architectural training and work is the "how" of the work rather than the "what" of the work. Materialization resists change but must accommodate it. And, as Vitruvius is said to have said, not only to accommodate but also to produce "delight," which is embedded in the design.

I will address "delight" shortly but want first to note Manfredo di Robilant's essay, which addresses the mechanics and technologies that inevitably become embedded in architectural design and building. That this embedding comes from outside, rather than inside, architecture's domain is relevant to di Robilant's not uncommon argument that architecture's hubristic beliefs about its influence are mistaken. Linking architecture and allied technologies has always fostered competition about origins of disciplines and practices and this essay thus enriches, in various ways, the conflict between design and construction by bringing significant changes in technological inventions and innovations into play. One could say, in relation to change as a force, that there is no question that we are in the midst of technological force-fields. At the same time, while the boundaries of "architecture domains" are perhaps more porous than implied, architecture is a discipline as well as a practice, which differentiates (in relation to technology) its approach to design and building, invention and innovation.

Delight, more agile than beauty, opens other doors to dynamic and disruptive design and a resistant, grounded building. Mark Rakatansky's

essay, which argues for the historiographic possibility (to architectural historians in particular) of there being more than one architectural antiquity, takes us on the path to an alternative antiquity. An antiquity in which Vitruvius is challenged by significant tendencies in the Renaissance toward architectural hybridity and monstrosities based on new interpretations of archaeological discoveries of ancient Rome. One of the greatest monstrosities is the failure of architecture's belief that a building's structure should be legible. Hybridity muddles the places where delight, redefined as grotesques, might land. Changing originary sources of classical architecture from static and statuesque columns to ornate and pagan elements disturbs a history that has acted as a spine in architecture's understanding of its past. Such a change reaches deeply into social systems of all kinds.

While the disruption of our theories of antiquity, paradigmatic shifts that often seem to happen behind our backs, the enormous expense of realizing design, as well as matters of ordering and disordering, moving and stasis, stability and chaos, are unavoidable in architecture's confrontation with *change,* there is also the crucial force, noted in Lucretius's swerving, of *poiēsis*, generative development. Lisa Haber-Thomson's essay, which is about the peculiarity of architectural metaphors in legal narratives, argues that architecture can catalyze changes in law. One would imagine that law's job—English common law in Haber-Thomson's case—is to tame or at least restrain serendipitous change. And so it tries to do. Yet to do so, as Haber-Thomson points out, it frequently appeals to architectural metaphors. It uses these metaphors as illustrative tools that vivify "perceived dangers [...] [in] underlying proposed changes in law." Common law, unlike civil law, is based on precedents. Precedents build up over time and become a "big house with many rooms," as one judge in the latter part of the twentieth century remarked. "Though law is still often seen as a text-based discipline," Haber-Thomson writes, "architecture appears to be a longstanding part of the furniture of the mind in English legal thought." The dilemma that faces common law is how to codify and idealize legal systems while allowing for interpretations of the law that correspond to one's own time. An instance of change as an interpretation of law that appealed to architecture for its digression from normative practices was Bentham's panopticon, which catalyzed, as Haber-Thomson notes, the shift in "legal practices of imprisonment." It bears noting that reliance on precedents, codifying iconic styles, and interpreting and changing to remain relevant to one's own time also applies to the discipline and practices of architecture and philosophy. It seems, as well, that change, even

well-planned change, almost always encounters, in its enactment, serendipitous elements. The "change-order" routinely used in construction, mentioned by Aaron White, is at least one piece of evidence of the wilderness we enter when change is in motion.

At least two of the essays diverge from definitions of change that we are most prone to follow. The first is Spyros Papapetros who locates, in a meticulous analysis of Gottfried Semper's *Style in the Technical and Tectonic Arts, or, Practical Aesthetic*, an absence of "change-as-a-shift" in favor of change as "a form of oscillating constancy." The force of precedents is again felt here, as is the potential of cyclical change, a return of the same that can never exactly recreate the same, thus making it a quasi-change. Papapetros, whose essay looks at change through the lens or apparatus of *interchange*, finds, in Semper's work, definitions of "theory" as motifs or types that overlap with "history" as raw or prepared material; an overlapping that cannot be sorted out. This overlapping poses, again, a difficulty not unlike the Ur-problem of design vs. building. But the upshot, in Papapetros' analysis, is not to finalize this separation with a "vs." or virgule, but to keep change as a non-linear oscillating constancy.

The second is Sanford Kwinter's essay, which does not speak directly to architecture but presents theories of perception and apprehension in relation to that which is perceived and apprehended. This essay changes the register of inquiry into the word *change*. It poses the problem about what change "reveals" in relation to our metabolic construction of the universe through our cognitive system of perception and apprehension. Kwinter writes, "[f]or in our inner and outer world, salience is what change reveals [...]." Perception by humans and other species means not only to select things from a plethora of possible things but also to apprehend these things in order to construct a milieu within which to organize life. In selecting and apprehending this or that thing, Kwinter writes, we have not "gained a product" but an "enhancement of potential." We better understand "how [...] information, form, or pattern is activated in the world." The things we select are what Gregory Bateson called "the difference that makes the difference," and the word "potential" includes "domains of the mind," evolutionary theory, the First and Second Laws of Thermodynamics, and other systemic territories.

I will end my introduction here, in the midst of these provocations and crossing thoughts. We, as architects, historians, and/or philosophers, perceivers and apprehenders, have experimented with this slippery word, *change*, and, to some degree, found contexts within which to track its

operations. I only recently learned that the word *khōrein*, which is a verb "related to *khōra* or *khōros*, means to go forward and be in flux, but also make room for another." The "going forward" is here in more than one way, and the "in flux" too, but who or what the "another" would be I leave to the founders of this creative and rigorous journal.

Original Scientific Article
DOI: 10.5281/zenodo.11483499
Received: March 23, 2024; Accepted: May 7, 2024

Spyros Papapetros*

History's *Stoffwechsel*: Interchange and Alternation in the Contents of Semper's *Der Stil*

ABSTRACT: Compelled by the shifting socio-cultural conditions of architecture's present, the strategy of this brief contribution to the theme of "Change" is to move approximately a century and a half back and focus on a formative moment for architectural histories and theories. The main object of the essay is the process of *interchange* between theory and history during the emergence of the first so-called "world histories" of architecture in the 19th century. I choose to focus on the writings of architect and theorist Gottfried Semper, whose writings have made a theoretical contribution to the invention of architectural history within the shifting cultural and political milieu of the long nineteenth century. More specifically, I describe the interchange between history and theory that takes place in his *Style in the Technical and Tectonic Arts, or, Practical Aesthetic* as reflected in the asymmetrical relations between aesthetics and form, as well as technics and history in the author's table of contents. Ultimately, the essay presents Semper's well-known metabolic concept of *Stoffwechsel* as a historical process based on an oscillating constancy of aesthetic, material, and technical forms.

KEYWORDS: Gottfried Semper, historiography, architectural theory, style, metabolism (*Stoffwechsel*)

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Prolegomena

More than fifteen years ago, when I was asked to curate the lecture series of Princeton's School of Architecture for the fall semester of that year, I chose the one-word theme "Change." The rather abstract prompt sent to invited speakers read approximately as follows:

> Perhaps the problem with change is that its concept has not changed. Once new technologies or building patterns replace older systems, they become equally rigid and unchangeable as their predecessors. Is it possible to think of change as a dynamic process—a constantly evolving process that includes accidents, periodic shifts, or reinvocations of earlier epistemological techniques and working methods? And how can architecture, a discipline traditionally associated with permanency and solidity delineate such spiraling transitions? Can change be contained by mere provisions in the program and the supplementation of innovative materials? And can it be substantially revamped by a "new style" or "new attitude"? Surrounded by a world of major social and political upheavals, architects, theorists and historians, are asked to reflect on how we can modify the ways change is perceived and created while transitioning from a historical to a contemporary perspective and from a local to a global scale.[1]

The lecture series happened in the fall of 2008, the year of a U.S. presidential election, in which the winning party campaigned under the banner of "Change," spearheading an unprecedented political transition. Little could we suspect then of the outcome of future elections inside or outside the U.S. that had a vastly different and strongly reactionary attitude towards change in politics and culture, including architecture, calling for a return to hyperinflated monumentality.[2] While ruminating on the bewildering changes that happened during the decade and a half following the Princeton lecture series, I find myself writing an article on architecture and change in response to the invitation of Catherine Ingraham and the *Khōrein* editors during another election year in the U.S.,

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[1] Lecture Series on "Change," School of Architecture, Princeton University, Fall 2008. Statement modified.

[2] See for example the recent discussion of architecture in populist contexts in J. W. Müller, "Populism's Building Complex; or: Is There Such a Thing as Populist Architecture?" *Journal of Populism Studies*, 2023, pp. 1–15, https://www.jps.populismstudies.org/populisms-building-complex-or-is-there-such-a-thing-as-populist-architecture/ (accessed 1 June 2024).

whose result prognosis is disconcertingly changing every week. During the years following the last two elections, collective movements in the areas of social and environmental justice have stridently called for systemic changes in all fields, including architecture. The inequitable relations marring architecture's professional and educational circles also necessitate a revision of its many histories and theoretical stances. Compelled by the shifting realities of architecture's present, the strategy of this paper is to move approximately a century and a half back, and focus on a formative moment for architectural histories and theories during an analogously turbulent political era. I refer to the moment of the institutionalization of architectural history and theory in professional schools and voluminous book publications in response to the shifting sociopolitical environment of the mid-19th century informed by a rapidly industrialized and increasingly globalized economy bolstered by colonization.

The object of this necessarily brief essay, only a prolegomenon to or fragment of a larger study, is the process of change or rather the *interchange* between theories and histories during the emergence of the first so-called "world histories" of architecture in the 19th century, which have lately become the object of renewed interest of study.[3] To do so, I choose an author that is not normally examined in relation to these voluminous histories, yet whose writings have made a theoretical contribution to the invention of architectural history within the shifting cultural and political milieu of the long 19th century.

I refer to Gottfried Semper and the interchange between history and theory that takes place throughout his writings on art, architecture, and design and more specifically his major opus *Style in the Technical and Tectonic Arts, or, Practical Aesthetic*.[4] Here, I am less interested in the technical shifts described in Semper's well-known formulation of "material change" via his use of the term *Stoffwechsel* but rather his tracing of historical change as well as history's shifting relation, including synergy and

[3] P. Brouwer, M. Bressani, C. D. Armstrong, *Narrating the Globe: The Emergence of World Histories of Architecture*, The MIT Press, Cambridge, Mass., 2023.

[4] G. Semper, *Der Stil in den technischen und tektonischen Künsten; oder, Praktische Aesthetik: Ein Handbuch für Techniker, Künstler und Kunstfreunde*, vol. 1. *Die textile Kunst*, Verlag für Kunst und Wissenschaft, Frankfurt am Main, 1860 (2nd edition: Friedrich Bruckmann, Munich, 1878); vol. 2. *Keramik, Tektonik, Stereotomie, Metallotechnik*, Friedrich Bruckmann, Munich, 1863 (2nd edition: Friedrich Bruckmann, München, 1879). English edition: *Style in the Technical and Tectonic Arts*, The Getty Research Institute, Los Angeles, 2004.

resistance, with his "theory of artistic forms (*Kunstformenlehre*)."[5] Historiographic change is not limited to temporal transitions but expands to a multitude of spatial and epistemological shifts that agitate the very structure and texture of history. The grey area of interchange between fluctuating physical and epistemological parameters becomes the oscillating ideogram of a historiographic version of the architect's theory of material change or metabolism (*Stoffwechsel*).

The main question apropos change in the collision of historiography and biography in Semper's case is the following: What is the historical attitude towards change of an architect who has witnessed the prospect of radical transformation in the emergence and collapse of a major political revolution? What is the role of writing, architecture, and the production of books in the aftermath of an aborted shift that provoked a vast historical trauma in European societies, as well as a personal catastrophe in the architect's life and professional career? In Semper's writings, architecture's relationship to change remains perpetually parabolic; like the revolution it never reaches its goal yet it is propelled by its very failure to do so. Parabolic transformation present in the dynamic form of the ancient projectiles, the architect spent several years of his life trigonometrically calculating[6] as well as the shape of the tails of comets he described (after Newton's *Principia*) in a long footnote of his Prolegomena to *Style*[7] is the graphic emblem of change, allegorizing the dynamic transformations of nature within the curvilinear forms of ancient architecture. And yet there are plenty more transformations happening in the compendium of *Style* that take place beyond the formal level on the domain of physical, socio-political, and architectural revolutions, all of which become part—as is the norm in histories delineated by architects—of an elaborate design.

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[5] See alternate book title "*Kunstformenlehre oder der Stil*" in printed preliminary inner title page of *Der Stil* with handwritten emendations by the architect dated 1859; reproduced in W. Hermann, *Gottfried Semper: Theoretischer Nachlass an der ETH Zürich Katalog und Kommentare*, gta-Birkhäuser, Zurich, 1981, p. 138. On Semper's unpublished manuscript on "*Kunstformenlehre*" (1856), see E. Chestnova, *Material Theories: Locating Artifacts and People in Gottfried Semper's Writings*, Routledge, London/New York, 2022, pp. 150–152.

[6] G. Semper, *Über die bleiernen Schleudergeschosse der Alten*, Verlag für Kunst und Wissenschaft, Frankfurt am Main, 1859.

[7] G. Semper, *Der Stil in den technischen und tektonischen Künsten; oder, Praktische Aesthetik: Ein Handbuch für Techniker, Künstler und Kunstfreunde*, vol. 1, pp. xxxv–xxxvii; G. Semper, *Style in the Technical and Tectonic Arts*, pp. 98–100, n. 13.

Alternating Tables

Attentive readers of *Der Stil* may notice a certain asymmetry between the table of "contents (*Inhalt*)" of the first and that of the second volume of the architect's incomplete magnum opus—a difference based on size as well as a change in format that remained unchanged in both editions published during the architect's lifetime.[8] The table of contents of the first volume on "Textile Art" is considerably longer and more analytical than the much shorter and epigrammatic table of the second volume listing only the titles of the "main chapters (*Hauptstücke*)" on ceramics, tectonics, stereotomy, and metallurgy. And yet following the first volume's initial sections, including the theoretical foreword of the "Prolegomena," the first main chapter of the "Introduction" and the second" equally introductory *Hauptstuck* on the "classification of the arts," the voluminous exposition on "Textile Art (*Textile Kunst*)" contains only two "main chapters," on the "General-Formal (*Allgemein-Formelles*)" and the "Technical-Historical (*Technisch-Historisches*)" aspects of textiles, similar to the bi-partite chapter structure of the sections on ceramics, tectonics, and stereotomy in the second volume, yet not in the final section on metallurgy, which notably contains only one chapter.

The author's twofold investigative method alternating between the "General-Formal" and the "Material-Historical" aspects of artifactual techniques are eventually numbered by the architect as "A." and "B."; and the Roman numbering is periodically repeated in each of the first four sections of the *Style's* second volume. No trace of "A and B" exists though in the first volume of *Der Stil*—neither in its first nor its second "revised" edition of 1878, in which a correction in the table of contents could have easily been made.[9] Perhaps in an effort to streamline the contents of both original volumes in a single tome, the English translation of *Style* edited by Harry Mallgrave for the Getty Research Institute's "Text and Documents" book series extends the "A and B" order in the table of contents of the first volume for the two main chapters on textile art, while foregoing their analytic descriptions.[10] The original table of contents of the first volume in the German editions of the work may lack the letters "A." and "B.," yet they contain an analytic list on the "General-Formal"

[8] The first edition of the two volumes of *Der Stil* were published in 1860 and 1863 and the second "revised" edition in 1878 and 1879 (see note 4 in this paper).

[9] Cf. "*Inhalt*" in both volumes of the two German editions (see previous note).

[10] G. Semper, "Contents," in *Style in the Technical and Tectonic Arts*, p. v.

which becomes significantly more elaborate for the "Technical-Historical" aspects of textiles. The first subsection list ("General-Formal") contains the "primary objectives (*erste Zwecke*)" of textile arts, including the "string (*Reihung*)," "band," "cover (*Decke*)," and "seam (*Naht*)" motifs and the second ("Technical-Historical") three different "style" classifications following the "mode of preparation according to the raw materials (*Rohstoffe*)" including "animal furs (leather)," "caoutchouc [rubber]," "lacquers," "flax," "cotton," "wool" and "silk" and according to the forms in which these materials are weaved including "bands and threads," "knots," "loop stitch," "plaiting," "weaving," "stitching" and "dyeing." The volume closes with two additional subsections on "Clothing (*Kleiderwesen*)" and an analytic description of the "Principle of Cladding in the Art of Building (*Das Prinzip der Bekleidung in der Baukunst*)" according to several ethnicities and regions, starting from New Zealand and Polynesia, China, India, Mesopotamia, Phoenicia and Judea, Egypt "(Old and New Kingdom)," Asia Minor, Greece, and Rome and concluding with the historical periods and corresponding geographies of "Eastern" and "Western" Middle Ages and finally the (Italian) Renaissance. Note that the actual text of the book contains several other motifs, materials, technical forms, and ethnic or national groups not mentioned in the table of contents, such as the "hem" and "floor dressings" in "general" motifs, or the "neglected technique of furriery" among the treatment of natural materials including "tree bark." Finally, in the section on national cultures, Chaldea and Assyria are also not present on the table having been subsumed under a large section on "Mesopotamia." The table of contents is more or less a selective abstraction of the book's opulent accumulation of objects, materials, techniques, and ethnicities. Moreover looking at the contents of the first volume as a whole, it might appear that its final section on "Cladding (*Bekleidung*)" carries most of the weight of history including the rather infamous baggage that comes with it *vis-à-vis* the racially charged distinctions made by the architect about the architectonic skills of these inequitably equipped peoples.[11] And yet such "historical" classifications are not limited to the section on cladding but expand to the rest of the "technical-historical" or even the "general formal" motifs of textiles.

[11] C. L. Davis II, "Beyond the Primitive Hut: Gottfried Semper and the Material Embodiment of German Character," in *Building Character: The Racial Politics of Modern Architectural Style,* University of Pittsburgh Press, Pittsburgh, 2019, pp. 70–112.

In spite of its omissions, the elaborate table of contents for the first volume makes evident the *Style*'s main structural order alternating between the general forms of theory and the objects or subjects of history. Theory is represented by general "motifs" or "types" and history by raw or prepared materials, techniques, clothing, and peoples. There is however an obvious spilling or overlap between these theoretical and historical categories. For example, "bands" appear both in the "General-Formal" and the "Technical-Historical" chapters. And could not the section on the "knot," made popular by Semper's signature drawings of looping cord knots, which is actually placed in the "Technical-Historical" section, also fit in the "General" area among the formal "ur-motifs" of strings, bands, and seams? A possible motivation behind such dis/placement might be that the "knot" is tightly linked by the architect to the constructive techniques of "netting" and "plaiting" that give birth to the mat and the carpet and eventually the fence and the wall. Every "historical-material" object contains a "theoretical-formal" type at its inner core. A covert change among the manifold objects of history discloses a constancy and persistence among theoretical types. The band and the knot are caught up with the technologized forms of life and so they end up switching positions in the architect's carefully *tectonicized* table. In spite of its linear order, the table itself is a living form of organization mobilized by the virtual or physical transpositions that take place in its rhythmic chapter list.

Speaking of the text's structural transpositions, note also that the chapters titled "General-Formal" in the sections on "Textiles" in the first volume and "Tectonics" in the second are alternatively titled "Aesthetic-Formal" in the sections on "Ceramics" and "Stereotomy" also in the second volume. Thus, the terms "General" and "Aesthetic" alternate throughout the table of contents of this volume. When does the "aesthetic" substitute or become the "general" or how far can Semper's "practical aesthetic" be generalized? The table itself constructs a "general-aesthetic" practice that converts or generalizes the "aesthetic" into a subtle interchange with all other terms that participate in the architect's table. Perhaps ultimately, the essential change lies in the dash that connects the "aesthetic" or the "general" with the "formal" as well as the "technical" with the "historical" in a single formulation generalized in the title and the content of each chapter. The reciprocal transformation of the "aesthetic" to the "general" and vice versa not only restructures the ecology of the book's contents but also informs the architect's historical *method* and the way he partitions his text, which ever so slightly shifts while moving

towards the conclusion of the second volume, yet only to reaffirm that his historical pattern has *essentially* stayed the same.

The table's covertly pliable structure is indeed rehearsed in the sections of the second volume on ceramics and tectonics in which the divisions between theories and histories become even more porous. However, in the section on stereotomy, the architect notes the difficulty in maintaining the "order," meaning the partition between "form" and "material" or "aesthetics" and "history" he had followed so far:

> Thus, the technique with which we are concerned [stereotomy] would seem to lack its own distinct domain for its most frequent and most important applications. If this were true it would be difficult to keep to the sequence observed up to now, according to which questions about absolute functional-formal matters are dealt with first, and technical-historical matters follow. But did stereotomy in fact have no domain original to it? If one could be identified, or attributed to it with some justification, that would provide a starting point that would justify abandoning the sequence of ideas we have followed until now.[12]

And while in the section on stereotomy the division into A. and B. is even schematically preserved, the same methodological design "sequence" collapses in the *Style*'s final part on metallurgy:

> Metalwork was promised a heading of its own, to come at the conclusion of volume 2, even though it is not possible to define a separate formal field for it. As no fifth field can be added to the topics of weaving, pottery, carpentry, and masonry, we must now abandon the order followed so far. There is no need for a special chapter on general-formal matters, because everything contained in chapters 3, 5, 7, and 9 is also relevant to the metalworker's art. The flexibility of his material embraces all branches of technology, which the metalworker simply handles in his own way, conditioned by the material. Thus, stylistic questions of a technical-historical nature are all we have to consider in this field. We can also deal with this as briefly as possible, given the limits of our book and its purpose (which is aesthetic rather than technological), and by referring the reader to earlier material.[13]

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[12] G. Semper, *Style in the Technical and Tectonic Arts*, p. 726.
[13] *Ibid*., p. 824.

In other words, there's nothing left to be said about the "General-Formal" side of metallurgy because everything has already been analyzed in earlier sections on all other techniques preceding textually, but not historically and against archaeological evidence, the development of metallurgy—one of the architect's starting points in his first explorations of the world of objects.

According to the logic of *Stoffwechsel*, formal patterns stay essentially the same while transitioning from one material to the next by leaving a physical imprint.[14] New material embodiments carry their predecessors from other species of matter in their unchangeable forms, as in the transition from the wooden to the marble Ionic capital in Greek architecture illustrated in the second volume of *Style*.[15] Here it is metal, and before that stereotomy and stone, that regurgitated all forms previously crafted in textiles, ceramics, and tectonic wooden structures. If we conceive of change as a shift, then the latter does not actually exist in *Stoffwechsel*. Material change and the alternation of chapter "types" construe a form of oscillating constancy—the advent, prologue, or the aftermath of a historicized view of architectural theory.

The continuity afforded by the dash in the table's terminological combinations and the oscillating constancy of its alternating substitutions disclose that perhaps the subtlest stylistic change in *Der Stil* are the methodological shifts *enacted* by the historian rather than the material developments described by the architect, even if the two *are* or through the transformations unfolding in the book eventually *become* the same person.

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[14] From the growing literature on Semper's concept of "*Stoffewechsel*," see the recent articles by E. Chestnova, "The House that Semper Built," *Architectural Theory Review*, 21, 1, 2017, pp. 44–61; M. Gnehm, "Gottfried Semper et le métabolisme du revêtement architecturale," *Gradhiva*, 25, 2017, pp. 106–123; M. Espagne, "Gottfried Semper: histoire de l'art et politique," *Revue germanique internationale*, 26, 2017, pp. 71–82 (on *Stoffwechsel* p. 80).

[15] G. Semper, *Der Stil*, vol. 2 (1863), p. 262.

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DOI: 10.5281/zenodo.11483728
Essay Received: March 2, 2024; Accepted: May 5, 2024

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A Report on War and Peace: Notes from the Design Trenches

ABSTRACT: Based on a series of courses, beginning with a studio at the Southern California Institute of Architecture (SCI-Arc), this essay explores the American fort as a precedent in design. It refers to fortifications as geometric abstractions of war. The argument traces the forts' genealogy to tactics of projection, developed by French military engineers, Sébastien Le Prestre de Vauban and the marquis de Montalembert. Conflating projectiles of mortar with projections of line and CNC tool paths, the essay proposes a practice of design focused on *tour de main* techniques. This figurative term becomes an alternative to the *tour de force* monuments of the avant-garde's compulsion for change. In these wars of abstraction, the rear-guard emerges from the design trenches as the harbinger of stasis.

KEYWORDS: avant-garde, cavalier perspective, fortification, rear-guard, stasis, *tour de force*, *tour de main*

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Change is fundamental to the language of warfare: the exchange of gunfire, a regime change, a changing of the guard. By contrast, stasis fends off change from happening, defending equilibrium, even peace. One historical building type that negotiated attack and defense—change and stasis—was the fortress. Its external figure was regulated to resist cannon fire with calculations that incorporated the impact of ballistics on stone walls. Its internal form, meanwhile, often included the layout of barracks and other elements of domestic arrangement.

In the United States, military fortifications, such as Fort Sumter, where the American Civil War began in 1861, and Fort Pulaski, where a Confederate garrison surrendered in 1862, continue to serve a historical and political function. Managed by the National Park Service, they are public parks, museums, grounds for battle re-enactment, and material sites for forensic research. About two dozen structures belonging to the Third System of defense still populate the Atlantic, Gulf, and Pacific Coasts. Although the forts no longer function as architectural negotiators of war and peace in contemporary combat, their analysis sheds light into techniques for battling change and representing stasis.[1]

In a series of courses, beginning with a studio that I led at the Southern California Institute of Architecture (SCI-Arc), the American Fort served as a pedagogical instrument, a Ship Argo that mobilized the monument anew. We compared the process of re-drawing and re-constructing the precedent to Theseus's mythic vessel that was rebuilt, part by part, in the name of preservation.[2] The ancient paradox represents the original conflation of stasis with change; at one and the same time, the ship could

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[1] Historical analysis of the forts traces changes in U.S. history through the sites of these monuments. Consider, for example, that the planning and construction of Fort Pulaski was overseen by the soon-to-be Confederate General Robert E. Lee when he was a U.S. Army Engineer. While his equestrian statue was removed from Richmond, Virginia, in 2021, following protests in the wake of George Floyd's murder, his works of engineering continue to occupy the American seashore. It is possible to touch the fingerprints of enslaved men who had been forced to make bricks for the fort in a nearby plantation, because they are imprinted in the bricks' surface. After the fort's seizure by the Union army, Pulaski became the final stop along the Underground Railroad. Anon., "Words Have Power: Fort Pulaski National Monument," National Park Service, https://www.nps.gov/articles/000/words-have-power.htm, (accessed 2 March 2021).

[2] "The ship on which Theseus sailed with the youths and returned in safety, the thirty-oared galley, was preserved by the Athenians down to the time of Demetrius Phalereus. They took away the old timbers from time to time, and put new and sound ones in their places, so that the vessel became a standing illustration for the philosophers in the mooted question of growth, some declaring that it remained the same, others that it was not the same vessel." (*Thes*. XXIII, 1) *Plutarch's Lives*, vol. 1, Harvard University Press, Cambridge, Mass.; William Heinemann, London, 1967, p. 49.

be interpreted as both changed and unchanged, as an original and a fake. In studio, modeling the forts re-enacted and altered the original monument's meaning in similar ways.

The syllabus introduced the course with a description of Samuel Holland's drawing for a 19th century Canadian fort, a landscape under the siege of visual representation (Fig. 1). Grey smog forms the terrain's natural contours. Multiple layers of wash accumulate into a cloudy outline on a strategic hill. A dark shadow indicates the depth of a steep cliff. Along its murky edge, a burnt sienna line strikes a tactical boundary. At every corner, bastions project the pentagon's perimeter into a pointed star, rippling to form undulating embankments: banquettes, parapets, scarps, ditches, and glacis. In this strategic plan, Holland dissolves the monumental figure of a fortified citadel into a dynamic field of visual effects. This abstract geometry superimposed upon the land is a beautiful apparition in its own right; it is also a practical document for construction. Built in 1820 by the British forces to defend against an American threat, the fort of Quebec is one of dozens that materialized the geometric abstractions of war on the Atlantic coast of this continent.

The pedagogical intent of introducing the studio with a drawing was to focus the students' attention on the geometric details and atmospheric qualities of fortress projection. After all, projection of line work is intimately related to projectiles of cannons and mortars: both are vectors in need of a target, be it paper, masonry, or earth.[3] In his discourse on fortifications, Louis XIV's engineer, Sébastien Le Prestre de Vauban, also introduced this military art with a description of fundamental terms. From point to square to pyramid, he developed a guide for applying geometric principles to the geography of the ground. The exercises for constructing equilateral triangles using arcs, calculating the inclinations and heights of mountains using triangles, estimating the distances between points using mountain peaks, and projecting "the height of a tower built upon a rock" using projected distances, trained the reader to recognize paper and ground, geometry and geography, marks and landmarks, as interchangeable.[4] When,

[3] Robin Evans described the reciprocal relation between a projectile and its target and projective geometry and paper in the essay "Architectural Projection," in E. Blau, E. Kaufman (eds.), *Architecture and Its Image: Four Centuries of Architectural Representation. Works from the Collection of the Canadian Centre for Architecture*, Canadian Centre for Architecture/The MIT Press, Montreal, 1989.

[4] S. Le Prestre de Vauban, *The New Method of Fortification*, 5th ed., S. and E. Ballard, London, 1722, p. 34.

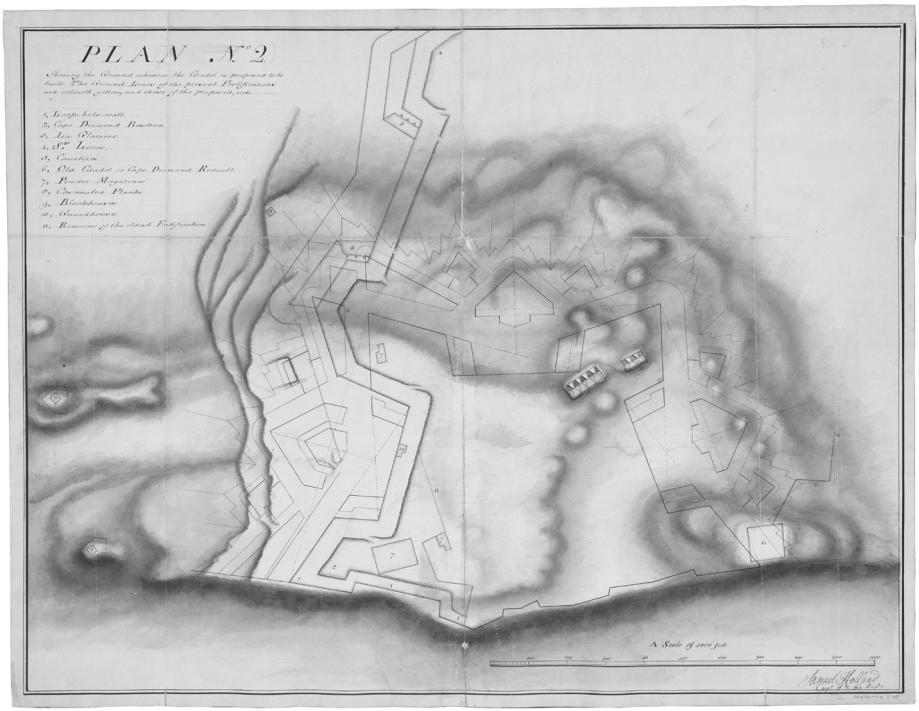

Figure 1. Samuel Holland, "Plan (no. 2) shewing the ground whereon the citadel is proposed to be built: The ground lines of the present fortifications are colour'd yellow, and those of the proposed, red," William L. Clements Library, University of Michigan Library Digital Collections. Reproduced by permission of the William L. Clements Library.

a century later, Samuel Holland projected the fortification of Québec with ink and wash on paper following these geometric principles, his representational tools converged the vectors of war into the stasis of ichnography, providing insights into both military strategies and representational methods.

Disagreements existed among 19th century military engineers regarding the best method for defending against the increased firepower of modern warfare. Some embraced a radical shift toward perpendicular fortifications as promoted by the marquis de Montalembert, a critic of traditional theories espoused by Vauban.[5] This was particularly pronounced in North America where French colonial envoys reinvented the forts' forms, replacing hardened bastions with compact designs for densely packed vaulted casemates that maximized artillery might.[6] Thus, we see that fortification served as both a building and a site for disputing military expertise. Those attached to its traditional forms maintained that the fort's power derived from the symbolic presence of stone, while others found interest in its strategic instrumentality. Following Montalembert, we can view the fortress structure as a *tour de force*, in both senses of the term, figurative and literal.

Bruno Latour has noted that war, beyond its obviously destructive role in history, has also served as a source of metaphors in critical discourse.[7] This is also useful for teaching design. Through disciplinary writing and aesthetically presented arguments, architects engage in territorial battles that call for change, often invoking history's relevance or irrelevance for contemporary practice. These positions attempt to shift the field with new formal tactics of attack. The so-called "avant-garde"—the part of the army that goes ahead of the rest—stands apart from the masses, arguing for original positions, for tabula rasa conditions, for eradicating the old in search of the new. Perhaps this is why the "military perspective," also described by Yve-Alain Bois as "cavalier perspective"—a charging rider's view without a vanishing point—was so prevalent in disciplinary arguments on form for the sake of form. "Closer to 'fact' than to appearance," Bois writes, "[...] [axonometric] drawing shows a concern with synthetic

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[5] J. Langins, "The Challenge of Montalembert," in *Conserving the Enlightenment: French Military Engineering from Vauban to the Revolution*, The MIT Press, Cambridge, Mass., 2004, pp. 281–324.

[6] Antoine Picon, Guest Lecture, Princeton University ARC 505b Option Studio (Neimark & Osman), École Nationale d'Architecture Paris Val de Seine, October 21, 2022.

[7] B. Latour, "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern," *Critical Inquiry*, 30, 2, 2004, pp. 225–248.

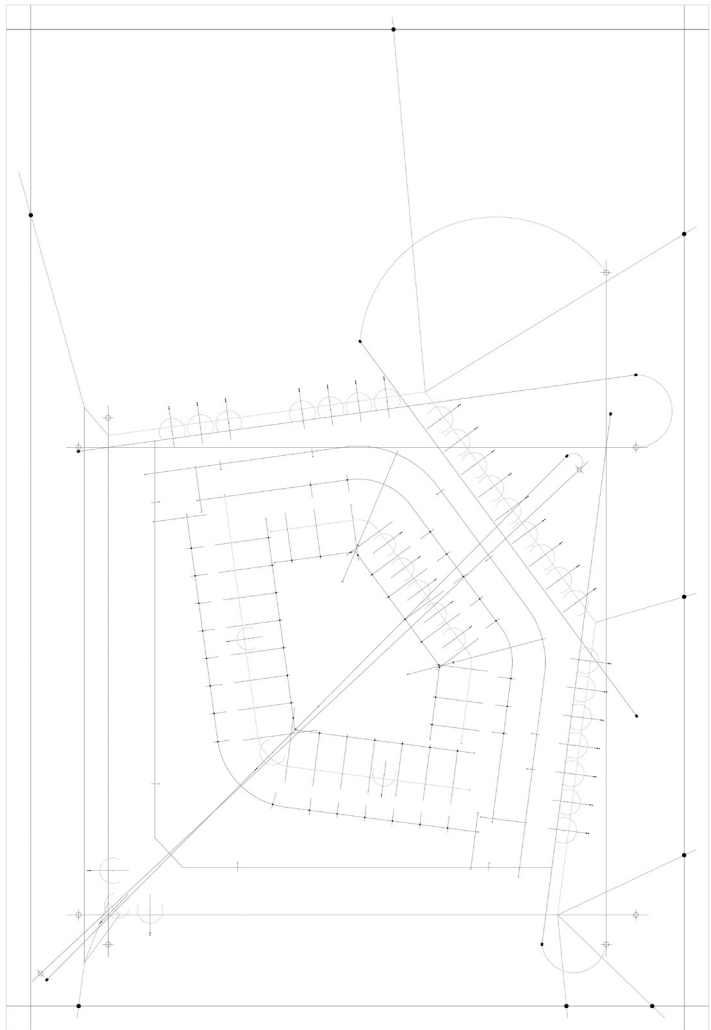

Figure 2. Julie Riley, Analytical Plan of Fort Macon in North Carolina, "Abstractions of War, Wars of Abstraction" studio, SCI-Arc, Spring 2021. Courtesy of Julie Riley.

Figure 3. Julie Riley, Analytical Model of Fort Macon in North Carolina, "Abstractions of War, Wars of Abstraction" studio, SCI-Arc, Spring 2021. Courtesy of Julie Riley.

representation of space."[8] Through constant forward motion, the architect's parallel projection embodied the cavalryman's vision to displace historical knowledge, because it was based in a subjective point of view and in too much contextual reference. And so, the vanguard advances without a historical drag on change, arguing for architecture's autonomy, directed to the present or to the future, but never indebted to the past.

In wars of abstraction, as in any war, there cannot be an avant-garde without a rear. The rear stays back, hunkers down under siege, and resists. In this stationary position, territorial planning requires slowing down time. In the design studio, precedent analysis lays the groundwork for such gradual or even subtle changes rather than the upheavals of the avant-garde. By projecting forward with the tools of the cavalier, while strategically facing toward the rear with the attention of the besieged, students documented precedents without the pressure of use. Against the impulsive decisions made in the rush of a conflict, as often experienced during a design charette, slow-moving exercises brought about subtle visual effects to extend attention. Our studio called these tactics *tours de main*: more like recipes, they are practiced turns of the hand, learned through repetition.[9] Students reproduced the monumental form of a fortress with analytical drawings, rendered projections, and milled models.

One student, Julie Riley, relied on documents such as military pattern books, National Park surveys, historic photographs, and geographic clues uncovered in the GIS data of surrounding terrain to reconstruct the geometric logic of Fort Macon (Fig. 2-3). Her plan presented a constellation of line work to identify centers and boundaries, denoting repeating rhythms, symmetrical reflections, and measurements that regulate the fort's form. She used an OCE plotter to print the lines on mylar with toner that hardened into bas-relief, making the points and vectors into tactile form. The plans could be read, seen, and felt, as hatch work produced a raised terrain on the sheet. She toned the back of the mylar with an airbrush to inscribe shadows. The cannons' projectile path was re-enacted with the push of the finger as it pushed the trigger to release a coat of paint onto the page.

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[8] Y.-A. Bois, "Metamorphosis in Axonometry," *Daidalos*, 1, 1981, p. 50.

[9] The studio borrows the term *tour de main* from Julia Child, who introduced it to an American audience in her first season of *The French Chef* while making a fluffy *omelette* [Child's preferred spelling of omelet]. Omitting the eggs, she vigorously shakes an empty pan in front of the camera, demonstrating the brisk technique of the turning of the hand. J. Child, "French Omelette," *The French Chef*, Season 1, PBS.

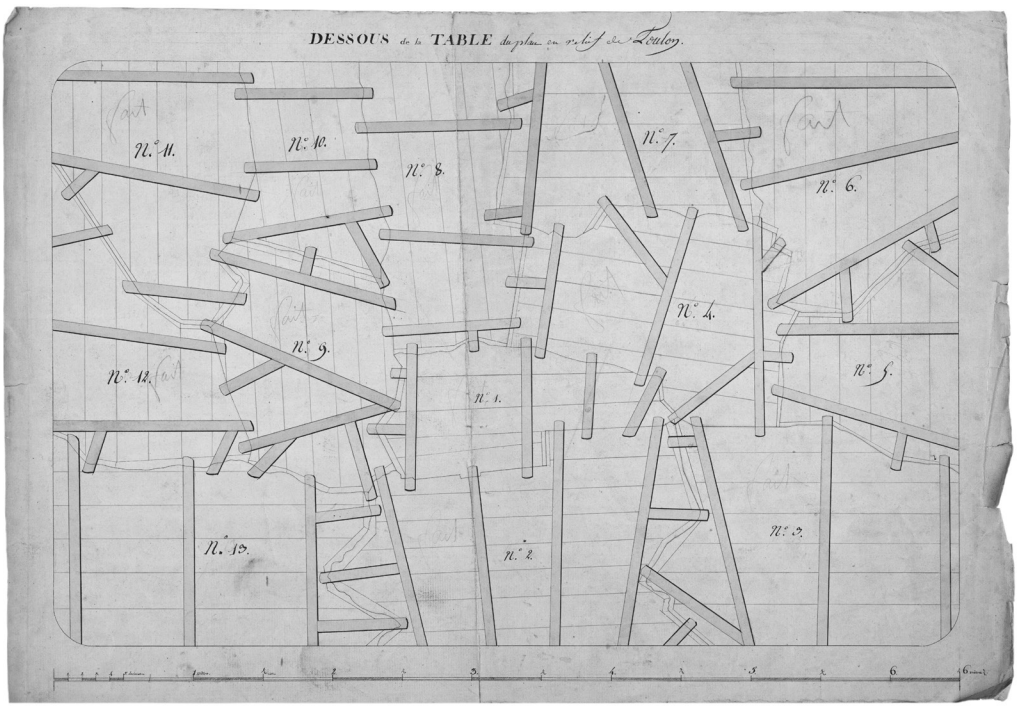

Figure 4. Below the table of the plan-relief of Toulon with bars of assembly, 1795, © Paris, Musée des Plans-Reliefs. Reproduced by permission of the Musée des Plans-Reliefs.

In addition to lessons in geometry, we also enacted lessons in modeling inspired by Vauban. Two-dimensional drawings were often inadequate for capturing the totality of a war's domain, especially in mountain regions and along the shorelines of the sea. Vauban's military bureaucracy developed scaled models to articulate the rendered surfaces in painted wood through the technique of the *plan-relief*. The models were assembled into monumental tables, serving as miniature battlefields for the view of generals and politicians in the Palaces of Versailles or Fontainebleau. In the military plan-relief, the continuity of the landscape above—superstructure—and the fragmented material support of the wooden framework below—substrate—staged a reciprocal relation. Elements of the total model would have been built on-site and transported by mules to be assembled in a workshop. There, an assembly drawing organized the geo-technical underside of the table.[10] In one model, the town of Toulon was composed of thirteen parts, splined together by seventy reinforcing bars (Fig. 4).

Inspired by the insertion of the model table into the space of battle, as an extension of paper and ground, we too added a table surface to our process: the CNC mill, a four by eight table, a spindle, and a bit. Bits come in different sizes and shapes, each one able to cut, contour, or etch a numerically fed path onto a material slab. By specifying the variables of diameter, tip shape, and path, students wrote instructions for varied inscriptions. The drill bit marks the figure, contours the topos, etches the seams, and textures the surface. Students did not produce smooth forms with this machine as was once the fashion; rather, they programmed the mill to bounce with a staccato, decaying and rusticating the hard surface of foam with force and friction. One student, Holland Seropian, captured the stony texture of Fort Montgomery's residual wall with multiple drill paths, specifying the 1/4" straight flat bit for rough cutting the profile, the 1/8" tapered angle ball nose fluted bit for undulating the surface pattern and flip-boring holes, the vee-groove ten-degree carving bit and the vee-groove thirty-degree router bit for inscribing the mortar joints. (Fig. 5-6) The armed spindle became a precise ballistic as it attacked the territorial space of the model table from above. This is by nature a subtractive process, at times sculptural, at other times, stochastic.

[10] I. Warmoes, *Le Musée des Plans-reliefs*, Éditions du Patrimoine, Centre des Monuments Nationaux, Paris, 2012, p. 36.

In the process of translation, a new Argo-like image of the fortress emerges. The gradual exchange of parts appears as an act of preservation. But all precedent work is slow theft, a sort of gradual exchange. In analyzing the fort, one vault, mound, stone, joint at a time, students produce a "structural object, created not by genius, inspiration, determination, evolution, but by two modest actions (which cannot be caught up in any mystique of creation): *substitution* [...] and *nomination*."[11] In the tradition of a conceptual approach to art, such models of appropriation, as described by Roland Barthes, offer an alternative to avant-garde myths of creation, allowing for the possibility of design in a state of stasis. The fort thus serves as a pretext for those who arrive at current debates from the design trenches rather than along the frontline.

We borrowed the language of military tactics as the studio's *lingua franca*, mobilizing the fort's visual representations into miniature territorial battles. Students trained their ability to look strategically, to draw tactically, and to speak intentionally, as they readied themselves to confront the disciplinary field beyond studio. Lorraine Daston has written about the military engineer-geographers' observation of the field and surveys of the land. She recalls their use of the term "*coup d'œil*," or a strike of the eye, a view that recognized advantages for attack and positions for defense bringing measure and confidence to decisions that may otherwise feel too complex. The eye's training follows "the piecemeal, the procedural, the painstaking, and the pedantic [...] logical rigor, attention to detail, narrow focus, mechanical rule following, and step-by-step demonstration," even as the expression appears to be associated with instant inspiration, even genius.[12] Daston describes the judgment of a *coup d'œil* as the synthesis of long-term study with dedicated attention. Similarly, we consider *tour de main* and *tour de force* as models for an architect's training. From the monumentality of a vision, a *tour de force* reflects the avant-garde tradition, arguing for timely change; meanwhile, the restraint behind a *tour de main* aligns with the rear-guard position, engaged in seemingly timeless reverberation of stasis.

I would like to thank Catherine Ingraham and Michael Osman for their beautiful insights and invaluable help on the essay.

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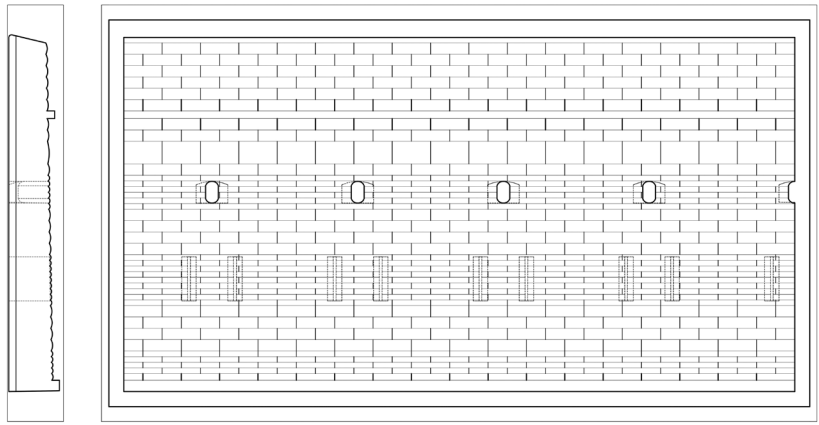
[11] R. Barthes, "The Ship *Argo*," in *Roland Barthes by Roland Barthes*, Berkeley/Los Angeles, University of California Press, 1994, p. 46.

[12] L. Daston, "The Coup d'Oeil: On a Mode of Understanding," *Critical Inquiry*, 45, 2, 2019, p. 308.

Figure 5. Holland Seropian, CNC-Mill Instructions for the Model of Fort Montgomery in New York, "Tour de Force, Tour de Main" studio, SCI-Arc, Fall 2023. Courtesy of Holland Seropian.



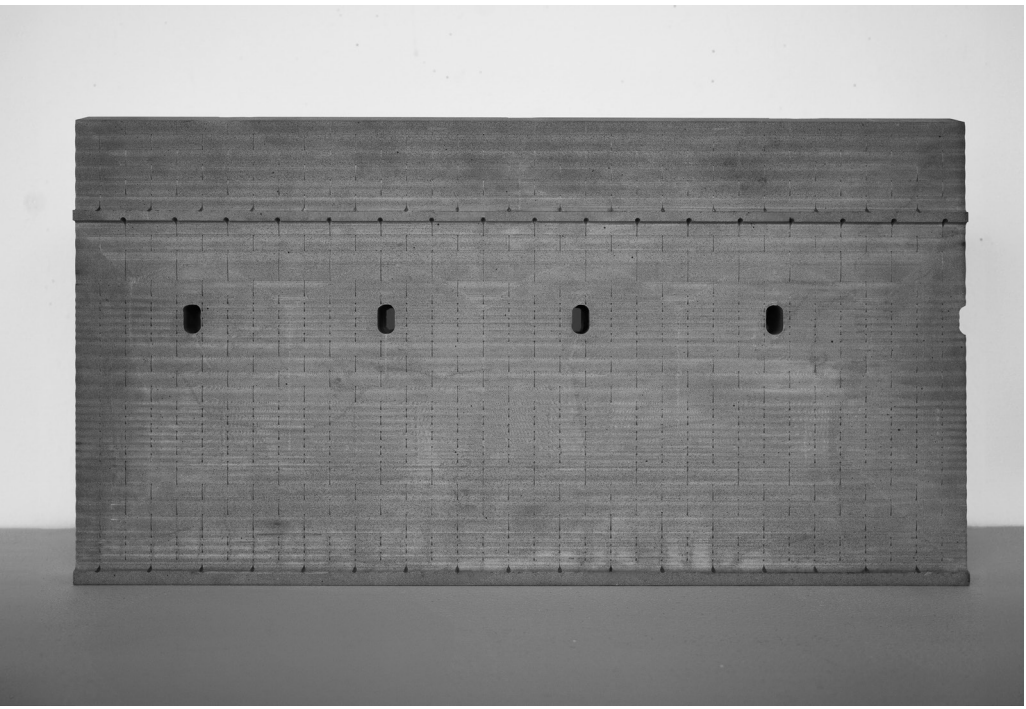


Figure 6. Holland Seropian, CNC-Milled Model of Fort Montgomery in New York, "Tour de Force, Tour de Main" studio, SCI-Arc, Fall 2023. Courtesy of Holland Seropian.

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DOI: 10.5281/zenodo.11483805
Original Scientific Article
Received: April 7, 2024; Accepted: May 16, 2024

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Invention, Innovation, Change in Architecture: Arguments from the Escalator of a Fantastic Mall, Conceived as an Apocryphal Illustration to *Little Women*

ABSTRACT: This article explores how invention, innovation and change work in architecture through the description of a project for an imaginary mall, where the four protagonists of Louisa May Alcott's novel *Little Women* are imagined shopping. The four characters are on an escalator, an innovative element of architecture invented to compete with stairs. Malls are also a recent invention, compared to thousands of years of architectural history. The project for this mall, that is titled "Mall of Progress," offers the opportunity to compare inventions and innovations from other fields with inventions and innovations in architecture, and to discuss how they can prompt change in and outside the discipline. Furthermore, the article discusses if architecture can be considered an agent of progress, as many inside the discipline do claim.

KEYWORDS: elements of architecture, architecture and science, architecture and technology, agency of architecture

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Introduction

Curvilinear stairs for palaces, churches and open spaces have been in the repertoire of architects for centuries. When escalators were introduced in architecture, at the end of the 19th century, there was an initial competition between straight-lined and curvilinear schemes. Mechanical problems, however, soon left architects with only one option, the straight-lined escalator; the innovation could not be molded to fit architectural ambition.[1] The escalator was an innovative element of architecture. It was invented in the field of mechanical engineering and its invention was made possible by inventions and innovations in other fields, in the foreground of the industrial revolution. When the escalator entered architecture, it was used typically in urban malls.[2] These were an architectural response to the change towards consumerism that was taking place in industrial societies. So, an architectural innovation, i.e., the mall, had to include the constrains inherent to an innovation in mechanical engineering, i.e., the escalator, and was prompted by a change in society whose roots in the industrial revolution were extraneous to architecture itself. Buildings such as factories, warehouses, stations, and housing for workers were designed in a specific way as a consequence of industrialization, but none prompted it. The steam engine was not invented to fill a vacant factory.

The escalator and the mall suggest that architecture is not a sovereign discipline, and as such its agency is limited, possibly even naught. Yet, in the 20th century, the architects of the Modern Movement and their acolytes claimed that their innovations could bring progress to society by changing its built environment. In different contexts, they claimed to be consistent to different political visions about what progress is, from totalitarianisms to democracies. In all contexts, innovations from other fields deeply affected the way in which their buildings were designed: sewers, aqueducts, electricity, telecoms, etc. Innovations from other fields also impact contemporary architecture, where the claim of bringing progress to society is also widely spread, with "sustainability" as a watchword.[3]

Since progress is such an important goal for modern and contemporary architecture, and claiming to be progressive seems often to be a

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[1] R. Koolhaas, AMO, Harvard GSD, "Escalator," in *Elements of Architecture*, Marsilio, Venice; Rizzoli International, New York, 2014, pp. 20–23.

[2] S. J. Weiss, S. T. Leong, "Escalator," in R. Koolhaas *et al*. (eds.), *Harvard Design School Guide to Shopping*, Taschen, Köln, 2001, pp. 337–365.

[3] On the use of the word 'sustainable' in contemporary architecture vocabulary, see R. de Graaf, *Architect, Verb: The New Language of Building,* Verso, London, 2023, pp. 65–84.

preliminary requirement for architects, it may be worth to investigate how change in architecture can be linked to progress.

In this article I discuss the following four terms: invention, innovation, change and progress.

For invention, I use a meaning from common language: "the creation of something not previously in existence: purposeful experimentation leading to the development of a new device or process."[4]

By innovation, I mean the process itself through which the "new device or process" is diffused on a vast scale. This can happen, for instance, through the commercialization of a product, or through the adoption of a tool or a method in the production or in the design of something.

By change, I again use a meaning from common language: "a passing from one state to another marked by radically different makeup, character, or operation, whether by sudden mutation or gradually by evolution."[5]

For progress, equally, I use the word's most common meaning: "the action or process of advancing or improving by marked stages or degrees: gradual betterment, *especially*: the progressive development or evolution of mankind."[6]

These terms can flow one into the other: an invention becomes an innovation, which brings change, and in turn progress. The link between innovation and change is given, but not all inventions become innovations.

For example, the wheel was invented in different times and places, including in Central America well before the arrival of Europeans. However, in Central America its innovative potential was thwarted by the absence of animals that could pull a cart; wheels were occasionally used for toys.[7]

Furthermore, not all change is progress. For example, the introduction of asbestos in the building sector at the end of the 19th century was a successful innovation. Panels, tiles, shingles and tubes made of it rapidly encountered the favor of contractors. "Asbestos was nicknamed the 'magic mineral' upon discovery due to its exceptional flexibility, tensile strength and fire resistance—it was present in over 4.000 products," but

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[4] *Merriam-Webster Unabridged*, s.v. "invention, 4a," https://unabridged.merriam-webster.com/unabridged/invention, (accessed 12 April 2024).

[5] *Merriam-Webster Unabridged*, s.v. "change, 2b," https://unabridged.merriam-webster.com/unabridged/change, (accessed 12 April 2024).

[6] *Merriam-Webster Unabridged*, s.v. "progress, 4a," https://unabridged.merriam-webster.com/unabridged/progress, (accessed 12 April 2024).

[7] J. Diamond, *Guns, Germs, and Steel: The Fates of Human Societies*, W. W. Norton, New York, 1997, p. 237.

asbestos was carcinogenic, as it emerged later.[8] In the change brought by the diffusion of asbestos-made materials there is no progress because the positive features, i.e., faster and less labor-demanding construction and fire-safer buildings, are counterbalanced by countless cancer diagnoses.

In my argument, I am using an imaginary poster as a prompter. This poster illustrates an imaginary mall that I designed, and which I will describe.

Poster

In a mall four young women are standing on different ramps of the escalator, each carrying an object that she just bought. It may seem an ordinary scene of shopping, but the goods they carry are peculiar. One, on the lower ramp, is holding a model of the steam engine perfected in 1776 by the English instrument maker James Watt, in a crucial step of industrialization. On the ramp above, another is holding a personal computer "Lisa," released by Apple in 1983, a milestone in the spread of informatics. The girl on the upper ramp is holding a model of the penicillin molecule, discovered by the Scottish physician Alexander Fleming in 1928, prompting a definitive move against bacterial infections. The girl on the upper ramp is holding a model of a Ford Model T, the first mass-produced automobile, launched in 1908. The four objects represent radical innovations in science, technology, and industry, whose consequences had an incommensurable and long-lasting impact.

The shoppers are the four sisters March, protagonists of the American saga *Little Women*, published by Louisa May Alcott between 1868 and 1880. In the years in which the novel is set, malls were yet to come, but this is an anachronistic episode that I allowed myself to imagine, in which the four sisters share a daydream about future America, on an afternoon of the 1860s when they are all together in their living room.

The first reason I selected the novel *Little Women* is that it is widely known, so that it is easy to find information about it for readers who are not familiar with Alcott's work. More relevant, the plot has four protagonists, allowing me to articulate the discourse in the four parts that I use to make my argument, each focused on an example. Another widely popular novel with four protagonists is, for instance, *The Three Musketeers* by Alexandre Dumas. But I selected Alcott's work also for reasons

[8] G. James, P. Rahm, C. Mosbach, "Asbestos, UV Rays," in G. Borasi, M. Zardini, (eds.), *Imperfect Health: The Medicalization of Architecture*, Canadian Centre for Architecture/ Lars Müller Publishers, Zurich, 2012, p. 184.

of content, not only of structure. Indeed, each of the four protagonists has a specific character that can link her to one of the four examples that I am making, which cannot be said of Dumas' novel.

On the lowest ramp, Meg is holding a model of Watt's steam engine. Of the four sisters, she is the most hard-working, and thus she acknowledges the importance of a machine that allows for the conduct of an enormous amount of work. On the lower middle, Jo is holding a "Lisa" personal computer. Among the sisters, she is the one who strives to publish her own writings, and thus she fancies a device that facilitates writing in a way unimaginable to her. On the higher middle ramp, Beth is holding a model of the penicillin molecule that could have saved her life from disease, had it been discovered decades prior. On the highest ramp, Amy is holding a model of a Ford T. Among the sisters, she is the one who loves travelling, and she is thus fascinated by a means of transportation that would allow her to go all over the country, had it been invented at the time.

The mall is dedicated to progress. Souvenirs and memorabilia of inventions and innovations from a specific sector are on sale at each floor, recognizable from the color of the escalator's ramp that goes to it. The sisters are shopping on floors dedicated respectively to mechanical engineering, informatics, biology, and automotive. There is also a floor dedicated to architecture, but it is empty. We could try to fill it with architectural inventions and innovations. The March sisters are excited by the amazing experience of standing on automatic stairs in a vertiginous void. Certainly, they would be happy to receive something architectural from the mall, once they are back home; possibly something analogous to what they just bought. So, what could be sent to each of the Marchs? In playing this game, I am avoiding connections that historiography could suggest, for instance linking the Ford T to the spread of ramps, garages, motels etc. The links shall be based on analogies, not derivations.

I.

The steam engine is at the very origin of industrialization and of what came with it. Few other inventions could be more effective if one wants to defend the thesis that technology drives history.[9] The change brought about by the steam engine was so radical that a political movement was

[9] On this vexing question, see R. L. Heilbroner, "Do Machines Make History?," in L. Marx, M. Roe Smith (eds.), *Does Technology Drive History? The Dilemma of Technological Determinism*, The MIT Press, Cambridge, Mass., 1994, pp. 53–65.

formed to fight against it, i.e., Luddism, in the first decades of the 19th century. Members of the movement engaged in destroying machines powered by steam engines because they perceived them as disruptive for humans, eliminating their jobs, alienating their work, threatening their dignity.[10] Steam engines already existed in the 18th century, but only after James Watt in his Birmingham workshop introduced a number of modifications, the invention stepped up to innovation. "On Monday 11 March 1776, Aris's Birmingham Gazette carried an account of how 'a Steam Engine constructed upon Mr. Watt's new Principles' was set to work at Bloomfield Colliery, near Dudley in the Midlands."[11] Steam engines rapidly spread in England thanks to factors such as capital, a large labor force and the presence of a "knowledge economy" prompted by laws that protected intellectual property. Without these, the changes caused by Watt's invention would have been slower, but it is difficult to think that they would have been blocked, as the case of rapid industrialization in countries without a culture favorable to innovation show.[12] The steam engine had an inherent power for change; it was later replaced by other machines for generating power, but its crucial role in a cause-effect series that brought about the long run to globalization is difficult to downplay. In this perspective, the progress prompted by the steam engine consists of the exponential increase in the availability of goods of any type. Both capitalism and Marxism, the two contending ideologies on how to manage industrialization, acknowledged as progressive the increase in the availability and variety of goods. With the exception of radical ecologies invoking a return to a pastoral and agricultural society, progress has thus been considered inherent to Watt's invention.

So, what could be an architectural equivalent to the steam engine that could be sent to Meg March, to provide her with another souvenir from the Mall of Progress? It must be indisputably at the origin of a pervasive and durable change. It must also be something on which there is a wide consensus that it prompted progress. Furthermore, it must be something that passed rapidly from the step of invention to that of innovation. Starting from the first requirement, to make sure we are actually addressing

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[10] K. E. Hendrickson (ed.), *The Encyclopedia of the Industrial Revolution in World History,* vol. 3**,** Rowman & Littlefield, Lanham, 2015, s.v. "luddism."

[11] B. Russell, *James Watt: Making the World Anew*, Reaktion Books, London, 2014, p. 109.

[12] See chapters 4 and 5 in T. Kemp, *Industrialization in Nineteenth Century Europe*, Taylor & Francis, London, 1985.

something relevant, we may start from the very origins of architecture as a recognized discipline. The change would thus consist in the establishment of it as a specialized intellectual activity, distinct from the physical construction of buildings.

When we address what is at the origin of architecture, we enter inevitably into a heated and layered discussion, to which it is difficult to find a beginning. The climax of this debate was in the second half of the 18th century, in the foreground of the Enlightenment preoccupation with searching for the natural conditions of humankind before history. In the 18th-century search for the origins of architecture, powerful images were created to show how architecture descends from the observation and imitation of nature. Among those, the most prominent is the primitive hut which occupied the frontispiece of Marc-Antoine Laugier's *Essai sur l'achitecture*, published in 1755.[13] In the foreground of the illustration, a young woman embodying architecture points at a small grove where the branches of the trees intertwine to form a natural, leafed roof, while the trunks resemble columns. In the author's argument, this accidental hut is the origin of architecture, as already the Roman architect Vitruvius claimed. Indeed, the structure and the shape of the Greek temples have been inferred from it, wrote Vitruvius (Vitr. IV, 1–2). Laugier and numerous other authors in Europe spread this thesis, but there is no archeological evidence of the theory of the primitive hut. So, a model of it cannot be the architectural gift to Meg March from the Mall of Progress.

Then what about the Greek temple itself, from which the primitive hut was created as an ex-ante justification? Greek temples inspired countless buildings for thousands of years in all continents, with their combination of columns and capitals of various orders resting on a staired basis and holding architraves, tympanums and a roof. There are many more *minutiae*, and plenty of variations in the "temple-formula," but nevertheless this formula remains recognizable through different epochs, programs, places, and regimes. A canonic example, related to Watt's invention, is the AEG Turbine Factory built in Berlin in 1909 under the design of Peter Behrens, where the "temple-formula" is used to monumentalize industry.[14]

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[13] The drawing is by Charles-Dominique-Joseph Eisen who strictly followed Laugier's arguments. The original edition has been reprinted in facsimile: M. Laugier, *Essai sur l' architecture*, Gregg, Farnborough, 1966. On Laugier, see W. Herrmann, *Laugier and Eighteenth-Century French Theory*, Zwemmer, London, 1985.

[14] S. Anderson, *Peter Behrens and a New Architecture for the Twentieth Century*, The MIT Press, Cambridge, Mass., 2002, pp. 113–128.

The transmission of the formula from antiquity to modernity can be traced through authors and books, from Vitruvius to the Italian writers of the 15th and 16th centuries, such as Leon Battista Alberti, Jacopo Vignola, Andrea Palladio, and Vincenzo Scamozzi, to Colen Campbell, the *Vitruvius Britannicus* of the early 18th century, who ensured the transposition of the formula to the Anglophone world, to the French theorists who in 19th century adapted it to modernity, down to the more or less ironic or engaged disquisitions on its permanence in the post-modern. In all versions, each with different nuances, the "temple-formula" is identified as the most recognizable product of a specifically architectural intelligence. Therefore, can the Greek temple be identified as the origin of architecture?

There are other theories on the origin of architecture, and many would claim that the question itself of the origin or the origins is useless, naïve or unresolvable. But nevertheless one could not deny that western European architectural culture which spread to other continents attributed to the Greek temple the role of prompting the change from the manual labor of building mere shelters to the intellectual activity of architecture. It is impossible to individuate a convincing "first," i.e., the specific place and time when the "temple-formula" was invented. Archeologists suggest that it was a long, gradual, collective process, so that the steps of invention and innovation blur, but the change that they prompted is undeniable. Further, what about the progress prompted by this change? Notwithstanding the opinion that one has about the aesthetics that derive from the "temple-formula," it may be inferred that it gave a crucial contribution to the emergence of architecture as a culturally specialized discipline and a socially recognized profession. In this way it contributed on a larger scale to the division of labor, responding more efficiently to the demand for hosting the functions of a complex society. Only from radical positions invoking a return to primitive conditions one could oppose to associate complex society to progress; as with the increase in goods' availability and variety prompted by the steam machine.

So, let us give Meg March a model of a generic Greek temple.

2.

The Apple Lisa is the first personal computer with a graphical user interface, commercialized in 1983. As such, it represents a pivotal moment in the path to our current condition of software-dependency, and indirectly to our online existences. Differently from other personal computers on

the market then, Lisa featured a graphic representation of the file system and a mouse to navigate through menus and applications. The Lisa operating system was also innovative, offering cooperative multitasking and protected memory, which were cutting-edge for its time. Due to its high cost, Lisa was unsuccessful, which prevented its use as a real B2C product, and after three and a half years it ceased production. Its successor Macintosh, launched when Lisa was still on sale, used most of Lisa's characteristics at a more affordable price, and started the competition for mass-diffused personal computers, equipped with a graphic user interface. Hence, despite its lack of commercial success, Lisa paved the way for future advancements, shaping the evolution of the computer industry in ways that resonated far beyond its market impact. The innovative power of Lisa was fueled by a number of previous inventions and innovations, such as the microprocessor, which in the 1960s and 1970s allowed the development of the first personal computers. Actually, Lisa was not even the first personal computer with a graphic user interface, because in 1973 Xerox PARC developed its Alto personal computer with one. However, its power of innovation was limited by the fact that it was never commercialized. The change prompted by Lisa and the following personal computers was massively effective; it consisted in the enhancement of the human mind capacity to access and process data and information. Progress is thus in the fact that the personal computer increased individuals' knowledge to an unprecedented level. As with the industrial revolution, there can be radical positions that deny the progressive character of the digital revolution, of which the personal computer is a fundamental component. But if we do not embrace a return to primitive conditions, it is impossible not to equate progress to the change that was prompted by an innovation such as Lisa.

So, what could be an architectural equivalent to Lisa that could be sent to Jo March, to provide her with another souvenir from the Mall of Progress? It must be something that brought a change consisting in the increase of an ability, and this increase should be significant. It should benefit inhabitants, users and visitors of buildings, as well as an architecture audience, since Lisa was conceived as a B2C product. For instance, we may think about air conditioning, an innovation that from the 1930s allowed to live in "well-tempered" environments even on hot days, thus allowing humans to work and dwell in all climate conditions.[15] However,

[15] Despite its widespread presence in modern architecture, air conditioning received the attention of scholars quite late. See R. Banham, *The Architecture of the Well-Tempered Environment*, The Architectural Press, London, 1969.

in Anthropocene the spread of air conditioning could also be viewed as a cause of pollution and global warming, particularly of the "urban heat island" effect. The step from change to progress is questionable.

We may thus turn our attention from systems to structures, and consider that in modern times the invention of new structural materials dramatically improved the human capacity to shelter. The invention of reinforced concrete, for instance, allowed contractors to build huge buildings in much less time. Widening the view, we could infer that the empowerment also affected societies in general, dramatically expanding the number of available homes, and effectively improving the dwelling conditions of multitudes of families, freed from forced cohabitation or even homelessness. The migration of masses of formerly agricultural workers to cities would have happened in much harsher conditions of the newly urbanized had reinforced concrete not been invented. Though, going back to Lisa, we have to acknowledge that its designated clients were small businesses and individuals. Conversely, reinforced concrete required complex organizations and big capital, at least early in its diffusion. It needed specialized workforces that had to accurately follow the indications of specialized engineers, and it implied the use of specific machineries and of an extended supply chain. For these reasons, steel construction—another innovation of modernity—is even a weaker candidate, because its high costs limited its use almost only to corporate buildings and factories in countries rich in steel. New materials prompted the invention of prefabrication systems, so we may think also to prefabrication, but again large organizations and extended control over urban growth are needed.

But there is yet another structural and constructive system that appears in the history of modern architecture: the balloon frame. It is mentioned as a predecessor of a modern, utilitarian approach to architecture. Let us consider its candidacy: it was invented in Chicago in the 1830s and then rapidly spread from there to all the United States. There are disputes about who the inventor is and which building was the first to be completed with it, but its rapid and effective diffusion, so its innovative role, encounters no objections in literature.[16] The balloon frame implied no new material. It was a new technique to build timber structures

[16] For a reconstruction of the supposed first balloon frame building, a warehouse by George Washington Snow completed in Chicago in 1832, and of following early cases, see P. Andersen, J. Kelley, P. Preissner, *American Framing: The Same Something for Everyone*, Park Books, Zurich, 2023, pp. 154–158.

of limited height, so typically independent houses. As in the case of Lisa, the balloon frame was made possible by other innovations. One was the diffusion in the United States, from the early decades of the 19th century, of sawmills where the energy of water was replaced by that of steam engines. This allowed wood to be cut in less time and with more precision. As a consequence, the production of sturdy and neatly shaped slender timber beams became technically feasible and economically convenient. Another innovation was the industrialization in the production of metal nails, again thanks to the introduction of steam-powered nail-making machines, in the same period. The balloon framing combined those two: a cage of slender timber members joined with a profusion of metal nails.

The balloon framing did not need a specialized labor force, as opposed to the traditional timber construction that required skilled carpenters for carving the joints of massive elements, in times when nails were scarce and higly expensive. Conceptually, it consisted in the disassembly of heavy timber construction: each thick element was replaced by a number of slender elements that all together concurred to a sturdy structure thanks to their number and to the abundance of nails that connected them.[17] The name itself is said to be derived from the association of this light structure to a hot air balloon. The intrinsic lightness of the system secured its rapid diffusion from the sky-rocketing residential building market of Chicago to the rest of the United States. It allowed for a complete transformation of the land, with new towns or suburbs appearing everywhere. The balloon frame allowed small, often improvised contractors and developers, even lay members of the public to build their own homes as a DIY activity. Likewise, Lisa was aimed at empowering small businesses. The balloon frame changed an entire nation and beyond, Canada and some parts of South America.[18] The step from change to progress is evident inasmuch as one considers progressive the dramatically increased ability to build houses almost everywhere, quickly and cheaply. Millions of families have been housed in single homes thanks to the balloon frame and its improved versions. Surely, conversely, there is a wide literature opposing suburbanization and the spread of commuting as a lifestyle.

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[17] P. E. Sprague, "The Origin of Balloon Framing," *Journal of the Society of Architectural Historians,* 40, 4, 1981, pp. 311–319.

[18] M. Pizzi, "The Invention of the Balloon Frame, how it Affected Architecture in the New World. The Case of Chile," in S. Huerta (ed.), *Proceedings of the First International Congress on Construction History*, Instituto Juan de Herrera, Madrid, 2003.

Adding to the shipment books which speak against suburbanization, such as *The Feminine Mystique* or *Crabgrass Frontier*, let us send to Jo March the model of a balloon frame, taken from a 20th century carpentry handbook.[19]

3.

The discovery of penicillin by the Scottish physician and microbiologist Alexander Fleming marked a turning point in medical history, revolutionizing the treatment of bacterial infections and laying the foundation for the era of antibiotics. The discovery happened in a serendipitous way in 1928, when Fleming realized that a mold in his laboratory at the St. Mary's Hospital in London had contaminated a petri dish of staphylococcus bacteria, and had killed the bacteria surrounding it. The mold was later identified as arriving from a nearby room where a colleague was doing his own experiments, but Fleming quite immediately identified it as belonging to the *Penicillium* genus. This discovery was not a fortuitous event in Fleming's scientific path, since his interest in treating infections started in the hospital fields of the First World War, where he served as a medical officer of the British army. In this position, he had to see how the antiseptic treatments in use were tragically ineffective. After the war, he started to research the topic and was recognized as a brilliant scientist. Despite his reputation, when in the late 1920s he disseminated his discovery of a bacteria-killing mold, i.e., an antibiotic, he did not find much enthusiasm in the scientific community. This was due to the fact that nobody, including Fleming, could see how penicillin, if properly developed, could be produced on a mass scale. There are different views among historians on whether in the 1930s Fleming actually continued to believe in the innovative potential of his discovery, although he made experiments on a few individual cases. The turning point arrived only after a decade, during World War II. It was when Fleming had the chance of joining his experiences with a team of microbiologists and pathologists in Oxford who were researching antibiotics. They found a way to produce a proper quantity of penicillin to start trailing it, and it proved successful. Soon the American and the British medical military authorities acknowledged

[19] B. Friedan, *The Feminine Mystique*, W. W. Norton, New York, 1963; K. T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States*, Oxford University Press, Oxford, 1985. The illustration is from: *Audel's Carpenter's and Builder's Guide*, Theo Audel, New York, 1923.

the life-saving potential of Fleming's discovery against bacterial infections in field hospitals.[20] A number of different antibiotics, specific to different bacteria have since been produced. Fleming's discovery became a globally diffused innovation, and it massively changed medicine, producing a radical benefit through its effectiveness. Recently, mutations of bacteria that "learned" how to survive antibiotics caused concerns about their use as a global panacea, but even their most vocal critiques cannot deny the role of antibiotics in saving millions of lives.

So, what could be an architectural equivalent to penicillin that could be sent to Beth March to provide her with another souvenir from the Mall of Progress? At first, it should be something that has brought a vast, long-term change, and this change should be widely recognized as beneficial. If we start the search by acknowledging how the discovery of penicillin effectively contributed to improving the resilience and the health of humans, we may think of a building or a class of buildings that did the same. However, all buildings perform a basic sheltering function and are thus beneficial to humans, so it would be difficult to justify choosing one over another. Maybe we could replace humans with buildings: what could be an invention that benefited buildings, making them more durable, resilient, and sturdy?

Lots of candidates could be picked in the history of the science of materials. For instance, products against weathering, or against pests? All these brought great benefits to buildings, but it is as difficult to select one among dozens, as it is to find "the first." Or should we look again to structural materials such as cast iron or reinforced concrete that made buildings sturdier? Provided that the life span of reinforced concrete is shorter than that of cast iron, we could tentatively go for the latter. But what would be the invention or the discovery? A new technique for producing steel such as the one that Henry Bessemer developed in Sheffield in 1856? Perhaps, but William Kelly did something very similar in Pittsburgh at the same time. Moreover, multiple studies on stainless steel that dramatically prolonged the life span of metal products took place in the early 19th century, but with a first focus on cannons, not on buildings. To bypass those intricacies, we might step back in the process, and address the science of construction which comes before a structure is built. In this discipline we can find an equation that allowed to drastically simplify

[20] For a scholarly history of the discovery of penicillin, see G. Macfarlane, *Alexander Fleming: The Man and the Myth*, Oxford University Press, Oxford, 1985.

the calculation of steel structures, marking a turning point in civil engineering that is proxy to penicillin in medicine. This is the equation of de Saint-Venant, published in 1855 by the French mathematician, mechanician and engineer Adhémar Jean Claude Barré de Saint-Venant.[21] Having graduated in 1816 from the newly founded École polytechnique in Paris, de Saint-Venant had a quintessentially polytechnic mentality which brought him to investigate a range of different topics, among which the theory of elasticity. Without him, the innovative potential of inventions and discoveries related to steel would have been dwarfed by the impossibility to predict the behavior of structures built with it. These structures are typically made of slender elements with a certain level of elasticity, and the equation of de Saint-Venant investigated the behavior of an abstract, elongated solid that is a generalization of a beam.

Regarding this solid, de Saint-Venant formulated some hypotheses about the geometry, the behavior of the material, and the loads applied. As to geometry, he worked on the hypothesis of an elongated shape, where the surface of the cross section is very largely minor to the length of the longitudinal axis. Additionally, the cross section must be constant and the longitudinal axis line must be barycentric and straight. As to the material, it is hypothesized as being homogeneous and isotropic, and that its behavior is linear elastic. As to the forces, de Saint-Venant postulated that the lateral surfaces of the volume, so the elongated ones, are free from any load; that the volume forces are zero; that loads are applied exclusively at the bases. The principle of de Saint-Venant states that the difference between the effects of two different but statically equivalent loads becomes very small at sufficiently large distances from the load itself. In this way it simplified the elastic problem formulation that otherwise involves solving a system of extremely complex differential equations.

Allowing an analytical solution of the problem, de Saint-Venant created the basis of structural mechanics, because this solution can be used to study the state of stress of one-dimensional beam-type elements. Structural engineers have been empowered by de Saint-Venant to approximate the effects of complex load distributions with simpler ones, as long as they shared the same resultants. Moreover, the de Saint-Venant's solid and its resolving equations allowed not only to study how beams deflect but also to develop the theory of torsion in beams. On the long

[21] A. J. C. B. de Saint-Venant, "Memoire sur la torsion des prismes," *Mem. Divers Savants*, 14, Paris, 1855, pp. 233–256.

term, well into the 20th century, the finite element analysis replaced the method of de Saint-Venant, but it was actually developed from it. The innovative consequences of de Saint-Venant's are thus to be found in further theories as much as they can be detected in the history of modern architecture, because they allowed to fully exploit inventions and innovations in the production of steel. The change towards verticality in the urban skylines of the 20th century is the most visible consequence of these innovations, since countless high-rises have a metal structure. The progressiveness of this change would be questioned from anti-urban positions and, as always when anything is built, from the standpoint of radical ecologies.

But if we admit that more sturdy, long-lasting offices and residences are positive for billions of humans, we send to Beth March the model of a de Saint-Venant solid, in semirigid rubber as it usually is in demonstrations in classes of architecture and of engineering.

4.

The Ford Model T had a pivotal role in automotive history, prompting the advent of mass-motorization in the United States. The Model T was sold in more than fifteen million units during its years on the market, from 1908 to 1927, and provided the inspiration to European and Japanese manufacturers to replicate the success.[22] The model was conceived as an exercise in simplification by Henry Ford, founder of the eponymous Detroit-based motor company in 1903. In pursuing simplicity, the goal of Ford was to make the car cheap enough to be affordable also to the working class, strong enough to be used on all streets of America, and intuitive enough to be repaired even by handymen with no specific training. "Every man is his own mechanic with a Ford," claimed a 1916 advertisement.[23] Ford pursuance of simplicity was addressed to the car itself as well as to its production. As to the car, the components of its motor and chassis were studiously limited in number and kept elementary at the cost of avoiding evolution. For instance, the obsolete planetary gearsets were never replaced with the sliding gear transmissions.[24] As to production, since 1913 the Model T was assembled on a moving assembly line. This

[22] L. Brooke, *Ford Model T: The Car That Put the World on Wheels*, MBI Publishing Company, Minneapolis, 2008, p. 18.
[23] *Ibid.*, p. 11.
[24] *Ibid.*, p. 16.

system already proved its efficiency in the meat packing industry, but, applied to the automotive sector, it magnified the effect, and each unit's assembly time was reduced from over 12 hours to circa ninety minutes. This improvement was based on the discretization of the work into single operations so that each worker was dedicated only to a few of them; it was thus a radical simplification. The Model T was relying on a number of previous inventions, among which the "vehicle powered by a gas engine" patented by the German Carl Benz in 1886 is the most obvious. Though, it brought those inventions to an unprecedent level of innovation because of the effort for simplifying them that Ford did, including the adoption of the moving assembly line. The innovative power of the Model T prompted a gigantic, long-term change, transforming cities and territories in de facto infrastructures for cars and giving the daily rhythm to the lives of billions. Of course, this came with pollution, traffic jams and accidents that sometimes brought to the consideration of car as an enemy of humanism; though as far as we understand individual mobility as an attribute of freedom, this change is also progressive.

What then could be an architectural equivalent to the Model T that could be sent to Amy March, to provide her with another souvenir from the Mall of Progress? First, it must be something that has its rationale in simplification or at least in being simple.[25] Second, it should be something rooted in modernity.

Maybe, the history of modern architecture could be again a source of suggestions, as with the balloon frame. In this case, an obvious candidate appears, the standard-bearer of simplicity as the essence of modern architecture, whatever essentialism could mean in architecture. This character is Ludwig Mies van der Rohe, German and then American hero in the narrative of modern architecture, among whose widely popular aphorisms, "less is more" is probably the most praised and the most contested. In Mies' ideal, the architecture for the 20th century had to exploit the new building materials and new building techniques to reach what he considered the core of architecture itself, i.e., a simple, well-recognizable order. In another, quite obscure dictum, Mies identified this order as the "will of the age conceived in spatial terms" and in another, more plain and widely popular, he explained a secret for reaching this order: "God is in the details." When it came to Henry Ford, Mies was blatant: "what

[25] On the concept of simplicity in modern architecture, see A. Forty, *Words and Buildings: A Vocabulary of Modern Architecture*, Thames and Hudson, London, 2000, pp. 249–255.

Ford wants is simple and illuminating."[26] In pragmatic terms, Mies' design was based on regular layout in plan, on vast homogenous, preferably transparent surfaces in elevation, marked by a few vertical straight lines, and on the limitation of visible joints in the detailing. All the prolific activity of Mies that spanned from the 1910s to the 1960s and from Germany to America was inspired by this ideal.

If one admits the prominence of Mies, then a building could be found in his repertory to be an equivalent to the Model T. And what could be this building? It is of course difficult to pick one that is more "Miesian" then all the others, but since there is a component of irony in the game of finding architectural souvenirs from the Mall of Progress, this difficulty does not prevent the search. And since for the Model T the simplification was not only inherent to the product but also to the production process, it could be worth considering the techniques employed in the building process and not only the features of the completed building. In this case, a building from the late years, one that Mies saw only in construction, could be an interesting candidate: the New National Gallery in Berlin, opened in 1968. In terms of the object, more than half of its volume is hidden under an urban pedestal from which the upper part of the museum emerges. This is a self-standing, independent, neat pavilion with a simple square plan. The dominant element is the roof, a massive cast iron structure coated in black, with each side spanning 64 meters and with a height of almost two meters. On each side only two slender columns are holding the roof, almost disappearing thanks to their black coat, the same of the roof. The façades are recessed by 18 meters and made of large glass panes with thin frames that maximize the transparency, so that they disappear under the shade projected by the roof. The interior of the pavilion is free from any support, an open space of large scale. All these features make the NNG a radical exercise in simplification. First, because it is a complex series of volumes whose urban visibility is reduced to a pavilion. Second, because the pavilion is designed to appear as a floating roof, unbothered by other elements of architecture.[27]

The construction process of the pavilion was also simplified because the roof and the eight columns were erected all together on the building site, using the so-called "lift slab" technique. This came into fashion in

[26] *Ibid.*, p. 254.

[27] On the roof of the Neue Nationalgalerie, see M. di Robilant, "Gridding off the Sky: The Roof," in J. Jäger, C. von Marlin (eds.), *Neue Nationalgalerie: Mies van der Rohe's Museum*, Deutscher Kunstverlag, Berlin, 2021, pp. 153–161.

the US construction industry around the mid-1950s, so that it was not innovative in 1965, when the construction of the NNG started. In the same way, the moving assembly line was not an innovation introduced by Ford for the Model T. The "lift slab" technique consisted in assembling a slab on the ground, and then lifting it to the desired height, 8,70 meters in this case. The eight load-bearing columns were attached to the same hydraulic jacks that were used to lift the roof up, so that from a quasi-horizontal position they were brought to their final, vertical position. After the columns were fixed to the pedestal, the cover was dropped from the circa 15 centimeters added to the final height of 8,70 meters and fixed to the heads of the columns. The process was inherently spectacular and lasted a couple of days, during which the roof was slowly, constantly lifting, dragging the columns with it.[28]

The NNG is an invention that emerged from Mies and his office, together with the civil engineering office that calculated the structures. As any complex building, it was embedding previous inventions and innovations in architectural thought and in building techniques. Among the firsts was Mies' own "less is more" formula, which he had been practicing for decades. Further, there was the "lift-slab" technique, imported from America. The NNG brought an obvious change to the urban surroundings, still scarred by the war, in the very fact that it was built. Part of this change was not due to the agency of the architectural project because the building site was selected through a planning activity that happened before Mies was chosen as the architect. The NNG also brought change in the cultural landscape of west Berlin and of west Germany, for the very reason that it is a museum. However, how much this change is due to the institution and how much to its architecture, is an open question. The nearby concert hall designed in the same years by Hans Scharoun, successfully participated to the same effort of consolidating the cultural image and scene of a new Germany, but when it comes to architecture, it is based on complexification rather than simplification.[29] It is not a Model T. As to progress, which would consist in contributing to the identity of a free nation, it makes sense to consider it as far as we admit that the architecture largely prevailed on the institution, and that the contribution of urban planning was almost irrelevant. Both these positions seem arduous to be supported with documents. With these cautionary observations, we

[28] *Ibid.*, p. 159.

[29] C. Krohn, *Hans Scharoun: Buildings and Projects*, Birkhäuser, Basel, 2018, pp. 140–147.

can send to Amy March a model of the Neue Nationalgalerie, in a scale that allows her to still hold it, while keeping the details recognizable, as Mies would have appreciated.

Conclusions

The Greek temple, the balloon framing, the solid of de Saint-Venant, and the New National Gallery offer insights into how the flow from invention to innovation to change to progress works in architecture. The four cases are deliberately drawn from different phases of the architectural project.[30] The Greek temple is a design concept, the balloon framing is a construction system, the equation of de Saint-Venant is a method of structural calculus, the New National Gallery is a built project. As far as we consider the links between invention and innovation, they behave similarly: disciplinary innovation is prompted from a collective or an individual invention, which is in turn prompted by other inventions or innovations from within and outside the field. As to the link between innovation and change, it is strong in the first three cases because they recognizably introduced changes in processes of design and construction. And when it comes to societies in general, the massive quantity of buildings that have been built under their influence seems in itself a factor of change. It is not about how these buildings changed the lives of their own users and inhabitants but about their impact on long-term cultural, economic, and political histories. Conversely, in the fourth case, change is less recognizable because we come across the conundrum of the agency of a specific architectural project. We cannot tell how far the history of the NNG after the opening of the building has been determined by its architectural design, or simply by decisions and actions that have been taken beyond it. When it comes to the link between change and progress, the first three cases show different nuances of evidence and, of course, they would find larger or smaller consensuses. The fourth, again, questions the very agency of buildings, and thus of architecture as an object out of the control of its designers. Referring to the "clouds and clocks" discussed by Karl Popper in his 1966 lecture on determinism in the philosophy of science, the NNG may suggest that buildings—even if they

[30] I am considering the "architectural project" in the sense of A. Armando, G. Durbiano, *Teoria del progetto architettonico: dai disegni agli effetti*, Carocci, Rome, 2017.

are designed with the ambition of making clocks—are more like clouds, once they are in use.[31]

Under these considerations, filling the floor dedicated to architecture in the Mall of Progress seems to be more controversial than filling other floors. But being controversial seems to be a constant of architecture that is not subject to change.

Intertwining architecture with philosophy, we may try to find some reasons for this, and a possible reason lies in the ambivalence of buildings between aesthetics and technology. Architects cultivate aesthetic ambitions for their buildings, and in the public discourse a common dichotomy for evaluating architecture is beautiful-ugly. Therefore, with reference to a seminal article by Mikel Dufrenne, we can consider buildings at the same time "technical objects" and "aesthetic objects."[32] As Dufrenne claims, "an aesthetic object distinguishes itself from the world" in opposition to a "technical object" which is made for the world.[33] The New National Gallery is a patent example of this: the upper pavilion is conceived to appear detached from the city surrounding it. On the other hand, as technical objects do, the NNG performs a number of functions. The performances of "technical objects" can be measured. In the case of the NNG, for instance, we can measure the performances of its systems and the strength of its structure. But when it comes to aesthetics, there are no measurements to rely on. How many people visited the building for its architectural features, and how many just because of the cultural programs hosted in it? How many people actually changed their opinion—to give a random example—about *Ostpolitik* because they appreciated the work of an architect who in his young years designed a monument to the Spartacists? These questions cannot be answered, for the simple reason that "aesthetic objects" put themselves out of the world, and therefore out of cause-effects sequences.

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[31] K. Popper, *Of Clouds and Clocks: An Approach to the Problem of Rationality and the Freedom of Man*, Washington University, St. Louis, 1966.

[32] M. Dufrenne, "The Aesthetic Object and the Technical Object," *The Journal of Aesthetics and Art Criticism*, 23, 1, 1964, pp. 113–122.

[33] *Ibid.*, pp. 116, 120.

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DOI: 10.5281/zenodo.11483880
Original Scientific Article
Received: March 2, 2024; Accepted: May 22, 2024

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In Search of a Hybrid Antiquity, *circa* 1516

ABSTRACT: Architectural and pictorial modes developed in Raphael's Workshop and subsequently in Giulio Romano's work are investigated here in part as a reaction in part to the strictures of Vitruvius against the transspecies transfiguration of *grotesque* ornamentation. It is generally stated that the Renaissance sought to bring back the Antiquity, but one could ask which Antiquity, or rather which Antiquities. A close-reading of Vitruvius' and (seemingly) Horace's objections to such hybrid manifestations of transformative change reveals contradictions and affordances that Raphael and Giulio will intensify in the hybrid transmedial modes of their art and architecture developed within the political and religious changes of that time.

KEYWORDS: Bibbiena, Giulio Romano, grotesque, Horace, hybridity, Raphael, transformative signification, Vitruvius

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I.

In Raphael and Baldassare Castiglione's *Letter to Leo X*, proposing the need for an extensive survey of the extant ancient architecture of Rome—given its destruction by "the Goths, Vandals, and other perfidious enemies of the Latin name" (as well as by, stated but unnamed, a number of Pontiffs)—there is one sentence in particular that stands out, given certain of Raphael's work in the Papal Palace, which may strike one as having a particularly inadvertent ironic aspect. Having stated the perfection of much of architectural and ornamental style of the ancient Romans, the letter sets up the following counter-example:

> And the Germans, whose style still endures in many places, often use as ornament small huddled and poorly made figures, as corbels to support a beam, and strange animals and awkward figures and foliage beyond all natural reason.[1]

If Raphael and Castiglione here are complaining about the lasting influence of Goth modes from centuries earlier, then three centuries hence John Ruskin in his *The Stones of Venice* would mirror a neo-Gothic retort back at Raphael regarding all the strange animals and awkward figures and foliage in the grotesques that cover what has come to be called Raphael's Loggia, which Ruskin stated "may be generally described as an elaborate and luscious form of nonsense [...] an artistical pottage, composed of nymphs, cupids, and satyrs, with shreddings of heads and paws of meek wild beasts, and nondescript vegetables:"

> And herein lies the real distinction between the base grotesque of Raphael and the Renaissance, above alluded to, and the true Gothic grotesque. Those grotesques or arabesques of the Vatican, and other such work, which have become the patterns of ornamentation in modern times, are the fruit of great minds degraded to base objects [...]. If we can draw the human head perfectly, and are masters of its expression and its beauty, we have no business to cut it off, and hang it up by the hair at the end of a garland. If we can draw the human body in

[1] My translation is of the version in the Castiglione family archive in Mantua: "*E li Tedeschi, la maniera de' quali in molti lochi anchor dura, per ornamento spesso poneano solo un qualche figurino aranichiato e mal fatto per mensola a sostenere un travo et animali strani e figure e fogliami goffi e for d'ogni raggione naturale*." (Original text in J. Shearman, *Raphael in Early Modern Sources (1483-1602)*, vol. 1, Yale University Press, New Haven, 2003, p. 505).

> the perfection of its grace and movement, we have no business to take away its limbs, and terminate it with a bunch of leaves.[2]

It might be imagined that Raphael would hardly have been surprised had he read Ruskin's critique of this work as *non*sense (Ruskin's version of Raphael's "beyond all natural reason"), because he had already read a similar critique from centuries prior, by Vitruvius, in a similar moment of pique against what he called the "false reasoning" [*ratio falsa*] of the style of wall painting from antiquity that Raphael had adopted—first for Bibbiena's *Loggetta* and *Stufetta* and then later for the papal Loggia, because whereas previous images

> which were modelled on reality, are now condemned in the light of current depraved tastes; now monstrosities [*monstra*] rather than faithful representations of definable entities are painted in frescos. For example, reeds are put up in place of columns, fluted stems with curly leaves and volutes instead of pediments, as well as candelabra supporting representations of shrines, above the pediments of which tender flowers with volutes rise up [*surgentes*] from roots and include figures senselessly [*sine ratione*] seated on them, and even stalks with half-length figures, some with human heads, others with the heads of animals.[3]

Ruskin, no friend of Vitruvius—"the reader can have no conception of the inanities and puerilities of the writers, who, with the help of Vitruvius, reestablished its 'five orders'"[4]—nonetheless coincides with the latter's characterization regarding the degraded and depraved mentality that would depict heads as detached and suspended or as reattached in hybrid human-vegetative figurations. Coinciding as well with Vitruvius's assessment of these representations as monstrosities: "Raphael's arabesque . . . is an unnatural and *monstrous* abortion."[5]

If for Ruskin these works are "mere idleness" because they have "neither meaning nor heart,"[6] for Vitruvius, their existence is idle and senseless because they seem structure-less:

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[2] J. Ruskin, *The Stones of Venice, Volume the Third. The Fall,* Smith, Elder & Co., London, 1853, pp. 136, 143–144.
[3] Vitruvius, *On Architecture*, Penguin, London, 2009, VII, 5, 3, p. 207.
[4] J. Ruskin, *The Stones of Venice, Volume the Third. The Fall*, p. 98.
[5] *Ibid*., p. 144, emphasis added.
[6] *Ibid*.

> These things do not exist, cannot exist and never have existed. For how, in the real world, could a reed possibly support a roof, or a candelabrum the mouldings of a pediment, or such a thin and flexible stalk support a little figure sitting on it, or roots and stalks generate [*procreari*] flowers or half-figures? But when people see these falsities they do not criticize them but find them delightful [*delectantur*], ignoring the problem of whether any of them can exist or not.[7]

The fact that this is Vitruvius speaking, the very source that Raphael was studying and supposed to be modeling his architecture upon, and whom in the second and particularly the third sentence following the invective against unreasonable arrangements of German ornament in the *Letter to Leo X* is summoned as the arbitrator of certain antique architectural arrangements, should provide a moment of pause: "But there is no need to talk about Roman architecture to compare it with barbarian [*la barbara*] architecture, because the difference is quite recognizable, nor to describe its arrangement [*ordine*] since this has already been so excellently written about by Vitruvius."[8] Yet, while it is generally stated that the Renaissance sought to bring back the Antiquity, one could ask which Antiquity, or rather which Antiquities? And in so asking suggest that the transformation of that Antique past into the Cinquecento present should be stated in the plural, as often conflictual as corroborative in its plurality. Because if there was any aesthetic mode from antiquity Raphael would have been expected to avoid, had he been following Vitruvius to the ("excellently written") letter, it would have been from this moment in the ten books when Vitruvius gets up on his highest horse (as compared to Ruskin, who seldom gets down off of his). The moment, in other words, that Vitruvius is not just merely corrective to what he perceives as errors in proportion to existing examples, but is so clearly exasperated to the extent that he categorically interdicted these pictorial arrangements of monstrous hybridity, as evident in their conjoined characteristics: reed-columns, vegetative-pediments, candelabra-supports,

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[7] Vitruvius, *On Architecture*, VII, 5, 4, p. 207.

[8] This translation is adapted from "The Letter to Leo X by Raphael and Baldassare Castiglione (c. 1519)" in V. Hart, P. Hicks (eds.), *Palladio's Rome: A Translation of Andrea Palladio's Two Guidebooks to Rome*, Yale University Press, New Haven /London, 2006, p. 185, modified slightly to reflect the fact that, in all three extent versions of the manuscript, the original text was a single sentence rather than broken into two. I have also incorporated the Mantua manuscript's *scritto* rather than the *scripto* of the Munich manuscript used by Hart and Hicks.

and vegetative-mammals.[9] Actually, Raphael did follow Vitruvius to the letter, but in an inverse manner, depicting in Cardinal Bernardo Dovizi da Bibbiena's Loggetta, *circa* 1516, each and every one of these four interdicted monstrous items from Vitruvius's diatribe.

The medievalist Caroline Walker Bynum has proposed that it was in response to unsettling questions of identity raised by accounts and images of monsters that "concepts of change themselves began to change in the years around 1200 and that two images in particular, hybrid and metamorphosis—images prominent in imaginative literature, theological, the visual arts, and natural philosophy—were sites of these competing and changing understandings."[10] Bynum characterizes this shift from "change not as replacement but as evolution or development, as alteration of appearance or mode of being."[11] Evoking Isidore of Seville's etymological explication that monsters as omens "derive their name from admonition (*monitu*), because in giving a sign they indicate something (*significando demonstrent*), or else because they instantly show (*monstrent*) what may appear (*appareat*)," Bynum states that this naming from the verb *monstrare* (to show) derives "not from their ontology but from their utility," indicating a category not "merely strange or [...] simply inexplicable [...] but a strange that matters, that pointed beyond itself to meaning."[12] Not just meaning something, but pointing to meaning, making apparent the epistemological process of meaning, as observed by Michel Foucault: "Paradoxically, the monster is a principle of intelligibility in spite of its limit position as both the impossible and the forbidden."[13] *Significando demonstrent*: in the context discussed here, it is not in spite of, but because of, their limit positions that monsters make apparent and intelligible the mutable paradoxes inherent in demonstrations of signification.

In order to examine what these conflictual demonstrations of signification tell us about epistemological changes in the aesthetic and political modes of the Cinquecento, the initial sections here will investigate certain contradictions and paradoxes regarding these matters in the strictures expressed by Vitruvius and (seemingly) by Horace against selected

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[9] S. R. Yerkes, "Vitruvius' *monstra*," *Journal of Roman Archaeology*, 13, 2000, pp. 234–251.
[10] C. W. Bynum, *Metamorphosis and Identity*, Zone Books, New York, 2001, p. 21.
[11] *Ibid*., p. 23.
[12] *Ibid*., pp. 23, 71–72. The English translation of Isidore of Seville is from Isidore, *The Etymologies of Isidore of Seville*, Cambridge University Press, Cambridge, 2006, p. 244.
[13] M. Foucault, *Abnormal: Lectures at the Collège de France, 1974–1975*, Picador, New York, 2003, pp. 56–57.

transformative changes and exchanges in the aesthetic modes of their Augustan age. In contrast to such strictures, the archeological evidence Renaissance artists encountered in their own explorations of local ancient sites suggested opportunities for creative investigations circulating around these monstrous hybrids and various forms of metamorphosis.

2.

With regard to Vitruvius's *monstra*, this is an epistemological problem of what—to use his own characterization of the false reasoning and present madness in the public reception of these images—may be categorized as *delightful*, and how it may be arranged, and where. Henry Wotten's well-known but incorrect translation of Vitruvius's oft-cited triad as "Commoditie, Firmenes, and Delight,"[14] where the correct translation of the third term *venustas* should be "beauty," ironically points to the fact that there is very little "delight" related to architecture or art to be found in Vitruvius. Which I would suggest became a problem for Raphael and for Giulio Romano, Raphael's main assistant in the Workshop, such that they were compelled to find other antiquities as counterpoints—not to replace but to further develop the restrictive one proposed by Vitruvius—given that their intensive study of the remains of antiquity, across a range of media, revealed to them a much wider range of modalities and styles. And one of the principal ones they chose is the very one Vitruvius rejects, an alternative antiquity made apparent by the mutability in the monstrousness of hybrids.

Benvenuto Cellini confirms the allure and nomination of this mode, saying that the proper name for the style known as grotesques should be "monsters," in a counter-reference to some Turkish daggers whose designs he felt compelled not only to copy but to outdo. Parallel to the North-South rivalry against "the Germans," this is an East-West competition—in keeping with the crusades against the Ottoman empire that Leo X had tried to enlist against Sultan Selim, with the animosity continuing under Adrian VI and Clement VII in regard to Selim's heir Sultan Suleiman.[15] Cellini, unlike Raphael, shows some appreciation rather than distain or at best begrudged acknowledgement in this rivalry, but, like Raphael, evokes a partisan prejudice: "the Turkish leaf-cluster [...]

[14] H. Wotton, *The Elements of Architecture*, John Bill, London, 1624, p. 1.
[15] K. M. Setton, "Penrose Memorial Lecture. Pope Leo X and the Turkish Peril," *Proceedings of the American Philosophical Society*, 113, 6, 1969, pp. 367–424.

though quite pretty, eventually lose their charm, unlike our foliage." Cellini, who just prior to this sentence has told us how his daggers were "more beautiful and durable" as he made them out of steel rather than the Turkish iron, then enumerates various Italians ways of depicting foliage and their relation to certain pictorial modes from antiquity, which leads to his explanation of the misnomer "grotesque:"

> In Italy we have various ways of creating foliage: the Lombards make extremely beautiful foliage, copying the leaves of ivy and clematis with extremely beautiful spirals that are *delightful* [*piacevol*] to look at; the Tuscans and Romans make a much better choice in this kind of work, because they imitate the leaves of the acanthus [...] Some such figures are [...] accompanied by other beautiful conceits of these talented craftsmen: these things are called "grotesques" by those without much knowledge. These grotesques have acquired this name among the moderns, since they were found in certain underground caverns in Rome by scholars, and these caverns were, in ancient times, rooms, baths, studies, halls, and other such structures. These learned men discovered them in such cavernous sites, since the ancients had erected them on the ground level, where they remained while the ground rose, and because in Rome such underground sites are called "grottos," from this derived the name "grotesques." This is not their proper name, because just as the ancients took *delight* [*dilettavano*] in composing monsters by the copulation of goats, cows, and horses, from which were born the *mixtures* [*mescugli*] they called monsters, so in like manner their artisans created with their foliage this same kind of monsters: and "monsters" is their true name and not "grotesque."[16]

Vasari, in his 1550 edition of *Le vite*, corroborates the monstrously fantastical nature of this mode, first seeming to concur with the negative assessments of both Vitruvius and Ruskin:

> Grotesques are a licentious and very ridiculous [*licenziose e ridicole molto*] sort of painting, executed by the ancients to adorn spaces in

[16] B. Cellini, *La Vita*, L. Belloto (ed.), Fondazione Pietro Bembo/Ugo Guanda Editore, Parma, 1996, pp. 112–115; English translation: B. Cellini, *My Life*, Oxford University Press, Oxford, 2002, pp. 52–53, emphasis added. I have modified the translation by removing the word "sorry" as qualifying the chimerical "mixtures" in the final sentence, as no such word (and its implied judgment or valuation) occurs in the original text: "*nascendo questi mescugli gli domandavano mostri*."

> which nothing else was appropriate except things in the air. Thus, they made them full of deformed and *monstrous* [*monstri*] things, strictly according to the nature, whim and caprice of their makers. These are made *without adherence to any rule* [*senza alcuna regola*], depicting a thread so fine that it could not possibly bear the weight suspended from it, a horse with legs made of leaves, a man with the legs of a crane and infinite numbers of banners and small birds.[17]

Vasari then states that while the ancients developed these figurations without rule, later they were regulated [*regolate*] into friezes and compartments to beautiful effect, which allows him to invert what appeared as his prior negative judgements into high positive praise: "This practice became so widespread that in Rome, and in every place that the Romans resided, some vestige of these decorations is still preserved. In truth, with their touches of gold and carved stucco, these are cheerful works that are *delightful* [*dilettevole*] to see."[18] How did such licentious and ridiculous pagan monsters without rule come to be regulated as cheerful and delightful works in the Vatican?

You could pin this problem of iconographic non-*sense and sensibility*—this initiative to find delight in antiquity and renew it in a modern way—not on Raphael or Giulio, but on their patron Leo X, as many have, citing his liberal manner and his alleged comment to his brother Giuliano: "Since God has given us the papacy, let us enjoy it." Or even by citing the letter the Pope sent to his friend Cardinal Bibbiena on the 13 July 1516 extolling the virtues of Bibbiena's apartment, saying that even he himself "wished to use that apartment which you inhabited hitherto, for it is especially conducive to joyfulness [*laetitiam*] and good spirits [*exhilarationem*] on account of the wondrous colonnade and its many beautiful views."[19]

Not that Bibbiena got to inhabit it much hitherto, as there was not even a month's lapse between Pietro Bembo's letter of 20 June 1516 telling Bibbiena that Raphael had completed the loggetta, apartment,

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[17] G. Vasari, *Le vite de' più eccellenti pittori, scultori, e architettori* (1568), R. Bettarini (ed.), Edizone Giuntina, SPES, Florence, 1966–1987, p. 270. http://www.memofonte.it/home/files/pdf/vasari_vite_giuntina.pdf; English translation by B. Edelstein, "The Camera Verde: A Public Center for the Duchess of Florence in the Palazzo Vecchio," *Mélanges de l'Ecole française de Rome. Italie et Méditerranée*, 15, 1, 2003, p. 65.

[18] *Ibid*.

[19] Translation by Shearman in J. Shearman, *Raphael in Early Modern Sources (1483–1602)*, vol. 1, pp. 263–264.

and stufetta before the Pope already had requisitioned it, not for himself but for his own institutional usage. In the 13 July letter, Leo is writing really to tell Bibbiena that his apartment was now to be occupied by Leo X's infirm friend Cardinal Jacopo Serra, but would be returned to him upon Serra's death. When that death did occur the following year, rather than Bibbiena, it was Cardinal Raffaele Riario, accused of being associated with the planned assassination attempt on Leo X, who was the next occupant.[20] On the principal, apparently, not merely of "keep your friends close and your enemies closer," but rather "keep your enemies under house-arrest in your own house until they give you their house," as among the recompense exacted out of Riario was his very grand Palazzo Riario, henceforth called Palazzo della Cancelleria. One wonders what Cardinal Riario would have felt looking at the depictions of the satyrs in the Loggetta that Nicole Dacos has noted were "seated on trophies of armaments, their arms tied behind their backs like prisoners," or the scenes of Apollo restraining Marsyas,[21] stripping him of his skin for having lost in their competition, let alone (in another register) a different sort of stripping depicted in the nearly nude male figures in the act of hanging up the cloths that threaten to unrestrainedly billow away, were they not wrapped (just barely) around their privates.

For Vitruvius and Ruskin it was not the aforementioned restraints, but rather the overall lack of restraint, the unrestrained over-delightfulness, of these architecturally-scaled decorations that concerned them.

You could also pin this on Cardinal Bibbiena, as many have, given his licentious and ridiculously witty play of double-entendres and double-identities, *La calandra*, which may still seem startling that it was performed publicly before Leo X in 1514. In Leo X's letter to Bibbiena, the Pope states that he thought the apartment "would be both useful and delightful [*usui et voluptati*] to you" given "the crowds of people flocking to see you at all hours," and then compares his friend's nature to its design, as rejoicing "in happiness and gaiety [*laetitiis et hilaritatibus gaudet*]."[22] That hilarity may certainly be noted in the broadest, most ribald, moments of *La calandra*. But Castiglione's casting of Bibbiena as a character in *The Courtier*, as the spokesperson throughout Book II

[20] *Ibid*., pp. 263–264.

[21] N. Dacos, *The Loggia of Raphael: A Vatican Art Treasure*, Abbeville, New York, 2008, p. 33.

[22] Translation by Shearman in J. Shearman, *Raphael in Early Modern Sources (1483–1602)*, vol. 1, pp. 263–264.

who extols the hybrid combination of the witty *and* the grave, is in keeping with the Cardinal himself, considering that beyond his oft-cited witticisms, he was, as treasurer and secretary of state [*segretario di stato*] to Leo X, considered by many to be second only to the Pope in power. It is worth noting that spatially the position of Bibbiena's apartment in the Vatican was right over the Pope's apartments, with a staircase connecting the two. Not even a month had passed since Leo X's election when Ludovico Ariosto complained that it was impossible to visit with and to use Bibbiena as a "go-between because he is such a big shot [*troppo Gran Maestro*] and so difficult to get hold of."[23]

It was diplomatic missions for the papacy that instigated Bibbiena's long absences away from his apartment, and although he did return by 11 November 1517, it was following the eighteen-day occupation yet again of his apartment by Thomas de Foix, Seigneur of Leon, "a special envoy sent by Francis I to offer all possible help against the Turk."[24] Bibbiena would then follow after this mission, leaving again in April 1518 as papal legate to the France to foster the pope's plan for a crusade with Francis I against Sultan Selim. This sort of mission is portrayed by Raphael in the *Stanze* in *The Battle of Ostia*, as a hybridized multiverse, temporally seemingly set seven centuries earlier as Leo IV overseeing the defeat of the Saracens (a generalized term for Arab infidels), but in Raphael's depiction Leo X is cast as Leo IV, while arranged standing right behind him at the edge of the fresco are the two most powerful members of his court, his nephew the Cardinal Giulio de' Medici (the future Pope Clement VII) and Cardinal Bibbiena. These geo-religious-political coordinates were already on Bibbiena's mind in 1513, as indicated in the spoken Argument [*Argumento*] of *La calandra*, the plot summary that follows directly after the Prologue. Before the play begins, we are told that the twins' separation from their home city and each other that resulted in the sister Santilla adopting, for her safety, the male role in the attire of her brother Lidio, occurred because "the Turks took Modon and burned it, killing everyone they found there." Modon, as Laura Giannetti and Guido Ruggiero note, was a "Greek city controlled by Venice as part of its maritime trading empire. As an important port city for the

[23] Ariosto writing (from Rome) to Benedetto Fantino, 7 April 1513, quoted in L. Ariosto, *"My muse will have a story to paint": Selected Prose of Ludovico Ariosto*, University of Toronto Press, Toronto, 2010, p. 41.

[24] J. Shearman, *Raphael in Early Modern Sources (1483–1602)*, vol. 1, pp. 304–305.

Venetian war fleets, it was a regular bone of contention between Venice and the Turks."[25]

A witty performance, then, set within the context of the grave. As Virginia Cox has observed, *The Courtier* shares with Cicero's *De oratore* a casting of characters whose "power and knowledge" are of high social and political status,[26] and it is within such a serious context that both of their excurses on the performance of wisdom through wit are developed. Bibbiena's excursus is more extensive than Julius Caesar Strabo's in *De oratore*, taking up over half of Book II of *The Courtier*, and there are many techniques of critical intelligence in precise correspondence with the aesthetic ideas expressed by Raphael's Workshop and later in Giulio's work—including "ambiguity (*vario significato*)," "counter-balance (*contrapeso*)," "overstatement and understatement," and "that which is contrary to expectations"[27]—to cite just a few of the ones more pertinent to their relational aesthetics in sites of "power and knowledge" in the Vatican Palace.

3.

The epistemological process of change and exchange in these techniques of ambiguity, counter-balance, overstatement and understatement, and being contrary to expectations (by undermining or overturning them) are certainly ways we can understand the problems for Vitruvius—and with Vitruvius—in regard to the pictorial mode of Raphael that came to be known as the *grottesche*. As Decos has observed in Bibbiena's Loggetta, around

> the little temples and the scenes of Apollo and Marysas were depicted grotesques that do not rest on any foundation and appear to be suspended in a void, defying gravity. Raphael even dared to make jokes on the subject, imagining, for example, potbellied old men who stride forth on very fragile stems while one of the Cupids accompanying them is forced to use a pole so as not to lose his balance.[28]

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[25] L. Giannetti, G. Ruggiero, (eds.), *Five Comedies from the Italian Renaissance*, Johns Hopkins University Press, Baltimore, 2003, p. 3.

[26] V. Cox, *The Renaissance Dialogue: Literary Dialogue in Its Social and Political Contexts, Castiglione to Galileo*, Cambridge University Press, Cambridge, 1992, p. 14.

[27] In Book II, see sections 58, 64, 70, 85: B. Castiglione, *Il libro del cortegiano*, W. Barberis (ed.), Einaudi, Turin, pp. 199–200, 208–209, 215–216, 234–236; B. Castiglione, *The Book of the Courtier*, D. Javitch (ed.), W. W. Norton, New York, pp. 114–115, 119, 123, 132–134.

[28] N. Dacos, *The Loggia of Raphael*, p. 34.

Verity Platt has provided the most astute reading of Vitruvius's discomfort in this regard, noting Vitruvius's focus on those forms that "are incapable of fulfilling their role as structural devices." That the grotesque for Vitruvius overstate their understated structural capabilities with untenable balancing acts and, in addition, exhibit ambiguous mixtures and hybridity that are contrary to conventional expectations, was not just a technical problem, it was a moral problem. It was not merely that the pictorial structures were at risk, it was the structural basis of society and reasoning that is at risk:

> That such forms may also sprout the heads of humans or animals is simply confirmation of their irrational nature [...]. While the transformation of structural devices into vegetal forms may delight the viewer (*delectantur*), it engenders a contradiction between form and function which, by undermining architectural precepts, typifies a moral malaise (*iniquis moribus* [...] *iudiciis infirmis*) that threatens the very structure of society [...]. The language of structure is thus combined with the language of reason: it is "irrational" (*sine ratione*) that flowers should support seated figures; it is due to "clouded minds" (*obscuratae mentes*) that contemporary viewers are incapable of judging images that exist "by reason of decorum" (*ratione decoris*).[29]

Both Platt and fellow classical scholar Jaś Elsner have noted that in the two paragraph-sections (VII, 5, 1–2) just proceeding his outrage, "Significantly, Vitruvius does not reject illusionism itself as morally dangerous; he has no criticism for the 'subjects copied from real things' (*ex veris rebus exempla*) that typified Second Style *trompe l'œil*." Nor does Vitruvius criticize the wall decoration that he states first "imitated the various patterns and shapes of stuccos made from powered marbles and then various combinations of garlands, decorative mouldings and borders," progressing in their ability "to imitate the forms of buildings and three-dimensional projections of columns and pediments [...] stage-sets in tragic, comic or satiric styles," and "a variety of landscapes." And no criticism for what Vitruvius describes as "sequences of mythological narratives, as well as the battles of Troy, or the wanderings of Ulysses from

[29] V. Platt, "Where the Wild Things Are: Locating the Marvellous in Augustan Wall-Painting," in P. Hardie (ed.), *Paradox and the Marvellous in Augustan Literature and Culture*, Oxford University Press, Oxford, 2009, p. 55.

country to country."[30] Illusion and mythological fantasy, in other words, "generated by the natural world reproduced on similar principles," are not a problem for Vitruvius. Or so he says, even though of course Roman mythological narratives are filled with hybrid creatures and cross-species transformations—enough to fill two of the most significant literary books of antiquity, the *Metamorphosis* of Ovid and of Apuleius—as well to have crucial roles and poignant appearances throughout the works of Homer that Vitruvius evokes. In the *Iliad*, for example, there appears the very creature whose name will henceforth become the standard term for hybridity, the Chimaira ("lion-fronted and snake behind, a goat in the middle"), and indeed the hero Achilles is son of the sea-nymph Thetis and the human Peleus. In the *Odyssey* there is Proteus's polymorphism ("First he took on a lion's shape, / a serpent then; a leopard; a great boar; / then sousing water; then a tall green tree") as well as the off-scene then on-sense transformations by Circe of Odysseus's men into pigs and back again ("and then behold! their bristles fell away, / the course pelt grown upon them by her drug / melted away, and they were men again").[31] As long as these scenes are enframed and depicted within "a clearly demarcated zone of pictorial 'representation'," they appear to be acceptable to Vitruvius. As Platt notes, in "the *De Architectura*, *monstra* are not, therefore, defined by their subject matter, so much as their violation of the Vitruvian principles of representational verisimilitude (*veritas*), rationality of design (*ratio*), and structural appropriateness (*decor*)."[32]

In other words, delicate decorative elements as supplemental features to these scenes would only be appropriate as décor, as extrinsic to the "real" representations, as the background field against which enframed and cordoned off figural scenes structure the visual experience. They become indecorous as they become ambiguous, overstating their positions by becoming foregrounded figures emanating from the pictorial field, contraposing their supplemental (*paregon*) significance as, contrary to expectations, transforming to take on the work (*ergon*) of structure, envisioned not as some proper stable form but as a precarious (and, to *some*, delightful) balancing-act of identity.

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[30] *Ibid*., p. 55. See also J. Elsner, *Art and the Roman Viewer: The Transformation of Art from the Pagan World to Christianity*, Cambridge University Press, Cambridge, 1995, pp. 49–87; Vitruvius, *On Architecture*, VII, 5, 2, p. 206.

[31] Homer, *The Odyssey*, Anchor Books, Garden City, 1963, pp. 66, 177.

[32] V. Platt, "Where the Wild Things Are," pp. 56, 63.

In her passing reference to Immanuel Kant's concept (and Jacques Derrida's gloss) of the *parergon*, Platt suggests that rather than just being decoratively extrinsic (*para-*) as ornament (as Kant stated), for Vitruvius the frame is intrinsic to the real work (*ergon*) of the (painted) wall.[33] Yet, it should be said, the function of the frame within this painted world is still perceived as supplemental to the scene it enframes. And the trouble arises, as Derrida suggested, when that supplemental function calls into question what structures what. In these works of antiquity, and in Raphael and Giulio's work, this questioning is made manifest in two principal ways. The first occurs, as Vitruvius has told us, when the supplemental undergoes a radical transformation of identity to become structural. And the second occurs when what appears to be clearly demarcated identities between the structural and the supplemental become ambiguous, and thus act contrary to expectations, when those identities are optically inverted at the point of their attached interfaces. Platt's very potent example of the latter is the wall-painting from the Augustan time of Vitruvius, that of the Siren caryatid ("a *monstrum*—a hybrid not only of woman and bird, but also of living being and architectural element") from Cubiculum B in the Villa della Farnesina. As Platt observes, "confusingly, although she rests on a pilaster that seems to project from the wall into the space of the room, the panel she holds is painted as if suspended on a recessed plane of red. By blurring the distinction between planes, the siren thus undermines the three-dimensionality of the wall's architectural scheme, dissolving its *trompe l'oeil* effect even as she (literally) upholds it."[34] Thus beyond the indecorousness of individual pictorial figures changing or exchanging—in understated or overstated ways—their supplemental or structural roles, the whole pictorial field is put into an ambiguous unsettling dynamic that again resists, now at the architectural and environmental scale of the wall, the other two key-terms of Vitruvius's triad: durability (*firmitas*) and utility (*utilitas*).

"But when people see these falsities they do not criticize them but find them delightful"—when I said that there is little "delight" in Vitruvius, I meant this not just figuratively but literally, as there are only four other instances of this word being used in relation to aesthetic production in the ten books of *De architectura*. Three of which ironically

[33] *Ibid.*, p. 62. See I. Kant, *Critique of the Power of Judgment*, P. Guyer (ed.), Cambridge University Press, Cambridge, 2000, §14, 5:226, pp. 110–111; J. Derrida, *The Truth in Painting*, University of Chicago Press, Chicago, 1987, pp. 7–82.

[34] V. Platt, "Where the Wild Things Are," pp. 47–48.

exhibit the very dangers Vitruvius warned against. The first two of these instances occur in Book IV, in his telling of the origin stories of the Ionic order and the Corinthian order. The Ionic is described by Vitruvius as originally a feminized version of the Doric: "they used the same plans, adapting them to feminine gracefulness," making the former more slender by adjusting its diameter from the Doric's one-sixth of its height to be one-eighth "so that it would appear taller." Supplementing the column shaft, the bottom was lifted up by substituting "a base for the shoe, and on the capital they placed volutes at right and left like graceful curls hanging down from the hair; they decorated the fronts with convex mouldings and runs of fruit arranged like hair, and sent flutes down the whole trunk like folds in the robes traditionally worn by married women." It is amazing that the transspecies mixtures of non-structural entities that he complained about in Book VII—the vegetative (fruit) and the human (for the Ionic not even "half-length" human heads but even more disembodied still as just a wig of hair)—become not only structural but the most "intelligible" (or at least identifiable) attributes of this structural order. A seemingly indecorous decorative overstatement of significance, given the capital's supplemental role as merely the interface between the primary vertical structure and the horizontal structure it supports. And as for the fluting of the column emulating the pliable fabric of robes, with respect to Kant's list of three examples of extrinsic *parergon* elements, after the first example of frames around paintings, the supplement of drapery in sculpture is the second one cited in *The Critique of Judgment*.[35] Yet Vitruvius appears not to notice, in his description of the drive to "ensure that the columns would be capable of bearing the loads and that the beauty [*venustatem*] of their appearance would be assured," that this engendered transformation toward more beautiful ornament

[35] The example of frames was added as the first example in the second edition—thus drapery was first in first edition, then shifted to second in the second edition. In this latter edition, ironically, Kant's third and final parergon example is "colonnades around magnificent buildings." It should be stated that in many architectural traditions, the Western one in particular, an array of columns surrounding a central institutional space defines and structures the very originary moment of built magnificence. Thus, in Vitruvius's discussion of the seven types of temples, all have columns that are integral as thresholds with respect to a central *cella*, either in the form of porticos, or as single or double rows of columnar surrounds. There is, in other words, no way, according to Vitruvius, to separate columns and colonnades as supplemental from the real architectural work that is culturally constituted as a Temple (and equally so with regard to his discussions of the Forum and the Basilica).

[*ornatu venustiores*] begins to put into question the assurance of his own ideas regarding durability and utility.[36]

In spite of his judgmental critique in Book VII, here in Book IV Vitruvius ignores these problems and has no criticism when retailing these piecemeal tales about piecemeal tectonic constructions. Not when he tells us that, with regard to change, "later builders, becoming more sophisticated with regard to elegance and subtlety of judgment, and delighting [*delectati*] in more graceful modules" further accentuate the engendered difference between "one which looked naked, undecorated and virile, the other characterized by feminine delicacy, decoration, and modularity." Nor thus in his origin myth of the change in the orders with the development of the Corinthian capital, as Vitruvius does not seem to notice that when he tells us that Callimachus saw near the tomb of the deceased virgin her fragile "basket with the tender young [acanthus] leaves growing around it: delighted [*delectatusque*] by the style and novelty of the form, he built some columns at Corinth following this example," this very example would seem to be just the sort he would have railed against in Book VII. "For how," to use his own words in that Book, "in the real world, could" such "thin and flexible" hair and festoons of fruit and baskets and tender young acanthus leaves "possibly support a roof, or [...] the mouldings of a pediment"?[37]

Similarly the third reference to delight, two chapters later in Book IV, which begins as instructions to provide the technical assurance of stability [*firmiorem*] by assembling uniform sized masonry blocks with the vertical joints of each row positioned midway on the blocks of the adjoining rows (what Vitruvius termed *opus isodomum*), will end with the suggestion to dress up the blocks in a protruding rusticated manner, an artificed exaggeration, "so its appearance" is delightful [*delectationem*].[38] This exaggeration will become fully fictively non-structural with a trans-material change when Bramante at Palazzo Caprini will dress up common bricks, cloaking this veneer surface in stucco so their appearance will be that of rusticated load-bearing blocks in the *piano rustico* and noble orders in the *piano nobile*. A fictively-structural technique, revealed as non-structural when developed further—with regard to ambiguity,

[36] The Vitruvius quotes in this paragraph are from Book IV, 1, 6–7. Vitruvius, *On Architecture*, pp. 91–92.

[37] The Vitruvius quotes in this paragraph are from Book IV, 1, 7, 8, 10 and Book VII, 5, 4. Vitruvius, *On Architecture*, pp. 92, 207.

[38] Vitruvius, *On Architecture*, Book IV, 4, 4, p. 105.

counter-balance, overstatement and understatement, and being contrary to expectations—in the later palazzos of Raphael and Giulio.

Vitruvius's only other object-related use of delight is in Book X when he refers to the hydraulic and pneumatic "machines of practical use and sources of amusement [*delectationem*]" invented by Ctesibius of Alexandria.[39] Raphael and the Workshop will include in the *Loggetta* and the *Loggia* representations not only of each of the "delightful" examples of grotesque Vitruvius deplored, but also those "delightful" examples Vitruvius extolled: a water-clock in the *Loggetta*, *opus isodomum* and a fluted Corinthian order in the *Loggia*, festoons of fruit (implausibly suspended, for the loads they carry, by thin strands of red cord), Corinthian capitals (but capping the most slender of unfluted reeds, whose diameters are closer to one-forty-third of their height), and acanthus leaves (growing not around the virgin's basket but curling around in empty space or growing into hybrid creatures).

Obviously in spite of—or perhaps because of—Vitruvius's warnings and interdictions, the grotesque was not only delightful for Raphael but exhilarating as a mode, not only to imitate, nor even to evolve within its media in ways not found in antiquity as he indeed did, but, as an artist working across disciplines and media, to comprehend it more generally as a technique, as another dynamic mode of spatialized visual arranging, as those he found in the early relief sculptures on sarcophagi and the Arch of Constantine. Beyond the hybridity of individual figures, these latter examples and those of the grotesque enacted transformative figurations throughout complex fields, which were intensively developed through changes in pictorial and tectonic modes in these early years of the Cinquecento. What Raphael and Giulio encountered in their intensive archeology of the past, in their study of ruins and in other available artistic sources of antiquity—including literary ones such as Apuleius, Horace, and Ovid—were a series of creatively animated and transformational modes quite counter to the static prescriptions and proscriptions of Vitruvius.

4.

Horace and Ovid *were* contemporaries of Vitruvius, and while Ovid has been celebrated for his *Metamorphosis*, Horace has been, and continues to be, marshaled to shore up some united front of contempt for hybrid

[39] Vitruvius, *On Architecture*, Book X, 7, 4 and 9, 7, pp. 296, 303.

mixtures in the Augustan period, with the perpetual citation of the opening transspecies lines from his *Ars poetica*: "Suppose some painter had the bright idea / Of sticking a human head on a horse's neck / And covering human nether limbs up with / Assorted feathers so that a beautiful / Woman uptop was an ugly fish below, / And you were invited to take a look / How could you possibly manage to keep a straight face, my friends? [*spectatum admissi risum teneatis, amici?*]"[40] Elsner is one of the few scholars to note that if Vitruvius responds to the ridiculousness of hybrid form with ire, Horace does so with laughter [*risum*]: "Laughter and caricature [...] which is to say seeing the joke and laughing at the system, is a response far removed from Vitruvian condemnation."[41] Horace's poem continues in the next lines to state that the same principle regarding the fantastic holds true for poetry as for painting, when "You can't tell head from foot nor what it is / that they're attached to." When the narrator imagines his addressee providing the counter-argument "'Poets and painters,' you say / 'Have the right to do whatever they dare to do,'" the narrator's reply is "Well yes. We poets claim that right for ourselves / And recognize that other artists have it. / But it doesn't go so far as mixing up / Savage and civilized, mating tigers and lambs."[42] If there is one specific poet here that Horace could not manage to keep a straight face about, it appears to be himself, with his characteristic self-irony, given that the narrator in his earlier *Ode* II: 20 states his self-designation as *biformis*—"half-bard, half-bird" in David West's translation—and proceeds further to describe an actual transformation from civilized human into wild swan: "Already, even now, rough skin is forming / on my legs, my upper part is changing / into a white swan and smooth feather / are sprouting along my fingers and shoulders."[43] As a further link to *Ars poetica*, the classical philologist C. O. Brink has observed that in the opening lines this spreading [*inducere plumas*] over bodily members [*collastis mebris*] involves placing "feathers on the limbs joined to the neck."[44]

Two centuries later in *The Golden Ass*, Apulieus's narrator will describe his own transformation into a donkey, but prior to Horace's poem,

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[40] Horace, *The Epistles of Horace*, Farrar, Strauss and Giroux, New York, 2001, p. 151 (modified to include the phrase "dear friends" [*amici*] within the opening sentence, as Horace does, whereas Ferry moved it to the subsequent sentence).

[41] J. Elsner, *Art and the Roman Viewer*, pp. 57–58.

[42] Horace, *The Epistles of Horace*, p. 151.

[43] Horace, *The Complete Odes and Epodes*, Oxford University Press, Oxford, 2008, p. 74.

[44] C. O. Brink, *Horace on Poetry: The "Ars poetica,"* Cambridge University Press, Cambridge, 1971, p. 86.

as Elizabeth Sutherland observes, "However common such metamorphoses may have been in Classical literature . . . We have no other text in which a character narrates his own metamorphosis."[45] With human head and animal foot ambiguously attached and therefore ambiguously tell-able, this ode to the transmutational change of the poet "soaring immortal above earthly trivialities through the fame of his poetry,"[46] with its multiple bi-form mixtures—boasting and self-depreciating, civilized and wild, somber and comical—by turns in each strophe, has disturbed, even infuriated, numerous Horace commentators. Eduard Fraenkel, in the spirit of Vitruvius, claimed this transformation was "repulsive or ridiculous, or both," but D. A. Kidd incisively summarized a less judgmental estimation that the "whole ode [...] shows throughout a characteristic blending of humour and seriousness. It is the technique of the *Satires* all over again, *ridentem dicere uerum* (1. 1. 24)"—Horace's laughing while telling the truth.[47] Or, as Horace will say in *Ode* IV: 12, *Dulce est desipere in loco*, it is pleasant to be nonsensical in due place, the way wit acts as a technique of demonstrating the ambiguous sense and non-sense of any mode of signification.

In his comprehensive commentary on *Ars poetica*, Brink says that not knowing head from foot is "the metaphor proverbially applied to incoherence or inconsistency," but as the narrators of both *Ars poetica* and *Ode* II: 20 speak of actual figural parts—the sense and non-sense of their assembled signification— it is worth noting the long history of debates around questions of (in)coherence and (in)consistency regarding parts of certain figural parts in architecture, such as the capitals and bases of columns, and the problem of their respective attachment, already noted in the origin stories of Vitruvius. The latter part of Ferry's translation "You can't tell head from foot nor what it is / that they're attached to" is hardly literal—the sense of the line being rather, as Brink notes, that of an indeterminate condition, caused by these constituent parts not adding up to the shaping of a coherent and consistent species (*uanae / fingentur species*)[48] due

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[45] E. H. Sutherland, *Horace's Well-Trained Reader: Toward a Methodology of Audience Participation in the Odes*, Peter Lang, Frankfurt am Main/New York, 2002, p. 145.

[46] S. Harrison, "Horatian self-representations," in S. Harrison (ed.), *The Cambridge Companion to Horace*, Cambridge University Press, Cambridge, 2007, p. 29.

[47] E. Frankel, *Horace*, Clarendon Press, Oxford, 1957, p. 301; D. A. Kidd, "The Metamorphosis of Horace," *Journal of the Australasian Universities Language & Literature Association*, 35, 1971, p. 16.

[48] "*fingentur* is taken from the shaping of forms by the artist. It oscillates between the shaping of poetic elements . . . and the fashioning of ideas in the mind. This is a poetic ambiguity.

to the fact that these parts are not rendered (*reddantur*) as "so assigned to a form that it becomes one (*uni / reddantur formae*)."[49] Nonetheless, Ferry's phrasing points to the crucial technical and epistemological problems regarding the attachment of constitutive parts, such that they deliver, render up, a pre-determinate form of an already "knowable" and thus tell-able species.

In the concluding section of the *Letter to Leo X*, Raphael and Castiglione summarize Vitruvius's origin myths of the various seemingly coherent and consistent species of orders, but while the latter author stated that consequently mixing the orders would be an offensive (*offendetur*) act, the former authors state that they intend to show "Many buildings composed of different styles [*maniere*], such as Ionic with Corinthian, Doric with Corinthian, Tuscan with Doric, depending upon what seems best to the artificer."[50]

More than merely a game of stylistic mix n' match, it is precisely by playing—through ambiguity, counter-balance, overstatement and understatement, and being contrary to expectations—with the technical and symbolic problems involved in the positional arrangement and attachment of architecture's constituent parts that Giulio Romano revealed certain epistemological problems of such cultural determinacy and decorum. For example, in the garden façade of Villa Madama, which Giulio supervised after Raphael's death, the recombination of parts is from within the same species, but now tops and bottom lose some of their knowable distinctions by being made "confusingly" more similar, as segments of the continuous pulvinated frieze in the top entablature meant to express the horizontal distribution of structural loads are incorporated as extremely reduced dados in the pilaster pedestals meant to express vertical compressive loads. In Giulio's later Custom House Portal in Mantua, the compressive sense of this bulging pulvinated segment is shifted right down to the bottom of the pedestal, made all the more expressive as its barely-remaining understated plinth appears pushed almost into the ground, while above the frieze-less entablature has been shifted downward from its expected position as completely over-top the arch to form a ambiguous hybrid intermixture with the latter's keystone linked the two

[Horace's] poetry is full of them." C. O. Brink, *Horace on Poetry*, p. 90.

[49] "*uni*: not 'assigned to one form instead of to several' but 'so assigned to a form that it becomes *one*.'" C. O. Brink, *Horace on Poetry*, pp. 90–91.

[50] Vitruvius, *On Architecture*, I, 2, 6, p. 17, translated as "the appearance would be disconcerting"; V. Hart, P. Hicks (eds.), *Palladio's Rome*, pp. 191–192.

distinctive structural species. And curiously, in regard to that opening quotation from the *Letter to Leo X*, elevated above into the arch spandrels are, contrary to expectations, not higher-order winged angels, but rather small huddled (not badly but rather finely-made) figures, not as corbels to support a beam, but of lower-order porters laboring through Customs, compressed under the weight of their over-full sacked loads.

Regarding such hybridizing transformations, understandably Bynum has warned against any easy elision between the two processes she cited: "a hybrid is not just frozen metamorphosis; it is certainly not the end point or the interruption of metamorphosis. A hybrid is a double being, an entity of parts, two or more [...]. Metamorphosis goes from an entity that is one thing to an entity that is another."[51] And yet in *Ode* II: 20 and in the opening lines of *Ars poetica*, as well as in many works of Giulio, what is narrated within the image or the artifact is the process of metamorphic change within the bi-form hybrid, most often at the points of attachment: "Already, even now, rough skin is forming / on my legs, my upper part is changing / into a white swan and smooth feather / are sprouting along my fingers and shoulders." Such is also the case in Giulio's depiction in the Room of Psyche at Palazzo Te, wherein the satyr's horns and tails are conjoined goat figurations, but the enlarged and pointed human-like ears begin to unsettle, and even more unsettling is that the change in the legs is a phase-change: the partially furred partially fleshed thighs with forward-inclined (humanoid) knees transition down to back-legged (bovid) hocks and hoofs.

Already in his early Palazzo Stati Maccarani, Giulio is mixing the vertical "structural" capital of the *piano nobile* order with the lower element of the horizontal "structural" mid-cornice, visibly creating a hybrid mixture of two distinct structural species—but one that manifest a metamorphic transition, transforming from the clearly distinct pedestal at the level of residence of the noble patron as it changes upward into the de-nobilized abstract framework of the servant attic level.[52] Variations on forms of structural mixture are evident in projects developed in this time through Raphael's Workshop, such as in Palazzo Alberini and in the apsidal pilasters of Villa Madama, an attribute shared later at San Benedetto Po, as Tafuri noted, with the fusion of the capital of the center pilasters

[51] C. W. Bynum, *Metamorphosis and Identity*, p. 30.

[52] M. Rakatansky, "The Transformations of Giulio Romano: Palazzo Stati Maccarani," *Aggregate*, 5, 2017, https://we-aggregate.org/piece/the-transformations-of-giulio-romano-palazzo-stati-maccarani (accessed 11 January 2018).

in the nave aisle to their trabeation.[53] And in the neighboring Corinthian pilasters in this church, as a reflection on Vitruvius's origin stories, Giulio in*corporated* a basket-weave pattern in the capitals, above which unexpectedly are enframed and even in some cases appear to *emerge from* the foliated stalks (which again paradoxically are supposed to support the volutes) the very corporal detached grotesque heads that so infuriated Vitruvius—which Giulio had already been deploying in fresco and in relief all throughout Palazzo Te.

As for Horace's supposed censure of hybridity, it has been observed by Brink that *Ars poetica* is itself a mixture of "a series of violent contradictions," although as he said, as with "other instances of Horatian dialectics," such "contradictions cannot seem strange to the reader of the *Odes* or *Satires*."[54] But what remains to be noted with regard to hybrid mixtures in *Ars poetica* is that the poem is *full of them*—to use Brink's expression regarding the occurrence of poetic ambiguities throughout Horace's work. Just as soon as the narrator of *Ars poetica* proclaims strict segregation between certain classes of entities, he either finds immediately reasons not merely for their mixtures, but for a higher imperative that requires their mixture, or at most he will delay proclaiming this necessity until later in the poem. Merely three strophes after the head/foot comment, the narrator engages another hybrid compound form regarding the poetic invention of words, saying that you can make up new words, especially "if you get them from the Greek" (53). This linguistic mixture is immediately followed by a discussion of drama, with the narrator continuing the "foot" analogy by humorously (and as Brink notes, metonymically) stating that the iambic meter is appropriate for "comic sock and tragic buskin both" (80). And although it is then proclaimed that "every genre should keep to its proper style" (92), yet the very next line states "There are times, to be sure, when comedy raises its voice" in tragic diction, and in tragedy moments when the speaker "must give up / His vaunting high heroic words and use / Instead of these the language of common speech" (93–95). The notable dramatic characters that are then cited—Achilles, Medea, Ino, Ixion, Orestes, Antiphaten and the Cyclops, Scylla and Charybdis—are all notably hybrid or hybridized creatures, descended from or transformed as mortal and immortal mixtures (120–125, 144). Continuing

[53] M. Tafuri, "The abbey church of San Benedetto al Polirone" in E. Gombrich *et al*., *Giulio Romano*, Cambridge University Press, Cambridge, 1998, p. 270.
[54] C. O. Brink, *Horace on Poetry*, p. 469.

the discussion of drama later in the poem, the narrator proclaims his own drive for mixtures: "If I decided to write a satyr-play, / Pisos, you wouldn't find me confining myself / To a low colloquial style; when it was right. / You wouldn't find me avoiding a higher tone" (235–236). And even though from the first strophe the narrator stated that one shouldn't "go so far as mixing up / Savage and civilized," near the end of the poem it is stated that nature and art "Each has to depend on the other, and so together / They do the work as friends" (410–411).[55]

As for combining (*mescalanza*) the work of nature (*opera di natura*) and the work of art (*opera di artefice*)—"savage and civilized"—Sebastiano Serlio tells us that no one took more delight (*dilettato*) in this mixture (*mistura*) than Giulio Romano. When Giulio decides to use rustication in Palazzo Stati Maccarani we do not find him confining himself to that low style in the *piano rustico*, and thus rather than avoiding the higher tones of the orders its rustic Tuscan base evolves upward into a Doric capital, a hybrid mixture made more so by being topped with a (counterbalancing) bi-form mixture of social and material class and classification: the refined triangular pediment descended from the *piano nobile* interlocking with the large rustic stones of the *pittabande*. In his house in Mantua, constructed two decades later, his own hybrid upper-middle class was manifested as the low-style of rustication is spread up into the second level, while this upper level's high-toned arch and window-pediment is brought down into the lower level. If the attributes of the head and foot are indeterminate here, not adding up to the shaping of a conventionally coherent species of Roman palazzo design (with expectedly distinct constituent *piano rustico* and *piano nobile* parts), the most telling feature again is how they are attached. The string-course, which is supposed to be the border that keep these two class levels separate, has been hybridized with the upper-level pediment, which gives the appearance at the arched portal that this horizontal divide lifts up to manifest the transformative exchange between levels.

Further mixtures of species and structures were enacted by Giulio at Palazzo Te: the (savage) relief satyrs in the north lunette of the Room of the Eagle are crowned with (civilized) fluted capitals. And in the Secret Garden, as noted by Amedeo Belluzzi and Kurt W. Forster, "Stucco herms with changeable forms—human or satyr-like [...] are turned to an apparently structural purpose, as though they were telemons, or perhaps

[55] All translations in this paragraph are from Horace, *The Epistles of Horace*.

canephorai—given that they support the cornice on small wicket baskets"[56]—the basket not exclusively but more conventionally associated with female figures. In the latter example, equally incongruously and ambiguously headed-capitals are re-positioned attached to (rather than "supporting" from underneath) the frieze-like band under the top cornice. As there is no architrave, this frieze maybe considered as the bottom (or foot), but is spatially ambiguous in that it is a graphic relief against the lower wall rather than projecting forward with the cornice. Thus again an indeterminate structural condition is created by these constituent parts not adding up to the shaping of coherent and consistent species, because they are not rendered as "so assigned to a form that it becomes one." In other words, you can't tell head from foot nor what it is that they're attached to.

In summarizing the opening lines of *Ars poetica*, Brink concludes that Horace "clearly had the creator's love for these misshapen beauties. The caricatures of medieval architecture and the *grotesques* of the Italian Renaissance show how such fantasies can be accommodated in the larger design of another medium." Noting that the "place of unnatural configurations in Roman decorative wall painting [...] is adverted to, censoriously, by Vitruvius," he then, having previously cited no visual artist, nonetheless proposes in passing that the details of Horace's poem inspired "Raphael or his colleagues [...] in the *scherzi* of the Vatican *Logge*."[57]

That an artist (or architect) within the milieu of the Cinquecento might have read and seen through the ambiguities and contradictions of the *Ars poetica*, inspired and encouraged rather than discouraged to make such mixtures, is evident from the remarks of Michelangelo reported by the Portuguese artist Francisco da Hollanda in the *Third Dialogue* from Book II of his *On Antique Painting* [*Da pintura antigua*], published prior to both Cellini and Vasari in 1548. Notwithstanding the everlasting debates around these *Dialogues*, in terms of examining certain artistic responses to Horace in this period it matters little whether Hollanda is putting words into Michelangelo's mouth or Michelangelo is putting words into Hollanda's head and hand. What Hollanda conveys is that Michelangelo was "glad" to tell "why it is common practice to paint that which has never been seen in the world, and how justified such great license is,

[56] A. Belluzzi, K. W. Forster, "Giulio Romano, architect at the court of the Gonzagas," in E. Gombrich *et al*., *Giulio Romano*, p. 111.
[57] C. O. Brink, *Horace on Poetry*, p. 469.

and how it is very truthful, because some misunderstand it are wont to say that Horace, the lyric poet, wrote the following verse in vituperation of painters." The verse then quoted in Latin is: "'Poets and painters," you say / "Have the right to do whatever they dare to do" / Well yes. We poets claim that right for ourselves / And recognize that other artists have it." As narrated, Michelangelo doesn't go as far with the Horace quote as including the ever assumed censures that immediately follow ("But it doesn't go so far as mixing up / Savage and civilized, mating tigers and lambs"), because, he is given to say, "For that verse in no way defames painters, but rather praises and honours them; for it says that poets and painters have power to dare, I mean to dare to do whatever they may approve of."[58] Hellmut Wohl has stated that here in the *Dialogues* "Hollanda alludes to Horace's celebrated condemnation of grotesques at the beginning of the *Ars poetica* (while keeping silent on Vitruvius's equally negative comments)."[59] Throughout Hollanda's Book I Vitruvius is cited frequently in the most laudatory manner, just as Raphael and Castiglione had done in their *Letter to Leo X*, but when Hollanda first addresses the topic of the grotesque in Chapter 44 of Book I, his evocation of Vitruvius's negative comments is not even separated by a sentence from his retort proclaiming the latter's elegance: "The painting of grotesques is criticized by Marcus Vitruvius because it is impossible and fictive; it is very ancient and elegant."[60] Even more so, he inverts Vitruvius's criticism into the very terms of praise in the sentence that follows, and further praises Raphael's assistant Giovanni da Udine in this respect: "The best of these are the rarest and most fictive. Giovanni da Udine in Rome has the prize and reputation for this [type of] painting."[61] So while it is true that Vitruvius is not cited by name in *Third Dialogue*, it would be more accurate to say that at the very least the text responses directly to him, countering point to point.

For its next counterpoint, the text continues its rejoinder to Vitruvius's outrage that "These things do not exist, cannot exist and never have existed" by extolling the virtues of their impossibility, their very fictiveness, with Michelangelo given to propound a seemingly twisting bit of logic regarding truth and falsehood—how at times adding more truth to

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[58] F. de Hollanda, *On Antique Painting*, Pennsylvania State University Press, University Park, 2013, p. 208.

[59] *Ibid*., p. 60.

[60] *Ibid*., p. 148. Translation modified to its original punctuation: "*O pintar do grutesco* é *tachado de M. Vetruvio porque* é *pintura impossivel e fingida; e é muito antigua e galante*."

[61] *Ibid*.

a painting makes it false, whereas falsity in the hands of great painters is "very truthful."[62] This then leads to him further countering Horace's and Vitruvius's and the *Ars poetica* narrator's problem of the hybrid half-figure ("and even stalks with half-length figures, some with human heads, others with the heads of animals") by stating that for the artist:

> in order better to maintain the decorum of a place and time, he should change some of the limbs (in grotesque work, which otherwise would lack grace and be very false) or a part of something into another genus, such as changing a griffin or a stag into a dolphin from the middle down, or from there up into a figure that looks well there, putting wings in place of arms and cutting off the arms if wings look better: the limb that he alters, whether it is that of a lion or a horse or a bird, will be most perfect, being that of a genus to which it belongs. This, even though it may appear false, can only be called a good invention and monstrous.[63]

Next, Vitruvius's exasperation that "when people see these falsities they do not criticize them but find them delightful, ignoring the problem of whether any of them can exist or not" is countered by Michelangelo with "And reason is more enhanced when some monstrosity is introduced into painting (for variety and relaxation for the senses and an object for mortal eyes, which sometimes like to see what they have never before seen or believed could exist) rather than the usual figures (however admirable) of men or beasts."[64]

At this point the text hones in even more directly on specific points of contention in Vitruvius, proceeding from his approval of other forms of fictive painting cited just before his diatribe, such as the imitation of the forms of buildings with "projections of columns and pediments" as "faithful representations of definable entities" in contrast to the fantastical (non)structural grotesque, to which the reply is "And from this, insatiable human desire assumed license to find a building with its columns and windows and doors more tedious at times than another fictively composed of false grotesquerie, which has columns formed of little figures emerging from flower buds, with architraves and pediments of

[62] *Ibid*., p. 208.
[63] *Ibid*.
[64] *Ibid*.

myrtle and boughs, and portals of reeds and other things."[65] The latter two phrases are an implicit reference to the work of da Udine in Raphael's Workshop and in association with Michelangelo in Florence as well as a rejoinder to Vitruvius. This extensive counter-statement in the voice of Michelangelo concludes with a final inversion of Vitruvian values of reality and reason: "which seems quite impossible and beyond reason [*fora de razão*], all of which can even be very great if done by one who knows."[66] As someone who knew how the tedium of conventional columns and windows and doors gives rise to the insatiable desire to assume the license to develop transformative versions, Michelangelo indeed invented his own licentious compositions of columns and windows and doors, making ambiguous the coherence and consistency of these respective species through hybrid and metamorphic transformations, playing with the reasoning behind canonical ways of telling head from foot and what it is that they're attached to.

So if nonetheless Horace continues to be conscripted to corroborate Vitruvius's distain for *un*reasonable and sense*less* hybrid monstrosities, then the leading question of *Ars poetica* could be equally directed back to the origin-order stories of Vitruvius's Ionic and Corinthian to ask: "Suppose some architect had the bright idea of sticking a wig and some fruit on a virile column, covering it down to its nether areas with matronly folds, so that what was graceful womanish curls up top was a massive structural trunk down below—as when in Cardinal Bibbiena's comedy *La calandra* Lidio is dressed up in the manner of his twin sister Santilla in order to be snuck safely into the house of the matron Fulvia for their licentious and ridiculous affair[67]—and you were invited to take

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[65] *Ibid*., pp. 208–209. Translation modified with substitutions regarding two words. As "cornices" does not provide the sense of "peak" in the original *fastigios*, I have substituted "pediments" from Vitruvius's tirade against the grotesque to which this passage is responding. Similarly, while "putti" would be an apt translation of the literal "children" for *crianças*, given its then contemporary usage, the question is whether the speaker is referring to the ancient Roman forms of the grotesque or their current revitalization, thus I have substituted the Vitruvius's "little figures" to cover both historical periods. My thanks to Tommaso Tagliabue for his consultation in the revision of this translation.

[66] *Ibid*.

[67] Ridiculous in the sense of being laughably absurd (Lido dressing up like a woman to sneak into Fulvia's house, Fulvia dressing down like a man to sneak out of her house to run after Lido) and in the sense of being non-sensical that its author was a Cardinal of the highest standing in the Vatican, and that the play was performed before the Pope and warmly received by him—given its mixtures of what were considered to be (in the eyes of the Church) sinful practices: adultery, coveting their neighbor's wife, gender ambiguities, lying, premarital sex.

a look, how could you manage to keep a straight face, my friends?" What if a taller column was made taller still by being topped with large basketry headwear, covered not Carmen Miranda-style with Ionian fruit but with tender acanthus leaves from Corinth, would that hybrid monster be any less risible, have any less false reasoning, make any more sense?

The answer to the question as to how you could manage to keep a straight face and not laugh—in certain works of Raphael and Giulio, and Michelangelo,[68] and certainly in Horace—is, in part, that you could put your tongue in your cheek, to maintain a grave continence for an even wittier delivery. This wit is characteristic of Horace, particularly in the mode of his characteristic direct address whether to another or to others (multivoiced) or as another (taking on the personification of someone else and directing the address back toward himself or the narrator)—that "you" that pervades not only his Epistles (by definition, of course), but throughout his *Epodes*, *Odes*, and *Satires*. It should also be noted that direct forms of address to the audience occurs frequently in other performance modes at this time, notably by the servant-characters who transform their identities as mutable interfaces at crucial moments of exchange with other characters, including, breaking through the fourth-wall, with the characters who are the audience—as occurs indeed in Bibbiena's *La calandra* (which Giulio designed the sets for in Mantua), in Ariosto's *Il supposti* (which Raphael and Giulio designed the sets for in the Vatican), and as the narrator does repeatedly throughout Ariosto's *L'Orlando furioso*.

As for its pictorial equivalent, Horace, it has been claimed, is portrayed by Raphael and the Workshop in the *Parnassus* as the figure in the lower right-hand corner of the fresco, who even extends beyond the frame while pointing directly out in a form of address to us the viewers, the one figure in all the frescos of the *Stanze* to do so. But in these crucial rooms intent on proclaiming the political and spiritual supremacy of the Papacy, it may still seem surprising that in terms of a directed gaze, Raphael peers out from behind those figures of antiquity to us. As does the fashionable 16th century spectator in *The Donation of Constantine*, who having arrived at the right edge of this much-disputed 4th century scene, gazes not toward that scene from the past but instead out to fellow spectators from the future. Their countenance correspondences with

[68] For instances of wit within grave works of Michelangelo, see for example C. Brothers, *Michelangelo, Drawing, and the Invention of Architecture,* Yale University Press, New Haven, 2008, pp. 104–105, 141, 145.

what Castiglione has Bibbiena say in Book II of *The Courtier*, which is that "one who would be witty and entertaining [...] must adapt his behavior, gestures, and face accordingly; and the more grave and severe and impassive his face is,"—as indeed are the faces of both Raphael and the fashionable spectator—"the more pungent and keen will he make what he says appear to be." Alexander Nagel and Christopher Wood have observed in the *Stanze* the anachronic hybridity of time periods in its composition,[69] made even more evident it should be noted in these grave works by the self-consciousness of those gazes and gestures seeking to attach our own selves into that hybrid multiverse across the spatial and temporal limits that separate and join us. Pietro Bembo, secretary to the Pope, mentioned as another individual in *The Courtier* dialogues in direct contact with this artistic circle of the court of Leo X—whose "witty epigram about a self-portrait" Giulio painted may be, according to John Shearman, the earliest literary mention of the artist[70]—stated in a similar mode that "the persuasion of each writer" may be judged according to the mixture of "how much pleasantness and how much gravity they have created and distributed throughout their compositions [...]. I place under the term *gravità* honor, dignity, majesty, magnificence, grandeur, and similar things; the term *piacevolezza* encompasses grace, softness, beauty, sweetness, jests [*gli scherzi*], games, and whatever else falls under this manner [*maniera*]"[71] One year before his death in 1519 at the age of 37, Raphael, in his painting *Self-Portrait with Giulio Romano*, again stares direct out with a grave look, while a delighted Giulio is depicted as keenly looking back to Raphael while pointing, like Horace in the *Parnassus*, directly out to us. A bi-formed meta-portraiture—a mixture of Bembo's pleasantness and gravity—of these professionally joined selves.

5.

Hadrian's Villa—regarding which Bembo writing to Bibbiena on 3 April 1516, two months prior to the previously cited letter, mentions that he will be visiting the "old and the new" in Tivoli the next day in the company

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[69] A. Nagel, C. Wood, *Anachronic Renaissance*, Zone Books, New York, 2010, pp. 347–256.

[70] J. Shearman, "Giulio Romano and Baldassare Castiglione," in *Giulio Romano: Atti del Convegno Internazionale di Studi su Giulio Romano e l'espansione europea del Rinascimento*, Accademia nazionale virgiliana, Mantua, 1989, pp. 293–294.

[71] Quoted in P. L. Reilly, "Raphael's 'Fire in the Borgo' and the Italian Pictorial Vernacular," *The Art Bulletin*, 92, 4, 2010, p. 317.

of Raphael and Castiglione—was just such a mixture of pleasantness and gravity distributed throughout its multiple compositions. And as such, a counterpoint to the limited strictures of Vitruvius, as William MacDonald and John Pinto have noted: "An even moderately detailed second-century description of it, had such a thing existed and survived, would long ago have supplanted a fair part of the conservative treatise on classical architecture Vitruvius wrote a century and a half before Hadrian became emperor."[72] That, for Raphael and Giulio, this site became a principal reference point—or counterpoint—was cited by Giovanni Pietro Bellori:

> In this villa of Hadrian, superb even in its ruined state [...] Raphael of Urbino and Giulio Romano devoted much study at a time when their remains were [better] preserved; thus, whosoever wishes to view ancient painting will admire them also in the ornaments of the Vatican Logge by Giovanni da Udine and other pupils of Raphael, the modern Apelles, as well as at the vigna Madame on Monte Mario, in the Palazzo del Te in Mantua, and in other works by Giulio Romano.[73]

Among what would have been noticed in their devoted study—in the midst of the extraordinary diversity of complex spatial forms nowhere to be found in Vitruvius's ten books—were some very un-Vitruvian Corinthian-type capitals: "with the normal volute rotation reversed (its spiral is upside down, turning in toward the center of the capital rather than out and away from it)" and that rather than the continuous turns that spiral into the center "eye" [*oculus*], these volutes spiral to "enclose small faces, in profile, within the final uppermost volute turn."[74] Those detached heads, composed among the leaves of the capital, so arranged to support a roof, against Vitruvius's proscriptions, are still visible today. As are the equally diverse range of stucco *ornamenti* in the Large Baths: "major fields, outlined in delicately modeled egg-and dart . . . mythological figures . . . within octagonal frames . . . [p]utti, tendrilized arabesques, various Bacchic cult objects, dolphins, and scores of single blossoms,"[75] along

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[72] W. L. MacDonald, J. A. Pinto, *Hadrian's Villa and Its Legacy*, Yale University Press, New Haven, 1995, p. 48.

[73] G. P. Bellori, *Nota delli musei, gallerie, et ornamenti di statue e pitture ne' palazzi, nelle case, e ne' giardini di Roma*, Apresso Biagio Deuersin, e Felice Cesaretti, Nella stamperia del Falco, Rome, 1664, pp. 64–65, quoted in *ibid*., p. 214.

[74] *Ibid*., pp. 51, 100–101. See also M. Berton, "I capitelli corinzieggianti figurati della 'Piazza d'Oro' di Villa Adriana," *Orizzonti: Rassegna di archeologia* IV, 2003, pp. 75–80.

[75] W. L. MacDonald, J. A. Pinto, *Hadrian's Villa and Its Legacy*, p. 155.

with the nereids and their associated hybrid transspecies sea-creatures in low relief on the friezes in the Maritime Theater. Beyond the specificity of these hybrid structural/ornamental figurations, the abiding influence of Hadrian's Villa for Raphael and Giulio may be said to be this diverse "application of all available techniques to a wide variety of themes and subjects [...] ruled by the integration and interdependence of media and subjects."[76] This mode of integration and interdependence of media and subjects was developed by these artists not only in their own decorative figurations, but in relation to their architectural (and typological) figurations as well.

In regard to such evident alternative exuberance at Hadrian's Villa, in the grotesque of Nero's Golden House, and in the reliefs of the Arch of Constantine, and other alternative antiquities, the paucity of Vitruvius's account could have led Raphael to the same exasperation that led Alberti to state that what Vitruvius "had handed down was in any case not refined,"[77] but Raphael's outlook appears to have been so measured that one could not label him—nor would I say Giulio—as strictly Vitruvian nor strictly as anti-Vitruvian. According to Celio Calcagnini, who had been Ferrarese ambassador to Julius II and Leo X, Raphael conveyed a deep knowledge of Vitruvius, "whom he not only expounds, but with the surest arguments [*sed certissimis rationibus*] either defends or rebukes, but so disarmingly that no ill-will attaches to the rebuke."[78] And thus, in a letter purported to be from Raphael to Castiglione—but which Shearman attributed as ghost-written by Castiglione in the voice of his friend,[79] in which case it still provides us with certain corresponding senses and sensibilities—we have the oft-cited phrase that while Vitruvius has provided him with much light, he was not enough [*Me ne porge una gran luce Vittruvio, ma non tanto che basti*], not sufficient as a full account of the architectural and aesthetic modes of antiquity. It was through the affordances that Raphael and Giulio perceived across a range of antique media and subsequently transformed within the diverse range of their own transmedial work, which resonated with Raphael's own sense and sensibility of the *not-enough*, both throughout their architectural works

[76] *Ibid*., p. 158.
[77] L. B. Alberti, *On the Art of Building in Ten Books*, The MIT Press, Cambridge, 1988, p. 154.
[78] J. Shearman, *Raphael in Early Modern Sources (1483–1602)*, vol. 1, pp. 546–550.
[79] *Ibid*., pp. 734–741. See also J. Shearman, "Castiglione's Portrait of Raphael," *Mitteilungen des Kunsthistorischen Institutes in Florenz*, 38, 1, 1994, pp. 69–97.

and in the multi-media campaigns in the Vatican against what were perceived as the current northern barbarians of the Reformation.

"And the Germans [...]?" In spite of their own *enough-already* stance against the lavish glorification of pagan imagery by the papacy, nereids and other forms of hybrid vegetative-creaturely-structural monstrous mixtures are extensively evident in reformist imagery, as seen for example on the title pages of Luther's *To the Christian Nobility of the German Nation* and Erasmus's *The Antibarbarians*, as well in the painted depictions of these two reformers by Lucas Cranach the Elder and Hans Holbein the Younger—underscoring aspects of northern Protestantism being not a replacement change from Roman Catholicism but a recent metamorphic mutation thereof in this time, however historically radical this change.

While the Reformists were seeking to distance themselves from paganism, and those artists associated with the Papacy were seeking to engage the ancient Empire further to align with, as the *Letter to Leo X* states, its "great achievements," for both parties pagan antiquity was a problem. In that regard I will end, temporarily here, by going back before the beginning Argument of *La calandra*, to the spoken Prologue that preceded it, which acknowledged with anxiety that the play's plot—the twinned ambiguity and anxiety of identity, the mutable intelligibility of how to know something—had been "stolen" from Plautus's *Menaechmi*, the ancient comedy that already was an exploration of mixed mis-taken identities not only between twins, but between masters and servants, high and low culture, the familiar and the foreign. It still remains startling however to read in this Prologue, which has been ascribed by scholars alternatingly to Bibbiena and to Castiglione, a self-conscious anxiety about such searching in the past:

> If there are those among you who will say that the author has stolen this shamelessly from Plautus, let them complain, for Plautus—that snot-nose!—deserves to be robbed because he left everything unlocked and unguarded [...] if you have doubts, you should look through Plautus's comedies yourself, and you'll see nothing is missing that one usually finds there. . . And if nevertheless someone isn't able to give up on this, at least we beg him not to bring the matter to the attention of the local police chief—instead go whisper it secretly in the ear of Plautus.[80]

[80] L. Giannetti, G. Ruggiero (eds.), *Five Comedies from the Italian Renaissance*, p. 3. Translation modified to the more literal "snot-nose! [*moccicone!*]" from "big lunkhead!" and to "secretly" [*secretamente*] from "quietly."

Such a closing assertive statement of what to do to Plautus should lead us back to the assertion of the change of modernity in the opening sentence of this Prologue: "Today you will see a new comedy entitled *Calandra*—in prose, not in verse; modern, not ancient [*moderna, non antiqua*]; Italian, not Latin."[81] And yet: it is perhaps more startling still to learn that Bibbiena referred ironically to himself—when writing in his courtier manner to the influential Isabella d'Este, mother of Giulio's future patron Federico Gonzaga—by the same snot-nosed term *moccicone*. Bibbiena bi-formed thus, like the play, in his modern separation from and connection with antiquity, within the context of his mutable positions of knowledge and power—like Castiglione, Giulio, Raphael—in the multiple major re-formations of those changing times. *Significando demonstrent*: pointing—in these strangely instable and self-consciously estranged works—beyond themselves to the epistemological processing and paradoxes of meaning. Enlivening the strictures of Vitruvius through some of the livelier arts of antiquity, and in the process making apparent and intelligible the transformative mutability in demonstrations of changing signification.

This essay is an edited version of selected initial sections from the second chapter of my in-process The Transformations of Giulio Romano*, the first chapter of which is published on the Aggregate Architectural History Collaborative's website. Gracious support for the development of this portion of the project has been provided by Elise Jaffe + Jeffrey Brown and by a Samuel H. Kress Fellowship from The James Marston Fitch Foundation.*

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[81] *Ibid*., p. 2.

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DOI: 10.5281/zenodo.11483957
Essay
Received: April 2, 2024; Accepted: May 20, 2024

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Equating the Unequal: Architecture and Philosophy

ABSTRACT: This essay examines statements from the fields of architecture and philosophy concerning identity, difference, and change. Through close reading, etymological analysis, a hermeneutics of entanglement, and an investigation of the text-as-echo-chamber, initially parallel statements and restatements of architecture and philosophy (and architecture in philosophy and philosophy in architecture) "swerve." Of special interest is the way both disciplines distinguish between (and conflate) the concepts of "difference" and "change," as well as attempts to locate architecture's origins in either change or the unchanging.

KEYWORDS: architecture, philosophy, change, theory, history

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> [W]hen the atoms move straight down through the void by their own weight, they deflect a bit in space at a quite uncertain time and in uncertain places, just enough that you could say that their motion has changed. But if they were not in the habit of swerving [*clinamen*], they would all fall straight down through the depths of the void, like drops of rain, and no collision would occur, nor would any blow be produced among the atoms. In that case, nature would never have produced anything.[1]

In the beginning was the change, barely perceptible ("a bit," "just enough"), uncertain yet habitual, less fact than rumor, not "just enough that their motion *has* changed," but "just enough that *you could say that* their motion has changed." Change a matter of swerving but also of saying. The primordial order of the parallel. *Clinamen*, from *clino*, meaning, less to "collide" than "to bend, incline, or lean towards," more nudge than collision.[2] "Habit:" "to be inclined towards." The "habit of swerving" then an inclination towards inclination. The will to turbulence, and with it effect, event, history.

Parallels abound. Article 1.1.1 of the American Institute of Architects "General Conditions of the Contract for Construction" establishes a process of "modification" based upon the infamous "change order."[3] "Modification," i.e. "a change made," is in fact the first term defined in and by the Contract, preceding terms like: "The Work," "The Project," and even "The Drawings."[4] Duplicitous intent: order-changing and change-ordering. In the beginning was the change—a change preceding what it is a change of, or in, or to.

Parallels abound. Vitruvius, Lucretius's contemporary, writing his own origin, of how "men born like wild animals" came to construct the first shelters. Vitruvius, Lucretian in his description of change's primacy. "It was then," he writes, "that some of them from these first groups began to make shelters of foliage, others to dig caves at the foot of mountains and yet others to build refuges of mud and branches in which to shelter

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[1] Lucretius, "On the Nature of Things," in B. Inwood, L. P. Gerson (eds.), *The Epicurus Reader: Selected Writings and Testimonia*, Hackett Publishing Company, Indianapolis, 1994, pp. 65–66.

[2] C. T. Lewis, C. Short, *A Latin Dictionary*, Clarendon Press, Oxford, 1879, s.v. "*clino*."

[3] The American Bar Association defines "change order" as an amendment to a construction contract that changes the contractor's scope of work.

[4] American Institute of Architects, AIA Document A201-2017: General Conditions of the Contract for Construction, 2017, p. 9.

in imitation of the nests of swallows."[5] In the beginning was variation, and the inclination towards variation, its only guide the animal life which "these first groups," bird-brained, had perhaps yet to transcend. Aristotle: "imitation is natural to man [...] one of his advantages over the lower animals."[6] But what of man's imitation *of* the "lower" animals? "Imitate:" "to counterfeit."[7] "Counterfeit:" "to feign."[8] Man: featherless biped.

"Naturally imitative and quick to learn," but also "proud of their own inventions," Vitruvius's first men "observed each other's shelters and incorporating the innovations of others [...] built better huts day by day [...] progressing from vague and imprecise ways of thinking to the ascertainable rules of modularity."[9] Desire (for can there as yet be a question of need?) gives change direction (the "better") and technique (prideful invention, envious incorporation). The proto-Darwinian selection of variants, the importance of which, Darwin wrote, "consists in the great effect produced by the accumulation in one direction [...] of differences absolutely inappreciable."[10] Change, hinged upon the apprehension of inappreciable differences ("a bit," "just enough"). The appreciable alone opens itself to the appraisal of selection. "Culture is the outcome of an effort of selection. Selection means discarding, pruning, cleansing."[11] "Culture is [...] discarding, pruning, cleansing." Darwinian "difference" vs. Lucretian "change."[12] What relation must pertain between differences such *that you could say that* a change has occurred? Darwin could not say. "The amount of difference considered necessary to give to any two forms the rank of species cannot be defined."[13] "Varieties cannot be distinguished from species,"[14] because "varieties are species in the process of formation."[15] At the

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[5] Vitruvius, *On Architecture*, Penguin Group, London, 2009, II, 1, 2, p. 38.

[6] Aristotle, "Poetics," in J. Barnes (ed.), *The Complete Works of Aristotle: The Revised Oxford Translation*, vol. 2, Princeton University Press, Princeton, 1995, 1448b1, p. 2318.

[7] *Oxford English Dictionary*, s.v. "imitate (v.)," https://doi.org/10.1093/OED/1664294335, (accessed March 2024).

[8] *Oxford English Dictionary*, s.v. "counterfeit (v.)," https://doi.org/10.1093/OED/7511014518, (accessed March 2024).

[9] Vitruvius, *On Architecture*, II, 1, 3; II, 1, 7, pp. 38, 40.

[10] C. Darwin, *The Origin of Species*, P. F. Collier & Son, New York, 1909, p. 19.

[11] Le Corbusier, *Toward an Architecture*, Getty Research Institute, Los Angeles, 2007, pp. 183–184.

[12] Whereas Lucretius's translators use the word "change" to translate "*clinamen*," Darwin, in his more precise moments, avoids the perhaps hasty attribution of a "change" by employing the term "difference."

[13] C. Darwin, *The Origin of Species*, p. 38.

[14] *Ibid*.

[15] *Ibid*., p. 71.

origin of species lies the inclination towards inclination, not forms, but processes of formation. In the beginning was the change—a change preceding what it is a change of, or in, or to.

"The amount of difference considered necessary to give to any two forms the rank of species cannot be defined." And yet, speciation occurs. *E pluribus unum*, "discarding, pruning, cleansing." From the selection of variants (too-quickly called "innovations") Vitruvius's first men move to "rules of modularity." "rules" rather than Rule—several, many, all-too many, a scandalous irreducibility. Have the modules modulated the various variants? Or has the *clinamen* produced its antithesis? *Anti-clinamen*, entropic, the inclination towards equilibrium, stasis, sameness, species. Amidst the atomic swerving, patterns dimly ("a bit," "just enough") "ascertained." Constellatory, "progressing from vague and imprecise ways of thinking." "The amount of difference *considered* necessary to give to any two forms the rank of species cannot be defined." Darwin means: *since* the amount of difference considered necessary to give to any two forms the rank of species cannot be *ascertained, it must be defined*. It is a matter of saying.

"At a quite uncertain time and in uncertain places," not forms, but processes of formation incline towards speciated *anti-clinamen*: Doric, Ionic, Corinthian, etc. "Culture is the outcome of an effort of selection." "And whatsoever Adam called every living creature, that was the name thereof."[16] Perhaps only now does "difference" claim the status of "change." To think the change is to "think the part of the change which is not changing."[17] Change, then, less a *kind* of difference or *relation-between* differences than a *negation* of difference. In difference, change ascertains an entity which undergoes, yet subsists through, the difference. It is a matter of saying, of distinguishing, of extinguishing processes of formation. Amidst the shelteric swerving, Orders dimly ("a bit," "just enough") ascertained. "If the thing changed, it is in some sense *the same thing which changed*. If it is not the case, we have only successive beings which are different."[18] "The amount of difference considered necessary to give to any two forms the rank of species cannot be [ascertained]."

Contra Vitruvius, Piranesi ascertains a Lucretian *clinamen* at the origin of the Orders. Not only does "no one ancient building [have] exactly

[16] Genesis 2:19–20, King James Version.
[17] A. Badiou, *The Subject of Change: Lessons from the European Graduate School*, Atropos Press, New York/Dresden, 2013, p. 12.
[18] *Ibid*., p. 13. Emphasis mine.

the same proportions as another," but "[...] there is not a single column, intercolumniation, arch, or whatever that has the same dimensions as another arch, intercolumniation, or column in the same structure."[19] "Not a single [...] whatever [...] has the same [...] in the same." "If the thing changed, it is in some sense *the same thing which changed*." The same: differences feigning. "Every concept emerges through equating the unequal."[20] Each "whatever" already several, many, all-too many, a scandalous irreducibility. It is a matter of appearance, of apprehension. "An order, whatever it may be, whether Tuscan or Doric or Ionic or Corinthian or Composite, for all the diversity of dimensions and ornaments, is *in appearance* no different from another order."[21] That is, no different in its being an ordered appearance of apparent order. It is a matter of apperception, "*per*:" through, "*capio*:" to capture, seize, understand.[22] Like Lucretius's void, Piranesi's "whatever" offers neither resistance nor directive. René Magritte, writing to Michel Foucault: "things do not *have* resemblances [...] only thought resembles."[23] Friedrich Nietzsche, writing to himself: "there are no durable ultimate units, no atoms, no monads [...] beings are only introduced by us."[24] Paradox: the "being" of change. "And how could what becomes have being, how come into being, seeing that, if it came to be, it is not, nor is it, if at some time it is going to be?"[25] "We think the part of the change which is not changing." "Presented with the idea of diversity [...] the imagination is apt to feign something unknown and invisible, which it supposes to continue the same under all these variations."[26] Species, elements, Orders, "whatever:" the unwarranted postulates of our inner *anti-clinamen*. Disavowed metaphysics. "The substance of things hoped for, the evidence of things not seen."[27] "Presented with the idea of diversity [...] the imagination is apt to feign" an ordered appearance of apparent order. "The intellect, as a means for

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[19] G. B. Piranesi, *Opinions on Architecture: A Dialogue*, Getty Research Institute, Los Angeles, 2002, p. 108.

[20] F. Nietzsche, quoted in G. C. Spivak, "Translator's Preface," in J. Derrida, *Of Grammatology*, Johns Hopkins University Press, Baltimore, 2016, p. xli.

[21] G. B. Piranesi, *Opinions on Architecture*, p. 108. Emphasis mine.

[22] C. T. Lewis, C. Short, *A Latin Dictionary*, s.v. "*per-cīpīo*."

[23] R. Magritte, "Magritte to Foucault, May 23, 1966," in M. Foucault, *This Is Not a Pipe*, University of California Press, Berkeley, 1982, p. 57. Emphasis mine.

[24] F. Nietzsche, quoted in G. C. Spivak, "Translator's Preface," p. xiv.

[25] Parmenides, *The Fragments of Parmenides*, Parmenides Publishing, Las Vegas, 2009, p. 70.

[26] D. Hume, *A Treatise of Human Nature*, Oxford University Press, Oxford, 2007, p. 145.

[27] Hebrews 11:1, King James Version.

the preservation of the individual, unfolds its chief power in dissimulation."[28] "These first groups began to make shelters [...] in imitation of the nests of swallows." Survival of the feign-est.

Parallels abound. Raphael, writing to Pope Leo X, describes an epochal change. Whereas imperial Rome had possessed a "perfect and beautiful" architecture "built by the worthy ancients," with the fall of the empire "Goths and other barbarians" introduce buildings, which, "completely lacking in any grace whatsoever, have no style and are different from those ancient and those modern."[29] Paradise Lost. Forgetful of architecture's graceless, styleless, inhuman origins, Raphael asserts: in the beginning was the ~~change~~ "perfect and beautiful." "What do we understand by beauty? Complete perfection."[30] Difference now construed as loss. "As for the buildings of the Goth period, they are [...] different."[31] "The amount of difference considered necessary to give to any two forms the rank of species cannot be [ascertained]." It is a matter of discarding, pruning, cleansing. Raphael suggests the remains of antiquity should be surveyed so as to recuperate their unchanging "style" and "theory." Survey: technique of apprehension. Bodies exchanged for lines, parts exchanged for wholes. The drawing, infinitely reproducible, feigning eternity. "Every concept emerges through equating the unequal." "In architecture, rule is the method of measuring ancient monuments and following the plans of ancient structures in modern buildings."[32] *Counter-clinamen*—a new, "modern" style, "very clever and very closely based on the style of the ancients."[33] It is a matter of feigning. Forgetful of its turbulent origins, architecture inclines towards equilibrium. Indeed, its inclination towards equilibrium enables the recuperation of ancient "perfection." Antiquity's atoms fall straight down through the depths of history, like drops of rain, and no collision ever occurs. Spatially and temporally orthographic, the primordial order of the parallel. In this, architecture is, so to say, unparalleled. As Raphael explains, "despite the fact that literature, sculpture, painting and almost all the other arts had been for a long time in decline and deteriorating [...] nonetheless architecture

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[28] Nietzsche, quoted in G. C. Spivak, "Translator's Preface," p. xl.

[29] "The Letter to Leo X by Raphael and Baldassare Castiglione (c. 1519)," in V. Hart, P. Hicks (eds.), *Palladio's Rome: A Translation of Andrea Palladio's Two Guidebooks to Rome*, Yale University Press, New Haven /London, 2009, p. 182.

[30] A. Loos, *Ornament and Crime: Selected Essays*, Ariadne Press, Riverside, 1998, p. 63.

[31] "The Letter to Leo X by Raphael and Baldassare Castiglione (c. 1519)," p. 182.

[32] G. Vasari, *The Lives of the Artists*, Oxford University Press, Oxford, 1991, p. 277.

[33] "The Letter to Leo X by Raphael and Baldassare Castiglione (c. 1519)," p. 182.

was respected and good theory was maintained, and building was executed *in the same style as before*."[34] "In the *same* style as before [...]." Modern = ancient. Now = then. Change, then, less a *kind* of difference or *relation-between* differences than a *negation* of difference. "Every concept emerges through equating the unequal." "Presented with the idea of diversity [...] the imagination is apt to feign something unknown and invisible, which it supposes to continue the same under all these variations."

Piranesi, feigning, asks how the imitation of antiquity leads to anything other than "unendurable monotony [...] always exactly the same."[35] Eternal recurrence of the same. "Architecture suffers in routine."[36] Yet, in claiming "good theory" had been "maintained" in and through ancient building, Raphael does not deny difference. "Very frequently," he writes, "edifices underwent rebuilding at the hands of the ancients themselves—for it is written that upon the very site where Nero's Golden House once stood, Titus's Baths, his house and amphitheater were subsequently built."[37] The ancients, "those first groups," cultivators of difference for difference's sake (for not only were Nero and Titus of the same generation, but one house replaces another). And yet, unlike the barbaric Goths, the ancients express their inclination towards variation under the authority of the unchanging. The ascertained pattern, once dimly viewed, asserts its primacy. Antiquity: always one, "all of the same theory," species of species. Titus's Baths replace Nero's Golden House, yet both "constructed in the *same* style and with the *same* theory as other buildings *even more ancient* than Nero's time as well as those contemporary with his Golden House."[38] Infinite regress. Time, "the number of change," extinguished in the eternal now of "antiquity." Necessarily so,

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[34] "The Letter to Leo X by Raphael and Baldassare Castiglione (c. 1519)," p. 183. Emphasis mine.

[35] G. B. Piranesi, *Opinions on Architecture.* On p. 108, Didascalo asks Protopiro, "Now if, over the centuries, among all those countless practitioners, the experience of the totality of architecture to date has failed to produce what you are looking for, then how can we avoid concluding that, if everything you dislike were removed from architecture, we would be left with buildings of unendurable monotony?" On p. 107, "Didascalo: [...] You call me excessively severe, on the grounds that I am going too far by taking you back to huts in which people have no desire to live; but you would yourselves be condemned for monotonous buildings that people would detest just as much. Protopiro: Monotonous? Didascalo: Yes, monotonous, architecturally always exactly the same. As architects, you think yourselves extraordinary, but you would soon become utterly ordinary."

[36] Le Corbusier, *Toward an Architecture*, p. 147.

[37] "The Letter to Leo X by Raphael and Baldassare Castiglione (c. 1519)," p. 182.

[38] *Ibid.*, 138. Emphasis mine.

"for time is by its nature the cause rather of decay, since it is the number of change, and change removes what is."[39] "It would appear that time, envious of the glory of mortals [...] worked in concert with fate and the wicked, infidel barbarians who, in addition to time's gouging file and poisonous bite, brought the fierce onslaught of fire and steel."[40]

Parallels abound. Plato, imitating Socrates imitating Diotima: "[The beautiful] always is and neither comes to be nor passes away [...] it is always one in form; and all the other beautiful things share in that, in such a way that when those others come to be or pass away, [beauty] does not become the least bit smaller or greater *nor suffer any change*."[41] Change, once sought, now suffered. We think the part of the change which cannot change. Beauty, "one in form," always exactly the same, apprehendable, ascertainable. Beautiful *things*—different, various things, varying things, no one exactly the same as another. "Every concept emerges through equating the unequal." The varying variety, the atoms' habitual swerving an impediment to a mind bent on thinking the part of the change which is not changing. "It is quite possible to project whole forms in the mind without any recourse to the material."[42] "The architect, through the *ordonnance* of forms, realizes an order that is a pure creation of his mind [...] it is then that we experience beauty."[43] "Realize:" to become aware of, to cause, to give form to. An ordered appearance of apparent order. "Presented with the idea of diversity [...] the imagination is apt to feign something unknown and invisible."

Parallels abound. Alberti: "Beauty is that reasoned harmony of all the parts within a body, so that nothing may be added, taken away, or altered, but for the worse."[44] "Take care [...] that everything fits together so well, in terms of dignity and grace, that were you to add, change, or take away anything, it would be to the detriment of the whole."[45] Architecture: the art of the unchangeable, inclining towards equilibrium. Avoidance of the "worse" replaces pursuit of the "better." "I believe that beauty is some

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[39] Aristotle, "Physics," in *The Complete Works of Aristotle,* vol. 1, Princeton University Press, Princeton, 1995, 221b1, p. 374.

[40] "The Letter to Leo X by Raphael and Baldassare Castiglione (c. 1519)," p. 183.

[41] Plato, "Symposium," in J. M. Cooper (ed.), *Complete Works*, Hackett Publishing Company, Indianapolis, 1997, 211a–b, p. 493. Emphasis mine.

[42] L. B. Alberti, *On the Art of Building in Ten Books*, The MIT Press, Cambridge, Mass., 1991, p. 7.

[43] Le Corbusier, *Toward an Architecture*, p. 85.

[44] L. B. Alberti, *On the Art of Building in Ten Books*, p. 156.

[45] *Ibid*., p. 37.

inherent property, to be suffused all through the body of *that which may be called* beautiful."[46] It is a matter of belief. Architecture, beautiful by definition, yet beauty unchanging, neither coming to be nor passing away, always one. Whatever changes is not beautiful, whatever is not beautiful is not architecture, whatever changes is not architecture. "And how could what becomes have being, how come into being, seeing that, if it came to be, it is not, nor is it, if at some time it is going to be?" "What was has always been. What is has always been. What will be has always been."[47] Beauty is the part of the change that is not changing.

Parallels abound. Claude Perrault's "positive" and "arbitrary" beauty, the former, essential, thus unchangeable; the latter, accidental, thus changeable.[48] Abbé Laugier ascertains the essence of architecture in the "primitive" hut, thus, the primitive hut is beautiful, thus, all buildings obliged to imitate the primitive hut.[49] It is a matter of feigning. "I believe that beauty is some *inherent property*, to be suffused all through the body of *that which may be called* beautiful." Not "suffused all through the body of that which is beautiful," but "suffused all through the body of *that which may be called* beautiful." It remains a matter of saying. If beauty suffers no change, does *that which may be called* beautiful nevertheless swerve? What relation must pertain between the parts of a body such *that they may be called* beautiful? Alberti could say. "It is the task and aim of *concinnitas* to compose parts that are quite separate from each other by their nature, according to some precise rule, so that they correspond to one another in appearance."[50] Correspondence theory of beauty. *Concinnitas*: "skillfully joined."[51] The parts, "quite separate," co-responding, echoing one another's reasoned and resonant harmony. Separate "by their nature," yet it is nature who most skillfully joins. "Neither in the whole body nor in its parts does *concinnitas* flourish as much as it does in Nature herself [...] it molds the whole of Nature."[52] And nature as a Whole. Whole: the "always one" of beauty. The ordered appearance of apparent order. "The substance of things hoped for, the

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[46] *Ibid*., p. 156. Emphasis mine.
[47] L. Kahn, *What Will Be Has Always Been: The Words of Louis I. Kahn*, Rizzoli, New York, 1986, p. 243.
[48] C. Perrault, *Ordonnance for the Five Kinds of Columns after the Method of the Ancients*, Getty Research Institute, Los Angeles, 1993.
[49] M.-A. Laugier, *An Essay on Architecture*, Hennessey & Ingalls, Los Angeles, 1977.
[50] L. B. Alberti, *On the Art of Building in Ten Books*, p. 302.
[51] C. T. Lewis, C. Short, *A Latin Dictionary,* s.v. "*concinnītas*."
[52] L. B. Alberti, *On the Art of Building in Ten Books*, pp. 302–303.

evidence of things not seen." "Form is that which deals with inseparable parts. If you take one thing away, you can't have the whole."[53] You can't have the whole. The whole is the part of the change that is not changing. $1 - n = 0$ (where n is barely perceptible, a bit, just enough).

Parallels converge. Swerving towards equilibrium. "Observe the process by which time (the great author of such changes) converts a beautiful object [...]. First, by means of weather stains, partial incrustations, mosses, etc. It at the same time takes off from the uniformity of its surface, and of its colour; that is, gives it a degree of roughness, and variety of tint. Next, the various accidents of weather loosen the stones themselves; they tumble in irregular masses upon what was perhaps smooth turf or pavement, or nicely trimmed walks and shrubberies; now mixed and overgrown with wild plants and creepers, that crawl over, and shoot among the fallen ruins."[54] "For dust thou art, and unto dust shalt thou return."[55] Entropic *finale*, reasoned and resonant harmonies replaced by the stochastic hum of the always one. Atoms deflect at quite uncertain times and in uncertain places. Collisions occur. Blows are produced. But nature never produces anything. Change, changed utterly: a terrible beauty is born.

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[53] L. Kahn, *What Will Be Has Always Been*, p. 13.

[54] U. Price, *An Essay on the Picturesque*, Printed for J. Robson, London, 1796, p. 62.

[55] Genesis 3:19, King James Version.

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DOI: 10.5281/zenodo.11484037
Original Scientific Article
Received: March 26, 2024; Accepted: May 17, 2024

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Summoning Up the Past: Detecting Legal Change Through Architecture's Evidence

ABSTRACT: This essay puts on the table the following question: how has architecture helped catalyze legal change? I use as a specific illustration a debate regarding the codification of English common law that took place between Jeremy Bentham and William Blackstone in the late eighteenth century. Bentham and Blackstone's competing architectural metaphors provided vivid illustrations of perceived dangers that they saw underlying proposed changes in law. The debate shows not only how powerful architectural metaphors were in constructing legal reform. It also demonstrates how novel architectural ideas can mask the lack of substantive changes in legal practice.

KEYWORDS: architectural history, law, legal change

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Introduction: A House with Many Rooms

Not long ago, I was reading about the legal principle of "estoppel," which is essentially a bar that limits certain kinds of statements in the courtroom.[1] The meaning of estoppel, like many English legal words, has evolved over time. In his *Commentaries on Littleton* Sir Edward Coke explained that it was brought over by the Normans. In Coke's time it still meant, quite simply (as the word itself suggests), "to stop up" or "to close;" specifically in law, estoppel prohibited someone from making a legal claim that contradicted a prior statement.[2] While this definition still captures the essence of the term, since the seventeenth century the principle of estoppel has become considerably more complex, as evocatively described by Justice Tom Denning in his 1980 judgment *Hunter v Chief Constable of the West Midlands:*

> For the word "estoppel" only means stopped. From that simple origin there has been built up over the centuries in our law a big house with many rooms. It is the house called Estoppel. In Coke's time it was a small house with only three rooms [...]. But by our time we have so many rooms that we are apt to get confused between them. [...] These several rooms have this much in common: They are all under one roof.[3]

And Denning goes on, in the following paragraphs of his judgment, to describe in detail how each of the various "rooms" in this house differ from one another, and how they are all connected through the circulatory apparatus of this "house called Estoppel." Estoppel is a legal term, and a technical one at that. So why is this judge talking about a house? Or rather, what is an imagined house doing in this legal judgement? Here, the metaphor illustrates the incremental and additive ways that

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1 Estoppel is a bar that prevents "one from asserting a claim or right that contradicts what one has said before [...] or has been legally established as true." B. Garner, H. Black, *Black's Law Dictionary*, 11th edition, Thomson Reuters, St. Paul, 2019, p. 691.

2 "Estoppel, ie, a Conclusion, because a mans own act, or acceptance, stoppeth or closeth up his mouth to allege or plead the truth." E. Coke, *An abridgement of the Lord Coke's commentary on Littleton*..., London, 1651, Sect. *667.* Fol. *352.* a., p. 390.

3 *Hunter* v *Chief Constable of the West Midlands*, 1980 WL 149511 (1980). With thanks to Simon Stern for sending me this wonderful passage.

law changes over time, allowing Justice Denning to frame the historical development of a technical point in law in a manner that feels tangible.[4]

This is not the first time I have been struck by architectural or spatial metaphors in legal writing, especially when jurists are describing how the law changes over time. To give another example: Edward Coke described his own legal treatise—one of the earliest written compendiums of English law—as valuable because it allowed for "all the high [...] courts of justice [...]. Be drawn together, as it were, in one map, or table, that the admirable benefit, beauty, and delectable clarity thereof might be [...] beholden."[5] This visual metaphor of a map suggests that being able to "picture" the law might have been an important component of sovereign jurisdiction in the seventeenth century. Recently a prominent historian of property law highlighted and expanded on Coke's metaphor; in the essay "English Liberties outside England: Floors, Doors, Windows, and Ceilings in the Legal Architecture of Empire" we do not encounter any doors or windows as architectural historians might describe them.[6] Rather, the author shows how seventeenth century legal language allowed jurists to justify sovereignty claims beyond the shores of England. This trend continues apace, as evidenced by a steady stream of academic articles with reoccurring variations on the title "law as architecture."[7]

Though law is still often seen as a text-based discipline, architecture appears to be a longstanding part of the furniture of the mind in English legal thought.[8] This essay puts on the table the following questions: how has architecture helped illustrate legal change through metaphor? How

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[4] This is particularly striking as the judge is writing for an audience of other judges, not for a lay audience (where we might expect the use of a metaphor to illustrate a technical legal point).

[5] E. Coke, *An abridgement of the Lord Coke's commentary on Littleton*..., London, 1651, Introduction, p. 4.

[6] D. Hulsebosch, "English Liberties Outside England: Floors, Doors, Windows, and Ceilings in the Legal Architecture of Empire," in L. Hutson (ed.), *The Oxford Handbook of English Law and Literature, 1500–1700*, Oxford University Press, Oxford, 2017.

[7] To give just two examples: D. Rohde, N. Parra-Herrera, "Law as Architecture: Mapping Contingency and Autonomy in Twentieth-Century Legal Historiography," *Journal of Law and Political Economy*, 3, 3, 2023; or J. Ramsfield, *The Law as Architecture: Building Legal Documents*, West Group, St. Paul, 2000.

[8] Of course, architecture affects law beyond lending figures of speech. There are also many examples where we can see architecture very directly affecting change in legal practice—most overtly, in the designs of prisons and courtrooms. The principle of estoppel was relevant to Denning's judgment, above, because certain witnesses in the case had made statements in the courtroom that contradicted previous statements that they had made in the police station. The point in law had to do not only with what was said by the witnesses, but *where* those witnesses spoke.

have these architectural figures of speech contributed to (or prohibited) this change? And finally, a bit more speculatively: how has this cross-disciplinary borrowing been reflected back from law to affect architectural history? I will use as a specific illustration a debate regarding the codification of English common law that took place between Jeremy Bentham and William Blackstone in the late eighteenth century. Bentham and Blackstone's competing architectural metaphors provided vivid illustrations of perceived dangers that they saw underlying proposed changes in law. The debate shows not only how powerful architectural metaphors were in constructing legal reform. It also demonstrates how novel architectural ideas can mask the lack of substantive changes in legal practice.

Legal Change and Architectural Metaphors

Jeremy Bentham and William Blackstone disagreed on most things. Not least of all was how to account for the processes by which law changes. Questions of legal change played a prominent role in public discourse in the second half of the eighteenth century. In England in particular, an important question had to do with whether or not common law practice needed a systematic overhaul. Could—and should—English law be codified?

According to Bentham, a champion for legal codification, England would be well served by looking towards her counterparts across the Channel. There, experiments in legal modernization were taking the form of law codes promulgated by self-styled modern rulers.[9] These new codes were closely modeled on the Byzantine emperor Justinian I's own compilation of Roman law—a compendium which itself had been "rediscovered" in the eleventh century and used as an authoritative reference across Europe for legal principles since.[10] For Bentham, the advantages of codification were obvious. Not only could the law be deliberately shaped to better suit the changing social circumstances of the eighteenth century.

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[9] The late eighteenth century was a time of several big codifications in Europe, exemplified by the *Code Civil des Français*, promulgated by Napoleon in 1804. Most legal systems of the European continent are codified, as are their imperial descendants. For a general discussion of codification in Western legal systems, and how the subsequent practice of codification itself was leveraged by the new nations of postcolonial Latin America and Africa to assert standing on a global stage, see R. Zimmermann, *The Law of Obligations: Roman Foundations of the Civilian Tradition*, Oxford University Press, Oxford, 1996.

[10] For an introduction to early medieval law revivals, see S. Kuttner, *Harmony from Dissonance: An Interpretation of Medieval Canon Law*, Archabbey Press, Latrobe, Pa., 1960, and P. Vinogradoff, F. De Zulueta, *Roman Law in Medieval Europe,* Oxford University Press, Oxford, 1961.

Equally important, a law code publicly set forth a set of ideal principles: legal principles which were outlined directly, stated clearly and without confusion, a definitive authority for all to follow.[11] For Bentham, this approach was clearly superior to English common law as it was then practiced, in which legal authority was given over to individual judges who came to their decisions by comparing the case at hand with previous ones. In this judge-made (or precedent-based) legal system, essential principles were rarely articulated. For Bentham, this had troubling consequences: a law that had no clear set of principles was no law at all.

But codifying the English law would not be an easy sell. Bentham had been a student at Oxford when William Blackstone was finessing his famous lectures on English law, and the subsequent publications of these lectures as *Commentaries on the Laws of England* had established Blackstone as one of the most important English jurists of the time.[12] This book—considered the first comprehensive treatise on English law since Coke's—had already done a good job building an argument that the (uncodified) English common law had no need for a wholesale overhaul.

But this did not mean that Blackstone saw English law as static. Here, as across Europe, the eighteenth century saw changes in many spheres of life, not least of which were the ones defined and regulated by legal transactions. Feudal methods of conveying property or of bringing a personal action had become outmoded by modern commercial transactions; laws related to wrongdoing and trespass were being reframed alongside rapid processes of urbanization.[13] How best to update law in response? Writing a new code, as endorsed by Blackstone's Continental counterparts (and later by Bentham), was one method to accommodate such changes. However, in Blackstone's view, this approach was both difficult and dangerous. It required an absolutist government: legislators to take on the "Herculean" task of "formulating a concise, and perhaps uniform, plan

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[11] For a discussion on Bentham's arguments in favor of codification, see P. Schofield, *Utility and Democracy: The Political Thought of Jeremy Bentham*, Oxford University Press, Oxford, 2006.

[12] Blackstone's most famous achievement was his 4-part *Commentaries on the Laws of England*, (published, in 5 volumes, between 1765–1769), which was based directly on the lectures he delivered at Oxford while he was Vinerian Chair at All Souls College. For a detailed biography of Blackstone see W. Prest, *Blackstone and His Commentaries: Biography, Law, History*, Hart Publishing, Oxford, 2009.

[13] For a good introduction to English legal history, see J. Baker, *Introduction to English Legal History*, 5th ed., Oxford University Press, Oxford, 2019.

of justice," along with an enterprising sovereign with the power to instill fear in the "presumptuous subject who questions its wisdom or utility."[14]

Even if these obstacles were to be overcome, the real danger in new laws lay in the unforeseen future consequences of their promulgation. Perceiving these dangers, English jurists had "wisely avoided soliciting any great legislative revolution in the old established forms, which might have been productive of consequences more numerous and extensive than the most penetrating genius could foresee."[15] Rather than embark on the challenging task of writing new laws that might be suited to the present moment, but at an unforeseen expense to a future one, better to leave intact an outdated structure that allowed for renovations as required. Therein lay precisely the strength of English law. The architectural metaphor, here, is not mine. Blackstone continues:

> Our system of remedial law resembles an old Gothic castle, erected in the days of chivalry, but fitted up for a modern inhabitant. The moated ramparts, the embattled towers, and the trophied halls, are magnificent and venerable, but useless and therefore neglected. The inferior apartments, now accommodated to daily use, are cheerful and commodious, though their approaches may be winding and difficult.

With a deliberate comparison between a "native" legal practice and a "native" architectural form, Blackstone presents a clear picture of an authoritative past that fundamentally structures the principles of English law. The Gothic castle—antiquated but recently en vogue; an architectural form that was being scripted as visibly "English"—was a perfect metaphor to insist on the continued validity of an already-existing system of law.

More, while grounded in the past, this structure was readily adaptable to the present, by allowing for remedies appropriate to the specific legal problems of the day (the cheerful and commodious apartments). This retrofit was made possible by the use of legal loopholes, contrivances used to smuggle in modern remedies within older procedural methods of law (winding and difficult approaches).[16] These labyrinthine paths

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[14] W. Blackstone, S. Warren, *Blackstone's Commentaries: Systematically Abridged and Adapted to the Existing State of the Law and Constitution, with Great Additions*, Blackwood & Sons, London, 1855 [1765–1769], p. 267. Hereafter W. Blackstone, *Commentaries.*

[15] W. Blackstone, *Commentaries*, p. 267.

[16] More specifically, this worked through the widespread us of legal fictions—or the contrived use of details in a legal argument that contradicted the actions that led to the suit. Legal fictions were (and still are) both widespread in use and commonly accepted in practice,

allowed one to navigate between past and present, without any explicit indication of change. From the outside, the Gothic castle—the English legal system—appeared unchanged, solidly grounded in an authoritative vision of England's past.

This was precisely the problem for Jeremy Bentham. Bentham denounced the English common law, as Blackstone had described, as nothing but "dog-law"; without an explicit acknowledgement of the changes necessary to keep legal practice relevant to modern circumstances, the entire system (and, by proxy, the entirety of English governance) risked obsolescence. And he argued back with his own metaphor: "The indestructible prerogatives of mankind [English law] have no need to be supported upon the sandy foundation of a fiction."[17] For Bentham, the English law needed to be figuratively rebuilt from scratch from the ground-up, lest its 'unstable foundation' risked the whole thing collapsing. For him, the advantage of a law code was its straightforward relationship between a statement of principles and the enforcement of rules. In codified systems, legal judgement happens through the application of the appropriate rule—taken from a fixed, predetermined set—to the given facts of the case. Here, the articulation of a theory behind any given legal judgement precedes the practice and implementation of the law.

What better place to illustrate the benefits of codification than the laws of crime and punishment? Bentham's most well-known contribution to legal architecture, the panoptic penitentiary, was billed as a brand-new building type.[18] Marking a sharp break from what was understood

allowing for modifications in law without evidence of explicit change. On legal fiction see J. H. Baker, *The Law's Two Bodies: Some Evidential Problems in English Legal History,* Oxford University Press, Oxford, 2001.

[17] For Bentham, the problem with the Common Law as it was practiced stemmed from the fact that it was authorless; this lack of clear authority produced a set of rules that followed no pattern of rational or logical reasoning. J. Bentham, *The Works of Jeremy Bentham*, vol 5, "Petition for Codification," J. Bowring (ed.), London, 1838–1843, p. 546.

[18] Today we are familiar with Bentham's panopticon project in parge part because of another philosopher's writing on it, who dematerialized this project altogether to construct a broad (and abstract) theory of power: "The panopticon must not be understood as a dream building: it is the diagram of a mechanism of power reduced to its ideal form; its functioning, abstracted from any obstacle, resistance or friction, must be represented as a pure architectural and optical system: it is in fact a figure of political technology that may and must be detached from any specific use." This is Michel Foucault, of course, and for him an image of a building is (once again) mobilized as a metaphor in service of legal theory. For Bentham, the panopticon project was very much to be understood as a real building, used for the implementation of very real law. M. Foucault, *Discipline and Punish: The Birth of the Prison*, Vintage Books, New York, 1995 [1977], p. 205.

by Bentham as an unfairly punitive and arbitrary criminal law, the legal sanction of imprisonment—a fixed term confined within this purpose-built building—was framed by him as an ideal form of punishment. Influenced by Enlightenment philosophers who were arguing in more general terms for more gentile attitudes towards punishment, Bentham's legal architecture was, for him, both a perfect illustration of law's potential for rationality, as well as an imminently practical solution to an immediate problem. With capital punishment falling out of favor, and transportation to overseas colonies abruptly halted after the outbreak of the American war, jurists and social reformers were looking for alternative methods of legal sanction. The prison sentence, like a schedule of fines, was intended to be graduated in accordance with the severity of offence: the ability to objectively parcel punishment in this way was a major reason the penitentiary became a focus for Bentham and other penal reformers who advocated for methods of legal punishment that could be applied fairly to the petty thief as to the murderer.[19] The clarity of the panopticon drawings which accompanied Bentham's text was testament to the project's novelty, and to its clear-eyed objectivity.[20]

However, an easy translation that Bentham assumed the prison building would allow—between severity of offence and length of sentence—was, and remains, a fiction carefully crafted by the geometric regularity of the penitentiary's architectural plans.[21] A continued faith in these fictions has had the perhaps unintentional effect of making it difficult to examine how practices of imprisonment have actually changed over time. In this sense, Bentham's panopticon drawings are closer in kind to Blackstone's Gothic castle—a figure of speech, intended to convince an audience of the values of a codified legal system—than a mark of substantive changes in penal practice.

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[19] M. Ignatieff, *A Just Measure of Pain: The Penitentiary in the Industrial Revolution, 1750–1850*, Pantheon Books, New York, 1978.

[20] Especially in the wake of Foucault's influential account of Bentham's project, architectural historians have since taken the originality of the proposal at face value, and interpreted the sudden interest in prison design as evidence that architects played a fundamental role in shaping legal reform. R. Evans, *The Fabrication of Virtue: English Prison Architecture, 1750–1840*, Cambridge University Press, Cambridge, 1982.

[21] Bentham very much saw the panopticon as a proposal for a real building, and remained disappointed when it was never built to his specifications.

Legal Change and Architecture's Materiality: Missing Assumptions and Other Mistakes

In the end, of course, Blackstone won. The English common law remains famously uncodified. That is, legal authority rests in the interpretation of past decisions rather than on a set table of rules. In English law, like in architecture, judgment rests on interpreting precedent. This means that change continues to take place slowly, incrementally: primarily through daily practice, rather than through definitive declaratory statements. We renovate instead of built anew.

Where does this then leave Bentham's panopticon project, which, to be sure, has greatly influenced modern theories of punishment? To architectural historians who have relied on drawings as primary evidence of architectural change, the modern penitentiary certainly appears novel: a clear break from the past, wherein images of carcerality were rare, and dominated by sensationalist stories of danger and vice. Without a consistent form or associated architectural typology, medieval prisons occupied a wide range of buildings—from purpose-built jails (like the Fleet), to repurposed castle towers or town gates (Newcastle and Liverpool; Newgate) to far more modest town jails, which might have occupied a single room adjoining the keeper's residence (as per the many examples described by John Howard in his late 18th century survey of existing English jails).[22] In this context the modern penitentiary jumps almost ex nihilo from the philosopher's drafting board, replacing a miscellaneous collection of ordinary buildings with a singularly clear image of legal architecture.

But despite the lack of architect-designed prison projects, imprisonment had long played an important role in legal practice throughout England. Jails were used selectively as a sanction; they were used to hold people prior to trial and while awaiting their sentence; they were used to detain debtors.[23] Each of these roles was specific to a particular from of legal procedure. And while a comprehensive "national" approach to

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[22] J. Howard, *The State of the Prisons in England and Wales: With Preliminary Observations and an Account of Some Foreign Prisons and Hospitals*, W. Eyres, Warrington, 1777. See also R. B. Pugh, "Maintenance of Prison Buildings," and "The Structure and Contents of Prison Buildings," in *Imprisonment in Medieval England*, Cambridge University Press, 1968, pp. 338–346, 347–373; and S. Webb, B. Webb, *English Prisons under Local Government*, Routledge, London, 1922.

[23] For historical accounts of these uses, see J. Innes, "Prisons for the Poor: English Bridewells 1555–1800," in F. Snyder, D. Hay (eds.), *Labour, Law, and Crime: An Historical Perspective*, Tavistock Publications, London, 1987; J. H. Baker, "Criminal Courts and Procedure at Common Law 1550–1800," in J. S. Cockburn (ed.), *Crime in England, 1550–1800*, Princeton

imprisonment was yet far in the future, we have evidence that the construction and maintenance of even local jails could warrant attention from Westminster.[24] In *this* context, the penitentiary looks like one more variant of carcerality, a form of legal space that had a well-established role in common law practice. In this context, architecture's role in shifting legal concepts of punishment appears much more tenuous; while legal philosophy—specifically, Bentham's calculating objectivity—continues to shape architectural theory.

In an essay entitled "History and lost assumptions," the late historian of English law S.F.C. Milsom points to a fundamental difficulty in interpreting legal change. Although law is transmitted through writing, its textual archives lay potential traps:

> People do not formulate their assumptions for themselves, let alone spell them out for the benefit of future historians, and in the case of the law there is never occasion to write down what everybody knows. And when everybody has forgotten what everybody once knew, when the assumptions are beyond recall, there is nothing to put the historian on his guard.[25]

Milsom reminds us that missing evidence—the assumptions that no one bothers to write down because they are commonly assumed by everyone—should not be mistaken for proof that something was not happening. He is referring here directly to words, written on a page: the primary

University Press, Princeton, 1977; P. King, "Rituals of Punishment," in *Crime, Justice, and Discretion in England, 1740–1820*, Oxford University Press, Oxford, 2000, pp. 334–352.

[24] See, for example, the Gaols Act of 1532, which recognized the need for financing the building and upkeep of local jails—although the statute did little to ensure that these buildings would be actually managed as per its dictates. See R. B. Pugh "Maintenance of Prison Buildings," pp. 343–345, for the multiple reasons that this Act might have been deficient. For an account of a national approach, see S. Devereaux, "The Making of the Penitentiary Act, 1775–1779," *The Historical Journal*, 42, 2, 1999, pp. 405–433. See also J. Semple, "A View of the Hard Labour Bill and the Penitentiary Act of 1779," in *Bentham's Prison: A Study of the Panopticon Penitentiary*, Oxford University Press, Oxford, 1993, pp. 42–61. And for an account of the (unbuilt) projects of the architectural competition that was held shortly after the Penitentiary Act, see P. du Prey, "The competition for the first Howardian Penitentiaries," in *John Soane: The Making of an Architect*, University of Chicago Press, Chicago, 1982, pp. 197–218.

[25] S. F. C. Milsom, *A Natural History of the Common Law*, Columbia University Press, New York, 2003, p. 76.

medium through which the law is known, transmitted and enforced.[26] But we would do well to heed this warning when accounting for architectural change as well. Did Bentham's panopticon project catalyze a shift in legal practices of imprisonment? Perhaps not concretely, in the moment—though its powerful image certainly changed how we talk about architecture's role in punishment.

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[26] Apart from a small body of scholarly literature devoted to legal emblems and seals, for the most part legal history is known through interpreting the written records of the court and its ancillaries. See P. Goodrich, *Legal Emblems and the Art of Law: Obiter Depicta as the Vision of Governance*, Cambridge University Press, New York, 2014. See also Baker's *The Law's Two Bodies* on evidential problems in legal history, more generally.

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Original Scientific Article
DOI: 10.5281/zenodo.11484104
Received: April 14, 2024; Accepted: May 16, 2024

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Notes on Salience: Where Does It Come From and Where Does It Go?[1]

ABSTRACT: While salience implies a discontinuity with a temporal or spatial surround, one that generates the qualities and meaning of the universes, cosmoses, or *Umwelts* that we inhabit, it nonetheless represents an *artifactual* reality that comprises experience, not a foundational one. To the extent that we are salient sentient beings—well-formed centers of worldly experience—we are discontinuous with the worlds we inhabit. But as material and biological entities, and especially as "minds" continuously metabolizing and integrating the moving particulars of the physical world, we are not "in" the world but actually *are* the world. Our sensory capacities are in no way limited to the apprehension of change that presents uniquely as *distinction*, but also track and participate in the unfolding of reality just as the hot air balloonist's gondola moves with the ambient air so that no matter how turbulent the wind, no hair moves on the heads of the balloon's passengers. To attain experiential knowledge of this external matrix requires a cultivated transformation of the internal world and the ecstatic relinquishment of the stubborn infrastructures of monadic selfhood.

KEYWORDS: Simondon, Spinoza, experience, Whitehead, perception, the numinous, ecology

[1] A version of this paper was originally presented at the "Reading Matters" conference (sponsored by the Comparative Literature departments of Princeton and Berkeley universities) in late 2018. The ostensible topic of the conference, at least as I interpreted it, was to establish a framework to account for the relations between matter and intelligibility.

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> *The salience of an item—be it an object, a person, a pixel, etc.—is the state or quality by which it stands out from its neighbors.*[2]

The ontological problem since the time of the Greeks has been to account for how the Indefinite substance [*apeiron, archē*] or primary material of Nature gives way to an apparent, continuous arising [*physis*] of distinct and interesting qualities or things. At stake, then as now, is to preserve the concept of the unity of Nature while affirming the infinite variety of what actually occurs. A great deal of effort in the history of thought has sought to remove the "breaks" in the continuum of Nature, nowhere more solemnly than in Spinoza who sought to mend the rift between extension (matter) and understanding (mind). But the problem of everyday "intelligibility" has always rested upon the more fundamental one of essential disclosure of unknown or unexperienced things. It is properly conceived as belonging to the effort of thought—or more generally *experience*—to penetrate ever more deeply into the opacities of the material world and the individuating (salience-producing) enterprises through which it expresses itself. And yet, such a one-sided account in no way exhausts the means by which the human nervous system—mind, sensation, understanding—connects to and metabolizes the world around it. Since at least the time of William James (or Nietzsche before him) a certain direct knowledge of the "immanent lawfulness" that underlies the parade of "individuals" has been a pressing object of concern for human understanding. The lyrical intelligibility referred to here does not follow the formal doctrine of differentiable outlines but rather that of an *ascent to undifferentiation* and to the fevers of matter in which "mind" discovers its own processes *outside itself*.

Intelligence

The task is to discover a method of thought that grasps the problem within a single element or frame. And because the "singleness" is also the cardinal feature of its meaning and significance this principle must also serve as a prominent topic of attention. For in both our inner and outer worlds, salience, either emerging or dropping away, is what change

[2] "Salience (neuroscience)," *Wikipedia*, https://en.wikipedia.org/wiki/Salience_(neuroscience).

reveals, but it does so with a reciprocity that must be accounted for. It describes not only what appears in the natural world, but also, and in tandem, what develops in awareness. The burden of expression here is to transmit to understanding the same *unity of presentation* it discovers in perception-reception as it enjoys in the natural world. In other words, to supersede the latent incommensurabilities of what presents in physical (or psychic) existence and what can be adequately made present in formal language. The latter can easily be recognized as among the most unrelenting commonplaces of modern thought.[3]

With the seminal epistemological shift that has taken place in recent decades, toward interest and understanding of how "communication" works in physical and biological systems (and hence away from the parochial bias of human language), we can expand our interrogation of reality to examine how something previously undisclosed in one precinct of the world transmits itself to another part capable of apprehending it. How is information, form, or pattern activated in the world *without partitioning the world into specialized parts*, ones that natively present and ones that natively apprehend, in other words, into matter and mind. Central to this expansion is the principle that those parts of the universe that are engaged in the act of apprehending—grasping, seizing, obtaining, understanding[4]—are the beneficiaries not of a product gained in a transaction that can be stored, but of an *enhancement* or augmentation of potential, the potential to grasp or apprehend.[5] Although this might be construed as a "panpsychism," or at any rate as a problem of "consciousness," it is a consciousness of uncertain or undetermined locality.[6] Yet, a judicious use

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[3] A direct consequence of the perennial but arguably misleading identification of "mind" with language which has operated for some time now in the classical humanities as the tacit foundation for the consensual and hence largely unchallenged bifurcation of reality into segregated domains. This bifurcation is the precondition of the damaged landscape in which idealisms and other foundational confusions are able to grow. Which is not to say they have not been remarkably fecund.

[4] On the semantico-geometric derivations of the Latin term *percipere*, see R. Thom, "From Animal to Man: Thought and Language," in *Structural Stability and Morphogenesis: An Outline of a General Theory of Models*, W. A. Benjamin, Reading, Mass., 1972, pp. 297–330.

[5] W. Singer, M. Ricard, "Neuroscience Has a Lot to Learn from Buddhism," *The Atlantic* https://www.theatlantic.com/international/archive/2017/12/buddhism-and-neuroscience/548120/, (accessed 17 December 2017).

[6] The well-known "wave function collapse" of Heisenberg and Schrödinger represents the transition from the elementary or default condition where there is *superposition* of states of matter and information (and indefinite values including that of position) before disruptive interaction with its environment (or measurement instrument)—from wave to particle—and hence to a set of fixed values. This is felicitously referred to as "decoherence" (moving

of the term consciousness would not be misplaced here, that is, if we were to affirm that the predicate of a '*potential*' distributed in Nature belongs necessarily and indifferently both to the domains of mentation (mind) and to all the versions of the maturation of matter with which we have become comfortable, from evolutionary theory, through its progression to the First and Second Laws of thermodynamics that were the primary *ontological*, and not only scientific contributions of the 19th century.

The common origin of concepts of *potential* and of distributed *intelligence* in Nature as foundational endowments of what is both human and "beyond human" goes back to the Greek concept of a "Logos," a lawfulness, that is said to administer the whole universe: "Wisdom is *one thing*: to know the intelligence through which *all things are steered through all things*."[7] Wisdom, that is, consists in *apprehending* the singleness of the universe's dynamo as a steering intelligence which is the irreducible mode of intelligible appearance. In modern times it was Spinoza who restored the unity of the two seemingly divergent modes—one of which was "thought" or mind, the other "extension" or physical reality (space and matter). He did this through his concept of a single differentiable and expressive *Substance* invested with inexhaustible *potentia*. So invested, Spinoza's concept of Nature was no second in intended majesty to any formal conception of God.[8]

Contemporary audiences attuned to the philosophy of nature as an "onto-epistemological" problem derived from the Spinozist vein—the copula itself of the two branches of study affirms the reciprocal inherence of objective and subjective domains—invoke the work of Gilbert Simondon. The following passage from Simondon's introduction to *Individuation in Light of Notions of Form and Information* provide as concise and radical an affirmation of the logic of Being as can be put forth:

> The individuation of the real, exterior to the subject, is grasped by the subject due to the analogical individuation of knowledge within the subject; but it is through the *individuation of knowledge* and not

from quantum to classical state). Schrödinger's prescient principle of "life," how matter became an animate vector of self-directed autonomy, draws on this "field" principle which he derives from Vedantic literature.

[7] Heraclitus, Fragment 41. Emphasis mine.

[8] The virtual, secular *potentia* of Spinoza was adopted even politically by Antonio Negri in *The Savage Anomaly: The Power of Spinoza's Metaphysics and Politics,* University of Minnesota Press, Minneapolis, 1999, as well as, many argue, including he himself, by Louis Althusser and his cohort including Étienne Balibar.

> through knowledge alone that the individuation of non-subject beings is grasped. Beings can be known through the knowledge of the subject, but the individuation of beings can only be grasped through *the individuation of the subject's knowledge*.[9]

The crux resides in the '*analogical individuation of knowledge*' *within the subject*.[10] For Simondon explicitly asserts that the *capture* of the movement of Being—the appearing of an individual—along with the in*form*ation and hence salience it engenders (Bateson's "difference that makes a difference"), can be accomplished only through a parallel movement in the apprehending entity that meets it. This is not dissimilar to what is expressed in neuroscience by the phrase: "neurons that fire together wire together." For what unfolds in physical reality is matched by what unfolds in brain and mind, and only by force of such coordinated, parallel unfoldings. Hence the careful parallelism in the excerpt above of "within" (the subject) and "beyond" (the subject) carry no further functional distinction in Simondon's thought.

Simondon's full ontological account in his two-volume opus, addresses the four primordial levels of human experience of cosmos—the physical, the living (*biologique*), the psychic and the collective or social.[11] In what proves to be a modular concatenation, each builds on, and draws from, the previous, more simple one that serves, as it were, as a reservoir of *potential*—what he calls "a residue of pre-individual" that is never fully resolved or exhausted—for the next. This "pre-individual" is the component of undifferentiated being that remains immanent and active within (commonplace) "beings," even when invisible and unexpressed. Individuation, whether in thought or matter, represents a penetration to

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[9] G. Simondon, *Individuation in Light of Notions of Form and Information*, University of Minnesota Press, Minneapolis, 2020, p. 17. Emphasis mine. The French original: "L'individuation du réel extérieur au sujet est saisie par le sujet grâce à l'individuation analogique de la connaissance dans le sujet; mais c'est par *l'individuation de la connaissance* et non par la connaissance seule que l'individuation des êtres non sujets est saisie. Les êtres peuvent être connus par la connaissance du sujet, mais l'individuation des êtres ne peut être saisie que par l'individuation de la connaissance du sujet." G. Simondon, *L'individuation à la lumière des notions de forme et d'information*, Éditions Jérôme Million, Grenoble, 2013, p. 36.

[10] I myself missed the importance of this emphasis in my translation of Simondon's "Introduction" to his *L'individu et sa genèse physico-biologique*, published in J. Crary, S. Kwinter (eds.), *ZONE 6: Incorporations*, Zone Books, New York, 1992.

[11] Secondary titles of the two volumes in French, were: "*physico-biologique*," and "*psychique et collective*." The original title of volume 1 included the phrase "*et sa genèse*," a study of individuation *and its genesis*.

an *immanent beyond* made both possible and necessary by the presence of a mobile reservoir that travels with "beings" and perpetually impels them to pass out of phase with themselves. This is what ceaselessly generates the intelligibilities, saliences and distinctions that make up our world. What is grasped or known by the conventional "substantialist" mind is a deficient and improperly understood "reality," Simondon argues, for this attitude habitually mistakes the *products* of Being—things—for the larger, more interesting and primary *system* of operations and modifications through which Being *performs*.[12] Thought, perception, sensation alike are hence themselves compelled to individuate in order to capture the individuations—especially the *new* forms, qualities and expressions in the physical and material world—that delight and inform us. (It would be hard to deny that there is something inherently pleasurable and not only necessary in all such capture.) For this process, Simondon reserves the term "transduction"—the insistent restlessness common to the life of both matter and mind that is driven by that same excess of being—"the reservoir of pre-individual"—that excites and suffuses their every *state*.

The resonant harmonic convergence of the two streams of becoming is described as an "analogic" operation. The analogic principle (sometimes referred to as parallelism) posits a "co-individuation" in which there is a concrete transfer of operations ("structuration") from one milieu or domain to another, what he refers to as a "setting into relation" of two processes—one that operates outside thought (and hence outside of subjects), with ones that operate within, and make up the movement of thought or experience itself.[13] This operation, which sometimes sounds like "cognition" and sometimes like a statement about the advance of Nature itself, need not be "read" substantially differently from the simple act of "putting into relation" of systems of "different orders of magnitude" that Simondon describes as when a plant establishes within itself relations with the molecular capabilities discoverable in soil, minerals and moisture and connects these to the macroscopic—cosmic-scale—forces radiating from the sun in order to establish itself as *plant*.

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[12] Simondon is most widely cited for his critique of Aristotelian "hylomorphism," the "dualist" fallacy that miscontrues salience or appearance because it deprives matter of its inherent, productive dynamism, impetus and intelligence.

[13] The French mathematician René Thom similarly referred to the appearances and particulars of the world as "never-ending embryologies" and derived a set of universal principles that, in combination, accounted for them. For efficiency I use the term "thought" for every interior or sensory disposition that one develops toward the physical world, regardless of whether emotion, perception, thought or pure sensation.

In summary, there is a perennial Monist project, indeed a lucid and sober realism that legitimately pursues an account of world that conceives of mind and matter as "excitable media" both, and which does not divide that world but rather demonstrates the immanence or inherence of the one in the other. For somewhere in that always open and unfolding relation—"mutual sensing"—we ourselves appear, capable of deploying ourselves in as yet unacknowledged and unpronounced ways. What remains undiscovered in the record of human affairs is the variety and scope of human sentience—the human capacity to penetrate by means of directed psychic experience into what is dimly intuited regarding discoverable "relationships with things beyond" (this phrase is Alfred North Whitehead's). For Simondon, the problem to be solved and to be met by understanding are the modes of how beings arise and the relations that this arising both expresses and establishes as concrete occurrence.

Events (Realization as Unification)

Another extraordinary moment in the history of thought in which this problem was developed is found in A. N. Whitehead's first lectures at Harvard on 18th century knowledge,[14] in which he directs our attention to the famous argument of Bishop Berkeley regarding the status of external vs. mental objects. Whitehead begins his lecture by summarizing the intellectual accomplishment of the 17th century—to have not only successfully divided Being into two realms, that of material on one side and mind on the other, but to have conceived these both *abstractly*, meaning to have made them both representable in terms of "simple location." The doctrine of simple location of course is Whitehead's famous dismissal of the poverty of mechanism.[15] He then proceeds with his famous proclamation that the role of philosophy is "to serve as the critic of abstractions" and in so doing he throws the gauntlet.

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[14] See P. A. Boggard, J. Bell (eds.), *The Harvard Lectures of Alfred North Whitehead, 1924–1925: Philosophical Presuppositions of Science*, Edinburgh University Press, Edinburgh, 2017; B. G. Henning, J. Petek, G. Lucas (eds.), *The Harvard Lectures of Alfred North Whitehead, 1925–1927: General Metaphysical Problems of Science*, Edinburgh University Press, Edinburgh, 2021.

[15] Whitehead refers to Bacon's earlier concept of "induction," equally promiscuous in its applicability to knowing and natural appearing and a constitutive precursor to the later notion of "perception." On that subject, see "The Century of Genius," in A. N. Whitehead, *Science and the Modern World*, The New American Library, New York, 1948. pp. 39–56.

Whitehead then draws us to the work of George (Bishop) Berkeley, the curious solipsist-idealist who denied outright the existence of matter and acknowledged as reality only what is held and formed in the mind. Berkeley's widely commented example (from the dialogue "Alciphron") of three disparate entities, "the castle, the planet and the cloud," which he claims are able to exist in the mind, *together as an ensemble right now and here*, although they are demonstrably not the objects "we suppose to exist at a distance" becomes for Whitehead the breakthrough for a transformational insight with respects to his own philosophical system. To Berkeley's question: "What do we mean by a thing being realized in the world of Nature?," Whitehead proceeds to extract from Berkeley's position a theme that remained largely obscured even to Berkeley himself. What was it? The theme of a *unification*, even if it was stated in Berkeley exclusively as the unity of ideas in God. Whitehead then proceeds to transform—actually deliberately to contort and misread—Berkeley's argument by taking hold of his concept of "perception" and applying it now to real physical objects. He takes Berkeley's outlandish idea that natural entities—in the case at hand, castle, cloud and cosmos—are realized through the act of being grasped and perceived within *the unity of the situated mind*, and transposes this condensing perception-operation into the acentric world of extended matter:

> We can substitute the concept, that the realisation is a gathering of things into the unity of a prehension; and that what is thereby realised is *the prehension, not the things*.[16]

For readers unfamiliar with Whitehead's metaphysics and nomenclature, "prehension" is the keystone principle of his Process ontology insofar as it refers to all clumping or "chunking" of aspects of existence into meaningful, relational events. In other words, the world is made up of specific and changing meaningful unifications, each composed of *aspects* of diverse entities entering into composition with *aspects* of other entities, with no entities either proximate or remote being excluded from this perpetual creative process of mutual "ingression." Whitehead removes the "cognitive from prehension," just as Berkeley removed matter, and defines it simply and directly as "*uncognitive* apprehension."[17] Next,

[16] A. N. Whitehead, *Science and the Modern World*, p. 71. Emphasis mine.
[17] *Ibid*., p. 70.

citing both Spinoza's Modes and Leibniz's Monads, he proceeds to declare the underlying activity of prehension as the actual primary concrete activity and manifestation of Being: "Thus, concrete fact is process. Its primary analysis is into underlying activity of prehension, and into realised prehensive events."[18] Then later: "Perception is simply the cognition of prehensive unification [...]"[19] (hence prehension of prehension). In sum, perception and the "actual occasions" of Nature—more simply, reality—are conjoined through mutual interlocking relations in a single expansive development. The units of such a continuum, which are also infinitely separable, are famously called "events" and "organisms:" "Biology is the study of the larger organisms; whereas physics is the study of the smaller organisms."[20]

Consciousness

The principle undertaking of our cited ontologists—the pre-Socratic ancients, Spinoza, Whitehead or Simondon—was to remove the breaks from Nature, to declare that there is *but one world*. Should we not be able to integrate this posture, not only into our language, but into our knowledge, indeed to *experience it* implicitly in life? Can we access this state of continuity, the pregnance of the *undifferentiated* that represents the primary generative *potentia* from whence we, and all particulars around us, arise?

When we approach questions of human interior experience, of how we metabolize the data of our senses, we are forced to admit that we remain largely in the dark. We don't know much about dreaming, for example, and we can still astonish ourselves to be reminded that it is a noological twilight to which we return unquestioningly on a daily basis, hiding the bizarreness of this daily visit to ordered oblivion from ourselves. Where do we go when we daydream, partake in fervid erotic activity, dive deeply below the ocean surface[21], or simply listen to music? Likewise, and equally omnipresent in experience and unexplained, it is

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[18] *Ibid*., p. 71.

[19] *Ibid*., p. 73.

[20] *Ibid*., p. 105.

[21] James Nestor examines the complex biology of the "mammalian dive reflex" that permits humans to perform extraordinary physical feats, not only breath holding (up to five minutes or more) but ability to endure staggering levels of physical pressure. Not only does the body not collapse under these loads, but a set of five different states of consciousness arise at specific progressive depths and pressures. See J. Nestor, *Deep: Freediving, Renegade Science, and What the Ocean Tells Us about Ourselves*, Houghton Mifflin Harcourt, Boston, 2014.

rare to find a person who does not listen to music, impossible to find a culture past or present that does not practice it, and its habit, by most accounts, predates language and the advent of tools. We do not know where music comes from, nor where it inheres, and even when it is in full progress around us we do not know if it is "out there" where matter moves and resonates, or rather inside us, like a pattern that cannot rest and that endlessly and wordlessly sends, receives and transforms across the manifold separatrices of body, world and mind.

Music's foundation can be found in *charismatic sound* generally, a natural phenomenon shared even with animals, insofar as aural attunement and information "pickup" are what constitute the principle of engaged *interest* in the resources and structure of the environment for every organism (including, we now know, even flora). Sound as the common genesis of both the sentient registration of the world and of living matter as an open or cybernetic system may well be the scaffold upon which secondary consciousness is built. The undifferentiated cluster of cells in which every human life (ontogenesis) begins, already registers reception of acoustic stimulus from the proximate but indefinite surround of its mother's body and her domestic universe.[22] From within the oceanically neutral amniotic universe within which the embryo is immersed, the rhythmic sounds of the mother's background heartbeat, breath and gastric burbling would be experienced as at once *originating from* and *terminating within* an undivided incipient "self." The first structured psychic rapport with objects and relationships dimly sensed to exist beyond immediate reach, and hence charged with mystery, would present here, even in the not-yet-individuated bodymind, as the armature of the perennial impulse toward disclosure that is the basis of all intelligibility and existential understanding, if not the full human experience of revelation. (The concurrence of affects exhibited here—simultaneous introceptive excitation and equanimous bliss—will be briefly addressed below.)

These sounds, particularly the regular and reassuring ones such as the unstressed speaking voice of the mother and that of her life partner would become the scaffold upon which the developing nervous system would unfold and in turn serve as the seed around which the massively encephalizing human organism would unfurl its "self."[23] The uninterrupted flow

[22] Newborn infant brains are already "tuned" to the prosody of their parents' native languages, a familiarity and preference that can be demonstrated within 18 hours of birth.

[23] The rate of neurogenesis at this stage of its development is upwards of 1,000,000 neural connections *per second.* The number was updated from 100,000 in 2017 to reflect current

of stimulus is the precondition for neural tissue survival; this obligate neural grasping and satisfaction is the basis of music-sound processing, the principle of the nervous system's design to capture change in its surround, to vacate what was just held, to recharge in real time (the time of matter and its development) and to discern structure in the syntax of its stream.[24] The particularity of this early pre-individuated sensory-cognitive engagement carries with it a latent capacity for somatic reactivation of "peak" or non-ordinary sensory experience in the later individuated, ego-endowed being. This serves as a kind of latent copula, one of many possible avenues of access to pre- and trans-individual feeling and understanding.

The Numinous (Ontologic Emotion)

One among many at the forefront of psychoacoustic research is Bernie Krause, former sound engineer and founder of the field of "acoustic ecology." Composer, bio-acoustician, and author of *The Great Animal Orchestra*[25], Krause began recording natural landscapes in the late 1970s and through deep listening and spectrographic analysis of his field recordings made a series of game-changing discoveries with respect to biodiversity dynamics, niche partitioning, and temporal and succession ecology that had not previously been grasped through orthodox forms of observation or registration. The now increasingly standard terms *biophony* (sound from living systems), *geophony* (sound from the non-living physical world) and *anthrophony* (sound that is a product of human enterprise) are his, and express the scope of the expanded integrative framework of environmental knowledge that is rapidly transforming contemporary understanding.[26]

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research and methods. The best (accessible) technical compendium on neurogenesis is still P. R. Huttenlocher, *Neural Plasticity: The Effects of Environment on the Development of the Cerebral Cortex*, Harvard University Press, Cambridge, Mass., 2002.

[24] The impetus of the so-called "secondary repertoire" hence is so great that it virtually hunts its sensory landscape for "signal" or pertinent features. The brain—sensory processing—is engineered to distinguish variant and invariant features in the environment. This principle, which lies at the basis of J. J. Gibson's *The Ecological Approach to Visual Perception*, Routledge, London, 2014, has been the bible in perceptual psychology for decades.

[25] B. Krause, *The Great Animal Orchestra: Finding the Origins of Music in the World's Wild Places*, Little Brown, New York, 2013. (The 2013 edition and all later ones, but not the original 2012 edition, contain the critical call outs to sound clips that can be accessed online and which provide extraordinary experience often matching the startle power of descriptions provided in the book.)

[26] The godfather of the soundscape studies movement is Raymond Murray Schafer. See his *The Tuning of the World*, Random House, New York, 1977, republished as R. M.

In the early pages of his landmark book Krause describes the psychic impact of one of his first natural recording sessions:

> [...] I was startled by each new sound. Many of the subtle acoustic textures around me were made *larger than life* through my stereo headphones, on which I cranked the monitor levels so that I wouldn't miss anything. The impact was immediate and forceful. Impressions of *lightness and space* were alluring and lustrous. The ambience was transformed into minute detail that I would have never caught with my ears alone—the sound of my breathing; the slight movement of a foot adjusted into a more comfortable position; a sniffle; a bird landing nearby on the ground, stirring up leaves and then pushing air with its wing beats in short, quick puffs as it took off, alarmed [...] I hear pieces of the aural fabric in such gloriously clear detail that I am still surprised by how much I was previously missing [...]. When I turn up the volume slightly above what I can hear unaided, I get an *"out of this world"* impression that I imagine astronomers might feel when they receive Hubble telescope images of exploding supernovas from the far reaches of the universe.[27]

While I call attention in the passage above to one incidental aspect of Krause's work only—the latent capacity of human audition to cull knowledge within experiential dimensions long lost to us by cultural misdirection—it is sufficient to demonstrate an element critical to what follows: the reality of an empirical knowledge achievable in the state or posture of bridging sensorially with the world, in other words, as if perceiving were taking place from a more distributed, primary, de-individuated *noological* state. I invoke the term "noology" with a certain preference these days, sometimes interchangeably with the Latin-American preference for "epistemologies,"[28] and largely to rhyme with William James's choice of the related term "noetic" to characterize a certain quality of rare yet authoritative experience on which he reported in his

Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World*, Destiny Books, Rochester, 1993.

[27] B. Krause, T*he Great Animal Orchestra*, p. 15. Emphasis mine.

[28] See B. De Sousa Santos, *Epistemologies of the South: Justice Against Epistemicide*, Routledge, London/New York, 2015; A. Krenak, *Ideas to Postpone the End of the World*, Anansi Press, Toronto, 2020; E. Viveiros de Castro, "Cosmological Deixis and Amerindian Perspectivism," *The Journal of the Royal Anthropological Institute*, 4, 1998, pp. 469–488.

Varieties of Religious Experience.[29] "Noetic quality" as James develops it, refers to situations in which the following qualities are present simultaneously: a sensation of the unity of existence, an oceanic feeling (loss of individuality, or in later parlance, "ego dissolution"), and the presence of a deep certainty that these are not only states of feeling but also states of *knowledge*. These experiences are rare but not uncommon,[30] and are typically recorded as permanent insights into realities beyond usual human reach, are often transformative, are accompanied by powerful feelings, include a convincing sense of unity and *identification with outward reality*, and more often than not are characterized as incommunicable (ineffable) ostensibly because ungraspable by the discretizing operations of language but also partly because they are registered in a part of the brain and body that are no longer actively bridged to language centers.[31]

Lacking a better term, James referred to these as "mystical states" and placed them as close as he was able toward the center of human concern stating famously that "no account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded."[32] The firmness of James's conviction regarding states of non-ordinary sentience, penetration and access that lie close to but outside our familiar ones, becomes unsurprising once one learns of his transformative encounter with the transpersonal noesis that determined the course of his philosophical and psychological work. This engagement, referred to as *the anaesthetic revelation*, began with his study and published review of a work by the philosopher Benjamin Paul Blood entitled "The Anaesthetic Revelation and the Gist of Philosophy"[33] in which Blood reported that the inhalation of nitrous oxide could provide extraordinary real access to dimensions of understanding otherwise limited only to rare persons or

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[29] W. James, *The Varieties of Religious Experience: A Study in Human Nature*, Longmans, Green and Co., New York, 1902.

[30] See Marghanita Laski's encyclopedic study, *Ecstasy in Secular and Religious Experience*, Cresset Press, London, 1961, for a sense of Lasky's comprehensiveness (it includes hundreds of examples from world literature as well as testaments and questionnaires, note that she was the single most prolific contributor in history to the *Oxford English Dictionary*.

[31] The crypto-somatic registration of traumatic stress has undergone a sea change of understanding and supportive empirical research in the last 2 decades. Bessel van der Kolk's *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma,* Penguin Books, New York, 2015, is the keystone theoretical foundation of contemporary trauma study and its enracination in flesh and spirit.

[32] W. James, *The Varieties of Religious Experience*, p. 388.

[33] B. P. Blood, *The Anesthetic Revelation and the Gist of Philosophy*, Amsterdam, New York, 1874.

occasions.[34] James reviewed Blood's pamphlet[35], remained captivated by its sober but extraordinary propositions, experimented with nitrous oxide himself, and then experienced a profound and ecstatic "ontologic emotion" and access of understanding that resulted in the dramatic resolution to his life-long antipathy for the work of Hegel and his irritation at the sway it held over the thinkers of his era. James proceeded to publish not only the rational fruits of this achieved understanding—but also a three-page account appended to it of the larger experience of psychic expansion of which it was but a single practical part.[36] These revelations determined the broad character and impetus of James's arguments and insights throughout *Varieties of Religious Experience* (their earmarks are unmistakably legible to anyone attuned to them) and are the ontological matrix to which is attributed much of James's radical emphasis on experience, his overhaul of conventional one-dimensional "empiricism"—his *radical* empiricism, his embrace at once of pluralism, and of the irreducibly *relational* open-endedness of the material universe and of human being.

"Phenomena are best understood when placed within their series, studied in their germ and in their over-ripe decay," James asserted. And although he predominantly used the term "mystical" to describe the state in which mystery and revelation appeared together with a sense of there being *a participation of the act of knowing* within the very structure of the known thing, the state was widely known to the Ancients as "*henōsis*"—Source, primordial Oneness, unity, *unio mystica*—and which served as a more important reference than is typically conceded, as for example in the 2,000 year long tradition of the Eleusinian Mysteries (a prominent Dionysian cult) in which nearly every known figure of antiquity was believed to have participated. Beginning in the early 20th century the term "numinous" came to be used to invoke the state of acute attentiveness and presence to an unbounded realm that is nonetheless both real and cognizable. This state is typically seen as a singular and ecstatic destination for human understanding, frequently associated with some form of a-theistic "divine." Eastern traditions are preeminently concerned with

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[34] James is said to have explored six or seven different psychotropic agents—ether, amyl nitrate and peyote among them—as well as to have explored trance states, spiritualist séances and a range of mediumistic phenomena in his investigation into the scope and diversity of human experience. One account can be found in D. Blum, *Ghost Hunters: William James and the Hunt for Scientific Proof of Life After Death*, Penguin, New York, 2006.

[35] W. James, "Review of 'The Anaesthetic Revelation and the Gist of Philosophy'," *The Atlantic Monthly*, 33, 1874, pp. 627–628.

[36] W. James, "On Some Hegelisms," *Mind*, 7, 1882, pp. 186–208.

the achievement of henosis, cultivated through attentional practices and typically referred to as "enlightenment."

We can easily recognize in Bernie Krause's account of noetic transport, achieved through the bypass of routinized modalities of sensory attentiveness—in his case, entering the spatio-temporal continuum through audition rather than vision—a remarkably reliable method of transforming not only cognition but reality itself. Magicians have been aware of the plasticity of human attention for centuries[37] but the scientific study of non-ordinary states came into its own only with the convergence of 20th century neurology, philosophical psychology, the proliferation of study of eastern religions and interest in psychoactive agents capable of releasing the senses from their confinement in strictly subjectivist matrices of reception.[38]

The Matrix of Matter and Memory

The most systematic study of non-ordinary noological states to this day remains Stanislav Grof's analytic synthesis of early experiments in the late 1950s and '60s in Czechoslovakia and the United States, with LSD-assisted psychotherapy, *Realms of the Human Unconscious*.[39] Among the remarkable findings reported in this work was that although routine human perception may well be coherently catalogued and organized in common practice from the familiar perspective of a discrete and localized perceiving subject—with its attendant spatio-temporal perspectives, delimitations and bias—the preponderance of clinical evidence suggests something different. The contents of the experience actually appear to be captured and stored largely independent of the biasing or "subjective filter" of a so-called separate ego or self, set against the broader extended world. In the re-living of past events during high-dose guided LSD sessions, particularly events that include one or several other actors, subjects

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[37] A remarkable take on the history of magic and its empirical grasp of both innate and acquired perceptual dynamics can be found in S. L. Macknik, S. Martinez-Conde, *Sleights of Mind: What the Neuroscience of Magic Reveals about Our Everyday Deceptions*, Henry Holt and Co., New York, 2010.

[38] These can be modern technological agents such as anaesthetics, dissociatives, stimulants, calmatives, and other medical psychotropics, or plant- and animal-derived agents that have been used for ritual, healing, social cohesion, religious practice or personal revelation for thousands of years by indigenous populations and practitioners. There is a vast anthropological and now also scientific literature on the subject.

[39] S. Grof, *Realms of the Human Unconscious: Observations from LSD Research*, The Viking Press, New York, 1975.

"never" (Grof's judicious usage) report experiencing their own perspectives uniquely, but rather always somatically and cognitively occupy the perspective of all the personas in the situation or structure being remembered.[40] The reliving does not appear to be a reliving specifically of the subjective memory, but realizes an expansive descent *into the event itself* as a fully possessed material matrix. The quality of implicit *participation* in worldly unfolding is a more than common characteristic of so-called numinous experience. It does not matter for example whether the subject was oppressor or victim in a negative karmic situation for it appears that it is rather "the dyadic traumatic pattern [itself] that is imprinted"[41].

There has been an explosion of theoretical and empirical elaboration in the last two decades seeking to account for the varieties of ontological experience that make up human understanding. A highly discussed, if now marginally superseded, proposition is the "Entropic Brain" hypothesis developed by Robin Carhart-Harris and colleagues at Imperial College London.[42] The goal of the Entropic Brain Hypothesis and others like it, is to account for how the mind is able to access and accommodate highly acute material and performances not generally seen or attributable within so-called normal states. The rough basis of the theory conceives of brain states as energetically maintained regimes of greater or lesser stability and capable under specific conditions of transitioning from one regimen to another. The so-called "Default Mode Network" (DMN) refers to the neuroanatomical correlates of one such equilibrium state—is the highly organized but also constrained regime the brain is in when at rest, not focused on the outer world, daydreaming, or just "cruising." It is also the state that most highly favors and activates what is commonly referred to as the ego or self. (Task-directed consciousness, and activation of the

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[40] *Ibid.*, p. 176.

[41] Grof identifies four stages of pattern reception, typically as a developmental progression through which the subject passes or works: the abstract-aesthetic (geometric), the psychodynamic (onto-historical), the "Basic Perinatal Matrices," and finally the Transpersonal. The second "psychodynamic" stage is onto-historical (person specific) and largely preserves the subjectivist format even if it provides extraordinary ability to access detail, affect and sensation. No specific explanation is advanced in this early work of Grof's, simply a detailed reportage from session notes and occasional research when corroboration is possible. For some speculations on other aspects of the present paper, see S. Kwinter, "Are You Experienced?," in *Psychotropisms: Drugs, Specters and Hallucinations for the Transformation of the Present*, Ministry of Culture and the Majorality of Pereira, Colombia, 2017, p. 83–109.

[42] R. L. Carhart-Harris *et al.*, "The Entropic Brain: A Theory of Conscious States Informed by Neuroimaging Research with Psychedelic Drugs," *Frontiers in Human Neuroscience*, 8, 2014.

"Central Executive Network" on the other hand, favors less this ego-predominant state, and is naturally congenial to hypotheses of flow, or peak states, or, in a different set of correspondences (MTL or medial temporal lobe involvement) what Carhart-Harris refers to as "primary consciousness"). Certain somatic and attentional practices, as well as psychoactive agents (in the study at hand, agents that activate at the 5-HT2a receptors, the classic psychedelics, psilocybin and LSD) weaken the Default Mode Network regime and hence deliver the brain to a profusion of less constrained but more integrated, active connections. The result is colloquially often described as ego-dissolution but it is accompanied by a high degree of attentive alertness and receptivity—a vast expansion not only of sensory input but a sensation of expansion of both space and time (as if toward a sensible infinite and eternality), and an erosion of "illusory" separative boundaries or structures.

What is effectively occurring is a reversal of the individuating processes that developmentally conditioned an "optimized" but more impoverished and limited mode of cognition, one whose filters favor a more efficient and reality-bound negotiation with the surrounding world. The transition and release from Default Mode Network along with a weakened, possibly dissolved ego anchor—toward a less constrained, more highly connected and hence entropic state—reveals to the senses a more charged and replete world that is arguably partly remembered (from perinatal states) and partly intuited, at any rate one that presents to conscious attention an intense feeling of reunification and redemptive attendance in a truer, more abundant image of being and world.

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Interview Essay
DOI: 10.5281/zenodo.11484198
Received: March 26, 2024; Accepted: April 10, 2024

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On Conversations about Architecture and Philosophy, with Kenneth Frampton

I met Kenneth Frampton on April 30, 2023, during his last week in the United States before moving back to London. He'd come from his home in Hudson down to New York City for two days of last-minute engagements, among which our dinner in Midtown Manhattan. The reason for our meeting was one that he felt important enough to carve out some time in his schedule: a conversation about philosophy.

In the months that followed, we exchanged several e-mails and letters. We started by reviewing an edited transcript of our discussion, to which I added new questions. He responded with edits and new comments, before deciding to completely rewrite his replies in a more rigorous manner. In turn, I redid my remarks, to which he then reacted, and so on throughout a year-long back-and-forth. The result was a simple rendition of an otherwise layered compilation, of his responses to my remarks to his recollections prompted by my questions. Together, they offer a record of the impact that several philosophical ideas exerted in Kenneth Frampton's work throughout the years, as well as of how he dealt with them, what he thinks of their importance for architectural discourse, and what new sources he's looking into as he continues to think about architecture.

Philosophy, a Scandal

Among the many sources Frampton's writings draw on to talk about architecture, philosophy has been distinctive, constant, and influential. His early text in Charles Jencks and George Baird's *Meaning in Architecture* bears the title "Labour, Work and Architecture" (1969), as does his collection of essays published under the same name in 2002, explicitly

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alluding to the triad of "labor," "work," and "action" as described by his first and greatest philosophical interest, Hannah Arendt. His début editorial for *Oppositions*, suggestively called "On Reading Heidegger" (1974), opens with a quote from the then recent English translation of "Building Dwelling Thinking" (1951), while Heidegger's "The Origin of the Work of Art" (1935/36) plays a part in "Rappel à l'ordre: The Case for the Tectonic" (1990). The introduction to the first edition of his major book *Modern Architecture: A Critical History* (1980) begins with Walter Benjamin's description of Paul Klee's *Angelus Novus*, from *Theses on the Philosophy of History* (1940), while the latest edition of 2020 replaced it with a passage from Guy Debord's *Comments on the Society of Spectacle* (1989), which had come out in the meantime, on modernity and thinking, before echoing Jürgen Habermas' claims about the unfinished project of modernity. His landmark essay "Towards a Critical Regionalism: Six Points for an Architecture of Resistance" (1983)—a chapter following directly after Habermas' own appearance in *The Anti-Aesthetic: Essays on Postmodern Culture* edited by Hal Foster—cites a cornucopia of philosophical concepts, including Heidegger's notion of "place," Ricoeur's "universal civilization," Marcuse's "one-dimensional thinking," Benjamin's "aura," and Arendt's "space of appearance."

In our conversation, Frampton described his use of philosophy humbly as something of a "scandal," because of how "casual" and "intuitive" it was. My assessment is far more laudatory than his modesty would permit—albeit appreciating humility as an important feature of his approach. Frampton integrates a wide range of philosophical notions and insights into his thinking: neither as superfluous embellishments that appear after the fact, nor merely as examples or illustrations of his point, but as structural components of his discourse. Philosophical references inform specific steps in the reasoning process, so decisively that they ultimately become inseparable from it. In the process, Frampton avoids many common pitfalls in such exchanges. Philosophers do not overpower his work and turn him into one of their disciples, nor does he fall into the temptation of pertaining to be a philosopher himself. The purpose of these contributions is linked and subservient to his larger architectural positions. Furthermore, he steers clear of the trend of reducing philosophical sources to placeholders for one's own pre-established points, reducing them to quotes and citations that are meant to give a deceptive sense of intellectual authority to one's speech. To the contrary, Frampton carefully reads and seeks to understand philosophical ideas. He learns

from them, builds from them, and questions them, modestly, curiously, and genuinely open to their enriching transformative potential.

Theory at the Institute for Architecture and Urban Studies

Frampton's interest in philosophical ideas is an exemplary instance of a larger phenomenon that defined architectural culture in the second half of the twentieth century, and has remained part of it ever since. It emerged from a mix of necessity and opportunity. On the one hand, philosophical post-war reflections on the crisis of modernity helped architects in their critical reevaluations of the modernist tradition and on how react to its apparent demise. Philosophers at the time also provided architects with the means of speaking to the condition of social unrest in Europe and the United States in the late 1960s and into the 1970s, with questions of sociopolitical nature that took nothing for granted. On the other hand, as the economic crisis of the 1970s left architects out of work, many were prompted to explore theoretical questions instead. They found a global haven for these projects in New York, at an extraordinarily productive international place of encounter and activity that could only have existed there and then, says Frampton, he who took active part in it too.

> "Between the mid-'60s to the mid-'80s the intensity of the critical discourse within the Institute for Architecture and Urban Studies (the IAUS, established by Peter Eisenman and Arthur Drexler as an adjunct to the Museum of Modern Art) made it into a center of an evolving transatlantic debate, which may explain why three of the contributors to Hal Foster's postmodern anthology *The Anti-Aesthetic: Essays in Postmodern Culture* were involved in one way or another with the IAUS [Rosalind Krauss, Douglas Crimp, and Frampton himself, while although Fredric Jameson too became involved as a guest speaker]. This also accounts for why my second essay, to be influenced by *The Human Condition*, entitled 'Industrialization and the Crisis of Architecture', appeared in the first issue of the IAUS magazine, *Oppositions*."

Many of the discussions at the Institute and in *Oppositions* relied heavily on philosophical sources—incidentally establishing influential and long-lasting models how architectural-philosophical exchange can

occur. But within the IAUS' penthouse in New York flowed an extraordinary variety of intellectual currents.

> "The conversation within the IAUS was multifaceted in terms of the various discourses with which its members were affiliated. The ideological affinities of the so-called IAUS 'fellows' covered a wide range, beginning with Eisenman, who was preoccupied at the time with Noam Chomsky's deep structural analysis of language. At the same time, there was the Marxism of Anthony Vidler, closely aligned with the so-called 'negative thought' of the Tafuri/Cacciari line of the history and theory of architecture then being elaborated within the IUAV, Venice. Mario Gandelsonas and Diana Agrest were influenced by the literary structuralism emanating from such figures as Roland Barthes. Both Rem Koolhaas and Bernard Tschumi who were also briefly associated with the IAUS were linked to other distinguished French intellectuals such as Hubert Damisch and Jacques Derrida. This rich mix was very much amplified by the presence of visiting architectural intellectuals from Spain and Italy who were part of the internal debate within the IAUS, such figures as Massimo Scolari and Giorgio Ciucci from Italy, and Rafael Moneo and Ignasi de Solà-Morales from Spain."

More names still could be added to this long list. Alan Plattus was one of the first and few architects to write about Ludwig Wittgenstein in a review for *Oppositions* no. 3 (1974) of Bernard Leitner's *The Architecture of Ludwig Wittgenstein: A Documentation* (1973). It remains one of the sharpest critical analyses of the so-called Wittgenstein House. Others, like Joan Ockman and Mary McLeod, organized seminars on architectural criticism that brough in speakers like Tomás Llorens and Fredric Jameson, and led to the publication of *Architecture, Criticism, Ideology* (1985). As for Frampton, he developed a singular approach that combined two sets of references: phenomenology, and Marxism as read by the Frankfurt School.

Hannah Arendt: Labor and Work (and Action)

It all began when in 1964 Eisenman invited Frampton to the Conference of Architects for the Study of the Environment (CASE) at Princeton University. He would return to teach in 1965, once more owing to Eisenman's initiative. Frampton's first experiences in the United States of America revealed an explicit, aggressive form of capitalism that he'd

never seen before. "In England the claws are hidden, but in the US they are visible," he often says, repeating what Michael Glickman once told him. This shock left a deep and lasting impression on him. As he also frequently points out, "[i]n a way the United States politicizes me."

Around the same time, Frampton found an intellectual framework with which to both make sense of his political awakening and address his concern for the built environment beyond the design of the architect. From a fortuitous recommendation came his first real contact with philosophy, and its impact cannot be overstated.

> "I first read Arendt's *The Human Condition* (1958) on the recommendation of Sam Stevens who, having studied in the Courtauld, taught history and theory at both the Liverpool School of Architecture and at the AA School of Architecture in the '60s. Similarly trained as an architect at the AA in the '50s, I was acutely aware of the fact that a large part of the built environment was invariably realized without the intervention of an architect. At the same time, it was evident that the megalopolitan suburbia was totally removed from any kind of vernacular culture, and it was just this schism that made me acutely susceptible to Arendt's distinction between 'labor' and 'work' which was such a key aspect of the *The Human Condition*. One can hardly equal the precision of her differentiation between the two: 'Labor is the activity which corresponds to the biological process of the human body, whose spontaneous growth, metabolism, and eventual decay are bound to the vital necessities produced and fed into the life process by labor. The human condition of labor is life itself. [Whereas of work she wrote:] work is the activity which corresponds to the unnaturalness of human existence, which is not imbedded in, and whose mortality is not compensated by, the species ever-recurring life cycle. Work provides an 'artificial' world of things, distinctly different from all natural surroundings. Within its borders each individual life is housed, while this world itself is meant to transcend them all. The human condition of work is worldliness.'[1]"

Frampton was quick to adopt this central conceptual distinction, and to transform it for the purposes of his reflections on the production of the built environment. Arendt became a major reference in Frampton's

[1] H. Arendt, *The Human Condition*, The University of Chicago Press, Chicago, 1958, p. 7.

work thereafter. After "Labor, Work and Architecture" (1969) came his first contribution for *Oppositions*, "Industrialization and the Crisis of Architecture" (1973) and, quite explicitly referring to his inspiration in the title, "The Status of Man and the Status of His Objects: A Reading of the *Human Condition*" (1979).

> "Arendt's *The Human Condition* was of fundamental significance for me because of the parallel that she drew between 'labor' and 'work', defining the first as a condition in which that which is produced is destined for immediate consumption and the second as a condition in which that which is produced is intended to endure. [...] Unlike George Baird, I initially neglected her third term 'action' in order to focus on the uncanny parallel that obtained between Arendt's respective definitions of labor and work and the double definition of architecture in the Oxford English Dictionary, namely, in relation to labor, the first definition speaks of 'the action and process of building', whereas, in relation to work, the second definition alludes 'to the erection of edifices for human use'. And we might note here that ambiguity introduced by the reference to utility."

He might not have expected to find himself one day explaining his use of Arendt's ideas to the philosopher herself. In 1972, at a symposium on Arendt's work organized by the University of York, in Canada, both he and George Baird presented their papers based on her writings. Frampton's contribution was based on what would become "Industrialization and the Crisis of Architecture," an extensive critical history of the techniques of architectural production throughout modernity, from the 1750's across multiple instances of paradigm shifts, or "crises." The essay refers to Descartes, Habermas, and Benjamin, but it's Arendt's quotes that appear consistently throughout the text. They introduce key ideas with which to interpret the historical descriptions that Frampton so carefully laid out. The distinction between "labor" and "work" reappears as a fundamental framework. In the end, in response to Arendt's warnings against the increasing blurring boundaries between the two, Frampton find the way out in "action"—which Arendt defines as "[...] the human condition of plurality [...] [which is] specifically *the* condition—not only *condition sine qua non*, but the *condition per quam*—of all political life."[2]

[2] *Ibid*.

In a conclusion that still feels all too relevant fifty years later, Frampton says: "[...] the only way in which our self-consuming ideology of waste will be overcome and architecture redeemed is through the participatory democratic determination of the nature of our environment. The alternative is to remain subject to that which Arendt has described as the most tyrannical government of all, namely, the government of nobody—the totalitarianism of technique."[3]

Frampton's respondent, as he remembers it, was Robert Major, a former pupil of Arendt's who had registered as a student at Columbia University on her recommendation. But the philosopher herself seems to have reacted too:

> "I recall that she found my adaptation of her discourse to architecture relatively convincing."

Martin Heidegger: Building and Cultivating

Reading Arendt would lead Frampton to discover the work of her teacher, Martin Heidegger. Frampton was one of the first architects to discover and write about the now famous essay "Building Dwelling Thinking" (1951), right after the publication of its first, 1971 English translation by Albert Hofstadter, in "Poetry, Language, Thought."

> "Later, I realized that Arendt's unusual etymological distinctions between labor and work were linked to the phenomenological-existential tradition going back to the foundation of phenomenology by Edmund Husserl and his slogan, 'back to the things themselves', thereby establishing via his assistant Martin Heidegger a line linking Husserl to Arendt who would become in her turn a pupil of Heidegger."

At the Institute, working as an editor of the journal *Oppositions*, he wrote the editorial for the fourth issue and named it "On Reading Heidegger" (1974). The philosopher would thenceforth recur in Frampton's works. In fact, decades later, in a course given at Columbia University shortly before his retirement in 2020, "Critical Theory and Environmental Design: Philosophy and the Predicament of Architecture in the Age of Consumption," references to Heidegger in the syllabus are second only to Arendt.

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[3] K. Frampton, "Industrialization and the Crises in Architecture," *Oppositions*, 1, 1973, pp. 61–62.

Frampton was influenced by the later or post-*kehre* Heidegger though, author of "Building Dwelling Thinking" and "The Origin of the Work of Art" (1935/6), rather than the early Heidegger of "Being and Time" (1927). This might baffle many philosophers, for whom the late Heidegger's lyrical style renders his thought more obscure and even somewhat mystical compared to the terminologically strict, albeit somewhat jargoned explanations of the early Heidegger. For architects, however, there is an instinctive appeal to those hazy images and poetic allusions, all the more as two of its central terms—"building" and "dwelling"—seem to fluctuate between a literal architectural meaning and a metaphorical philosophical one that renders the latter accessible through the former. For example, we easily visualize the idea of "dwelling" as a mode of living in a house—e.g., inhabiting a house to find shelter from predators or the elements—but through that image we can also better understand the broader notion of "dwelling" as inhabiting a world of meanings, in what is commonly called (although not by Heidegger) an "existential sense."

Heidegger's etymological analyses also became keystones of Frampton's reasoning, particularly those around the term *Bauen*. In fact, the recourse to etymology seems to happen in his writings as a methodological strategy even outside of any reference to the German philosopher. His balance between learning from his sources and thinking beyond them is also explicit in moments such as this one, where he embraces Heidegger's linguistic analysis but then contrasts it with a different language.

> "Heidegger's emphasis on 'building' in his 1951 essay 'Building Dwelling Thinking', translated into English in 1971, was equally existential since it served to connect building with the cultivation of the earth, thereby etymologically establishing a link between *Bauen* (building) and *Bauer* (farmer) and hence via the German term for 'neighbor' (*Nachgebauer*), the meaning of one who cultivates and dwells nearby, and, in this regard, one may speculate the German word *Siedlung* (settlement) is a concept that is totally antithetical to the English term 'housing estate'."

An Architectural Phenomenology

Heidegger was a central figure of phenomenology, a concept that has tended to translate into architectural discourse in the most peculiar way. In philosophy, and particularly in the Heideggerian sense,

phenomenology may be broadly and simplistically described as a methodological approach that understands things as they appear to us in our everyday engagement with them, or in our *intentionality* towards them, how they're meaningful to us. It precedes interpretative framework like those of the sciences or metaphysics, which pertain to define the essence of things, and instead reveals the more primordial structures of meaning that constitute our existence in the world. In architecture, the term "phenomenology" metamorphizes from an approach into the consequences of the approach's literal application in the architectural profession. It represents a reaction against both functionally-oriented modern architecture (particularly in Europe) and its reduction to a corporate style of design (especially in the United States).

> "After World War II, architecture was increasingly subject to the impact of techno-science upon what were then still largely craft processes in the generation of built form. As Alan Colquhoun suggests in his 1967 essay 'Typology and Design Method', architectural culture cannot be significantly cultivated unless it is predicated on past prototypical paradigms."

Phenomenology in architecture thus seeks the reinstitution of meaningfulness in design, by retrieving history from the modernist *tabula rasa*, learning from the neglected teachings of tradition, and refocusing design strategies from global homogeneity to regional circumstances. In its built expression, it has come to stand for a subject-centered sensuous experience of space, from the atmosphere it generates to its detailed physical properties, like materiality and texture.

There have been some adaptations of a Heideggerian-based phenomenology in architecture, and Frampton was in contact with a few. He joined two notable thinkers at the First International Cubit Symposium on Architecture and Culture, in 1989, at a roundtable later published as "The Voice of Architecture." One was the philosopher Karsten Harries, well-known both for his inquiries into architecture's task within the *ethos* of a time and place—and that's the sense in which we ought to understand the title of his popular book *The Ethical Function of Architecture* (1997)—and for teaching the unique course "Philosophy of Architecture" to generations of students at Yale University. Another was the architectural theorist and historian Christian Norberg-Schulz, architect and historian who gave form to many of the aforementioned

stereotypical phenomenological architectural notions in architecture in his book *Genuis Loci: Towards a Phenomenology of Architecture* (1979). Frampton prefers to highlight *Intentions in Architecture* (1962), a book that relies on Gestalt psychology instead, prior to the author's contact with phenomenology but in a way anticipating its necessity. As Frampton pointed out during our conversation, the title itself alludes to *intentions*.

Frampton too made use of phenomenology in his teaching *and* saw it as responding to a previous latent inclination of his, as he points out when revisiting an early pedagogical exercise he used to perform.

> "The didactic method entitled 'Comparative Critical Analysis of Built Form', initiated by me at the beginning of my teaching at Princeton in 1967, took the form of applying Arendt's concept of 'the space of human appearance', along with her parallel distinctions between 'public' and 'private' space. This exercise involved the retrospective analysis of two buildings of the same programmatic type! In this didactic exercise, the students were asked to compare houses to houses, town halls to town halls, and so on, in terms of the way in which the two buildings in question distributed public, semi-public, private and service space. In retrospect, it is possible to see this exercise as having had a phenomenological character, which was before I was cognizant of this branch of philosophy. Equally phenomenological was the way the analysis focused on the movement of the subject through the space, as this was revealed by tracing the flow of Le Corbusier's *promenade architecturale* in each instance. Published by Lars Muller in 2013 as *A Genealogy of Modern Architecture*, this exercise had a phenomenological character by virtue of tracing movement through the spatial arrangement in each instance, along with noting the way in which these spaces are finished and detailed, discriminating say between the warmth of wood versus the coldness of the stone; a differentiation that is quintessentially phenomenological in as much as it is as tactile as it is visual."

One accusation frequently leveled against phenomenology, however, is a perceived sense of nostalgia. The idea derives from a misinterpretation of "Building Dwelling Thinking," which reads Heidegger's example of the Black Forest Farmhouse as an urge for a return to an unrecoverable past. That Heidegger himself wrote his concerns about modernity from his small cabin in the Black Forest only reinforces this impression.

However, Heidegger is the very first to warn that such a return is inconceivable. The Farmhouse, he explicitly says, is no longer what can be built as such, confirming what "The Origin of the Work of Art" had already asserted about the irreversibility of a time gone by.[4] However, the meaningfully enrooted spirit in which the Farmhouse was built can find a modern expression—as, for example, in the case of Aalto's architecture. At their best, the arguments against nostalgia raise questions about the particular architectural forms that these principles have taken, or target the very principle in itself as ill-fitting for its time.

Frampton fended off these accusations as misunderstandings, and pointed at one of the most pressing concerns of the present era: climate change. Frampton's critique of uncontrolled capitalism and the ill-conceived notion of limitless growth is also one of a doomed fight against nature and the human being's basic condition within it. In this regard, it appears he considers phenomenology both a means to reveal these malaises and as an alternative way of acting on them: on the one hand, authors like Heidegger and Karsten Harries show how much of our relation with things has shifted in a time when the productive mode of being of the machine has pervaded our own; on the other hand, the rediscovery of historical and local modes of construction provide alternative responses to building that ease our current impossible demands on the planet.

A Decisive Breakpoint Called "Critical Regionalism"

This sense of phenomenology is also at the root of one of Frampton's most significant and long-lasting contributions to architectural discourse: critical regionalism. It emerged in the wake a polemic: three months before the opening of the 1st Venice Architecture Biennale in 1980, he sent a letter to Paolo Portoghesi, the organizer, announcing his resignation from the curatorial team. Faced with the plan for the *Strada Novissima*, a long row of empty façades by various architects that would become the most memorable feature of the Biennale, Frampton protested against the postmodern superficial and populist historicization of architecture, and the embrace of its commodification as a product of capitalism.

[4] M. Heidegger, "The Origin of the Work of Art," and "Building Dwelling Thinking," in *Poetry, Language, Thought*, trans. A. Hofstadter, Harper & Row, New York, 2009, pp. 40, 158.

His retort later appeared in the form of essay "Towards a Critical Regionalism: Six points for an architecture of resistance" (1983). "Critical regionalism" mediates the homogenizing global effect of the modern world (Ricoeur's "universal civilization") with the recovery of local specificities, ranging from cultural, historical, and tectonic to topographical and climatic—hence the term "regionalism." It is also a mode of revealing and resisting this dominant condition, not just as it's expressed *in* the built environment, but by combating it *through* architectural and urban practice—hence "critical." In architectural terms, it reevaluated modernism as the built expression of this flattened global world on the one hand, while using its technical possibilities to create built expressions of site-specificity on the other, rather than replacing it with the mere superficial allusions to historical and traditional meanings as postmodernism did. It echoes Heidegger's look at the past that nevertheless does not seek to return to it, which Frampton transforms into a kind of *arrière-garde* position, with the political dimension of Arendt's writings, missing in Heidegger. The text is full of particular examples of what this may actually look like, such as Jørn Utzon's Bagsvaerd Church (1976) and Alvar Aalto's Säynatsalo Town Hall (1949).

> "1980 was a decisive breakpoint for me because this year saw both the publication of my *Modern Architecture: A Critical History* and Paolo Portoghesi's scenographically postmodern exhibition in the Venice Biennale. It is significant that Hal Foster's *Anti-Aesthetic* anthology of 1983 would open with two contributions which were immediate responses to this cultural event: Jurgen Habermas's essay, 'Modernity—An Incomplete Project' and my essay 'Towards a Critical Regionalism: Six Points for an Architecture of Resistance'."

Managing Many Sources

"Towards a Critical Regionalism" is just one instance of Frampton's masterful ability to draw from multiple philosophical sources to formulate his arguments. It's also a testament to the intellectual environment of interdisciplinary exchange at that time. He recalls that Tomás Maldonado introduced the Frankfurt School to him and to Alan Colquhoun, and the latter was who first gave him a copy of Marcuse's *Eros and Civilization* (1955)—another philosopher he had the chance to see lecture in Princeton. Then there is the story of Dalibor Vesely.

> "It is around this time that the émigré Czech architectural theorist Dalibor Vesely became an influence on my thought! Vesely had studied with Jan Patočka, a Czech philosopher who, in his turn, had studied with Husserl. 1980 also saw a special issue of the British magazine *Architectural Design* devoted to a reception and critique of my *Modern Architecture: A Critical History*. This number, entitled *Modern Architecture and the Critical Present*, apart from excerpting parts from the book, was made up of critical reviews, written by various colleagues! I invited Vesely to contribute something which he promptly refused to do! Instead he told me that what I had attempted to sum up at the end of my history had been formulated more rigorously by the French philosopher Paul Ricoeur in his book *History and Truth* (1955), wherein he had elaborated on the fundamental difference between 'culture' and 'civilization', and it is exactly this differentiation which I used to open my 1983 essay 'Towards a Critical Regionalism: Six Points for an Architecture of Resistance'."

Ricoeur's challenge—"There is the paradox: how to become modern and to return to sources; how to revive an old, dormant civilization and take part in universal civilization"[5]—launched the reflection on critical regionalism, while contributions from Arendt and Heidegger helped give the concept shape. Many other philosophers played a role too though.

> "Among the multiplicity of figures by which I was affected at this moment, mention has to be made of Walter Benjamin's 'Four Theses on the Philosophy of History' of 1944 which I employed as a gloss to the first edition of my critical history, featuring Benjamin's allusion to the image of Paul Klee's *Angel of History* with its impulse to restore all the things of the past that had been destroyed by time. At the same moment, Benjamin's essay 'Paris Capital of the Nineteenth Century', translated into English by Ben Brewster for the New Left Review, would exercise an influence on all of us when it was published in 1979 in the Yale School of Architecture magazine, *Perspecta* 12."

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[5] Quoted by K. Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance," in H. Foster (ed.), *The Anti-Aesthetic: Essays on Postmodern Culture*, 1st ed., Bay Press, Port Townsend, Wash., 1983, p. 16, from P. Ricoeur, *Universal Civilization and the National Cultures* (1961), trans. C. Kelbley, Northwestern University Press, Evanston, 1965, p. 277.

Frampton's recourse to philosophical insights continued in the following years. This was the case when speaking of the "tectonic," for example, which he deemed another one of his most important contributions. Briefly put, the "tectonic" refers to the architectural work's ability to express its mode of construction as a visible and experienced property, one that embodies the specificity of its historical and cultural context. The idea draws once again on Frampton's criticism of the deceptive scenography of postmodernism, for the faithful correspondence between construction technology and the spaces it creates, as in the authenticity of materiality, for example. In "Rappel à l'ordre: The Case of the Tectonic" (1990), and then Arendt and Heidegger reappear in the book *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture* (1995). However, Frampton also sought to address new topics with new ideas, that often arose from the orbit of familiar ones.

> "Perhaps mention should be made in passing of my citation from Gianni Vattimo's *The End of Modernity* (1985), translated into English in 1988, as this appears in my subsequent book, *Studies in Tectonic Culture* of 1992, wherein he states 'if therefore, in architecture, as also in philosophy, as in existence in general, we renounce any metaphysical, superior, transcendent legitimation (of the kind reaching ultimate truths, redemption of humanity, etc), all that is left is to understand legitimations as a form of creating horizons of validity through dialogue, a dialogue with the traditions to which we belong and with others.' This observation was part of the same phenomenological tradition in that Vattimo had already studied with of Hans-Georg Gadamer, who in his turn had been a pupil of Heidegger. My gravitation to this discourse was reinforced by Vesely, who gave me his own copy of Gadamer's *Truth and Method* (1960)."

It should nevertheless be noted that philosophy was only one of the many different kinds of sources that Frampton learned from and interweaved in his writings. These include texts, designs, quotes, and insights, produced or spoken of by architectural practitioners, historians, critics, but also from authors in other fields. If on the one hand philosophy helped read those contributions in ways they may otherwise remain hidden, on the other hand they also rendered many conceptual abstractions tangible and, at times, operative.

> "There were other influences on my ideological position, including figures as diverse as Eric Schumacher, with his *Small is Beautiful: Economics as Though People Mattered* of 1973, and Guy Debord's *Society of the Spectacle* of 1967 and also his later essay 'Comments on the Society of Spectacle' of 1980, a gloss from which will be used together with Benjamin's 'angel of history' in the reprint of the 5th edition of my critical history."

What Is Kenneth Frampton Reading Now?

Frampton's interests in philosophy continue, which is to say that he continues to read philosophy, but a particular kind. At our meeting in New York, Frampton mentions he had a copy of *Being and Time* in his hotel room. He was finally trying to read it! He also spoke about his rediscovery of Maurice Merleau-Ponty, who, unlike Heidegger, introduced the body into the phenomenological approach.

The importance of Merleau-Ponty for Frampton is twofold, and mirrors his own dual philosophical orientation. As he noted, the philosopher combines phenomenology with Marxism and these are, as it were, two sides of Frampton too. Merleau-Ponty seems to promise Frampton more than accrued knowledge or a few new conceptual parts for his toolbox, but also path to self-reflection on the very fundaments of their kindred mode of thinking.

He had quoted Merleau-Ponty in *A Genealogy of Modern Architecture*, although, in hindsight, not to his satisfaction. He felt that at the time he hadn't quite grasped the importance of the notion of "intentionality." So, he said, once he settled down in London in the Barbican, his goal would be to work on Merleau-Ponty.

> "If I think to myself 'what do I do with the rest of my life?', one of the things I would like to work on is on Merleau-Ponty."

Architecture and Philosophy

The way Frampton brings together such a variety of insights is one of the distinctive traits of his writing. The manner in which he does so is not simple to pin down though. In this regard his similarities to Arendt run deep once again. She is a famously difficult author to categorize: was she a political philosopher, a political theorist, a phenomenologist, a journalist, or a story-teller? Frampton too seems not to quite fit the categories he's

put in. In *Labour, Work and Architecture* he says "In addition to teaching, I am more strictly speaking a writer on architecture rather than an architect or even an architectural historian or, for that matter, a theorist or a critic [...]."[6] The role of the "architect" may be one he no longer plays as a practicing designer, but it persistently motivates and guides his scholarly inquiries in history, theory, and criticism. This perhaps is one of the most important characteristics of his writing: it's produced with the tools of the scholar but from the standpoint of the practitioner; or, as he told me, "it's been written with the mind of an architect."

[6] K. Frampton, *Labour, Work and Architecture: Collected Essays on Architecture and Design*, Phaidon Press, London/New York, 2002, p. 6.

DOI: 10.5281/zenodo.11485147
Interview Date: May 12, 2024

Space of Questions: Interview with Bernard Tschumi

KHŌREIN: Given that you are not an advocate of the autonomy of architecture, in what way do you think references from other disciplines and fields of knowledge influence architecture? Do they change architecture as a discipline? Do they subvert it?

BERNARD TSCHUMI: We should be careful about using the word "discipline," which is reminiscent of the kind of disciplinary regime used in religion, slavery, and boarding schools. But as a "field of knowledge," sure—other disciplines inevitably influence architecture. Winds pollinize fields. Fields pollinize one another. Think of the architectural terms "structure," "column," "window," "bridge," "keystone," and so forth, pollinizing philosophy. The discipline of philosophy would not exist without architecture. Think of Ancient Greece: How much did architecture contaminate philosophy 2,500 years ago?

KH: You often say that architecture is a "form of knowledge" rather than a "knowledge of form." What does that mean in terms of architecture's relation to other disciplines or "forms of knowledge?"

BT: Bringing together thought, space, material, and shelter is unique to architecture.

KH: Your definition of architecture as "the materialization of concepts" seems particularly relevant for the relationship between architecture and philosophy. As you emphasize at some point, a "theoretical concept" can become "operational" through an architectural project. How do you see the role or relevance of philosophical concepts in this process of architecture stepping into the practical?

BT: The "import-export" of concepts and ideas goes in both directions, from architecture to philosophy and back again.

KH: Your theoretical vocabulary includes the term "context." In your words, context is what situates, or places architecture. Does this idea of situation oppose change?

BT: A concept is an abstraction, a "*cosa mentale*." At one moment, if you want to make a concept in material, or "materialize the concept," you inevitably interact with context. The concept will be made from stone, wood, concrete, or glass, but it will also interact with issues of climate, labor, or cost, which will have their own influence. In architecture, concepts inevitably get contextualized.

KH: You say there is no architecture without context, except in the case of a "place that is not:" *utopia*. However, doesn't this "place" of absolute ideality, too, exclude change?

BT: Utopia may be outside of place, but it is not outside of social constructs and material-making hypotheses. Now, "change" introduces the idea of time: the time of imagining, of constructing, of inhabiting, of transforming, of destroying. Some concepts are rigid and absolute, while others allow for evolution.

KH: The previous question, perhaps improperly, suggests an analogy between the place/"non-place" distinction and your distinction between context and concept. Do you find the notion of place relevant for the concept?

BT: Concepts are abstractions. However, a concept can be generated by a context. Just as concepts can be contextualized, contexts can be conceptualized. My design for the Acropolis Museum in Athens conceptualized an intricate context of different layers of histories, proximities, and materialities.

KH: One of your *Questions of Space* seems to refer to the difference between place and space: "Is topology a mental construction toward a theory of space?" What would be your answer?

BT: None of my *Questions of Space* demand a single or specific answer.

KH: You often repeat that you are a "person of the city," once even explaining that your work "thrives on conflict." As you explain, "[t]he

conflict is no mere dialectic but a real conflict corresponding, on a theoretical level, to practical battles that occur in everyday life." In what way is the conflictual space of the city relevant for your work?

BT: I find it interesting how your questions indirectly reflect the days of Socrates, Plato, Aristotle, Phidias, Ictinus, and Pythagoras... The early definition of "city" and of urban spaces (*agora*, *stoa*, etc.) is about identity, interaction, and dialogue, but also about conflict and invention.

KH: After your post-1968 interest in Henri Lefebvre and the Situationists, the theme of the city and urban space gave way to abstract space in your writings. You explain this by saying that you could replace the term "architecture" with the abstract concept of space, without losing any of its two constitutive elements: one that belongs to the mind and the other belonging to the senses. In your words, space "was about opposition between concept and experience." Did this introduction of space as the third element within a system of the opposed two inspire your triadic conceptual systems, which made it possible to thematize the dynamic principles in architecture?

BT: At the time I was writing my early texts, the word "architecture" seemed loaded with too much history, too many connotations, too many "isms" (modernism, postmodernism, regionalism, etc.). It seemed necessary to take a distance. Words such as "space" and "city" were a means to free oneself from the competing and predictable ideologies of the time, their clich*é*s, their dictionary of received ideas.

KH: As you once pointed out, your *Questions of Space* were based on various reflections on space throughout history, from Kant to contemporary theorists. Does this set of references include Plato's descriptions of *khōra* or some contemporary readings of the concept?

BT: I wrote *Questions of Space* both as an ongoing investigation and as a "performance." (See accompanying illustration.) By no means are the questions intended to be a comprehensive catalogue of all the questions about space.

KH: It is worth noting that the word *khōra* in Ancient Greek primarily denotes space outside the city, which as such is linked to the limits of the city. You have written about limits, but, perhaps more importantly,

about their transgression. This provocative notion implies the idea of the limitless, but at the same time it is based on limits and would be unthinkable without them. Does that make the act of transgression necessarily belong to the city?

BT: I would have said yes when I wrote my early texts. Now I tend to think the definition(s) of limits extend(s) beyond the concept of the city.

KH: Could we describe transgression as an act of change? How do you see the relationship between the two terms?

BT: Let me think about it. I need time here, literally and figuratively.

KH: Speaking of change, we also need to mention the term *event*, which forms part of your space-event-movement triad. Unlike the common phrase that events "take place," you address the relationship between space and event, talking about "spatialization that goes with the event." You say: "Events are everywhere and nowhere. How does one locate an event in architecture?" And then you continue: "In architecture, an event is an in-between: somewhere between an exception and the mold of things to come." Do you find the idea of the in-between relevant for change?

BT: Yes. But let me recall a 1996 exchange between Derrida and myself that I have written about frequently. On the occasion of a public debate to an audience of over 1,000 people, Derrida corrected my undifferentiated use of the words "event" and "program," stating that the first term was unpredictable, as opposed to the second.

KH: We encounter the expression "magic of space" in your 1975 essay titled "A Space Is Worth a Thousand Words." You seem to use this expression to address the irreducibility of space to its theoretical discourse. Will this asymmetry between space and words always create events in architecture?

BT: Yes. This asymmetry is prevalent in architecture, for better or for worse. This includes the practice of architecture vs. its history. It also includes architectural theory vs. architectural history.

KH: You say that "[a]n architectural concept critically engages the circumstances, brief, and situation and formulates them in an original way."

Elsewhere, you even say that you don't believe in post-critical thinking, claiming that the task of architecture is to raise questions. Can these questions become "events of spacing"?

BT: Yes. Let me try to sum up with an allusion to a forthcoming text, namely my introduction to the final volume of my Event-Cities series (*Event-Cities 5: Poetics*, The MIT Press, Fall 2024). I have become increasingly interested in what Derrida calls the "poematic," which I'll transpose in the following way: when concept and context are entangled in such a way that their outcome cannot be explained in absolute or rational terms.

Interview conducted by Snežana Vesnić, Petar Bojanić, and Marko Ristić.

Figure [see next page]. Bernard Tschumi, "Manifesto 2: Questions of Space, or The Box, 1975," in *Architectural Manifestoes: Artists Space*, Committee for the Visual Arts, New York, 1978, unpaginated. Courtesy of Bernard Tschumi.

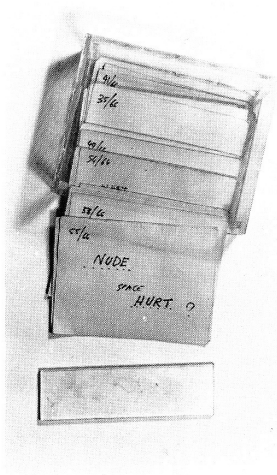
MANIFESTO 2

QUESTIONS OF SPACE, or THE BOX, 1975

Architectural space will be defined by ideas as much as by real walls. Architecture will be the tension between concepts of space and experience of space.

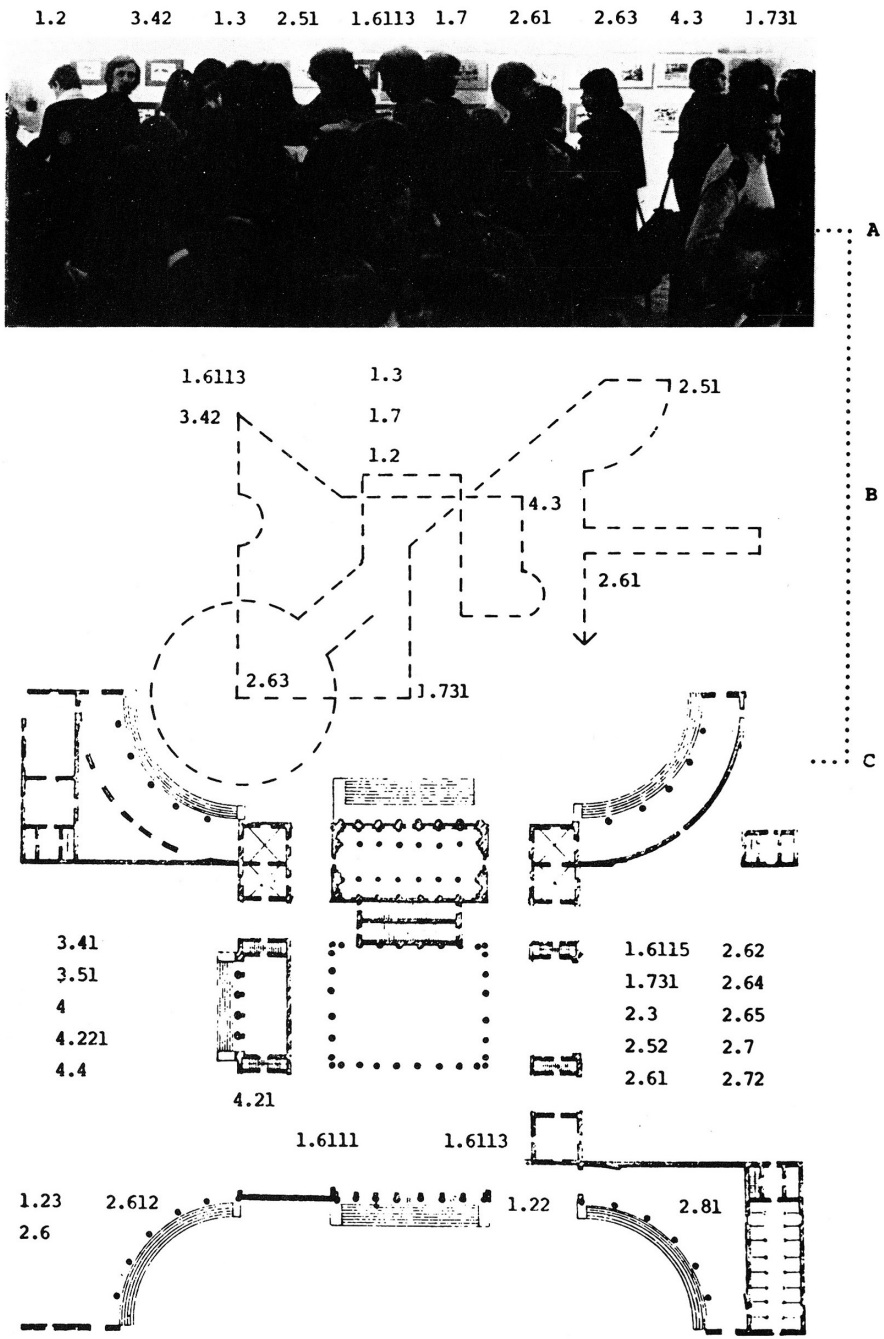
On April 21, 1975, visiting an architectural exhibition in Central London, 66 viewers were asked to write 66 questions relating to space. It was an attempt to define an architectural space without physical boundaries—a space similar to a sentence with a question mark. The path of the questioning was mapped on a plan of the exhibition space. This path defined an invisible (but real) "question space", a space materialized by the traces of my movements during that short period, or alternatively, by the stages of this particular architectural ritual: asking questions about space . . . The viewers' questions were placed in The Box, *which then contained both questions about concepts of space as well as the memory of a spatial experience. In this work, architecture is the* tension *between spatial concepts and the memory of the crowded space of a distant London evening. The box is a fetish.*

Another form of presentation was also devised. It literally juxtaposed (1) the photographic memory of the event (2) the 'performance path' of the questioner, and (3) a plan of one of Palladio's unrealized villas (referred to by one of the 66 questions). Here architectural paradoxes verged toward conceptual madness as the 66 questions began to replace the walls of the plan of the ideal villa.



Questions of Space *(1975), China Ink and Photograph 19" x 27"*

The Box *(1975), 8" x 6" x 2"*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1.6115 2.62
1.731 2.64
2.3 2.65
2.52 2.7
2.61 2.72
1.6111
1.6113
1.23
2.6
2.612
1.22
2.81

DOI: 10.5281/zenodo.11485232
Interview Date: April 28, 2024

Towards a Community of Equals: Interview with Jonathan Wolff

KHŌREIN: What does change as a concept mean and how do you understand it? What would be your philosophical approach and is there, at present, such a thing as a "theory of change?"

JONATHAN WOLFF: Although I use the idea of change in much of my writing, I have never stopped to analyse what I mean by change in a metaphysical sense. Now that you ask, I can see the need to make a distinction between significant social change and the type of ordinary movement over time that has more to do with continuity rather than change. There's also good reason to provide a more general analysis of the idea of change. When I use the term "theory of change" I do so more in a social science sense of what will enable us to make a change from where we are to where we want to go. Theories of change in this sense range from Karl Marx's idea of revolution to Karl Popper's notion of piecemeal social engineering. At this stage of my life I find myself closer to Popper than Marx, but am also coming back to the view that a somewhat richer vision is needed (not a complete ideal theory) to give direction and coherence to different changes, and to make it less likely that different changes undermine each other.

KH: Lesley Lokko begins her curatorial statement for the 18th International Architecture Exhibition in Venice with the following sentence: "What does it mean to be 'an agent of change'?" How would you answer to this question?

JW: There are many ways of being an agent of change. Often it is accidental, and not always welcome. Any of us who write and teach have the potential to change lives. Sometimes people tell me that they got started on their careers in political philosophy after reading my *An Introduction to Political Philosophy*. Of course, I'm pleased to hear this but I also have

in my head the nagging thought that maybe their lives would have gone better if they hadn't read it and set out in some other direction.

But concentrating on the question, change, or at least social change, is always brought about by human action, and while it's a bold and brave ambition to be the agent who pulls the lever to make a significant change, most of us will rarely be in a position where we can make significant changes by our own action alone. But we can, more often, facilitate change, by linking with others. For some, joining a social movement is the natural choice, for others developing new conceptual or theoretical sources, and for others making connections between existing theories developed and the needs of a movement, or even government or policy makers. Each of us has our own talents and qualities and it isn't always so important to be a leader. It's very important never to be a mindless follower, but for academics the role of wise counsellor is waiting for us, if we have to have an eye for the right opportunities and want to make the most of them. But I admit it isn't for everyone, and there's always the grave danger of doing more harm than good.

KH: In the article "Risk and the Regulation of New Technologies," you contend that "[...] new technologies can bring tremendous benefits. But they also have costs, or risks, some known, some unknown." Could you explain the correlation between new technologies and change?

JW: This reflection was not intended by me as a particularly novel thought but simply to report that the essence of new technologies is that they have the potential to bring about change. But it is always a source of wonder to me that technologies, and also new forms of social and economic organisation, often develop more quickly than our capacity to reflect on them in a systematic and mature way. Take AI right now. Large Language Models have taken many people by surprise. For example, universities, which are not normally known for moving fast, have, in some cases, changed their forms of assessment within a few months to deal with AI-assisted essay writing. You would think that universities, especially those with strong computer science departments, should have been ahead of the game on understanding the development of new AI technologies, but we've been caught out as much as everyone else.

It is interesting—but very naïve—that there has been a push for a moratorium on AI development for a few months to allow reflection on AI safety to take place. The naivety is double. First, if there's officially a

moratorium nevertheless there's a type of prisoner's dilemma structure that suggests every researcher will still keep on secretly working either in hope of getting ahead or fear of being left behind. Second, a few months might allow the production of a few high-minded statements of general position on the ethics of AI, but the time is far too short, and it's also very hard to regulate safety without, unfortunately, experience of the type of problems that occur without regulation. This is why the Ethical Owl of New Technology flies only at dusk. It's still very early days for AI, and when advances are made in regulating or modifying its use, they may well be made by people who know the technology inside out and have reflected on the ethical questions, rather than by philosophers alone who only know the technology in the most general and abstract terms. No doubt we need people from different backgrounds, with different training, to come together to help us to the next stage.

KH: You note the questions of equality and justice in the city have not been the focus of political philosophy. Why have political philosophers taken up this topic so little? Whence this lack of research dedicated to these questions, given their significance?

JW: I think it is partly path dependency—taking up the questions others have addressed—partly lack of imagination, and partly under-estimating the importance of politics at levels below the level of the state. Political philosophers have tended to imagine that their audience is the President or Prime Minister, and other government ministers. For example, their recommendations are often about tax and transfer policies, which can only be handled centrally, as can policies around immigration, just war, and many others. But as city-zens, for most of us our interaction with governments (outside of paying taxes) is much more local. Some philosophers now are showing greater understanding that there are questions of justice about such things as accessibility, the built environment, city transport policy, and local services, and a focus on cities is beginning to emerge. It has not replaced concern with policies at state level, and it shouldn't, as these remain vitally important. But more attention to justice in the city is very welcome and much needed.

KH: You wrote *City of Equals* with Avner de-Shalit. What does this titular phrase include or epitomize? You seem to be aware that it is difficult to provide a single formula.

JW: Originally we were going to call the book *The Egalitarian City*, but philosopher Hélène Landemore suggested *The City of Equals* which we decided to change to *City of Equals* and only later did we pick up on the echo of Augustine's *City of God*. To be honest, and this may be apparent from the book, we struggled even to formulate the question we wanted to answer. Officially we are asking "What makes a city a city of equals?" but that is rather abstract, so sometimes we think in terms of variants "What makes city-zens feel they are living in a city of equals?" or even "What attracts those with 'the egalitarian spirit' to particular cities?" The reason this is a puzzling question is that some of the cities that are seen as most positive by egalitarians often have stark income inequalities, such as Berkeley California. But we do come close to a single formula, when we say that a city of equals gives each of its city-zens a secure sense of belonging, although this does, of course, require considerable unpacking. We also have a slogan: In a city of equals you are proud of your city and your city is proud of (people like) you.

KH: You draw on but also criticise several pivotal concepts of social justice in the city, most notably David Harvey's. With this in mind, what would you say was your main contribution to the ongoing debate on the concept of the "just city?" How do you support the claim that the "city of equals" has a more holistic connotation?

JW: We do appreciate the contribution made by David Harvey and others, and have learnt from everyone who has written on the topic. However, our main move, and this was the idea of my co-author Avner de-Shalit, is that theorists seem not to have taken the city as in need of its own theory of justice. Instead they have taken general theories of justice and tried to apply them to the city. But our view is that this approach doesn't fit the subject matter as well as it should. Instead we have asked what's special about the city and how should we think about justice, or rather equality and inequality, specifically in that context. Bearing in mind that, for example, cities rarely have the power to raise taxes they can't address inequality through income redistribution. But they can make the city more or less liveable for members of different groups. We are not aiming for a theory that provides an account of justice for all levels and subjects matters. Rather we think we have found a theory that addresses the specificity and nuance of city life. But we hope this is an early contribution to a debate that will run, and others will want to build

on, or even reject, our account in developing alternative versions. It's a relatively neglected topic that can do with some specialised attention.

KH: The question you put forth, "what it feels like to live in a city in relation to others" opens up numerous avenues for the analysis of the socio-spatial relations as manifested in everyday urban life. Where do you see the potential for an affirmative approach to the creation of social bonds in the city based on the principles of equality? How do we imagine a "community of equals within the city?"

JW: Cities differ significantly. Residential segregation is very important. In some cities there's literally "the other side of the tracks" where minoritized people live in lower quality housing, with considerable stigma. In others while there's historic clustering—the Italian quarter, Chinatown, the Greek district—these are treated as part of the rich fabric of a "city of many flavours." Spatial relations are, of course, part of a nest of social relations and they can interact in complex ways to bring about different atmospheres and relations. Even poorer people can admire wealthy parts of the city for the quality of the architecture, and peaceful surroundings, treating those streets as a mix of museum and park, and a very pleasant place to stroll. But if there are private security guards on every corner the feeling is completely different. It all relates to our central idea: a secure sense of belonging. If you feel welcome everywhere, and people greet you in the street, or at least acknowledge your presence in a positive way, we are on the right track. We're not asking for deep community engagement by everyone—that's a matter of taste and preference—but we do hope for mutual respect, and even joy in living alongside people who are not exactly like you, and a recognition that the city belongs to everyone residing in it. That, for us, is the fundamental starting point of a city of equals.

Finally, we hope that our book is indeed an imaging of something related to a community of equals in the city: an identification of ways in which cities can and have become communities of unequals and what can be done. For myself I don't think there's a single model of equality; there are many ways of having communities of equals. What they have in common is that they overcome particular inequalities; and especially those connected with how people relate to each other.

KH: In your book *Why Read Marx Today?* we find the following claim: "The mind and the world do indeed change together." On the other

hand, we also read in it that human beings "change the world not merely by changing the way they conceptualize it but by physically transforming it." The transformation of the world also includes architectural acts. How do Marx's positions contribute to your perspective on the notions of equality and justice?

JW: Marx, notoriously, distanced himself from ideas of equality and justice, refusing to engage in this discourse, at one point suggesting that notions of equality are "hollow phrases which can be twisted and turned" (*Critique of the Gotha Programme*). At the same time he was clear that there were good and bad ways for human beings to live, emphasising the vast number of ways we rely on each other, especially through the social division of labour, that we barely even acknowledge. This idea of unacknowledged social connection is a key aspect of Marx's analysis of capitalism, and his hopes for the society of the future include making our connection with each other richer and more strongly recognised. I can't say that Marx was a regular point of reference for us in drafting *City of Equals* but his background presence was probably there clearly enough, especially in the emphasis on the ideas of community we often come back to.

KH: How can architects contribute to establishing social justice, constructing a city of equals, foster a good life within it?

JW: Probably architects are ahead of us in their thinking, or if not architects, town planners. Inequality is often about gatekeeping—both literal and metaphysical—who is allowed in, who is not, who is welcome here, who is not, and so on. Earlier trends in architecture often marked out spaces as private. The most obvious is the building of a gated community, or a shopping mall with only a few guarded entrances. But there were other crude attempts to keep people away, such as building office blocks with no sidewalks outside, or other forms of hostile architecture. We've been influenced by the idea that architects should think in the widest possible terms, rather than think that their job is simply to design buildings. For example buildings can be designed to welcome passersby to enjoy outside spaces and even make the lobbies of buildings public and widely used. For example, we consider in the book the proposal of allowing the large, often empty, ground floor entrances and lobbies of office and residential buildings to be opened up to the community, in the absence, very often now, of municipal public spaces. Architects have huge

influence over how cities feel, and how people feel treated in and by their cities, and for us this is the essence of a city of equals.

KH: The city is a political institution and also a subject that acts. You say that there are "cities with an ego" and that different cities have a "different ethos." Does their ego and ethos perhaps best manifest through architecture and urban projects or in some other way?

JW: There is no doubt that architecture and urban projects are critically important to the "ego" or "ethos" of the city. But architects can't do it alone. We conducted a series of interviews in 10 different cities in 6 different countries while researching the book. The overwhelming sense we got from our interviewees is that what matters to them is how they are treated first, by the city authorities, and second, by each other. Urban projects can make a huge difference. For example, in my street in London a new block was built with market-priced housing at the front, and social housing at the back, in accordance with the then planning laws for new city developments. The market-priced housing is approached through a lobby with a concierge, and is very clean and attractive. The social housing can only be approached through a narrow, dark alley-way at the back. There is no route from the market-priced housing. Shortly after the building was finished the alley was dug up to lay a new cable, and wasn't repaired properly, so looks very ugly. More importantly, there isn't adequate space for all the garbage for the social housing, so the bins often overflow through no fault of the residents. It doesn't get swept every day. Walking through the alley can be horrible sometimes, but the residents have no choice. This is an architecture of inequality. Those who live in the apartments will get the sense that they are second class citizens, thought to be creating filth around them, and are barely tolerated rather than welcomed. And how they feel is a consequence of how they were treated by those who designed their housing.

It's especially unfortunate also because it's a consequence of social planning for equality: having affordable accommodation in the city centre. And of course, it's still better to have these apartments there, even though mistakes have been made. One has to wonder, though, whether the architects, or perhaps the planners, deliberately planned for failure, as a type of protest against egalitarian housing schemes which presumably are less profitable for them. Perhaps they thought that if the new developments turned out badly, the local authority wouldn't insist on

them anymore, and I believe that regulations have been modified to allow developers to build social housing elsewhere rather than in the same development, which is a pity.

KH: Architecture is defined as the art of space and architects design physical objects. You claim that the question of a city of equals cannot be reduced to its spatial dimension, that is, the built environment. Why do you think that such a standpoint is limited?

JW: We do feel that the spatial dimension is very important, of course, and can influence many other factors. But it can't do everything. You can build the most wonderful museum, with space for temporary exhibitions, with the potential to allow people with different identities to celebrate their culture. But if the museum director has a snobbish attitude to the distinction between high art and low art, or the city cuts off funding, it could become an elitist institution used only by the wealthy. And one might even go as far as to say that with the right attitudes and support, spatial adversity can be overcome—people can repurpose derelict buildings or recover public spaces. Now you might say that this is simply using the spatial dimension is a new way, which is fair enough, but the general point is that we need a partnership of spaces, people, and the city authorities to build a city of equals. The spatial dimension is perhaps the easiest to think about and control, but if all our energy is taken up by thinking only about spatial elements the results could defeat our intentions.

KH: In *City of Equals*, you note the idea of eye contact in the life of the city. Why is it important for façades of public buildings—either corporate or government offices—to be made from transparent glass?

JW: We applaud some innovations to make city office buildings look less like barriers and more like open spaces. One way of doing this is to have regulations that require them to be transparent at street level, and some cities have introduced exactly these rules. The idea is to encourage connection between different citizens, rather than have some retreat to private spaces. We applaud this experiment but don't want to be dogmatic. It's important to see how it works out. If it doesn't make any difference to how people experience their connection with each other, or makes people feel uncomfortable or threatened, then the regulation should be changed, and different techniques should be tried. The last thing we want

to do is to insist on policies in the face of evidence they don't have the intended effects. But the underlying idea is that in a city of equals every citizen should have a secure sense of belonging, and the facades of buildings can, we believe, enhance or diminish that sense. Our general idea is to encourage a type of mindful planning or building, rather than think that we—philosophers rather than architects or planners—know the last word on what in detail should be done. That said, we believe that building with glass, so that people inside and outside can see each other at eye level is a very promising strategy, as it puts those inside and outside into connection, and in a sense on the same level.

KH: How much does the aesthetics, the beauty of buildings impact the relationship of citizens to their cities? To what extent is it important that citizens identify with the specific architecture of their built environment?

JW: Identifying with the architecture of one's city is a strong demand! It can, of course, happen. When a city is very beautiful or historic, or is known for a particular style of architecture many city-zens will be proud of the way their city looks and feels. But even cities of less architectural distinction can generate enormous loyalty, especially to some districts or streets. If a historic building is neglected or under threat city-zens can feel very upset, and take it as a type of personal affront, even campaigning against change. We've seen this in cases where important buildings have been destroyed by developers, sometimes by arson to avoid planning difficulties. Of course, cities constantly need to regenerate and reinvent themselves. But conservation areas, and policies such as insisting on the retention of historical facades are often very beneficial. And once more the point is not merely aesthetic, but aids the sense that the city exists for the sake of those who live there and find beauty, and sometimes even identity in their built environment. Identity is strongly related to the idea of a secure sense of belonging, and this once more leads us to the central theme of *City of Equals*.

Interview conducted by Miloš Ćipranić, Zoran Erić, and Snežana Vesnić.

Book Review
DOI: 10.5281/zenodo.11485232
Received: April 17, 2024

Andrea Canclini*

Mark Jarzombek, *Architecture Constructed: Notes on a Discipline*, Bloomsbury, London, 2023.

> *In exploring "architecture"'s grammatological possibilities, I am not following the linguistic determinist pattern often deployed in these circumstances that searches for an inherent clarifying structure. Instead, I am using Derrida's idea of grammatology to study the way in which thoughts as recorded in writing affect the nature of knowledge. I am looking in particular to bring us closer to the wound that is at the heart of the etymological separation and contraction—a wound laid bare by Alberti and that, as I will show, has its prehistory in Greek philosophy.*[1]

The book *Architecture Constructed: Notes on a Discipline* is an almost unique text in the contemporary landscape of architectural theory and criticism (but also beyond those). Namely, it is not a book of theory, not a book of criticism, not a book of history, but at the same time it is certainly a book of theory, criticism and history.

And it does so by reviving the aphoristic genre, here following Jacques Derrida and Friedrich Nietzsche, that has largely fallen into disuse, as it is considered neither scientific nor academic in current (scientific and academic) production. By stepping back from the details, one is in fact still able to perceive the synthetic complete image.

The author defines *tektōn*[2] in this book as one of the constituent parts of architecture, that *other part* of architecture that often suffers from

[1] M. Jarzombek, *Architecture Constructed: Notes on a Discipline*, p. 7.

[2] *Ibid*., p. 5: "In separating the architect from the *faber* and in then excluding the upwardly mobile *faber* from the possibility of discourse-making, Alberti was certainly well aware that, in ancient Greek, *tektōn* (*τέκτων*) was a word directly associated with woodworking."

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underestimation.[3] It is about that constitutive *other part* of the discipline that Jarzombek writes, making a non-linear history of it, over some 300 pages, 400 footnotes, 200 images, 12 index pages of names, in 18 sections across 7 parts (with no titles).

Amidst countless points of reflection, paradoxes and conflicts and challenges, erudition and *divertissement*, quotations ranging from Herodotus to Tange, from Homer to Adorno's *Ästhetische Theorie*, the author shows how (contemporary) architecture is traversed by the same tensions that Alberti, and his colleagues, shared.

The unresolved tension between *archē*[4] and *tektōn* over the centuries has led to various relationships, similar to the equally unstable relationship between *theorein* and *praxis*. In architecture this relationship is, by definition, never peaceful, always in a state of *polemos*, that is, troubled and variable and yet interconnected: the theoretical invisibility of the *tektōn* is addressed here as an indispensable and indissoluble part of architecture as a discipline, and above all, not colonised by the words and the interpretive and creative *poiēsis* forces of the *archē*. The aphoristic genre originated in Ancient Greece as a collection of medical knowledge. Jarzombek's text is fragmented into sections that vary in length from a few lines to a full page.

It is in this very interesting progression that the text takes shape: the quality of the aphorism is indeed compression, conciseness and anti-systematic thinking but there are also short sections in which the prose opens up into genuine micro-essays. It moves between what are often called fragments (*Fragment*), maxims (*Maxime*), mottos (*Spruch*) and concise statements (*Sentenz*), each of which can often be read on its own, though not out of context.

The way in which this journey through time and space of the *tektōn* of architecture moves is often philological analysis of terms (mainly Greek and Latin) that define activities, going back to the origins of semantic fields and searching for their inheritance in the contemporary

Tektōn, in fact, derives from the proto-Indo-European root *tetḱ-*, meaning 'to carve wood', and was also used to distinguish the activity of the woodworker from other crafts such as stonemasonry and metalworking. According to the Author, in doing so Alberti "displaces and silences *tektōn* in *archē-tektōn*". *Ibid*., p. 6.

[3] *Ibid*., p. 11: "My point is simple. Derrida's discussion of "habitation," though certainly well-meaning, overdetermines and overdramatizes the role of *archē*. Furthermore, it completely ignores the obvious fact that there is a second half to the word."

[4] *Archē* in addition to the meaning of "origin" or "beginning" was also used to indicate a position of command or superiority.

world, how they have expanded or shrunk. A humanist endeavor, aware that words have constantly changing boundaries but rarely leave the original centre that created them uncovered, and that language is not only a useful communication tool.

This search for the various manifestations of the *tektōn* of architecture allows us to project forward the characters and canons of a discipline that, as always, is changing under changing forces and pressures; on the basis on which Jarzombek builds his historical-theoretical edifice, however, one does not lose oneself in the fear of seeing the invariants of the discipline slip through one's fingers.

Finally, it is precisely the *presence* of architecture that is presented here as an inescapable fact, both technical and cultural, economic and social. This book is in itself a new cartography of the discipline, drawing attention to all those people who have embodied the toil of building, that daily habit of mankind that we variously call architecture: a kind of daily fresco that moves continuously, like players in the same game, from Vasari to Derrida, from Loos to the Homeric hymns, to the Building Completion Certificates.

Book Review
DOI: 10.5281/zenodo.11486358
Received: February 08, 2024

Ehssan Hanif*

Pier Vittorio Aureli, *Architecture and Abstraction*, The MIT Press, Cambridge, Mass., 2023.

This book strives to situate abstraction within the broader socio-political context of architecture. For Pier Vittorio Aureli, abstraction is an endeavor to translate space into a generic framework akin to language, and could be a manifestation of power exerted over labor, beings, and space. While helping to maintain architects' authority during the Renaissance, abstraction transformed into a means of calculating and controlling surplus value across different historical periods, even weakening the architect's status.

Pier Vittorio Aureli defines a plan as an abstraction of the building, and claims that planning is not a consequence but a "political precondition" of architecture manifesting power. The abstraction of architectural drawing, which was a response to the conflicts at the construction site, ended in the birth of the "modern" architect. In this context, Leon Battista Alberti's efforts to codify drawing by prioritizing mathematical perspective resulted in the abstraction of architecture into orthogonal projections. Aureli reminds us that the term "design," emerging in the 16th century from the Italian *disegno*, encompasses a broader concept than the graphic aspect of drawing. The definition of design as a conceptual entity or activity contributed to dismantling the traditional integration of head and hand as a characteristic of medieval craftsmanship.

The book also investigates the historical transformation of the grid as the most prevailing tool for spatial organization. Questioning the conventional understanding of the grid as a rational system, Aureli underscores its role in the violence inherent in the process of land appropriation and the alteration of land into "abstract property." Abstraction elevated the

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grid from a mere physical order to a social apparatus governing human relationships with land and each other. The grid's uniformity, orchestrated by institutions of power, facilitated state control over the labor force. These grids also served as an instrument for enforcing legal rights to property grounded in the principle of private ownership.

The book also offers discussions that revolve around the terms "form" and "space" and their interconnection with aesthetic perception, particularly in the Kantian sense. Within this framework, "form is not the image of things but the process through which we understand things."[1] Formalism, which gained dominance in the 19th century, gave the illusion of the possibility of a disinterested cultural experience. The conventional understanding of abstraction in art and architecture, influenced by this formalism, detaches the experience of form from social and political issues.

According to Aureli, even constructivism, born after the October Revolution, while criticizing artistic autonomy, borrowed methods from formalists. On this matter, the book discusses the Vkhutemas school's program and its course on "form," highlighting how teachers like Nikolai Ladovsky influenced the constructivist idea of "construction" in contrast to composition as a "traditional process of art-making, which presupposed a play with form completely divorced from social and material condition."[2] In this context, architecture is seen as a tool for organizing social relationships rather than artistic expression.

The book also discusses how, in the transition from the 18th to 19th century, industrialization affected architectural design. During this period, the abstraction of architectural form aligned with the prevailing mode of production. Aureli links this abstraction to the logic of industrialized spaces like factories and the architect's response to this challenge, an example of which would be Le Corbusier's Dom-Ino house, a space that erodes genuine experience. Nevertheless, Aureli concludes that "once the abstraction of architecture is unplugged from the logic of capitalist accumulation, it can become the most appropriate form of socialist life."[3]

The most captivating aspect of *Architecture and Abstraction* lies in its power to arouse myriad questions concerning alternative ways to read architecture in relation to production/reproduction. Pier Vittorio Aureli

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1 P. V. Aureli, *Architecture and Abstraction*, p. 167.
2 *Ibid*., p. 181.
3 *Ibid*., p. 259.

connects his positions with various philosophical discourses and thinkers such as Karl Marx, Walter Benjamin, Michel Foucault, and Manfredo Tafuri. This book can be viewed as a discerning response challenging the interpretation of abstraction in the history and theory of architecture. *Architecture and Abstraction* has opened a new theoretical venue for scholars into the history of architecture and indeed holds the promise of significantly impacting future studies in the discipline.

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Народна библиотека Србије, Београд

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KHŌREIN / : journal for Architecture and Philosophy / editors in chief Petar Bojanić, Snežana Vesnić. - Vol. 1, no. 1 (2023)- . - Belgrade : Institute for Philosophy and Social Theory, 2023- (Belgrade : Alta Nova). - 23 cm

Polugodišnje. - Glavni stv. nasl. na grčkom jeziku.
ISSN 2956-1892 = Khōrein
COBISS.SR-ID 115067401