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Academic Statement

I am an Assistant Professor in Practice of Architecture at the Harvard Graduate School of Design (GSD) and the sole owner and founding principal of Supernormal, an architecture, urbanism, and design technology studio based in Cambridge, MA.

At the GSD I teach elective lecture and seminar-based courses in architectural practice as well as core and option design studios in architecture and design engineering. My practice-based research and teaching focus on theories of practice and emerging modes of design practice in the built environment. Across academic and professional research I explore the implications of scalable systems of design for architectural agency. My practice primarily utilizes applied research and design speculation as modes of inquiry.

My work addresses the domain of architectural practice, an area of scholarship affiliated with the mechanics and ways by which design makes tangible real-world change, as well as the inverse imperatives that external and worldly change hold for internal disciplinary transformation. Through both analytic and speculative methods, my research explores the complex and practical intersection of cultural meaning, environmental change, and the rapid rise of general-purpose technologies such as artificial intelligence as convergent imperatives driving structural change within and beyond the domain of professional practice.¹

I have constructed my own practice as a spectrum of built projects, speculations, and ideas that operate freely across the territories of professional practice, speculative design research, exhibitions, and writing to test the theoretical and technical dimensions of scalable systems of design and systems-linked architecture as factors driving an inflection point within our core field of knowledge. In what follows, I provide an overview of the purpose of my work followed by a description of the ways in which it contributes to a refreshed imagination of architectural practice as a provocative and positive extension of the intellectual project of architecture through

1 Alongside our colleagues in other professions, the democratization of data and the rise of general-purpose technologies such as artificial intelligence calls into question the boundary conditions, ownership, and autonomy of professional knowledge and expertise. At the same time, the built environment is responsible for almost half of global carbon emissions. Architectural practice, as it is currently structured, is dependent upon a socio-economic paradigm of infinite growth in a finite world, making the very existence of our work product a looming ethical challenge in relation to the intersecting climate and human (housing) crises. My research asks: Can the techne, tools, and technologies that created our contemporary crises be leveraged to confront such crises by affiliating them with a new system of values and urban mechanics?

1) my creative practice, 2) my teaching, and 3) my service to the profession and academy. To contextualize my work, an end note entitled “A Perspective on the Field of Practice” describes the ways in which my sub-field of Professional Practice is changing.

Overview

My work examines contemporary architectural practice as not only the professional framework within which we design our built world but also as interaction with the socio-technical infrastructures – systems that are dependent upon a complex combination of social and technological systems – that frame, influence, and guide the design process.² As such, my practice, research, and teaching focus on the emergence and impact of these processes and the value systems that drive them, asking:

What is the nature and impact of the emerging socio-technical systems that shape and scale the disposition and capacity of architectural form apart from the disciplinary values of architecture?

In simpler terms, I explore the ways in which the nature of our practical craft is changing as it grows accountable to an expanding set of internal and external values, and its implications for architectural intelligence and agency. I argue that, if we want the technology and regulatory systems that shape

2 Socio-technical systems involve interaction between social systems (culture and institutions) and technical systems (data, infrastructure, and algorithms). In architectural practice numerous and expanding data-driven processes of regulation, collaboration, and design production are increasingly structuring the activities of architects across phases of design.

practice and urban form to be friends to culture, we need to take an active hand in shaping such processes and systems to reflect core cultural and design knowledge.

My contributions aim to advance our practical capacity to design in a way that is proactive and accountable to the human values of our discipline and the imagination of a better society rather than in a way that is reactive and reduced to external pressures in the push toward scale, profit, and automation. I am interested in the numerous and increasing ways that architectural practice is systematically acting within, upon, or against the overlapping social and technological systems that shape our built environment. My own work is thus focused on “systems-linked design,” which is an essential mode of practice at Supernormal, my design firm, and an emerging paradigm of study in the practice domain to bridge the field into the 21st century. Systems-linked design occupies itself with two essential lines of inquiry, the first of which is analytic, and the second of which is speculative:

What are the invisible values that drive the design of the built environment?

This area of analytic study uncovers the impact of practical regulating forces—such as building code, project financing, and the software we use to mediate and translate architectural ideas into instruction manuals for construction—on architectural form and impact. This work, conducted through the creation and deployment of novel forms of analysis, reveals

historically contingent path dependencies that strongly shape the disposition of architectural form apart from cultural imagination and the intellectual project of design. The purpose of such analysis is to re-see the processes that influence the shape of our built environment as a precursor to re-imagining them through a human value system that is relevant to the challenges of our time. In practice, I work with the public and private sector clients to uncover the urban mechanics that shape our world through the use of data, machine learning models, and innovative pre-design processes. For example, Supernormal collects and combines large sets of data to visualize and understand cultural dimensions of our urban places in new ways. We work closely with unlikely collaborators, such as mortgage writers at Fannie Mae, to reveal the ways in which financial instruments are shaping the form and nature of US housing. The objective of both is to better understand the way that world *actually* works so that we can amplify the impact of the design that will come on the other side of analysis.

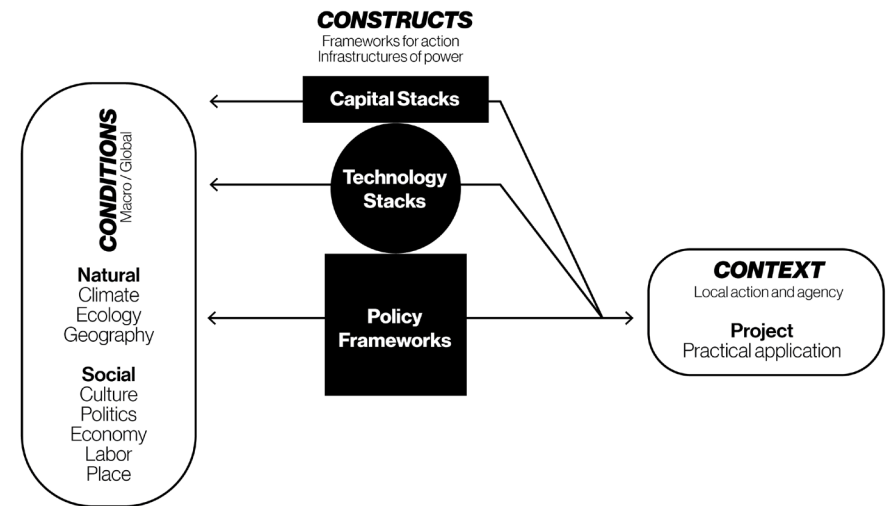
The construction of my coursework and reciprocal academic research, such as the seminar *Products of Practice* and the directly-related Issue 52 of the Harvard Design Magazine: *Instruments of Service*, are good examples of this analytic approach, which looks to history and theory to frame why, how, and with what disposition the nature of contemporary practice is shifting. The simple question behind the course and the publication it generated is: “What do architects actually

make, how is this changing, and why?” Such research questions drive my analytic inquiries and create a framework for my courses; they spring directly from my work in professional practice, in which I observe that the overlapping mechanics, techne, and formal outcomes of post-recession American architectural practice are more and more driven by the increasingly complex systems that govern and manage our built environment.

I argue that, for architecture practice to make culturally relevant, ethical, and widespread change, it must encounter and reposition itself in relation to the invisible values that drive the systems within which we practice. The second question thus asks:

What are the mechanics by which design practice can operate at the level of both formal project and systems change to achieve greater relevance and impact?

To make culturally significant and pragmatic change, design practice must be able to not only respond to calls from the systems that regulate it but also push back upon them to influence the increasingly codified constructs – such as capital, technology, and policy frameworks – that shape architectural production. The diagram below, which summarizes the content of my fall professional practice course, articulates the imperative for design to oscillate between the level of project and system, opening new modes of practice and corollary formal horizons. Such emerging perspectives on, and modes of operating within practice are essential for disciplinary



While our field aims to make change at the level of *conditions* such as climate change, practice operates at the level of local *context* on a project-by-project basis. In order to increase the impact and relevance of design practice, we must find ways to operate on the *constructs* of power that shape the disposition of 21st-century architecture and that mediate our capacity to make change at the level of systems and *conditions*. This requires a re-imagination of the structural potentials and mechanics of design practice. This diagram frames the content for my lecture course entitled “Elements of the Urban Stack: Activating Design Agency in a Complex World.”

maintenance, as well as the practical creation of a built environment that ethically confronts environmental and social crises while exploring what it means to be human, together.

This line of scholarly inquiry builds upon a rigorous diagnosis of our practical instrumentation and mechanics through the analysis described above, as well as the theorization of their structural potentials through new forms of design activity.³ As such, my practice actively explores the design of architecture

³ I understand instrumentation as the tools, techniques, and technical systems architects engage to develop and communicate design intent. I understand the mechanics of architectural practice as the structured processes and frameworks that guide project delivery as well as the structure of the entities that host and manage design projects (professional firms, non-professional corporations, or non-profit entities).

that embraces (and changes) rather than resists the regulating systems that shape it. In so doing, the project of architecture is productively tied to the design of policy, finance, and technology, ultimately enabling new architectural potentials. My research across territories of practice asks hard questions about the changing nature of our intellectual and practical project through a radically pragmatic acceptance of scalable systems of design and systems-linked architecture.

To be clear, I am not suggesting that we cozy up to market driven urbanism, relinquish our territory to form-based code, or attempt to tear it all down in frustration. I also reject the impulse to hide from the increasing complexity of our built world through pursuit of design for the 1%. Instead, I am exploring emergent ways in which core architectural intelligence can work within and upon the media, data, and systems of our real world. With Supernormal, I design architecture and corollary socio-technical systems that explore the essential DNA of built form as inextricably linked to systems and scalability. I believe this is an ethical imperative for practice and a precursor to authentic and culturally relevant 21st century design, leading to deep rather than shallow change in our field.

Creative Practice as Research as Practice

Having entered professional practice during the 2009 economic recession, my practice-based research agenda is heavily shaped by my experiences with the power of the post-recession market dynamics as they overlap with the

inescapable and mounting pressure to systematize and scale design capacity using big data and, later, machine learning models. Working between professional practice within Supernormal and design speculation in the academic context, my research oscillates between these domains and evolves in relationship to the challenges I encounter in the real world. I view the construction of scalable systems of design – from buildings as digital-physical hybrids to policy-linked design – as a pragmatic imperative for the field. As such, I explore ways in which the socio-technical dimensions of practice can evolve to make the things that we scale ethical, positive, and culturally meaningful.

My research is housed in two entities: 1) Supernormal (<https://www.supernormal.io/>), a design firm that I founded to explore scalable and sensitive methods for engaged design practice and to put built projects into the world, and 2) a research group formed from my work in the Laboratory for Design Technologies called the ViBE Lab (the Laboratory for Values in the Built Environment: <https://research.gsd.harvard.edu/vibelab/>).⁴

I formed Supernormal as a direct response to my experience of diminishing design agency in post-recession architecture practice. Supernormal explores the potential of systems-linked design through built projects, speculative

⁴ The ViBE Lab, a research group formed in collaboration with urban planning professor Carole Voulgaris, seeks to create knowledge that enables practitioners in the built environment professions to design our urbanizing world by defining and building upon cultural and ethical values that are consistent with the creation of meaningful and sustainable 21st-century communities. Our purposefully transdisciplinary work joins quantitative and qualitative approaches to better understand and imagine the future of our built world.

design, and the design and deployment of socio-technical processes at the architectural and urban scales. I formed the ViBE Lab to explore research questions that are too emergent or represent values that may not have clear alignments with client-based fee structures, project timelines, or scopes of work.⁵ This area of work is laser focused on generalizable knowledge whereas Supernormal purposefully oscillates between the specific and the generic in its design production. They operate as two sides of a single coin. Both areas of my practice ask how and where the mechanics and instrumentation of design practice must shift to encounter the intersecting complexities of technological change and environmental and social crises; both territories purposefully engage the fraught line between core disciplinary values and the externalities that shape design from the outside in.

My award-winning built projects explore novel scopes of work and hybrid models of project delivery that pragmatically test isolated elements of systems-linked design to expand design agency. I have experimented with a design-build model in which Supernormal acted as both architect and general contractor across four adaptive re-use projects since 2019; built software for cities to reconstruct the values driving the nature of urban form (supported, in part, by the award of a NSF grant); through a Bloomberg Philanthropies grant,

5 For example, a city may hire Supernormal to innovate on housing design and policy to better confront the local housing crisis, and a business may hire us to design and fast-track an adaptive reuse project. However, there is not a clear source of project-based capital for us to explore the complex impact of over-regulation and private market financing on the nature and disposition of American housing, nor the rich potential of artificial intelligence as a catalyst for bottom-up development and its corollary emergent modes of design practice.

generated a critical perspective on public sector “smart city” design and a values-sensitive framework for data integrated urban design (published as a novel approach to design in the International Journal of Human-Computer Interaction in 2021); designed low-energy workforce housing as hybrid architectural form and a replicable system for bottom-up development. An in-progress design for rural workforce housing constructs an alternative to environmentally and economically destructive status quo housing sprawl by enabling otherwise impossible (and deeply needed) housing types through the creation of a new ownership model and careful operation on outdated state-level ground water regulation.

Like the emerging domain of design practice that is my area of study, my own work is purposefully collaborative and collective. I actively design processes and projects with both machines and humans to understand and speculate upon our capacity to imagine the built environment. Recent collaborations with artificial intelligence include interactive exhibition installations, such as the 2021 project selected as part of the MAXXI Museum of XXI Century Arts in Rome. The Re: Humanism exhibition balances a speculative and reflective process for the co-design of local housing typologies between human and machine intelligence to provoke discourse on the nature of authorship and practice futures in an era of artificial intelligence. A speculative installation on the future of “home” in a time of increasingly entangled relationships between humans, artificial intelligence, and biological actors

explores ways in which what it means to design shifts from the imagination of artifacts to collaborative processes. An in-progress book project with a colleague explores the ways in which emergent practice-based knowledge structures impact disciplinary evolution and the nature of design agency in the 21st century. A research partnership with the City of Boston studies and innovates upon the interlinked policy, finance, and technology-linked ecosystem driving small-scale low-energy housing infill design and construction in the US, thereby repositioning the role and influence of the designer in practice. Such projects balance global cultural speculation with tangible local impact by securing national and international visibility and numerous supporting grants. Related lectures and publications, such as a 2022 conference publication on how housing digitalization may change the ways the built environment is designed and built, bridge my applied research into scholarly discourse and coursework content.

I am regularly invited to lecture on both the work of Supernormal and my academic research involving emerging modes and mechanics of practice. I have given dozens of public lectures in the local, national, and international context on my practice-based research during my appointment. Such opportunities have enabled my work to grow in impact over the past five years, and the discussion in corollary discourse has enriched my inquiries substantially.

Teaching

Since 2019, my teaching has balanced studio-based design instruction with upper-level lecture and seminar courses focused on the changing nature of design practice in the built environment. My applied and speculative research generates the questions that my teaching is set up to answer, which reciprocally informs my research. The activities are inextricably linked as complementary modes of discourse. For example, my research seminar entitled *Products of Practice: A Critical History and Uncertain Present* enables students to learn about practical and theoretical transformations within architectural instrumentation – such as the evolving nature of digital models and the growing complexity of specifications – through the pedagogical methods of lecture, debate, engagement with practitioners, and independent contributions to a collective student research framework that assembles the “exquisite corpse” of architectural practice through the lens of its *instruments of service*, or the things that architects actually make in everyday practice.⁶ The accumulation of knowledge through course research and discussion directly framed the 2024 Harvard Magazine Issue *Instruments of Service*, which I co-edited and to which I contributed numerous pieces of writing and original visual research.⁷

While *Products of Practice* takes aim at instrumentation and impact, my fall lecture course entitled *Elements of the Urban Stack: Activating Design Agency in a Complex World* addresses the mechanics of practice in the context of designing

6 Products of Practice research website: <https://products-of-practice.webflow.io/>

7 Harvard Design Magazine Issue 52: <https://issuu.com/gsdharvard/docs/hdm52>

architecture in complex urban environments. The course begins with a series of lectures and an analytic research exercise entitled “Informal Analysis” that enables students to understand how forces such as code, finance, and technology influence the form and disposition of urban architecture. It ends with a speculative exercise designed to provide students with the opportunity to imagine a design practice or practical design mechanism that operates upon the regulating infrastructure they have researched, ultimately imagining a mode of practice that operates at the levels of both project and system. This knowledge of urban mechanics prepares students for the realities of practice with approaches to understand and act with greater design agency. The course is constructed as a direct response to the post-recession conditions that I experience and explore within design practice at Supernormal.

My studio-based teaching includes an advanced architecture option studio entitled *Urban Glitch: Systems-linked Architecture in a Contingent World*.⁸ I designed this advanced Spring 2024 GSD options studio to research the pressing issue of systems-linked architecture as urban form in relation to the complex and intertwined ecological, social, and technological imperatives of our time. The work of the studio, based upon the program of a transit hub, explored the formal disposition of a 21st-century systems-linked architecture, asking how and when design must act in the face of cultural complexity and climate crisis. The studio began with a counterfactual “game” to empower students with an

8 Studio publication: https://issuu.com/gsdharvard/docs/urban_glitch_systems-linked_architecture_in_a_con

understanding of the circumstances that led to our current condition of carbon-dependent mobility while simultaneously imagining an alternative urban condition if just one historical event had taken a different course. This exercise served as a radically pragmatic grounding mechanism to both situate design as a consequence of real-world contingencies and catalyze architectural imagination as neither the construction of wild utopias nor the acceptance of the existing status quo.

I am also involved in teaching and coordinating within the Master of Design Engineering (MDE) program. I took on the role of studio instructor and co-coordinator for two reasons: 1) my own practice joins together disciplinarily seated design knowledge in architecture with the emergence of machine learning; it joins discreet explorations of form and artifact with systems-level influence, and 2) I believe that the methods, approaches, and theory of the nascent and yet-to-be defined knowledge area of design engineering hold a clear imperative for future agency in the design of the built environment. As a co-coordinator of the first semester MDE studio during over half of its first decade of existence as a degree, I have innovated on design curriculum and pedagogy to bridge a critical and values-sensitive approach to the design of scalable systems with relevant history and theory.

MDE is a joint program between the GSD and the School of Engineering and Applied Sciences. It is the fastest-growing degree at the GSD due to the great demand for critically

informed and technologically integrated design in 21st-century practice. Studio pedagogy rests upon project-based critiques alongside collaborative workshops, a series of guest discussions entitled “Debating Design” on technical, ethical, and cultural flash points within the field, and lectures that address technical skills as well as design history and theory. This hybrid mode of teaching is essential to promote learning through the acquisition of disciplinary skills, technical capacity, and reflective methods of practice. Oscillation between these pedagogical approaches and areas of content ensures that student projects, which are invariably technological, collaborative, and scalable in nature, are based on clear and relevant systems of human value.

Due to the emergent nature of my curricular content, pedagogical innovation – such as the “exquisite corpse” research framework to research architectural instrumentation, the “Debating Design” studio series, and the counterfactual design methodology – is essential. GSD students find novel modes of knowledge acquisition engaging and meaningful and have signaled their appreciation by awarding me the Student Forum Recognition Award for Outstanding Achievement to honor my teaching performance. I believe the course outcomes featured in the following pages speak to the success of these ongoing experiments and their valuable contribution to the success of the programs they serve. As in practice, I am omnivorous in my exploration of approaches

that best fit the content and rigorously deepen the level of discussion and collective academic inquiry.

In addition to my own courses, I am regularly invited to lecture in courses taught by my colleagues in both my own department and in other departments and schools, both within and beyond the US context. Such contributions include lectures within the core GSD studio curriculum as well as specialized seminars, where I present analytic and speculative research on the changing nature of design practice as a socio-technical construct and its implications for disciplinary activities and impact.

Service

My active service and leadership contribute to discourse, community, and culture in both the academy and professional practice, demonstrating my deep commitment to both areas of activity. Within the context of the GSD, I regularly serve on admissions committees for the degrees of MArch I (2018-2019), the MDE (2020-2023), and the MArch II (2024-2025), as well as the Takenaka Internship Selection Committee (2020), the Center for Green Buildings and Cities Grant Committee (2024), the KPF Traveling Fellowship (2025), and the LDT Experimental Fellowship Committee (2025). I have supported the 2025 appointment of a Loeb Fellowship Curator and the ongoing appointment process for an Architecture Technology professor by meeting with and vetting candidates for both positions.

I currently serve as the Chair of the GSD Practice Forum, a group of faculty members across disciplines of the built environment who focus on emerging issues in the practice domain. In this role, which I have held since the fall of 2024, I frame key points of discourse through the organization of public events and the assembly of faculty and students to engage issues of overlapping disciplinary and professional relevance. I have served as a member of the Practice Forum since 2019, collaborating with affiliated faculty to organize and host public dialogue on labor and architecture and to assemble a cross-disciplinary group of practice classes to discuss the topic of “Practice in Uncertain Times” during the COVID pandemic. As Chair of the Practice Forum, I am also responsible for vetting and approving distributional electives within the architecture department practice domain, deciding what is essential to teach within the knowledge area, and acting as a leader in shaping the practice domain definition and scholarly territory within the architecture department.

My wider service to the academic community includes serving as a peer reviewer for papers submitted to the ASCA (2019, 2025) and Design Research Society (2024) conference proceedings, as well as manuscripts in *The Design Journal* (2025). I regularly serve on reviews for design studios beyond the GSD in institutions such as MIT, Penn, and Singapore University of Technology and Design (SUTD).

My service to our professional community since my appointment began includes leadership at local, national, and international levels. Within our region, I served on the Boston Society of Architects Honors and Awards committee (2021-2024) and frequently serve within both the Boston and New York AIA chapters in roles such as speaker and moderator at events and salons on topics relevant to technology and practice, publications editorial board member (Architecture Boston), and event committee member (BSA Practice-based Research Conference). In 2023 I cycled off the Rotch Traveling Scholarship committee, a 5-year service commitment to award promising young architects an opportunity for year-long travel and mentoring them through their research. Nationally, I sit on awards and design competition juries such as the 2024 AIA Tennessee Design Awards and the 2025 National Single Stair Architectural Design Competition, which positions architects as advocates for structural change through the transformation of building codes. I also sit on advisory boards that address the role of emerging technologies in design, such as the Washington, D.C.-based Rethink AI’s Civic AI Advisory Trust and the recently formed advisory board for the Biodesigners International Association, created by the Museum of 21st Century Design in Amsterdam and the School of Design at the Central Academy of Fine Arts, the No. 1 ranked school of fine arts in China.

Conclusion

As my area of study rapidly evolves into an imperative for the core of contemporary design practice, my own work takes on greater urgency. I am grateful to be contributing to disciplinary discourse and practical change in this remarkable moment in history for our field. I am deeply devoted to both the intellectual and practical challenges of our time, which I endeavor to bridge in the creation of relevant form, innovative methods for practice-based impact, and meaningful change in our built world.

End Note: A Perspective on the Field of Practice

The domain of architectural practice holds applied knowledge affiliated with design of the built environment as it is practiced within the regulatory infrastructures of our socio-political world. This body of thought aims to understand how the changing norms, standards, processes, and requirements that define design practice impact the meaningful imagination and construction of our built world in response to the imperatives of our time. It addresses professional ethics, regulatory environments, business processes and models, history and theory of design practice, and emerging modes of producing contemporary design agency. The disciplinary territory of architectural practice as a pursuit distinct from (but related to) design studio pedagogy and technical knowledge is relatively new.

The field emerged in the middle of the 20th century in response to the codification of the profession in the prior decades and the increased complexity of designing and delivering a built environment driven by industrial manufacturing. This area of study has primarily addressed “professional practice,” an area of practical knowledge bounded by the frameworks of professionalization borne out of the European and American context of industrialization.⁹

9 19th-century industrialization and urbanization catalyzed regulation of the built environment to ensure the safety, health, and welfare of the public in the US context. The profession emerged with it to meet the changing needs of society and the increasing complexity of creating the built environment in the face of technological and regulatory change. The academic discipline of professional practice took shape several decades later when degree-granting institutions and the profession became inextricably linked through requirements surrounding the acquisition of an academic degree as a requirement for professional licensure in the middle of the 20th century.

The field has traditionally educated students in essential elements of professional practice such as ethics, contracts, liability, and the business of architecture. Some scholars, such as Dana Cuff and Keller Easterling, have taken a wider view of the field by examining the social and structural frameworks of architectural practice as an anthropological, historical, or theoretical activity. Areas of recent topical concern within the field include the impact of rapid technological change on practice, labor and ethics, and environmental crisis and policy. Such topics are generally addressed from the perspective of risk and opportunity in the context of traditional firm-based professional practice. They are less commonly considered in terms of structural shifts within the practice domain within and beyond the profession.

My own work aims to understand and make visible the often-hidden factors shaping post-recession design practice, namely the ways in which design is changing in relation to the increasingly complex systems that govern and manage our built environment. My research also speculates upon the structural potentials of future practice by balancing the perspectives of history, theory, and applied research. The goal of my contributions is to clearly synthesize and articulate the significant factors driving change in the field and, building upon this, to theorize pragmatic transformation in both the mechanics and structure of design practice such that it can better encounter the substantial technological and ethical imperatives of our time.