Manifestos and Manifestations: Dialogues between Ways of Writing and Ways of Building

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The intersection of climate change and urban migration represents a dramatic challenge for the discipline, shifting the profile of practice leaders and its systems of criticism, even if not yet transforming academic theory. An ethical theory for this moment of crisis would necessarily engage with this reality, critically examining questions of where to build, what to build with, and who to build for. Yet in education, a divide between technical courses on building—or thinking through making—and theory courses focused on thinking through writing, persists despite the urgent and transdisciplinary nature of ethical issues facing architects today. This paper examines if and how theory could intentionally break this separation of writing and building in the teaching of technology. Contemporary practice has no shortage of prescriptive frameworks for sustainability, wellness, regeneration, resilience, and even social resistance; while theory offers critical perspectives on their intellectual origins. The pressing question for academia is: can a critical theory for building emerge from and empower architects to work confidently within the confines of material practices towards transforming the social and environmental reality of people and the planet? Stan Allen's Pragmatic Realism provides a still relevant challenge; calling for creative practice to be more secure in its own technical and theoretical foundation and for theory to cultivate differences through a more realistic conceptual basis. This paper presents a pedagogical experiment where architectural manifestos stimulated a dialogue between writing and building. Integrated with a construction-focused design studio, students had to simultaneously write theory that transcends a project to define social and ecological agendas, while extracting generalizable principles for practice from their material investigations. Analyzing the students' books as evidence, especially the intentional organization of ideas into theoretical frameworks, elucidates opportunities and challenges for integrating Architectural Theory and Design education towards strengthening the critical and ethical foundations of building practices.

INTRODUCTION

The urgency to limit global temperatures below 1.5°C above pre-industrial levels[1] and the aging and expected decline of global population[2] are producing dramatic social, political, and ecological shifts; challenging theory and practice to reconsider architecture's role in the world. The intersection of urban and climate migration is shifting the typologies and profile of leading practices, signaled by shifts in the profession's own systems of criticism.[3] Most notably four of the last six Pritzker Prize winners clearly shifted towards more humble and generous approaches to adaptive reuse (Lacaton and Vassal), public space (Grafton), climate (Doshi), and social activism (Aravena). In academia, theory must, but does not yet fully engage with the reality of this moment of crisis, to critically examine questions of *where to build, what to build with, and who to build for*. This paper examines if and how architectural education could leverage the teaching of theory to advance critical building practices, by actively integrating the writing of manifestos in the process of designing integrated building systems.

Contemporary practice has no shortage of prescriptive frameworks, dictating principles or criteria for sustainability, wellness, regeneration, resilience, and social equity; defining *design excellence*.[4] The ongoing challenges for practice include making sense of these many frameworks' conflicting imperatives, e.g. sustainability vs. resilience; absorbing a deluge of data informing compliance, and constantly adapting to changing models, metrics and projections, in order to have the confidence to lead projects towards the most just and sustainable outcomes. This demands high order thinking skills to support ever more complex technical skills. Theory often provides necessary criticism of practice, for example, e.g. examining the origins, logics and motivations of prescriptive codes.[5] But besides reactive criticism, can a critical theory of building proactively emerge from and guide better building practices? Moreover, can theory empower architects to work confidently within the confines of material practices towards rapidly and positively transforming the social and environmental reality of people and the planet? These research questions are the focus of this paper: arguing why there is an urgent need for critical theories that guide building practices—confidently rooted in the contingencies and messiness of today's reality, and thus proactive about what architecture can

do within its own limits; and testing how academia can engage future practitioners in the writing of such theories.

ACADEMIA'S ROLE BRIDGING THEORY AND PRACTICE

Stan Allen's theory of *Pragmatic Realism* offers a still relevant critique of theories "situated at a distance from the operational sites of technique…" within worlds of "concepts uncontaminated by real world contingencies."[6] Introducing a transcript of this original lecture at Columbia, published in the journal Praxis, Allen explained his critique of *dumb theory* and *dumb practice*; calling instead for creative practice to be "sufficiently secure in its own technical and theoretical bases to go beyond the simple reflection of the real as given… a realistic conceptual basis from which to cultivate meaningful differences." [7] The issue's editors also questioned the separation of what should be co-dependent creative practices of writing and building.[8] More than twenty years later, despite the urgent ethical and transdisciplinary nature of socio-technical challenges facing the profession, architectural education remains divided: technology courses focus on the realities of building—or thinking through and about making—and theory courses focus on an semi-autonomous critical discourse—or thinking through reading and writing. This paper argues that teaching theory could intentionally break the separation of writing and building practices to embrace a messy reality, specifically within the building technology curriculum.

This research introduces a pedagogical experiment bridging this divide between writing and building practices. Not unlike the analysis of precedent, which serves as a departure for students' own design, analyzing select examples of theory introduced polemical concepts that served as points of departure for the student's own writing. This took place primarily within the final course of a building systems curriculum focused on Integration. The course was transformed from a lecture about building practices supported by readings, into a discussion-based workshop on writing theory that guides building practices. The coordination of this theory of technology course with a comprehensive design studio gave the students an opportunity to engage in a dialogue between two projects: one writing and one building, combined as manifestos for future practice. This paper describes the premise and methods for the theory course, identifies the criteria for selection of seminal texts and the intersecting themes that emerge from their analysis, and begins to systematically evaluate the products of the students' writing project, tracing the influence to and from their building projects.

MANIFESTOS AS DISCOURSE: INTRODUCING A POLEMIC

The study of manifestos served as an entry point into a discourse, with thematic overlaps between all examples to introduce a polemic for the course; a provocation for students who were invited to build on and contribute their own responses. Curating a selection of manifestos limited the scope to a manageable academic exercise. These manifestos addressed the affordances of and approaches to long-lived buildings, under the premise that

to build sustainably is to challenge a contemporary culture of waste. This theme focused the debate on the intersection with emerging concepts related to sustainability, e.g. embodied energy, adaptability and socio-ecological resilience.

Manifestos are future-focused polemical statements about practice, setting ambitions for future work. Beatriz Colomina argues that media and publications are central to the history of the avant-garde; and that without manifestos the work, and the architect, did not exist.[9] Examining the manifestos by Mies van der Rohe, specifically unbuilt projects produced for competitions, publications and exhibitions; Colomina writes "Statement and project are inseparable. The project is seen as to make a statement and the statement is seen as a project. The image of the project is not an illustration of a statement; it is part of the statement itself."[10] Most notable is the relationship between writing and building: "There was an enormous gap between the flowing architecture of Mies's published projects and his struggle to find the appropriate techniques to produce these effects in built form,"[11] causing him to spend so much of his career catching up to his writing." But manifestos are also, using Colomina's terminology, *rewrites*—"each is a reworking of earlier statements"… making architectural discourse "an exchange of manifestos."[12] This pedagogical experiment was an opportunity to engage in *rewriting*: analyzing how others think about construction through an ethical lens, i.e. the *what, why, where and who to build for;* and articulating student's own thinking in parallel with the development of systems of construction.

Ten manifestos spanned centuries of architectural discourse and represented a diversity of regions, socio-ecological contexts, and architectural forms. Selection criteria included: (a) writings or oral statements (transcriptions of interviews or lectures) by influential figures in architectural discourse (b) theories that were rooted in the reality of building and inhabiting, connecting ways of thinking to ways of building, and (c) concerned with sustaining the significance of architecture over a long time. The list was mostly limited to western examples, likely due to limits of language and topic, e.g. notions of longevity or permanence in architecture are more common in western traditions. Nonetheless efforts were made to include writers and practitioners of various geographic regions, time periods, and gender: Vitruvius, John Ruskin, Gottfried Semper, Adolf Loos, Louis Kahn, Rafael Moneo, Alvar Aalto, Lina Bo Bardi, the collaborative of Behnisch Architekten and Transsolar, Balkrishna Doshi, and the partners from Grafton Architects, Yvonne Farrell and Shelley McNamara. Students gleaned aspirations for architecture's long-lasting significance in this discourse, and imagined these as alternative definitions for social and environmental resilience and sustainability. Each student was initially assigned one manifesto. Those sharing the same manifesto participated in online discussion groups. A whole-class discussion followed, sharing and mapping the intersections of a broader network of ideas across all texts. The close reading of these manifestos identified connections between concepts that evolved from one author
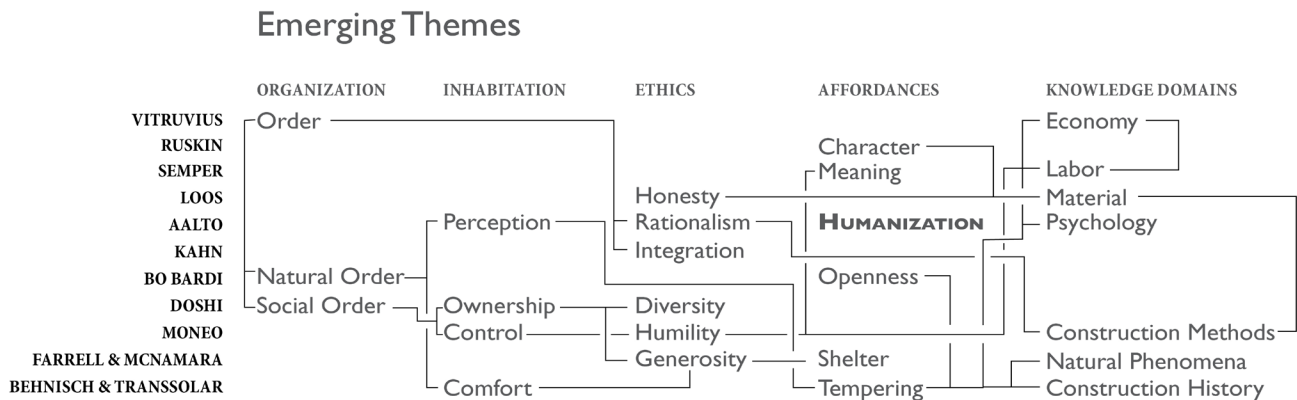
Emerging Themes

Figure 1. Mapping of emerging themes from a selection of manifestos (rows, in chronological order) focused on long-lived buildings, modeled on class discussions. Lines represent connections between or rewrites of ideas between authors and time periods. Image by author.

to another, suggesting a common source of influence, a shared concern, or a direct borrowing from one to the other. Figure 1 maps connections made during class discussions (lines) between authors (rows) and categories of theory (columns).

MODELS OF REWRITING: TRACING IDEAS ACROSS TIME

The course introduced the idea of a manifesto on building practice by examining an ancient model: excerpts from Book I of Vitruvius' Ten Books, written between 15-30 BC. Starting with a simple statement of principles: "Architecture depends on Order, Arrangement, Eurythmy, Symmetry, Propriety, and Economy," [13] the author of the seminal phrase "*firmitas, utilitas, venustas*" proceeds to offer detailed description of site and building strategies to achieve these principles. The book offers a systems approach, describing the constituting parts and the whole of architecture. High principles are followed by specific instructions for building, like outline specifications that are cross-referenced with drawings; including wall construction principles for moisture control and even the type of trim that should be used in a space heated by burning wood so it can be cleaned. This framework of concepts and techniques seeks to codify how to develop and preserve not only architecture's materiality, but also its significance and utility in the long term. This theory is said to define the relationship between the physical structure—the material and methods of construction, and the organizational structure—the arrangement or organization of parts that support human uses, to create "an inclusive sense of architecture." [14] The brief analysis that follows identifies themes emerging from this and the other ten authors (Figure 1), highlighting short excerpts from their manifestos that were most influential in class discussions.

The first manifesto laments the loss of that integrated thinking found in Vitruvius, i.e. the dialogue between theory and construction. Rafael Moneo blamed utopianism and the tyranny of drawing in contemporary architecture, offering that a truly

architectural drawing should imply above all knowledge of construction and an acceptance of real boundaries, "for it is the acknowledgment of these limits that renders so explicit the presence of building procedures in architecture." [15] Reading Moneo introduced a critical take of architecture as manifesto or "statement". As a theorist and practicing architect, Moneo reflects on the architect's mindset: "For a while we regard our buildings as mirrors; in their reflection we recognize who we are, and eventually who we were. We are tempted to think that a building is a personal statement within the ongoing process of history [...] When architects realize that a building masters its own life, their approach is different; it changes radically. Our personal concerns become secondary and the final reality of the authentic aim of our work. It is the building's materiality, its own being, that becomes the unique and exclusive concern." Besides material realities, Moneo places the writers / builders ego at the center of the polemic, asking for and with humility: *whose statement is the building, or theory, ought to be?* Most recently, the curators of the 16th International Architecture Exhibition of the Venice Biennale, Yvonne Farrell and Shelley McNamara, referenced "an exchange between people and buildings that happens, even if not intended or designed, so buildings themselves find ways of sharing and engaging with people over time, long after the architect has left the scene." [16] Again embracing humility, the curators celebrated architecture's generosity of spirit and sense of humanity. Their writing connects the technical and cultural roles of architecture: to give shelter to bodies and lift spirits. In their manifesto called *Freespace*, technology is not only a way to protect the "Earth as client" but also an instrument to "play" with natural phenomena that is otherwise mostly free, so that built form can "reveal the mysteries of the world."

Thinking about architecture in a distant time introduced questions of control in building technology. In the 19th century, John Ruskin called for thinking about "building" (verb) happening over time, through ways that give architecture the time needed to

acquire cultural significance. "When we build, let us think that we build for ever. Let it not be for present delight, not for present use alone[...]it is in that golden stain of time, that we are to look for the real light, and colour, and preciousness of architecture; and it is not until a building has assumed this character, [...] more lasting as it is than that of the natural objects of the world around it, can be gifted even so much as these possess, of language and of life." [17] In contrast, Balkrishna Doshi takes a less passive view, aspiring to make an architecture that actively invites and allows transformation by others. "My tendency has been to create comprehensive architecture, that have adaptability to accept situations, allow inhabitants to really get what they would like to have, so they also have a choice." [18] Referencing structural configurations and passive systems as multi-use, free from mechanical equipment, and diverse; Doshi describes "another social order in which energy is saved," and where "variation becomes another order." A testament to Moneo's writing, Doshi claims these concerns changed his own definition of architecture, shifting his attention to material configurations that are "alive", that impart a feeling of ownership, such that "architecture has become a symphony in which everyone has a chance to play his own tune." The idea of order also surfaces in connection with diversity and multi-functionalism in Louis Kahn's writing; but more specifically in support of the integration of structure and various other systems of construction. "Design is form-making in order. [...] Thru the nature—why; Thru the order—what; Thru design—how [...] Order does not imply Beauty[...] Order is intangible. It is a level of creative consciousness. [...] The higher the order the more diversity in design. Order supports integration.[19]

Thinking about users as primary authors shaping a building's long life raised questions about the domains of knowledge necessary for the work of the architect. In 1940 Alvar Aalto called for the expansion of technical rationalism towards human psychology: "The term 'rationalism' appears in connection with Modern architecture about as often as does 'functionalism'. Modern architecture has been rationalized mainly from the technical point of view. [...] It is not the rationalization itself which was wrong [...] The fault lies in the fact that the rationalization has not gone deep enough[...] Technical functionalism is correct only if enlarged to cover even the psychophysical field. That is the only way to humanize architecture." [20] Gottfried Semper's writing in 1851 laid the foundation for this rationalist systems approach. His pseudo-historical approach directly connected the social life of a building with a primitive order and understanding of trades of construction: "Around the hearth the first groups assembled [...] [...]the hearth formed that sacred focus around which took order and shape. It is the first and most important element of architecture. Around it were grouped the other three elements: the roof, the enclosure, and the mound. The protecting negations or defenders of the hearths flame against three hostile elements of nature." Associating the enclosure with textile trades, Semper suggested that "the wall retained this meaning when materials other than the original were used, either for reason of greater durability, better preservation of the inner

wall, economy, the display of greater magnificence, or for any other reason."[21] Adolf Loos, another early modernist, questioned Semper's material metamorphosis, calling instead for material honesty: "Every material possesses its own language of forms, and none may lay claim for itself to the forms of another material. For forms have been constituted out of the applicability of the methods of production of materials. [...]The law goes like this: we must work in such a way that a confusion of the material clad with its cladding is impossible."[22]

Lastly, thinking about social space and construction, especially cladding, raised questions about the role of building technology in creating resilient interior conditions that can relate to and respond to an outside world. Modernism imagined glass as the dematerialization of the enclosure to create spatial continuity with the landscape. In a 1953 magazine article, Lina Bo Bardi described in detail a steel and reinforced concrete structure for a house, including slopes, rainwater systems, ventilation strategies, roof and garden, and even curtains; as a manifesto on attempting "communion with nature and the natural order of things by offering the least number of defenses against the elements." The climate of Brazil made this natural order more possible, redefining Semper's primitive notion of nature as less hostile and its connection to human inhabitation as more honest and essential. The evolution of nature in the discourse of sustainability invited reinterpretations of construction history. In an exhibition catalog, the collaborative of Behnisch and Transsolar reference the Roman atria and the microclimates of the Alhambra in a contemporary manifesto for the tempering of the natural environment in interior spaces, relying only on sunlight, natural ventilation, vegetation, water and shade. They explicitly reject standard criteria for occupant wellbeing and thermal comfort governing contemporary architecture, connecting themes of nature and social space: "We continually seek clues to human perceptual psychology[..], and often draw on natural phenomena to inform the design of our buildings.[...] Atria in large buildings with workforces of over one thousand people can be used to create attractive, central focus points which can foster communication and help counter feelings of anonymity." [23]

MANIFESTATIONS: WRITING BUILDINGS AS STATEMENTS

These manifestos supported debate on how theoretical concepts were or ought to be manifested in built form. Manifestation is defined here as *a construction embodying a theory or an abstract idea*. Manifestos were introduced to students anonymously, and they were asked to speculate what kind of architecture would emerge from them today. Once authors were revealed, students were encouraged to look at if and where their built works were manifestations of these theories. A parallel activity in studio involved the creation of material compositions inspired by these texts. Lectures introduced contemporary built case studies, to examine building technologies in depth, only as vehicles to understand broader approaches to practice.

CONFORMANCE-DRIVEN

BUILT PROJECT

PERFORMANCE-DRIVEN

Contextual

Material

Temporal

Operational

Epistemological

PRINCIPLES-DRIVEN PRACTICE

PROCESS-DRIVEN

AGENCY-DRIVEN

WRITTEN PROJECT

01 Manifesto pg 1-2
02 Connectivity pg 3-6
03 Honesty pg 7-12
04 Adaptability pg 13-16
05 Standard pg 17-24
06 Resilience pg 25-32
07 Accessibility pg 33-54
08 Conclusion pg 55-56

The Enduring
Urban Landscape
Constructed Architecture
Functioning System
The Evolving
Living Landscape
Adapted Architecture
Functioning System
The Ephemeral
Healing Landscape
Inclusive Architecture
Functioning System

ON CONCEPTUALIZATION
ON CONTEXTUALIZATION
PLOT
CONSTRUCTION
PROGRAMME
ON ORGANIZATION
STRUCTURE DEFINING SPACE
STRUCTURED FOR CHANGE
ON HUMANIZATION
HUMANITY-BASED SYSTEMS
INCLUSIVE EXPERIENCE DESIGN
ON MATERIALIZATION
DEFINING ENCLOSURE
DEFINING EXPRESSION
ON CONTRIBUTION
CONFRONTING A CULTURAL PROBLEM

01 Manifest
02 Contextualize
03 Materialize
04 Mitigate
05 Adapt
06 Activate
07 Measure

Humanizing Flows
Trusting the Patterns
Stepping Inside the Seal
Making Sense of the Mess
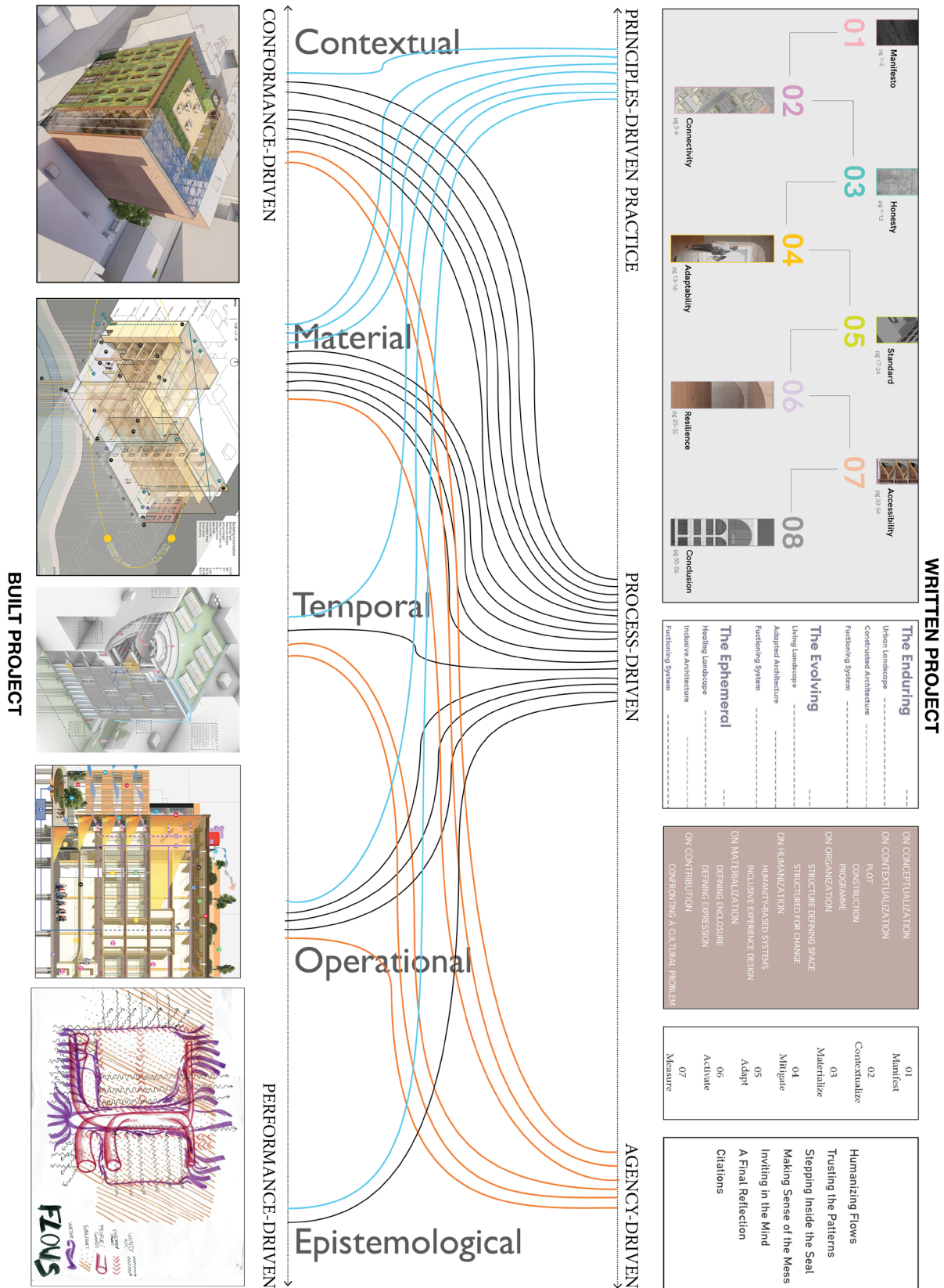Inviting in the Mind
A Final Reflection
Citations

Figure 2. Mapping types of writing projects (right, showing samples of table of contents from student books for the theory course) and types of building projects (left, showing sample images from studio course included in the books). The lines identify the relationship between writing and building types for each student (each line represents one student). Mapping by author, sample images contained within are from books produced by students in the course.
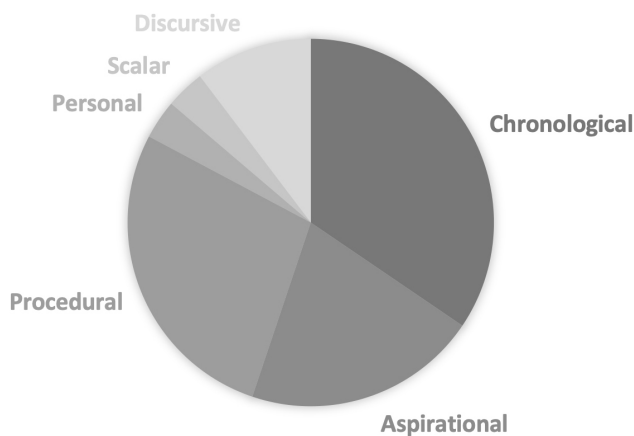
Figure 3. Types of Organizational Structures in written projects, as observed in student books. Discursive frameworks focused primarily on a dialogue with the literature, debating and critiquing ideas of others, positioning the student's goals for their building practice relative to the discourse, and offering alternative ideas or interpretations. Scalar framework organized ideas ecologically, i.e. thinking about architectural processes and the life of the building in relationship to systems operating at different physical or time scales. Chronological and Procedual frameworks were primarily project-focused focused on a narrative of decisions and/or a list of products or forms of representation for the building project. Aspirational frameworks defined categories of conformance or performance criteria, defining a series of goals for a building project, but generalized them in the writing to define future practices. Image by author.

Analyzing manifestos individually and as a collection, students were asked to identify: What terminology and techniques have architects used in pursuit of sustainability and resilience over time? Where and how did their built forms fall short of the aspirations of theory? Were there ethical or technical flaws? What should be built upon and what should be *rewritten*? Students spent the semester reading, discussing and writing their own manifestos, guiding parallel *writing + building* projects in the theory and studio courses, respectively. The studio course asked students to consider the design of construction systems for a building that needed to last at least 150 years on the rapidly changing social and ecological context of an urban site. The theory course challenged students to extract generalizable principles from specific instances of their material investigations, but also to write a theory that transcends the project to define social and ecological agendas for their future practice. Students were encouraged to think about how rooting theory on the real uncertainties of this moment can yield new approaches to architecture that endures in unknown futures.

EVALUATION OF OUTCOMES
Thirty students' books illustrate how writing generalizable theory about building can leverage idiosyncratic projects as case studies for future practice. The analysis of the work elucidates the opportunities and challenges to give theory agency in the design process, to advance the ethical foundation of critical building practices. Although coding of all the books would be valuable in

a more comprehensive analysis, enough can be gleaned about the organization of ideas into theoretical frameworks from the books' table of contents (TOC). And that is specifically because the brief required TOCs as conceptual maps—the equivalent to the organizational systems used in prescriptive frameworks; not only defining critical concepts, e.g. "credit categories" in LEED, "petals" in the Living Building Challenge, or the "principles" in the AIA's Framework for Design Excellence; but also their relationships, e.g. order or hierarchy. These conceptual maps were analyzed and categorized according to the drivers of the projects (Figure 2), ranging from principles-driven (*what architecture ought to be*) to agency-driven (*what architecture ought to do*). Language played a role: the former was mostly described with nouns or adjectives of concepts, whereas the latter was mostly described with verbs or actions. Between these two, other books were mostly driven by process (*how architects ought to make decisions*). While the majority of books (55%) fell in the process-driven category, it is worth noting that prior to this year's theory-writing experiment most, if not all books from previous years were focused on narrating personal journeys and products for a particular studio problem. These new forms of organization, while individually less numerous (24% principles-driven and 21% agency-driven) not only represented nearly half of the books this year, but produced the most compelling theories, i.e. extracting generalizable principles for practice beyond the individual project.

Process-driven projects were comparatively less effective as theories, often falling into ingrained disciplinary habits. It is not uncommon for students to describe studio projects as a chronology of individual decisions, often burying the leading ideas in procedural matters. Evidently this habit was hard to break, even within the context of this book. The assignment explicitly encouraged students not to organize the theory around one project, but to think of the project as a manifestation of a generalizable theory. Yet in the majority of the process-driven writings, chronology or products governed the organizational structure of the books (37.5% each, or a total of 75% of process-driven books), evidenced by organizational structures closely based on studio deliverables, or the themes of the course schedule (Figure 3).

Another indicator is the relationship between the written project (theory) and the studio project (building). About a third of process-driven theory books documented projects mostly motivated by questions of context (fitting in), and another third by more pragmatic material investigations (e.g. leveraging properties of mass timber products). These projects were more likely to be governed by ideas of *conformance*, or conformity, i.e. acting in agreement with some standard or authority.[24] In contrast, agency-driven writing projects were more likely to be represented by building projects governed by ideas of *performance*; e.g. speculating novel material configurations to improve longevity, testing strategies for temporal adaptation, or effecting social or environmental transformations of their contexts. Principles-driven writings leaned towards conformance, but were often

more aspirational—defining attributes or ethical imperatives for architecture's material, temporal, or operational considerations, for which material systems were representational or symbolic, and therefore fell shorter on rigorous performance modeling. Interestingly, a very small number of process- and principles-driven books described both the writing and projects as more deeply personal journeys of discovery, a process of translating personal values into architectural principles.

CONCLUSION

The early analysis of this pedagogical experiment points towards the transformative potential and persistent challenges of integrating theory as an active part of building practice. Student reflections show that engaging disciplinary discourse on building practices foregrounds important ethical questions, invites them to question and clarify their own position and gives them better tools to criticize their work. Students found writing a surprising but constructive approach to learn about building but emphasized the importance of in-depth technical analysis of built case studies to interrogate how theory meets reality. Reading, critiquing and debating manifestos was a form of collaborative coding, allowing the pedagogy to be dynamically shaped by themes emerging from discussions, e.g. leading the topic on designing for longevity in the direction of making building technology more deeply human-centered.

Bridging theory and building can be challenging for some students, especially when they struggle differentiating project and practice, i.e. whether the particulars of a building project can guide theory, or if their theory can be sufficiently open-ended and autonomous to absorb new knowledge and guide building practice in the future. The latter would mean that the project is part of the statement, but that like Mies, they would be spending their career catching up with the ambitions of their writing. However, the nature of the design process as experienced in one project still dominates many students' writing. Despite the iterative nature of design, traditional forms of studio evaluation focused on linear progress and products can lead to check-listing overpowering the organization of knowledge, emphasizing process over conceptual clarity. In this regard, the prevalence of chronological design narratives in studio may represent an obstacle for students recognizing or reorganizing new knowledge into conceptual frameworks of their own.

Even with these challenges, the writing project helped many of these students reflect on valuable questions, e.g. how architects pursue knowledge about building, or how they discern the "right decisions". Future directions of this pedagogy may explicitly ask students these epistemological and ethical questions, and then guide them through that very personal process of discovery. Nonetheless, the intersection of two ways of thinking—writing and building—provided a valuable opportunity to reexamine the ethical and conceptual drivers of the students' own future practice and to rethink the utility of theory in defining new and better ways of buiilding.

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