ABSTRACT BOOK

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THURSDAY

Architecture's Complexity Complex

CONTRADICTING COMPLEXITY: GENERATIVE SYSTEMS AND THE INSURGENT MISFIT

Max Kuo, Harvard University

Twenty years ago the publication Folding in Architecture forged the alliance between complexity, topological forms, and digital computation in architecture. In the intervening years, a tremendous diversity of form-finding methods emerge, including the algorithmic, generative, parametric, and morphogenetic, all prioritizing digital complexity's self-referential and self-generating processes. In its most solipsistic mode, this indexicality signals the withdrawal from signification and socio-political concerns, resulting in innovation for innovation's sake.

Robert Venturi's gentle manifesto, Complexity and Contradiction, is among the first to introduce complexity science into the architectural discipline, seeking to destabilize modernist functionalism. Its subsequent influence over Post-Modernism and Decontructivism resulted in the abandonment of theories of contradiction in favor of digital complexity's new techniques of smooth folding. This paper argues that reclaiming an agenda of contradiction within digital complexity's self-generative paradigms offers a path out of its increasingly closed-loop autonomy. By cultivating contradiction within parametric systems and their non-standard parts, these newly embedded misfits offer new possibilities of signification and performance necessary to the open-ended and multi-lateral systems which exist between architecture and the urban milieu.

AN INTERIOR COMPLEX

Kristy Balliet, The Ohio State University

Roles of complexity in architecture are rapidly shifting beyond emergent, elegant and intricate objects to complex relationships of parts. The implications expand the architectural vocabulary to include a new band of connections to manage and address volumetric, social, programmatic and environmental issues. For much of the last two decades, complexity has been spent on generative surfaces, flush with continuity and resolution. A shift to generative volume offers productive interiors the opportunity to actively participate in ousting the strict duality that has developed between outside and inside. This paper will argue for the role of interior volume in relationship to exterior complexity.

CREATURE COMFORTS: TOWARD A DUCKERATED SHED

Julia Sedlock, New Jersey Institute of Technology

Robert Venturi points out that Architecture is complex enough on its own terms. The premise of this paper is that Architecture's terms include its capacity to reorganize and distill the existing material of the world into surprising, yet legible alternate realities that generate and support new subjectivities and collective spaces. This is a complex and ambitious agenda in itself, and requires certain clarity of representation to manifest.

At present there is a movement of architects enthusiastically engaged with architecture's task of world making. Among this cohort, the focus of the work is varied in scope and medium – from the intimacy of installation to the expanse of the urban, including everything from books and drawings to buildings and infrastructures – yet what binds this work together is its belief in the speculative potential of architecture to create new ways to live in the world, as well as its use of low-resolution, figural form and cartoon-like representation to communicate that potential in an optimistic and accessible way. The earlier quote by Alan Colquhoun helps make the point that this emphasis on figuration should not be interpreted as a disregard for complexity, but rather as a different way to package and deliver complexity in a way that is open to interpretation by a range of audiences. This paper focuses on a specific trend or subset among this work in which interest in figuration and profile manifests as explicitly zoomorphic form -- that is, forms that resemble creatures (or beasts or critters or monsters, depending on your tastes). Though unabashedly whimsical in appearance, these projects are motivated by a serious interest in architecture's interaction with the public realm, and use the figural forms of creatures in a literal and dead-pan manner in order to attack that interest head on. In the projects that we will look at, the complex geometries of actual creatures are abstracted to low resolution, often ambiguous shapes, some through the smooth curvatures generated by digital technology and others through the extrusion and Boolean operations of primitive or simplified geometries (straight lines and arcs; cubes and spheres). These operations produce objects that possess body parts such as heads, legs, necks, tails and eyes, and through the interaction of those parts endow the object with a specific disposition, which many would call a personality or character, and which implies a capacity for interaction.

Architecture's Experimental Turn: Models, Prototypes and Testbeds

PROTOMOMENT
Anca Trandafirescu, University of Michigan
Glenn Wilcox, University of Michigan

It has been stated that contemporary architectural production has been, due to access to new software and hardware, and digital fabrication equipment, opened to direct engagement with physical experimentation. This paper makes a claim that a rise in open-ended, physical experimentation is part of a larger, inter-disciplinary moment that can be characterized by the "prototype." In this essay, the term prototype is defined and its present disciplinary prominence is traced historically through three pioneering strands initiated in the twentieth century: the "manufacturing prototype," the "technical prototype", and the "material prototype." Lastly, this essay offers a recent project designed by the authors as a case study of how the historical strands influence situate contemporary architectural prototype ideation, design, and production.

SCREEN TESTING, TEST DRIVING
Jennifer W. Leung, Yale University

Andy Warhol's "screen test" and Avital Ronell's "test drive" insist on the role of applied research in producing subjectivities, inventing mixed-media and mixed-method practices, and exploring aesthetics and spaces of indeterminacy. While Warhol's "screen test" problematizes the expectation of photography as an objective form of documentation - forcing an alternative encounter with the technological apparatus, Ronell's "test drive" refers not to the scientific method and its criteria of evaluation (falsifiability and repeatability), but instead to the "test" that informs diverse types of social organizations; research systems as "future-generating machines" and "tracing games."

These and other applied research practices demonstrate rather than describe, staging an encounter between information and the physical world. A type of 1:1 activity that produces spectacle and attention by forming temporary communities, applied research distributes risk and sense. Further, applied research is a form of labor that seeks to delay or divert entry into the assumed structures of capital distribution and accumulation.

By comparison, while the popularization of terminology associated with "testing," "experiment," and "research" in architectural discourse signals an increasing valuation of the intermediary products between design intent and execution, the language is also symptomatic of a desire to enter into alternative situations of value creation – whether new markets, museological and laboratory settings, debates around consensus and ethics, or artistic counter-practice.

By extracting the "test" from a spectrum of practices from the artistic to the scientific, the mythological to the professional, the paper clarifies and describes a potential role for the architect as an arbitrageur, double agent, or hacker, and architecture's role in humanizing of technology and introducing philosophical issues into otherwise instrumental relationships. Applied architectural research emerges as relational rather than of fixed aim, obtaining to the drama and ubiquity of the "test" in both its sober and heart-stirring manifestations: from warfare to urban planning, from national security to licensure, from medical to reproductive technology.

The paper ultimately examines the way in which the architectural object and subject are conditioned by failure and illegality. Reference is made to our promiscuous negotiation of quantitative-qualitative information, organizational-statistical complexity, but also to the changing nature of media objects and environments – from Latour's mobile immutables to the digital media objects of the voxel and pixel, from the dark room to the laboratory, and from light and shadow to techniques of the electromagnetic spectrum.

Examples of contemporary work implicated in this definition of the "test" include Jenny Sabin, Kiel Moe, The Living, Phillipe Rahm, Eyal Weizman, and Storefront for Art and Architecture amongst others. As such, it becomes clear how applied research is a kind of self-test - a search for origins and limits, historicizing the professionalization of architecture in its current form as a liability based form of risk management.

THE EVOLUTION OF THE FULL-SCALE ARTIFACT IN ARCHITECTURAL ACADEMIA
William J. Carpenter, Jr., Southern Polytechnic State University
Freya Schlemmer, Southern Polytechnic State University

Under the influence of digital technologies and the virtual realm, the architectural model has radically mutated, not only in its appearance and method of fabrication but in its function. It's no longer just a scaled object to glance upon and imagine how the spaces might be at their true size. Instead, the full-scale artifact has regained an important place in academia and practice due to both technological advances and current events.
According to Michael Speaks in Design Intelligence, the field of architecture faces unprecedented challenges in a world increasingly dominated by globalization, technology and a knowledge-based economy. Thus, design should be about innovation and the creative process, not just the result of a single product. The aim is cheap, quick and adaptable prototypes, research and design performed by the act of doing. These goals for architecture on the whole incite new values and modes of thinking about design and the status of the fabricated model. It's no mere mode of representation but rather a physical reality to inhabit and a significant part of the process that interweaves the role of design and construction.

Beyond Relationism

ANONYMITY AND THE MAKING OF A NON-RELATIONAL ARCHITECTURE

Joshua Taron, University of Calgary

Architecture over the past century has broadly been framed as a discipline concerned with and accountable for the production of certainty, authorship, authority and autonomy. For much longer than that however, a parallel agenda has been developing in the shadows - precisely at or beyond the limits of human perception and orientation. By privileging the former and ignoring the latter, a crisis has manifest over the possibility of critical distance and the delineation of effective boundaries that architecture has historically claimed as its sovereign disciplinary territory. Ecological crisis and intesifying technological development occupy the forefront of contemporary discussion. However, beneath the knowable and sensible surfaces of architecture, the contours of a dark matter are taking shape where the new, the alien and the speculative operate. For the past several decades, the argument over distinguishing between an architecture for us and an architecture in itself has been waged in purely relational terms focusing on the limits of human understanding and perception; the for us camp typically emphasizing usefulness (utilitas) and criticality while the in itself camp preferring to stress beauty (venustas) and sensory aesthetics. To this day, each camp continues to accuse the other of their futility and inefficacy through an infinite number of permutations and evolving arguments. Alas neither camp is able to escape Quentin Meillassoux's correlationist circle, thus neither one is able to substantiate an architecture in itself whether they want to or not. This paper contributes a non-relational alternative by identifying a specific lineage of architectural thought and argumentation. Perhaps the most radical proposition lies in the rejection of aesthetics in speculative practice in favor of an anesthetic experimentation - arguing that architecture may have largely ignored or forgotten the very thing that makes an architecture in itself possible: anonymity. Anonymity is contextualized within a history of architectural theory while describing a goal of sorts for generating an architecture without relation.

FOUR ACTS: BETWEEN LEGIBILITY AND AMBIVALENCE

Clark Thenhaus, University of Michigan

During the last few decades two broad categories became increasingly apparent; a territorial practice and a digital project. This is marked on one hand by a territorial model of relations of socio-economic, environmental, and political forces aiming to integrate ecological systems, infrastructural networks, and social collectives staked against 'form hunters'. On the other hand, the digital project claimed technology's capacity to reinstate disciplinary expertise and customization as aesthetic, geometric data-managing, and ideological drivers. In the expanded field of relations, the terms and conditions of networking, and connectivity re-located a disciplinary project of form-making to consequences of political, infrastructural, or environmental forces. In the digital project, these same culturally pervasive terms, networks and connectivity, largely produced aesthetic demonstrations of connected complexities (honeycombs, Voronoi's, Delauny meshes) and a concentration on digital virtuosity, a sign of a time marked by intricacy, fields, and fineness. It seems appropriate to ask what are alternatives for a contemporary formalism as attention to objects, history, figure, coarseness, volume, and association supplant fields, invention, networks, elegance, surface, and sensation?

This paper engages new modes of architectural thought dedicated to form. The goal is to dove-tail post-digital formalism with emerging disciplinary and ideological shifts that go Beyond Relationism. Specifically, attention is called to distinctions between legible and ambivalent form in an effort to synthesize these terms aiming to "continue disciplinary formalism by fusing classical knowledge with emerging technologies." Through this, perhaps new forms of architecture will take the stage; ones that eschew the transference of net-based concepts to the aesthetics of form.

Beyond Relationism (continued)

HEADLESS BELLIES AND OTHER FORMS OF ARCHITECTURAL ALLUSION

Ellie Abrons, University of Michigan

For those focused on the frontier of architectural form making, there is immense pressure on matters of form. Much attention has recently shifted to the imperiled status of the architectural object and how it comes to be—and thus on the origins of architectural form itself. These pressures have led some architects to the conclusion that our obsession with context has caused us to neglect our disciplinary core: the architectural object. David Ruy, in particular, has articulated the way the preoccupation with external forces and relations has led to an emphasis on "architectural intelligence" over "architectural objects." Given that "architectural intelligence" is difficult to define and to argue for as worthwhile to outsiders, architectural authority and power have diminished. Drawing from Graham Harman's object-oriented philosophy, Ruy argues for an architecture that rejects relationism and turns to the architectural object, embracing its strange and withdrawn qualities.

Implicated in this critique is architecture's relationship to subjectivity and its investment in the people who will view and occupy our work. This results in a re-conception of the architect, as maker, and of the viewer, as receiver—for now all entities are considered objects and the knowing, enlightened subject disappears from the equation. Following this logic to its conclusion, it becomes apparent that in order to place renewed focus on architecture's agency as a physical object it should relinquish concern for contextuality and human experience.

This abandonment of the subject-object correlate is appealing to a set of designers who are unabashed in their obsession with architectural things. These designers are working to assert the power of an object to produce newness and as such, to reinvigorate architecture's broader influence. Importantly though, these designers do not completely discard the notion of the architectural subject; rather, they restructure the hierarchy between subjects and objects. Typically, architecture is contingent upon an assumption that ideas precede objects and therefore, that subjects come before objects. Inverting this relationship allows for a new conception of objects where they form us, they establish us, they constitute us. In this way objects are able to influence subjectivities—not simply the other way around. This conception of a thing empowered can be seen in recent work focused on the production of forms that are both familiar and elusive—conjuring babies, rocks, animals and the like. This work is the focus of this paper and what I call allusive form.

In essence, allusion refers to architectural quasi-forms that are evocative and provocative but unknowable and unnamable. They are evocative because they can be identified as being "almost" many things, but are none of them. They are provocative because they draw on elemental associations with the body, sexuality, and decay. They are unknowable in part because they are unnamable, but also because they do not reveal their origins. What follows is an illustrated account of allusion as a method of architectural form making that skirts the pitfalls of previous methods by placing emphasis on, and agency within, things themselves while simultaneously anticipating a viewing subject.

Disciplines and Territories: Disciplinary Centrism

(UN) BUILDING CODES: A STYLE IN RUINS
Michael S. Silver, University of Buffalo

This essay attempts to articulate fundamental flaws in the materialist conception of nature and the paradigms that underpin current theories in the field of artificial intelligence (Strong AI) and emerging architectural robotics. It also explores the limits of 'computationalism' as credible 'theory of everything' by proposing a new way of building masonry structures. The paper employs a para-critical approach to design that considers evolving trends and the 'scientistic' zeitgeist as targets for deconstruction. Here newness is engaged without privileging any single frame of reference. In essence para-critique allows architecture to hold technology 'at arms length' while keeping pace with contemporary developments in engineering at a time of 'accelerating change'. This strategy accommodates 'disciplinary specificity' and 'trans-disciplinary' engagement without artificially placing the two terms in opposition. What results is a dynamic fusion that produces meaningful insights while shedding new light on some old philosophical questions.

CLOUD ARCHITECTURE
Carla Leitao, Rensselaer Polytechnic Institute

In the past 3 years, I worked with students in upper years architecture and urban design studios, as well as thesis projects, upon the concept of Cloud Architecture.
These studios wanted to inquire upon a series of methodological inversions and subversions of the relationship between matter, material, program, space, information and energy in architecture design. The studios' goal was to look into the possibility of architecture design conceptualized from its microstructure, seriously playing along the way with several approaches of design that would roughly resemble bottom-up, and agent-based design, without necessarily imparting known methodologies of the fields of architecture and urban design with them usually associated - nor being bound to their objectives of research.

The Cloud studios had 3 themes:

The first studio - CLOUD Archive/Institution/Transvercity - looked at the design of Cloud Structures with the capacity to create or inspire novel forms of institution within or across other environments: of being both an archive/library and an education/promoter of protocols that would insure conservation, repetition of chosen themes, operators, programs, spaces, objects.

The second studio - CLOUD Disassembly - looked into Cloud Architectures that could disassemble other architectures as well as themselves. The context for this search was to look into the architecture and urbanism of large temporary (mainly sports) events - World Cup, Olympics, but also World Expo, among others -, and their promises and shortcomings economically and culturally to their host cities as well as in the larger context of global awareness on buildings environmental impact.

The third studio - CLOUD Reassembly - proposed an enquiry into the possible new structures of order that can be found or (re)created in scenarios of catastrophe or disaster, in the preparation, duration or aftermath of radical cross-sectioning events of destructive force.

Across the three Cloud Studios, there was a focus on the condition of transversality - the cloud studios were called transverse cities: a pervasiveness of repetition that would be like a 'fog-matter' capable of light-terraforming existing landscapes and suggesting possibilities for new hybridized ones.

One aspect of Cloud Architecture programs and responses is the way it reevaluates the starting body that triggers the tectonic of space design - and with it, of the information set that is specific enough to be generative of such tectonic. Rather than using existing typologies, there is a so-to-say 'suspension of gravity' towards known protocols and, a retooling of the development around the desired and proposed exchanges of information across select bodies.
Another aspect is its rhetoric of 'distributed architecture' and how this 'plays with fire' regarding the culture of the discipline and ideas of political ideology and organization. If architecture looses its massive front face and instead gains subtle and near invisible fingers this can quickly become bad news as far as privacy and transparency can be easily linked to produce modes of population control, and mediocre political and economic landscapes from a social and cultural perspective, such as the ones whose results we have been experiencing in the last decades.

COMPOSITION MATTERS
David Salomon, Ithaca College

The hypothesis of this essay is that as long as architectural practice and education are conceived of and deployed as either a problem solving technique or an autonomous art form, its academic and professional relevance will be limited. Rather, it must be treated as a specific form and technique for producing knowledge. Medicine, as a discipline, is not only the treatment of maladies, nor the abstract analysis of bodies. It is the systematic investigation into understanding the relationship between the two, with the goal of improving health and wellbeing. The same might be said of the relationship between buildings, aesthetics and social bodies in architecture.
Drawing on the work of Alan Colquhoun, Gilles Deleuze and Felix Guattari, and Bruno Latour, it will be argued that architecture can be reframed as a specific epistemology through the speculative yet surprisingly plausible combination of composition and research.

Composition and research: the former seems so outdated, formalist and subjective; the latter so contemporary, scientific and objective. What makes them compatible and complimentary is their longstanding and shared commitment to experimentation and invention. In other words, they are methods that search for questions that don't necessarily have specific answers and for problems that do not yet exist. They do not look for immediately useful solutions but instead search for insights and potentials to be found and made out of what currently exists. In architecture, composition addresses the disciplines internal operations regarding the manipulation of surfaces, shapes and spaces, while research solicits the external material, or noise, that this potentially closed system needs to make it a relevant social institution. While clearly distinct, they are never separate; each having to adjust and adapt its modes and methods to account for the others logics and effects.
It is the aim of this paper to outline how these concepts – composition and research – can be re-though and reinvented to generate architectural knowledge.

Disciplines and Territories: Disciplinary Centrism (continued)

DIRTY PRACTICES

Helene Furjan, University of Pennsylvania

Centrism is a charged term, at least in the United States, where the current political landscape typically has both sides of the aisle viewing the aisle itself as the ideal target zone for winning votes—moderates, Tea Party extremists and partisan posturing to the contrary, are best-placed to win major elections, especially the critical "swing votes" of independents. It conjures "on-the-fence" ideology, compromise as a world-view. Centrists refuse to stake a claim, or at least try to avoid having anything at stake. Rather than a middle ground approach as such, then, we might want to look to the reigning disciplinary theories of the 1990s, which took the dialectical thought of Siegfried Kracaeur and Martin Heidegger (as disctinct from that of Georg Wilhelm Friedrich Hegel), and used it to view polar opposites in a new light. Jacques Derrida, for instance, identified third terms that undermined the operation of binary oppositions. These terms were both-and, and neither-nor, at the same time. They were not so much middle grounds, but terms that oscillated between the two opposites—always partly both but never one alone—and in so doing, turned these oppositions into a gradient of differentiation.

Autonomy and its opposite, the dissolution of disciplinarity, are equally contentious ideas. Both have their champions and their detractors. But both have tended to be viewed in an either/or binary. Witness the statement made by Michael Hays in 2001:

"Over and against resistance and autonomy—or better, resistance through autonomy—recent design theories of various stripes have tended to affirm their cultural sponsors and accept a certain determination by cultural forces outside architecture (information and entertainment technologies, in particular), over which, it is assumed, architecture has no control, and about which it has no reason to fret."

But it is possible to have it both ways. Indeed, I would argue that most contemporary architectural practices today explicitly engage in both, as a nested operation. Neither autonomy, nor total dispersal into other fields or a generalized "design" world; but not a third way either: in fact, a closer look at the context within which things (including buildings) are made today reveals that both extremes are not only necessary, they are co-dependent, a partnership that is not the exception, but the norm.

The Articulate Object 1

COMPUTATIONAL REGIONALISM: RE-ARTICULATING MIDDLE EASTERN MATERIAL CULTURE

Faysal Tabbarah, American University of Sharjah

This paper outlines the potential of the production of contemporary material culture to help in the shaping of regional identity through a research framework defined as Computational Regionalism within the context of the Middle East. The paper describes Computational Regionalism's aims at developing a regionally specific architecture and material culture through integration with emerging computational design methodologies and digital fabrication techniques. The paper begins by describing a timeline of the production of material culture in the 20th century Middle East, situating it within a socio-cultural sphere that eventually led to the emergence of a new form of cultural Orientalism which in turn continues to diminish the production of relevant contemporary Middle Eastern material culture. This is followed by the outlining of strong and explicit parallels between Middle Eastern material culture and contemporary computational design methodologies that can create the tenets for a novel yet historically relevant Middle Eastern material culture. The paper gives examples of these endeavors through both, a research project as well as an educational and pedagogical framework at a college of architecture in the Middle East.

GLITTERING UGLY OBJECTS

Adam Fure, University of Michigan

In recent years, aesthetics has reentered architectural discourse under new guises and with renewed importance. Influenced by various factors—a disciplinary return to objects, a continual interest in affect, and novel theories of aesthetics—this new focus seeks to detach theories of form from recent tropes of architectural form-making in order to align formal aesthetics with politics. Crucial to this effort is an understanding of how objects (architectural forms as such) connect to larger social, political, and ontological structures. This paper posits a theoretical structure that connects objects and their qualities to "spheres" of identity, contemporary capitalism, and cultural patterns of behavior. Architecture informs these larger configurations through aesthetics; more specifically, the aesthetics of formal articulation, which enables architectural objects to solicit subjects into new forms of engagement. Engagement is political in the sense that it can alter the experiential and behavioral norms of particular cultures, which greatly impacts how individuals interact with the material and social worlds they inhabit.

The connections between objects, qualities, and social structures are constituted in "worlds," which are defined both spatially (how objects are distributed in physical space) and subjectively (how they affect subjectivity). We live not in a world but amongst many worlds. That is, worlds are not exhaustive, hermetic totalities, as in everything on the planet Earth; they are temporary and temporal connections between subjects and objects distributed in space and time. Worlds involve human subjects making aesthetic judgments about what kinds of objects belong together and what types of behavior those groupings invite. Worlds are not defined by proximity, but by aesthetics.

Furthermore, worlds are designed. Although architecture has a rich history of "world-design" in the form of utopian fantasies, it has scarcely engaged the type of world-making common in other domains, such as that of contemporary capitalism. Increasingly, corporations are directing resources away from manufacturing toward marketing, public relations, and design: a shift from the production of goods in the traditional sense to the production of the "worlds" in which those goods exist. These worlds consist of overlapping links between dispersed subjectivities, objects, and qualities that focus the attentions and passions of a group. If architecture is to engage the world-making forces of contemporary capitalism, whether with complicity or in resistance, it must understand design as a means of producing new worlds and altering existing ones.

Lastly, the power of objects in world-making stems not from their function, meaning, or any other abstraction, but from their look and feel; that is to say, from aesthetics. The aesthetics of objects have the power to alter the ethos of a group: the customs, beliefs, and learned behaviors that influence how individuals act and how they relate to society. Architecture's political power lies in its ability to increase an individual's sense of access to the physical world. Freedom, in this sense, is not freedom from—as in freedom from oppressive power structures—but freedom to—as in freedom to engage material culture, thus creating a direct link between objects, aesthetics, experience, and politics.

LITERALLY ANYTHING AT ALL: ORNAMENT IN THE AGE OF SEAPUNK

Wei-Han Vivian Lee, University of Toronto
James D. Macgillivray, University of Toronto

In its latest resurgence, architectural ornament has evolved from a responsibility towards symbolic significance to the ambition of sensual communication through affect. In some cases the visible aspect of affect is accomplished through the tectonic consequences of digitally fabricated assemblies, which though they are non linguistic are nonetheless exceedingly complex and dense. Art and media practices of the current moment as embodied in the seapunk subculture engage in far less complex strategies for decoration and ornament. Seapunk aesthetics rely on the expedient layering of readymade image and pattern without syntactic or semiotic relations but with new rationales for composition and arrangement capable of containing "literally anything at all".

The sea punk phenomenon was predicted by Nicolas Bourriaud's concept of altemoderism, an optimistic vision of human history as atemporal, non-linear, and simultaneously complex. At the same time the oscillation of attention and distraction that epitomizes internet culture has created an accelerated appetite and pressure for novelty which constantly requires new operative modes for decoration and visual expression.

By tracing through this logic, the following paper presents the potentials of this nascent "seapunk" ethos as a conceptual framework for architectural ornament. Methodologically, the authors have experimented, with students and in practice, to borrow techniques from surrealist automatism, optical art, and aqueous craft techniques. The results of these endeavors outline unique approaches to composition, craft, labor, and optical fascination in ornament.

Are We Still Learning From...?

ETHICS AND RHETORIC IN LEARNING-FROM

Christine Abbott, Washington University in St. Louis
Justin Scherma, Washington University in St. Louis

The practice of learning-from posits that there are alternative models already present in the world for official architectural culture to derive value from, a tendency we can track back at least as far as the CIAM-Alger group's decentering discovery of design worth advocating for in North Africa. Marot defines learning-from as a "site specific manifesto" wherein architects become "apologists for specific places…viewed as holding the keys to an alternative way of approaching urban design."

We also discern, however, a larger struggle inherent in the works of learning-from, one that departs from the straightforward consideration of alternative models, and is suggested by Marot's use of the word "apologist." For truly alternative architectures come with alternative models of ethics that have made their building processes possible – a lack of zoning and codes, of decorum, of tradition, of familiar judgments and programmatic imperatives. The learning-from text generally seeks to explain, justify, and transmit a cultural affective bonding that has already taken place in the designer, questioning and displacing an existing moral contract with architectural culture. That is, as these designers communicate the fitness of their chosen city, they must negotiate a moral disconnect – for official architectural culture has already dictated the moral necessities of practice and many of their accompanying forms.

To examine how such designers negotiate this divide, we turn to the discipline of rhetoric. Rhetoric's function is to secure agreement in contested spaces, spurring action and consideration by shifting the terms of debate. It operates variously by marshalling data, shifting connotation, or simply eliding inconvenient facts. Where dialectical reasoning cannot be depended on, particularly in the emotionally-charged dimension of ethics, rhetoric may help forge understanding

Here, we present learning-from projects as models of rhetorical negotiation with architecture culture's interwoven impulses toward continual formal revolution and normative ethical practice. We focus on three such books as examples of distinct versions of this problem: Learning from Las Vegas, which puts aside the moral imperative, Delirious New York, which discards the moral imperative, and Urban Diaries, which wrestles with the moral imperative. From there, we trace each tendency to recent projects, to discuss the evolving fortunes of these strategies in contemporary practice. This investigation reveals an emerging responsibility to public good in some recent learning-from work.

SECOND CITY: CHICAGO'S ACCESSORY URBANISM

Kyle Reynolds, University of Wisconsin-Milwaukee

There are two cities in Chicago, and one goes almost completely unnoticed. This second city is officially titled the Chicago Pedway System and consists of a network of tunnels and bridges that span over 5 miles and connect 40 blocks in the central Loop district. At first glance this second city appears quite similar to many other pedway systems that are found in cities across the world. However, on closer inspection it becomes apparent that this system offers an entirely new and informal interior urbanism that is unlike any other.

The anonymity of this system is its most defining feature. The majority of Chicago's citizens don't know this system exists, or if they do, they often don't realize when they're occupying its confines. This quality speaks to a type of interior urbanism that is diffuse, interconnected, and difficult to describe. Its unlike a street or plaza in that it is not immediately recognizable as a type. It often seems as though it exists as a space between two other well known types and because of this ambiguity it offers an ideal test case to tease out new potentials for interior urbanism.

The second city pedway system also benefits from its original meaning, in that during the reconstruction of the city after the 1871 fire, Chicago's Loop became a multi-layered urban context. The ground level is occupied by pedestrians while the services and infrastructure for the massive and densely packed towers are neatly hidden beneath the well manicured lobbies. This layering offered the ability to connect many disparate buildings and parts of the Loop through a myriad of quirky and haphazardly laid out paths, tunnels and bridges. The result is in an interior context that offers protection from the weather as well as a collision between many different types of spaces and programs.

The second city pedway system is the true ground of the city. It is the backdrop against which many of the city's most iconic towers meet the ground. The pedway system engages public and private space in the form of office, retail, transportation, government, recreation, and assembly space all while acting as a means of circulation. Its spaces are grand as well as miniscule, overly wrought and articulated as well as completely neglected. It connects but it is also disconnected. It is direct but its routes are often confusing. It is a microcosm of the city as a whole and because of this it offers the greatest potential to reinvent the experience of the city, yet it is rarely discussed.

It is the purpose of this paper to unpack the issues of interior urbanism that define this iconic American city through it's second city pedway system.

Are We Still Learning From...? (continued)

LEARNING FROM LAS VEGAS, IN PHNOM PENH

Shelby Elizabeth Doyle, Louisiana State University

Why begin a 2012 studio about Phnom Penh, Cambodia in 1972 Las Vegas, Nevada?

Learning from Las Vegas has not run its course as a radical research practice. Its techniques and representational strategies have been deeply absorbed into the North American discipline and its modalities commonplace within that discipline. However, conditions of architectural education are not global and the influence of the 20th century canon of architectural literature, including Learning from Las Vegas has not necessarily reached those places it might now best serve, in this case the rapidly urbanizing cities of Southeast Asia, specifically Phnom Penh, Cambodia.

"Learning from the existing landscape is a way of being revolutionary for an architect." (Venturi, Scott Brown and Izenour, Learning From Las Vegas, 1972) As the 'existing landscape' of Phnom Penh is perpetually unstable learning from that landscape is a dynamic process. During the last 150 years the city developed from a French master planned town into a piecemeal post-conflict rapidly urbanizing vernacular that is now being leveled and reconstructed through Haussmannesque plans driven by an influx of foreign investment capital and dictatorial governance.

Projecting Phnom Penh: Ta Khmau Strip Studio was a Fall 2012 architecture and urban design studio taught at Limkowking University in Cambodia. It explored projecting the conceptual future and physical extension of Phnom Penh onto the strip of land and highway between the wetlands and river connecting Phnom Penh to Ta Khmau: currently home to garment factories, K-TVs (brothels), and dense informal housing. The studio took as its starting point the mapping strategies and attitudes of Learning from Las Vegas. Teaching a complex, theoretical, and academic text not available in Khmer and to an audience denied a basic education in architectural theory was nearly a failure. However, the class recovered and read the entire English text of Learning from Las Vegas aloud and together, stopping frequently to deconstruct a word or sentence, searching for its most elemental meeting.

The course took place during a yearlong Fulbright Grant for which the resulting research and design projects served as a means to explore the nature and agency of design in relation to these topics, with a focus on education and public outreach as tools for engaging with Phnom Penh's urban transformation under the governance of an authoritarian regime.

THE SECOND CITY: NOTES ON CHICAGO'S FUNNY URBANISM

John Doyle McMorrough, University of Michigan
Julia McMorrough, University of Michigan

The old line is that, "there are a million stories in the naked city." This is one of those stories. Actually, it's several of those stories. More specifically, it is number of stories about the creation of even more stories. Lost yet? The story is of Chicago and how it provided the ground for the development of a style of improvisational comedy. It is the story of "The Second City" comedy troupe, who they are, what they did, how the did it, and why it could only have happened in Chicago. In this sense Chicago is not only a setting, but also a seedbed; the fertile ground for a creative explosion. This is an urban study as cultural history, and also as performance.

Beyond the Fringe: Reconsidering Architectural Citizenship

CONTINGENT URBANISM: AGENCY IN (RE)MAKING CONTEMPORARY PLACES

B.D. Wortham-Galvin, Portland State University

The July 2013 edition of Architect magazine featured an article entitled "Newest Urbanism." In their word play on what design praxis might succeed the popular late twentieth century New Urbanism movement in the United States, Architect introduced to the uninitiated the concept of tactical urbanism. Their narrative rooted tactical urbanism's contemporary origins in 2005 in the transformation of a parking space into a small park in San Francisco by the firm Rebar. Defining tactical urbanism as "temporary, cheap, and usually grassroots interventions—including so-called guerrilla gardens, pop-up parks, food carts, and 'open streets' projects—that are designed to improve city life on a block-by-block, street-by-street basis," the article claims that it took this approach to shaping the city less than a decade to mainstream into the practices of U.S. cities and firms alike.

While Architect used the term tactical urbanism, to characterize this effort (borrowing it from the Street Plans Collaborative and their guidebook Tactical Urbanism 2: Short-Term Action, Long Term Change), other terms abound: participatory urbanism, open-source urbanism, pop-up urbanism, minor urbanism, guerrilla urbanism, insurgent public space, city repair, or DIY urbanism. The elision between these terms and their definitions does contain overlap, but they are not exact synonyms. This essay will use the term contingent urbanism to discuss how ordinary people are engaged in making place and how designers and planners might learn from it. This discussion of contingent urbanism will define the term and its current manifestation, and raise questions about contingent urbanism role in the making of place in the twenty-first century.

THE HUMANITARIAN ARCHITECT: NOTES ON ETHICAL ENGAGEMENT

Suzanne Harris-Brandts, University of Waterloo

Throughout the last decade increasing attention in the architectural field has been given to attempts at acquiring a new form of socio-political agency. Building upon movements from the 1960's, this contemporary resurgence has manifested as a reaction to economic and environmental instability and as such has emphasized how designers might elevate themselves to a place of greater engagement in situations of humanitarian crisis. This attention, however, has not been equally matched by a desire to understand the primary ethical implications of foreign intervention and has generally failed to address the invariable complications intrinsic to becoming involved. In order to confront such ethical shortcomings, an investigation is made into relevant ethical frameworks further developed in anthropology, philosophy, and law, drawing upon the work of various interdisciplinary academics along the way. The overarching purpose of this paper, therefore, is to illuminate the rela¬tions between spatial agency during times of humanitarian crises and responsible ethical practices of foreign designers engaging in such territory. If, we take as a given the premise that humanitarian and activist practices are pivotal to architecture's self-definition, how might we then shift the discussion over to a more ethical notion of such agency? How might we effectively locate humanitarian efforts within the professional development of architecture?

'DEVELOPMENT ISSUES': TRAVELING THEORIES, APARTHEID CRITICISM AND THE 'SOCIAL TURN' IN ARCHITECTURAL EDUCATION

Sharone Tomer, University of California, Berkeley

This paper is concerned with architectural pedagogical practices as a site of training architects to act as conscientious citizens. In the paper, I examine how a school of architecture goes about shaping its pedagogical practices to produced meaningful engagement with its social context. I use the example of a course taught at the University of Cape Town in the early 1980s as a means of uncovering how architects, during some of the darkest days of apartheid, framed the context within which they practiced, and the possibility for a critical architectural engagement with the problems of the day. I uncover that the course, called 'Development Issues', was a product of transnational circulations of architects, theories and practices. By examining the meaning of these circulations and influences, I argue that although the course itself was short-lived, it stands for an important moment in architectural consciousness and the practice of destabilizing the boundaries of architectural education.

Coded Environments: Expanding the Agency of Big Data

DIGITAL MATATUS: USING MOBILE TECHNOLOGY TO VISUALIZE INFORMALITY

Sarah Williams, Massachusetts Institute of Technology
Jacqueline Klopp, Columbia University
Daniel Orwa, University of Nairobi
Peter Waiganjo, University of Nairobi
Adam White, GROUPSHOT

This unprecedented growth of data has generated excitement for using it to reshape the way we live. However big data in its raw form cannot perform on its own; it is how data is collected, transformed, and operationalized that can change the way we see the world. Digital Matatus set out to determine if the geo-locative tracking mechanisms of mobile technology could be leveraged to collect and visualize information on informal systems, so that it could be used to develop plans for an essential infrastructure. The approach was applied to Nairobi, Kenya, a growing technology hub with ubiquitous use of cellphones. Since the first data release in September, 2013 two mobile routing applications, MA3ROUTE and SONAR, have been developed using the data. A paper map of the system was also released in January 2014, which helped to achieve government support of the project because it allowed Nairobi's residents and the government to visualize, for the first time, the comprehensive system that serves their city. Ultimately collecting data and putting it in the hands of the citizens helped change the dynamics of transport decisions in Nairobi. The implications of this project will go beyond Kenya as many developing cities have these types of semi-formal bus systems. Digital Matatus sets an example for how using mobile technologies can allow anyone to record information where formal institutions are not, and through the process understand an interpret data on a personal level, and ultimately generate a dialog about the development of an essential infrastructure.

PURGE, PARSE, PATCH: DESIGNING IN A POINT CLOUD

Sara Lum, South Dakota State University

The digital shift from formal experimentation to big data workflows could prove to be more transformative to the production of architecture than aesthetic explorations of the recent past. Information-based technologies such as GIS systems, building information modeling, and remote sensing technologies have transformed the production of practice, but have even more significantly altered modes of practice; the emerging landscape is organized according to infrastructure requiring new sets of design tools and skills. When communicating a project using these information-based tools the question is no longer how much data is enough, but how much data is too much? Design becomes in part a process of purging, parsing and patching relevant information together. This is particularly true for 3D laser scanning, or Lidar. The result of a 3D scan is a measurable three-dimensional digital point cloud model ranging from thousands to millions of points. As adopters of such tools architects are challenged to innovate methods and approaches for how technological developments are utilized and ultimately affect the design and construction of architecture. To date, there is limited precedence of experimentation with large-scale 3D scanning in architecture; most innovative approaches have taken place in peripheral fields and in other parts of the world, particularly in South American and Europe. In addition, while it has been clear for some time that the design processes of the next generation of architects will be driven by a set of constraints related to big data, it is still unclear how the necessary skills will be taught within an academic setting.

This paper frames the use of 3D laser scanning within the broader context of the discipline and describes an approach to academic research and teaching experimenting with the use of large-scale high definition scanning as a design tool. Innovative research utilizing 3D laser scanning is presented in the project Narratives of the Bakken: The Land and Its People. The project is in progress and utilizes a multi-disciplinary research method to study place and the politics of space in the Bakken oilfields of the Williston Basin in western North Dakota. A building shop course titled Surveying, Mapping and Scanning is also described in the paper, and presents a hands-on, research based teaching approach incorporating large-scale 3D scanning into academia. To understand and be critical of the relationship between design tools and the built environment is valuable to students entering a profession with endless toolsets available; having the critical thinking skills to creatively implement new design tools in the profession is more important than mastering any one particular technology.

Building information modeling and its associated inputs, including 3D laser scan data, problematize representation. In contrast to formally focused digital design processes, a process of purging, parsing and patching information to be communicated is required. This paper presents a platform framing the use of 3D scanning within architecture as a design tool, suggests challenges and possibilities for innovation, and offers potential processes for a future of researching, designing and teaching within point clouds.

FORECASTING NETS

John Knuteson, Virginia Tech
Paola Zellner-Bassett, Virginia Tech
Thomas Martin, Virginia Tech

The growing use and integration of media in architecture has generated a conversation about the role of media technologies in the manifestation of space, and their influences beyond those of the individual spectator. The paper emphasizes the preeminence of space and spatial perception in an architecture in which technology and media have become inevitably entangled. This entanglement is not seen as a disadvantage, but in fact as an opportunity to broaden the definition of space and augment the experience of the built environment. The paper focuses primarily on the project Nets, an interactive media installation that responds to climate data, and intends to encourage spatial consciousness by employing a contextual, rather than human-centric, approach. The work searches for means to engage the idea of interaction, not as an end but as a medium for spatial experience, and strengthen the role of the medium by using it as a perceptual bridge between the participant and his or her environment. The extension of the medium into larger scales promises to broaden the reach of media architecture.

Coded Environments: Expanding the Agency of Big Data (continued)

THE ELUSIVENESS OF DATA-DRIVEN URBANISM

Anthony P. Vanky, Massachusetts Institute of Technology

New technologies are allowing new ways to "sense" the city, and this 'big data' approach has been touted as having the power to change the process by which urban space is designed, developed and evaluated. Yet, the use of data-driven processes in city making remains fragmented, despite the hype of the smart cities movement. The influences at play in the formation in cities are complex, with a multiplicity of forces to consider, and just as many aims and demands from its citizens. This paper argues that that the vision of a data-driven urbanism in not an idea unique to the present day, but an elusive dream of each generation of designer and practitioner as each seeks translate a newly found abundance of data, to inform and augment the process of city design and development. Further, this paper discusses the limitations are present in these methodologies for the design and planning of cities.

The Articulate Object 2

AESTHETIC TECHNOLOGIES

David Salomon, Ithaca College

Ornament, style and symmetry have often been dismissed for being superficial, oversimplified and obsolete. At best they are indicators of "deeper" causes or meanings. At worst, they are harmful distractions preventing one from seeing what is "really" going on socially, scientifically, economically and politically.

But the metaphors of shallow and depth, of thin veils and thick bodies, misses the point and power of things. Their logic runs in the opposite direction. Social, economic and political phenomenon can be and are generated and organized via the creation and manipulation of sensibilities. For example, the desire for a quiet, pastoral, non-urban landscape – a trope present since antiquity – is as much of a cause for suburbia as any economic policy. Likewise, symmetry is not an inflexible motif to be copied, but a robust set of aesthetic operations use to create and understand complex physical and artistic artifacts.

This paper seeks to reverse the hierarchy and sequence between ideas and things, between asymmetry and symmetry, between form and ornament. It asks: What is to be gained – formally and politically – when on starts with aesthetics? Specifically, what happens when you start with symmetry? Answering these questions requires first making clear what is meant by aesthetics today. This will be done by mobilizing Marshall McLuhan's active notion of media and Jacque Ranciere's re-conceived idea of aesthetics as a form of politics. In doing so, this essay argues for the potential of aesthetics – and in particular, symmetry - to challenge the supremacy of rationality, efficiency, and mono-functionality for effecting positive social change.

AFFECT AND AFFECTION

Jonathan Massey, California College of the Arts

When contemporary ornament claims a political project, it frequently does so through the discourse of affect. All too often, though, affect theory in our discipline ends up reasserting architecture's autonomy--not in the service of achieving critical distance from capitalism, but rather by insulating architects from accountability to broader polities. This paper draws on recent works of art and architecture to model a politics and practice of ornament based not on affect but on affection and its intensification as desire. By demonstrating how a painter and an architect have used the sensibility of camp and the aesthetic strategies of postmodernism to make articulate objects, it shows how ornament's transdisciplinary nature can link disciplinary skills to broader structures of meaning and affiliation. Drawing on Bruno Latour's concepts of polytemporality and amodernity, the paper suggests ways that ornament can become a framework for moving beyond the modernism/postmodernism dichotomy and perhaps even for realizing the more radically political potential of affect theory.

NOTES ON THE APPEARANCE OF BALLOON ANIMALS IN CONTEMPORARY ARCHITECTURE

Andrew Holder, University of Michigan

To the close observer of contemporary architectural practice it is already apparent that balloon animals have arrived on the scene. What are balloon animals doing here, in architecture? This essay will argue that what balloon animals do is construct inanimate subjects. Although made of inert matter, they defy certain distinctions between animate viewing subject and inanimate viewed object so that they tend to join their audience instead of being observed by it. This construction of the inanimate subject is made possible by the use of formal tropes cataloged by Michael Fried in his seminal 1967 essay "Art and Objecthood." Whereas in Fried's essay these tropes were derided as hallmarks of inferior, theatrical art, recent balloon animal projects in architecture invert Fried's value system to embrace the work he excoriated. And they go a bit further, exaggerating the effects that were only marginally apparent in the art contemporaneous to the essay.

SYMPATHY AND SURFACE, IN DEPTH AND DIFFERENCE

Andrew Lucia, Cornell University

What is presented herein is a synthesis of ideas that speculates upon the role of information as the sympathetic medium of affect. This ultimately suggests that an infinite amount of potential information exists amongst all living and lifeless things as the medium of relative qualitative exchange. While this exchange is experiential, it does not imply that material is without quality in the absence of observation. Rather, it suggests that all material is specified through a fusion of identities, contingent and relative. While the present argument could be made in the absence of Louis Sullivan, aspects of his final treatise, A System of Architectural Ornament According to a Philosophy of Man's Powers (hereafter The SAO) will be used as a lens. Evidenced through his final drawings and accompanying text, Sullivan's deliberate subordination of idealized mechanical geometry in favor of noisy light-based effect will be interrogated in relation to a discussion of disengo (drawing) and colore (rendering). In turn, an alternate reading of these historic distinctions will be elaborated upon through concepts of ecological perception and information & systems theories.

FRIDAY

Fictional Frontiers and Speculations on the Real

CONSTRUCTING THE POLITICAL IMAGE OF THE EVERYDAY: FICTION AND AUTHENTICITY IN PARTICIPATORY ARCHITECTURE

David Franco, Clemson University

When the notion of everyday life comes to light in the architectural debate, it's typically used to critically call the attention over the estrangement of architects from the reality of the processes that organize the contemporary city. Most of the time this critique insists on the oblivion of the political dynamics that determine these processes.
Therefore, the everyday becomes some kind of political proof of realism for architecture. Paradoxically, when an architectural or urban project aims to incorporate consistently the everyday as an active element of design, it seems that it only can be embodied by simulations of the real processes of life. Apparently, the same concept used to criticize imposture only can be designed by imitation. In this paper I'd like to question the legitimacy of this contradiction through the examination of successful references of architectures of the everyday that, in my view, have been conceived not only as simulations of the reality of life but, also, as the expression of the political agenda connected to that reality.

I'll examine this phenomenon in two of the most influential examples of participatory architecture from the late 60's: the Byker Wall by Ralph Erskine and the Maison Medicale by Lucien Kroll. It's obvious that an enormous effort was made, in both cases, to fabricate architectural languages that could express, simultaneously, the real life of the social groups they were intended to -students and shipyards workers- and the political agendas associated to them -cultural revolt and social democracy-. Significantly, in either case, the impulse of political transformation was coupled with an innovative architectural form that was imitated afterwards in different contexts. From this perspective, the simulation of the everyday life as a design strategy doesn't necessarily betrays the critical content of Lefebvre's notion, but might open possibilities for new ways of politically charged architecture. It can be specially revealing to examine through this lens the current trend of participatory urban design and reclamation of public space. How critical towards the social reality of nowadays are these new expressions of the idea of participation? Which are the political agendas behind them and how are constructed the fictional narratives that support them? Are we being too naïve when we claim that participation in architecture still holds some kind of critical value?

STONES OF TEETH: THE THOUGHTFUL OBJECT AND THE FICTIVE DIMENSION

Anca Matyiku, McGill University
Chad Morgan Connery, McGill University

What follows is a reflection on how fiction and the fictive might inform, contaminate, or precipitate architectural research. The discussion will unfold through the authors' recently completed research-creation project, an architectural installation entitled Stones of Teeth. The built work came about through a combination of repetitive manufacturing, empirical chemistry, and material explorations - all taking shape through the lens of Nordic mythology, and specifically the creation story described by Snorri Sturluson in "The Prose Edda". The resulting installation, as well as the process of constructing it, propounded a particular dialectical process between the human act of making and that of the-thing-making-and-unmaking-itself.

By reflecting on Stones of Teeth, this paper ultimately speculates on the capacity of fictive entities to contribute to discovery in architecture. It probes the question: How do architects navigate between the reality of substances and the infinite imaginary in order to learn about architecture? How do physical and fictive objects participate in the making of such knowledge? We maintain that at stake is the learning about; the architectural act rather than the architectural product. As such this paper will focus on the process of learning and discovery that emerged through the work. At play is a flirting with real materials to corroborate our suspicions that they might be smuggling in fabulations of their own. Through this paper, we suggest parallels between the tactile incarnation of fictive elements in Stones of Teeth, and pertinent theoretical works - in particular those of Paul Ricoeur, Martin Heidegger, and Graham Harman - in order to confront reality and fiction with learning and the making of knowledge. We keep in mind that from philosophy to architecture the correspondences are often oblique and require a certain amount of interpretation.

Fictional Frontiers and Speculations on the Real (continued)

TOWARDS AN UNFINDABLE ARCHITECTURE:
A LUDIC THEORY OF 'PATAPHYSICS AND ARCHITECTURE
Seth McDowell, University of Virginia

In 1969, Jaques Carelman, artist and Régent of the Collège de Pataphysique, published the Catalogue of Unfindable Objects. This publication of fantastic inventions was a parody of the mail order catalog and presented a series of objects that question utility and offer impossible solutions to seemingly irrelevant problems. Towards an Unfindable Architecture presents an architectural translation of this catalog.

This paper examines the relationship between radical speculations for architecture and the experimental literary movement known as 'pataphysics, an absurd, pseudo-science originating from the late 19th century writings of playwright, poet and prankster Alfred Jarry. In the posthumously published Exploits and Opinions of Dr. Faustroll, Pataphysician, Jarry defines pataphysics as the "science of imaginary solutions and the laws governing exceptions." While Jarry's avant-garde literary fictions caused riots amongst the complacent Parisian bourgeoisie and received unabashed criticism, dismissing the work as "wild, bizarre and comic" at the time of publication, it has gained revolutionary importance over the 20th century, prompting two influential trajectories through art, literature and philosophy. The first path is seen in irrationalism and the work of Symbolist, Dadaist, and Surrealist, which argue for "a poetic emancipation from science." The second path relates to surrationalism and the work of Futurist, Oulipians and Jarryites, which argue for "a poetic appropriation of science." Today, in a moment when architecture is chasing rapid developments in science and technology, this paper deploys pataphysics to challenge the field's overzealous reliance on computation and optimization for rationalist agendas. It asks, how can the architect operate as a pataphysician and disrupt the "truths" of "reality" with alternate futures, rooted in chimerical science and ludic theories?

What is an unfindable architecture and why is it important? This question motivates the primary objective for the paper. There is no Google entry for an unfindable architecture. An unfindable architecture is the exception, the special occurrence, the outlier. The paper will develop a critical manifesto that positions pataphysics, the science of the particular, as a methodology for architectural production. The paper will exhibit architecture as a strange concoction of particular, seemingly irrelevant concerns that accidentally stumble upon undiscovered territories.

Finally, the paper outlines the exploits from an ongoing research studio at the University of Virginia's School of Architecture that is examining the limits of pataphysics through the development of a Manifesto for an Unfindable Architecture. In this studio, undergraduate students are working to imagine alternate, quasi fictional futures for a series of "lost" Virginia towns. These are four towns that aimed to be pivotal cities for industry, natural resources, manufacturing, and education. Yet, they are four towns whose speculated developments were halted by an unfortunate swerve, and now they are four ghosts, awaiting to become architectural anomalies and visionary habitats for the future. To facilitate this speculative absurdity, students develop architectural fictions through the format of a graphic novel.

BEHAVIOURAL PRODUCTION:
A SWARM-PRINTED ARCHITECTURE
Robert Stuart-Smith, Architectural Association School of Architecture

"Behavioural Production: A Swarm-Printed Architecture" presents design research into aerial robotic 3d printing for construction that was within AADRL program at the Architectural Assocation School of Architecture. This research engaged involved technical and speculative architectural design research in tandem through computer-based simulations and working prototypes; resulting in research that is both speculative and real in practice. A generative process described as Behavioural Production was developed that fused design and production within one methodology where qualitative design outcomes were inseparable from the technical developments that informed these. Working in collaboration with a range of specialist disciplines this research challenges the established boundaries that demarcate architectural research and raises questions on the role of design education within technologically progressive societies.

From Tectonic to Technique: Adventures in Architecture's Ontologies

MUTE ICONS

Marcelo Spina, SCI-Arc

Robert Venturi's influential book Complexity and Contradiction in Architecture redefined the position and nature of the word "complexity" in architecture by associating it with a form of imaginative progress relevant in contemporary culture. The Deconstructive project in architecture used formal fragmentation, collision or dislocation of existing canons to generate visual complexity. The reading of parts, either made autonomous or detached from the origin of the whole, was called into question. The 1990's were shaped by important philosophical writings from Gilles Deleuze and Felix Guattari, who influenced the alignment of architecture with science by theorists such as Sanford Kwinter and Greg Lynn; form followed variegated and intricate fields, along with complex processes of deformation and transformation. Patrick Schumacher's theory on parametricism shares similar principles of complexity, while giving to architecture new political, cultural and economic responsibilities through social communication.

From this growing obsession for control and technological perfection, our current media culture has become accustomed to the ever-increasing refinement and sophistication that now characterize our visual field. In architecture, we have come to realize that the reliance in only one aesthetic principle governing form, no matter how pure, fluid or convoluted it may be, is an inherent cultural tyranny and aesthetic reductionism that diffuses tension by suppressing dissent. Nowadays, we are experiencing an important shift in architecture centered on but not limited to post-digital vagueness. Indeterminacy, incongruity and defamiliarization, wherein dichotomy is a form of complexity in itself, are being reintroduced as major components of this evolving discourse.

A combined exhaustion with indexicality and the design processes associated with it, the perceived inefficacy of the "field" approach to building form, and the failure of a single surface at producing substantive volume and architectural mass, induce a renewed interest in solid objects and monolithicity. As a way to re-orient the attention on mass, one should avoid the over-use of ornamentation and surface articulation that can easily lead to figural expression. This explains the growing interest in texture, coarseness and grain, which could be compared with the confusion with noise from a toned down approach to enunciation.

Through our recent projects transitioning from monolithic solids to fuzzy mute forms, this paper will advocate for architecture`s new position towards complexity through a dichotomy between monolithicity and the fuzzy.

ON THE (IM)POSSIBILITY OF READING: THE ONTOLOGY OF TECHNIQUE AS EXPLORED THROUGH THE EARLY WORK OF PETER EISENMAN

Charles Crawford, NewSchool of Architecture and Design

As the title suggests, this paper focuses on Ontologies and Technique more than tectonics. The putative subject of the paper, the early work of Peter Eisenman, consciously eschewed tectonics in the quest for a "technique" (process) to solve what Jorge Silvetti referred to at the time as "the problem of communication." And indeed, what was Eisenman's early work if not, as the brief states, architecture ". . . without a direct material assignation, without signification, and without cultural impetus."?

Just how does architecture "speak to us today;" indeed, is it even possible?

The paper will start with a brief introduction of the noted American philosopher W.V.O. Quine's seminal work, 'Ontological Relativity', which demonstrates the impossibility of a direct correspondence in reading intent from form, while leaving open the possibility of an approximate reading. The paper will then explore, with text and illustration, the means by which we read and understand form, or in the terms of the topic brief, how art speaks to us. It will rely for its premise on the works of two of Quine's prodigies: Nelson Goodman's 'The Languages of Art' and Hillary Putnam's 'The Many Faces of Realism' along with Raymond William's 'The Long Revolution' and Benito Croce's 'Aesthetics'. Finally, the paper will look at several specific case studies of Eisenman's work to suggest how this method can be understood as an "Ontology of Technique"

A Note Regarding Images: the brief calls for a maximum of five images, something I noticed just prior to submission. This paper contains 17 images. If this paper is accepted for consideration I will work with the topic coordinator to determine the most appropriate five for inclusion. Sources for the images are currently being cleared and so are not cited in this draft but will be cleared and cited in any final version. Images 4, 5, 6, 7, 11, 12, 14, 15 and 17 are likely candidates. I leave them in this submission to suggest to the committee the sorts of images that I hope to be using in the conference presentation, as not all may be familiar with some of the references.

RENDERING ENVIRONMENT

Andrew Atwood, University of California, Berkeley

This paper seeks to engage the "critical digital" by exploiting the gap between the computationally described object and the digitally constructed image. It claims that architecture has already spent much time and effort critically examining the object as a source of discourse in digital architecture, but has fully examined the status and production of the image with the same fervor. Considering that the digital is consumed almost entirely through images, such an examination is long overdue. This paper and the images attached represent initial, ongoing attempts to seek a critical project within the digital processes and techniques used to produce images in architecture as opposed to images of architecture.

How Do We Define Architectural History Today?

ARCHITECTURE CENTER FOR RESPONSIVE ENCLOSURES: TOWARDS AN INTERDISCIPLINARY RESEARCH MODEL

Lawrence Blough, Pratt Institute

This paper will trace the evolution of a nine month research project granted by a new initiative from Pratt Institute's provost. The Innovation Fund was created as seed money to incubate research centers in an art and design institution that has a limited history conducting research. Proposals ultimately had to demonstrate the ability to secure government or private foundation funding for continuation of the work and meet the goals of the Institute's strategic plan. The analysis and types of data collection employed, the design work that was produced, and the partnerships that were fostered, will be discussed within the larger objective to build a model to conduct architectural research. Obstacles and opportunities within our institution played a critical role in development of our proposal, and this creates a context from which to reflect on our approach as a case study for further investigation. Most importantly this paper will document how unique interdisciplinary collaborations (engineering, manufacturing, geographic information visualization) were formed to produce knowledge that addresses a larger cultural context outside of the typical architectural design problem.

Over the past six years, New York City has promoted energy efficiency policies – including the Greener, Greater Buildings Plan – that will radically reshape the education of architects toward energy performance in buildings, reduction of emissions, and the efficient use of resources. Our research investigates the important environmental design opportunities that exist within building envelopes, particularly in large commercial and residential structures that are responsible for most of the greenhouse gas emissions and power consumption. Following the current and former Mayoral administration's plans to increase the energy performance of the New York City's buildings, our work targets innovative façade strategies that generate on-site renewable energy, are highly energy efficient, and produce a new vocabulary for sustainable construction.

ARCHITECTURE IN THE PENUMBRA

Marcelyn G. Gow, SCI-Arc
Ulrika Karlsson, SCI-Arc
Jonas Ivarsson, SCI-Arc

This paper addresses the overarching issues concerning architectural ways to knowledge, and, the forms in which these investigations can be captured and described. To this end, we wish to provide an account of some tenets in our ongoing practice, by reporting on a collaborative and interdisciplinary enterprise, between architecture and the social sciences, that has sought to dually advance and explicate research in architecture. We start out by focusing on the very notion of knowledge and how it could be alternately construed to better provide for a study of architectural sensibilities. We will then briefly delineate the target of research, occupying the space between representations and their material actualizations. By departing from the ubiquity of algorithmic design tools and fabrication technologies the explorations have taken an interest in capturing qualities that lie outside the realm of computational control. The results of these investigations are then discussed against the backdrop of two different projects—Aqueotrope and Vector Interference II. Finally, we turn to a discussion on how it is possible to analyze and describe architectural research in terms that preserve, without distortion, the discipline's internal criteria for descriptive adequacy—proposing a form of research that aims to provide endogenous accounts of its own methodic practices.

ENRICHING ARCHITECTURAL SCHOLARSHIP BY BUILDING ON BOYER

Chris L Cosper, Ferris State University

Written for a conference session titled "How Do We Define Architectural Research Today?" scheduled for the 103rd Annual Meeting of the ACSA, this paper takes a simple position: we do not define architectural research, assuming we refers to architects or other designers. Instead, many architecture faculty and other designers are forced to shoehorn their scholarly activities into a system created by and intended for scientists, liberal arts scholars, and other non-designers.

This paper proposes a broader understanding of scholarship by summarizing Ernest L. Boyer's seminal 1990 report Scholarship Reconsidered: Priorities of the Professoriate, examining the reaction to Boyer's report, and proposing an expansion of Boyer's four categories of scholarship by adding three new categories: the scholarship of design, the scholarship of reporting, and the scholarship of speculation. Each of these new categories of scholarship has important implications for architectural scholars. This paper concludes by arguing that having appropriate standards in place at the departmental level is a good first step, but for architectural scholars to reach full recognition, faculty must work to address university-level biases.

RESEARCH AS STORY BUILDING: THE CASE OF THE ACTIVE ENVIRONMENT

Alexandros Tsamis, Universidad Adolfo Ibanez Design Lab

The resent shift of attention in the architectural discourse towards issues of ecological design, coupled with the undeniable role of computation, has already cast a new operative role to the notion of Environment. Instead of being the passive, conceptualized or historicized context of an architectural object, the environment is quite literally becoming the object of design itself. By tracing the recent history of the notion of environment (from the 90ies onward) this paper will claim that we are moving away from the imposed-preconceived Cartesian object which negotiates through its boundaries its presence within its immediate context. Instead it will argue that the discipline is already considering an architecture in which the architectural object is only an instance of a designed environment. In many respects, this new understanding of environment aspires to be actively designed as a closed system of constant transformation, an autonomous milieu of exchange at all scales and all levels between substances, properties or qualities. This line of research will examine the current computational tools of design and will demonstrate in a systematic way how the environment - the active environment – can literally become, within a digital (CAD) platform the object of design.

Resource Territories

INDUSTRIALIZATION OF ABUNDANT NATURAL RESOURCES: ABSORBING EFFICIENCIES

Dan Adams, Northeastern University

There is widespread recognition of natural resource depletion and its consequences, and designers are increasingly focusing analytical mappings and speculative investigations on these industrial processes. Resulting design propositions often employ techniques of collage to envision potential futures with programmatic pairings of industry and nature or industry and urbanism, new architectural shells for industry, or re-visions of inhabiting dramatically altered and scarred post-industrial landscapes. However, these imaginaria remain exterior to the actual processes and systems of industry rarely attempting to re-choreograph the fundamental operating practices of the industry itself. Under-lying this boundary is a seeming acceptance of industrial process as a medium outside the realm of design. This perception is reflective of the resources studied. The emphasis of focus on the depletion and damaging pursuit of increasingly scarce resources, namely petroleum, has cast industry as foreign and intrusive, guided by a purely internalized operating and logistical efficiency in which any particularities of context are negated. Design is relegated to a role of creatively negotiating industrial processes that are pre-determined.

To expand the terrain of design for the industrialization of natural resources, this paper focuses on a second type of natural resource- resources of global abundance. Unlike petroleum, lithium, copper and other mined metals, materials such as timber, silica, and salt, have structured and will structure the evolution of humanity for thousands, not hundreds, of years. The industrialization of resources of great abundance does not subjugate local conditions, but rather choreographs with the environment to absorb efficiency. In this context, beyond responding to the impositions of industry, the role of analytical investigations and interpretation of environmental systems gains additional potential and agency for choreographing industrialization.

The methodology of investigation in this paper is an analysis of the industrialization of a single abundant resource, salt, across varied geographic, climatic, economic, and cultural landscapes. In this study, the abundant material serves as a neutral base, against which to gauge the potential efficiencies that industrialization is able to absorb from variable and diverse environmental factors. These potentials are evidenced through the comparative investigation of case studies of four existing sites of salt harvesting. The case studies are productive landscapes that share nearly identical operations with chemically identical materials, but observation of industrial context, local climate, and social relationships surrounding the industry reveals a vast spectrum of inherited difference resulting from wildly varied absorbed efficiencies. Identification of these variables of inter-relation reveals a new space and palette of dimensions for design to choreograph between industrialization and natural resource.

TRANSFORMING ARCHITECTURE THROUGH SYMBIOSIS: WASTE AS A RESOURCE

Alexis Gregory, Mississippi State University

Building on the ideas of James Fennell and Lola Scobey, this paper posits that a design studio based on symbiosis can transform architecture to use waste as a resource. We can no longer continue on the path of consumer waste building up in landfills, and must move towards a more symbiotic relationship with the environment, the community, and architecture. Fennell and Scobey coin a three-pronged process of environmental symbiosis, functional symbiosis, and cultural symbiosis that can challenge architects to improve their community while still making a profit for clients, and creating beautiful architecture. Using this model in a design studio teaches our students that economic prosperity, community, and our planet need not be at odds with one another, but can instead inspire. Students were not only tasked with designing a mixed-use project using an existing building, but also on how to build community support through educational conceptual design projects. These projects include the design of a recycling plan and recycling containers for the university, an educational sculpture to teach about the reuse of materials, and an outfit for the annual “Trashion” show. All three projects were required to use repurposed and recycled materials to not just educate the viewers of these projects, but also the students in how best to use recycled materials. This knowledge would go on to inform the students and their design of the final mixed-use symbiotic project programmed with a micro-brewery, bread baker, a community garden, and a community gathering space. All spaces in the project are also required to be educational to continue the outreach to the community well beyond the early stages of the project. Rebuilding community is one of the utmost goals of Fennell and Scobey and therefore, is an important part of the development of this project. Without community there will be no one to carry on the important ideas of symbiosis for transforming the way we use waste.

Resource Territories (continued)

POP ROCKS

Joseph Dahmen, University of British Columbia
Matthew Soules, University of British Columbia
Amber Frid-Jimenez, University of British Columbia

This paper documents Pop Rocks, a temporary public space installation that covered the full block of 800-Robson Street in the center of downtown Vancouver. The project is a research-based investigation into how the creative use of waste material can enliven the public domain in simple yet remarkable ways. Pop Rocks was fabricated entirely from post-consumer and post-industrial waste from the metropolitan Vancouver region. The temporary nature of the civic commission highlighted the necessity for a profoundly efficient use of resources. The installation engaged tactically with these materials to produce soft forms that extend the typical range of active and passive social activities, fostering unexpected social encounters and new perspectives on the city. The built installation utilizes Teflon-coated fiberglass that was sewn into fifteen discrete shapes by a local sail maker. The fabric forms were then filled with re-ground post-consumer polystyrene packaging at a local manufacturing facility. The development of Pop Rocks employed an iterative modeling and prototyping process that derived final forms from the material logic of using fabric to contain granular aggregates. This responsive process-based methodology and its results are indicative of design operations that are increasingly relevant in the context of decreasing resources. Recycled architectures, such as Pop Rocks, mark a departure from traditional top-down form-heavy design methods towards a contingent, emergent, and tactical design ethos. This might be described as a new form of pragmatism that is not only ethically enticing but also promises new aesthetic, formal, social, and political frontiers. The soft suppleness of waste finds its avatar in built environments that challenge the dominance of the hardness in cities and its associated behavioral norms. The presence of soft forms at the core of the city extends the typical range of active and passive social activities, fostering unexpected social encounters and new perspectives on the city.

HUNTING FOR OURSELVES: BEHAVIOUR AND THE PURSUIT OF ECOLOGICAL GOOD

Amrit Kaur Phull, University of Waterloo

Through a critical analysis of contemporary and discourse in Architecture and Landscape Architecture, this paper dissects the compulsive dependence on landscape machines and simultaneous dismissal of hunter culture as an idealized past in the context of the ecologically doomed anthropocene. Drawing on research and practice experience in Canada's Subarctic, the paper contemplates the potential of architecture to provide opportunities to connect and change human behaviours with respect to an ecological good, while unpacking design approaches and behaviours currently in effect in Subarctic First Nations communities.

We are living in an epoch of overwhelming human influence on our planet's ecological processes of self-remediation, replenishment and cleansing. Popularized notions of the eco-city and related concepts in landscape infrastructure support a worldview in which our species survival in the wake of ecological crises is unilaterally dependent on the technological evolution we are able to undergo. Missing from these projects is the sense that, to support the welfare of our ecosystems, we must also evolve socially, culturally, and politically. Are we denying the fundamental need to reprogram human behaviours and attitudes in the hope that our mega-scale machines will assume full responsibility for ecological stewardship? This paper asks if a wounded landscape can be salved only by machines external to our bodies or if the design of cities and landscapes must also be accompanied by a consideration of how the built environment can effect or enhance human behaviours. Contemporary sources from Architecture, Landscape Architecture, Anthropology and Philosophy are complimented with hunter-culture perspectives on landscape, territory, and stewardship in this critical reflection.

Within current conversations on ecological and future welfare, the success of hunter culture is measured solely in low human populations and outmoded technologies that simply do not apply in the contemporary moment. Lessons in hunting and landscape garnered in the Subarctic community of Eastern James Bay's Wemindji helped illustrated a different set of reasons for hunter culture survival. Material presented from first-hand architectural research and practice in the North suggests that there is more to be learned from the ways in which a culture, whose understandings of space, home, and ownership--inverse to a dominant Western worldview—has persisted within its contexture, than simply a sense that the hunt is a relic of a long and lost past and an oversimplified ossification of man and nature. Perhaps it is not about 'reverting' to small-scale, nomadic means of existence, but rather about accommodating in our architectural visions of future machines and landscapes means of instilling changed behaviours and greater awareness in their human sharers.

On the Use and Disuse of History for Architecture

BERTHING MINOTAURS: URBAN ISLANDS AND PEDAGOGICAL PRACTICES OF UNSETTLEMENT ON COCKATOO ISLAND

Thomas Rivard, Lean Productions

Much contemporary architectural practice posits the City as an agglomeration of built fabric and its resultant spaces; congruent theories of place attempt to discern opportunities and create methodologies to engage with this fabric. These theories of urbanism are reacting to a socio-economic culture that demands precision, rationality and above all clarity, producing a spatial realm increasingly branded, deracinated and politically circumscribed – defined and delineated to its material limits.

Architectural pedagogy is often discredited because of its service to this immutability: form reduced to image, function bargained down to economics, space subsumed into spectacle. Contemporary theories of the architecture though reveal the City to be fluctuating, multifunctional and ever-changing – demanding a conceptual incompletion that affords personal expression and individual interpretation.

To overcome this gap between generative practice and analytic theory demands a shift from description to interpretation, and a corresponding transformation to methods of thinking that do not demand a perfect answer.

Urban Islands is an independent intensive studio program run for two weeks each July on Sydney's Cockatoo Island. The studios are run by emerging architects selected from around the world, and engage masters students from 6 different Australian Universities, in an environment meant to unsettle, unmoor and ultimately, enlighten. Deliberately eschewing linear and hermetic modes of studio discourse and instruction, the program instead adopts strategies of wandering and migration to create an immersive investigative environment.

Urban Islands utilizes narrative, fiction and a hermeneutical approach to education to re-theorise the studio. Subsequent re-readings and misreadings of place offer its participants agency in determining their roles in that space, as well as allowing for new ways to both measure and mark the earth. This paper outlines the constituent conceptual concerns informing the program, illustrated by select examples of work which enmesh analytical theory and creative design practice to propose an expanded geography of the city, one of excisions and allegory and, most importantly, one wide open to interpretation.

HISTORY IS NOT THE PAST: THE ARCHITECTURE OF CARLO SCARPA'S CASTELVECCHIO MUSEUM IN VERONA

Tracey Eve Winton, University of Waterloo

Carlo Scarpa's renovation of Verona's Castelvecchio (1959-1973) took a radical approach to handling various historical layers of materials and elements, unapologetically breaking the rules of both architectural modernism and textbook preservation. The specifics of his interventions and detailing in the complex reveal a working strategy for a new, edifying understanding of architectural history, as it were, Nietzche filtered through Borges' fiction.

Scarpa's qualitative vision of history construes architectural fragments of all scales as embodying a heterogeneous, hierarchical experience of temporality, in which however different qualities and depths of time are manifested in tensely structured relationships between the parts and the whole, offering visitors an experience of the flesh in which the orders of time and space (however discontinuous) cannot be prised apart. The intimate structure of your route through the building, with curated layers of material elements, evidences a spectrum ranging from geological time through the rich Roman and medieval materials, architectural spoils, and later French interpolations, to a broad and shifting present.

In this paper, I argue that history is not the same as the past, rather, it is a presencing, and this distinction is key to the close relationship between architecture's demarcation of space as place, and of time and event and duration. In the modern age, characterized by fragmentation in culture, knowledge and other fields, the decontextualized fragment's potential energy is key to recovering relations, connections and other experiences of wholeness by means of the personal imagination. Castelvecchio offers you a sense of your place in the world, by 'inventing' a ground of meaning, while always suggesting that something prior lies underneath, that there is more to the story.

Castelvecchio models a broader conception of sustainable design in which Scarpa's sophisticated approach to history plays a significant role. I explain how the structural analogy of history and perspectival vision (which Scarpa subverts, particularly through the design of floors, a conversation between Paul Klee and Pienza) allow us to recognize his philosophical position in relation to architecture and the nature of constructive matter. Scarpa's technique of peeling away strata and selectively excavating material demonstrate the relationship between inward depth and outer surface, in which the revealed substance of the past manifests itself as present and thus as part of a historical incarnation. The journey into the heart of matter (whether composed or uniform) opens up a stream of historical problems in building: the status of the 'imaginary space' in wall frescoes and other treatments that dematerialize the architectural surface, the meaning of artifacts that emerge from buried underworlds into visibility, the significance of attenuating threshold conditions, and the effects of rusticated materials (recollecting Giulio Romano). Scarpa's protracted joint, detail, threshold, break, and reveal are techniques that recollect Borromini's early modern 'zone of indeterminacy,' architecture's mystical abyss in the collage of events. Examining specific details, I argue that the relationship of these acts with both architectural materiality and lived space reveal how the architect deconstructs homogeneous time in order to reveal history as a practice concerned with presence.

On the Use and Disuse of History for Architecture (continued)

UNCOMPROMISING REASONS FOR GOING WEST: A STORY OF SEX AND REAL ESTATE, RECONSIDERED

Nora K. Wendl, Portland State University

Promiscuity, the act of indiscriminately mingling with many partners, is an appealing proposition from a disciplinary perspective. It brings to mind boundaries that leak and shift, spilling over into uncharted creative territory—architects whose architectural training is applicable to multiple settings and scales, from Charles and Ray Eames' multidisciplinary practice to Bjarke Ingels' vision of his work as "bigamy…that you can take multiple desirable elements that might not fit together or even seem mutually exclusive…and merge them together into a new genre…you can literally marry multiple ideas into 'promiscuous hybrids.'" Within the context of architectural history, however, promiscuity is a barbed word. The client who has a clandestine affair with her architect, as Mamah Borthwick Cheney did with Frank Lloyd Wright, is promiscuous. Promiscuity is even used as an excuse for a client's complaints: the client who rails against her architect for flaws in a house is making a fuss not because of the house, we are told, but because she is heartbroken—her affair with him came to naught.

Thus has the history of the Farnsworth House (Mies van der Rohe, Plano, Illinois, 1951) been written: a "story of sex and real estate" as it is described by William Norwich for the New York Times, this history presumes that a relationship between the client and the architect led to the client's dissatisfaction with the house. A history that ultimately salvages the house from any architectural criticism while destroying the client's reputation, this history is built from idle speculation and rumor. And yet, it has replaced any other history of the house. The origins of this speculation lie in Franz Schulze's Mies van der Rohe: A Critical Biography (1985) and historians have augmented this story by turning to Farnsworth's archive, appropriating only very selective and ambiguous fragments from her memoirs, correspondence and photographs in order to build this false history.

This paper will trace the origins of the rumor of promiscuity between Dr. Edith Farnsworth and Mies van der Rohe and follow its path through subsequent histories, before offering an alternative history of the Farnsworth House, one built from a deeper and more contextual reading of Farnsworth's memoirs, poetry, and her photographs of the Farnsworth House.

Territorial Form

WELTBAUEN: TERRITORY AND THE ARCHITECTURAL IMAGINARY

Antonio Petrov, University of Texas At San Antonio

In the nineteenth century, the politics of imperialism brought the geography of the entire planet into focus. In 1881, in Hopes and Fears for Art: The Prospects for Architecture in Civilization, British writer William Morris abstracted that architecture had to find a new role in the face of the challenges of modernity: "A great subject truly, for it embraces the consideration of the whole external surroundings of the life of man; we cannot escape from it if we would so long as we are part of civilization, for it means the molding and altering to human needs of the very face of the earth itself, except in the outermost desert."
In the aftermath of World War I, new discourses about the role and extend of architecture were formulated, and radically new territories were discovered somewhere between utopia and macro-scale engineering. At stake was nothing more than the complete restructuring and reshaping of the entire surface of the earth.

Through the lens of "Weltbaumeister" Bruno Taut and Hermann Sörgel, this paper turns to the early twentieth-century "Weltbauen" in an attempt to recast our understanding of the relationships between utopia, technology, and the environment in which architecture contains territory, and extends itself through it. Translated from the German as world-building or world-making, Weltbauen, partly engineering and partly utopian in meaning, recovered a geographically aligned aesthetic from the long intellectual and political history of modernity. In contention are questions of the restructuring of radical geographies, and how architecture as an expanded and geographically inspired idea structures, shapes and produces complex large-scale territories, and planetary systems. Through the lens of the critique of ideological, political and technotopian orders, this paper analyzes Taut's Alpine Architecture and Sörgel's Atlantropa project, and questions central concepts and motives of the twentieth-century that were forged by its Weltanschauungen [worldviews] seeking to address the political significance of nature as the space between the overpopulated metropolis and the hinterland. In question, however, are not only the terms of morphological characteristics of new territories, or as a result its forms and aesthetics upon which the totality of urbanism rests, but also the metamorphosis of the agencies that shape it.

PERFORMING NATION MAKING: ON LANDSCAPE ARCHITECTURAL CHOREOGRAPHIES AND PERFORMATIVE BORDERS IN THE SOUTH CHINA SEA

Lukas Pauer, RMIT University

The phrase 'secure the area' is a common one in military and police situations. What happens if we take the sectional, the altitudinal as a key question, taking the additional vertical dimension into account, if security has to contend with volume? What would it mean to secure the atmospheric? How does thinking about the atmospheric instead of surfaces, three dimensions instead of territories change how we think about the geopolitics of space? Territories are bordered, divided and demarcated, but not understood in terms of their altitudinal dimension. This paper investigates how borders can become complex systems in evolution, whose physical manifestations coincide with the terms of their representation.

MALLOPOLY: A GAME OF BUILDING AGGLOMERATION

Michael Piper, University of Toronto

In the early phases of North American urban dispersal buildings seemed to repel each other with maximum entropy producing a scattered urban form. Over the last twenty years they have been clumped together, gathering around significant structures such as malls. Though initially invented for their interior, malls now play a figurative role in urban space.

This paper is a fictional account of built-up form around ten regional malls in Toronto.

When considered with the city's highway system, malls operate as a game board, a base condition over which future building would play out. Some buildings aggregated around malls, while others were built further along the highway. The resultant regional form first appears as a scattering of dissociated objects, or sprawl; yet when viewed through the lens of a game, a logic emerges that we argue may be leveraged to produce moments of figural and social collectivity that can be defined within what appears to be an otherwise individualized landscape of Toronto's contemporary suburban space. This research is about such building agglomerations, and speculates on a series of game-like rules that may have played a part in their production.

THE NONHUMAN AUTONOMOUS SPACE AGENCY

Fred Scharmen, Morgan State University

This paper looks at a specific territory, outer space, and begins with a body of research into the ways in which the agencies that practice space exploration have attempted to make this edgeless territory legible and figurable. The project of space exploration has been advanced through the deployment of networks of active subjects. This research looks at the robots, spacecraft, and animals used in orbital experiments, with attention to the voices and identities offered to these subjects within the context of contemporary social media and online culture, the internet, and the forthcoming 'internet of things'. A case study project speculates on the possible future use of the combination of social media and active, speaking agents in space exploration. Finally, a set of conclusions is presented, in parallel with a discussion of the broader usefulness of the methods and frameworks from the case study scenario.

Territorial Form (continued)

TERRITORIAL FORM AND THE LOGISTICAL

Jesse LeCavalier, New Jersey Institute of Technology

This paper examines the form of territories organized by logistics in order to look more closely at the ways in territorial form might be understood as both process and technology, the mediating structures through which territorial form is necessarily perceived, and the position of architecture within such a configuration as a buffer between the protocols of calculation and the contingencies of terrain/site/locality. In the first part of the paper, I establish some working definitions of territory by comparing it to definitions of landscape. For the purposes here, and drawing from scholarly treatment of the terms from architects, historians, and geographers—including Stuart Elden, Deborah Cowen, Saskia Sassen, Kevin Lynch, and Charles Waldheim—I argue that definitions of landscape tend toward composition, stability, and legibility, while definitions of territory tend toward calculation, contingency, and illegibility. While discussions around territory assume a large scale of reference, even a vastness, discussions of form—though they need not have an apprehensible scale—tend to focus on objects graspable by unmediated human perception. If territory is expansive, illegible and beyond the grasp of humans, then it requires technological mediation of some kind in order that its "form" might be engaged. For the second part of the paper, I draw on work that attempts to theorize global visions including Vilém Flusser's "technical images" and John May's "stastical-mechanical vision." I look at these in combination with debates within architecture about the nature of form in an effort to chart an additional spectrum between form and image. The next part examines the results of the intersection of these these two continua in order to eventually arrive a claim about the nature of territorial form. With these four terms, it is possible to establish four concepts: the landscape-image; the landscape-form; the territorial-image; and the territorial-form. The final section of the paper focuses on the term "territorial-form" and argues that it is characterized by incompleteness, under-specification and a loose relationship to form outcomes even as, or precisely because, its defining protocols are ever more calculative and over-determining. As a possible way to connect territorial forms with architecture, I introduce the logistical as something that both defines and produces a territorial imagination. By further exploring the relationships between logistics and territory, I argue that the former operates through highly specified scripts. However, because of the stubbornness of materiality, logistics remains a significantly spatial operation, even if prevailing narratives render it as all flows and data. The stuff of logistics networks required storage and distribution, often in the form of buildings. In architectural terms, this means that the buildings themselves are a way for territorial organizations to buffer themselves against uncertainty as operations expand, with obvious implications for how these buildings might be designed. However, rather than reverting to a limited script of responses, the slack and looseness in these dynamics are ways that architecture can become more active. The primary evidence is drawn from on-going research on the logistical operations of Walmart (and to a lesser extent, UPS).

The Problem. 1

PART PROBLEMS / PROBLEM PARTS

Clark Thenhaus, University of Michigan

In architecture, like many creative disciplines, problems are not in binary relation to solutions, but rather are issues that arise from the history of ideas, often revealing new problems, that cannot be solved but can be worked on. Paul Rudolph made clear the problem of the architectural problem in reference to Mies Van Der Rohe, stating "All problems can never to solved… Indeed it is a characteristic of the twentieth century that architects are highly selective in determining which problems they want to solve. Mies, for instance, makes wonderful buildings only because he ignores many aspects of a building. If he solved more problems, his buildings would be far less potent." Problems arise out of disciplinary history often requiring attention to methods, techniques, or aesthetic ideologies. The problem factor in architecture is hermeneutic as well as material. Problems are often developed from historical ideas, as stated by Bob Somol in the foreword to LA Under The Influence "Architecture, it seems, progresses only as old answers dissemble themselves through new questions." Thus, architectural problems are concerned with those central to the discipline; problems that may be taken up internally without being the consequential responses to all other cultural systems, such as politics, economics, or environment.

Louis Kahn famously remarked "You say to a brick, 'What do you want, brick?' And brick says to you, 'I like an arch.' And you say to brick, 'Look, I want one, too, but arches are expensive and I can use a concrete lintel.' And then you say: 'What do you think of that, brick?' Brick says: 'I like an arch.'" There is a lot embedded in this mock-conversation between brick and architect. There are structural, economic, and aesthetic contingencies. Yet, there is a more subtle problem lurking here, sneaking in in the most cunning of ways where the polemical positioning between a brick and a monolithic concrete lintel points towards another architectural problem. No, not the brick problem, per se. Rather, the bricks relation to an arch form. Said more plainly, the problem of part-to-whole relationships in formal compositions. Architectural problems, historically, do not directly focus on 'parts' as a problem area, usually finding their subversive way into disciplinary problems through other means. However, concentrating on 'parts' as a problem of form and composition, rather than merely as a constituent in other problems, we may address a broad range of disciplinary issues traceable through historic lineages. In so doing, the architectural problem elides elemental and fixed tropes, and instead makes contact with them through a re-framing of the problem. In other words, by considering the mediums, in this case parts, rather than specific elements, an expansive yet still rigorous conversation may be had.

CONSEQUENCES OF PROPORTIONAL SYSTEMS IN ARCHITECTURE

Mollie Claypool, University College London

The system of architecture inscribed by Vitruvius in De Architectura and famously drawn by Leonardo da Vinci in 1490, as well as Cesar Cesariano after him in 1521, has provided modern architecture and art historians with argumentation for placing the architectural object at the centre of a system of relations between symmetry, geometry and proportion. When one looks at the last 100 years, this system of relations can be seen to have regulated, in varying ways, architectural design methodology since its 'rediscovery' and re-inscription into architectural discourse in the middle of the 20th century by the architecture and art historians, such as Rudolf Wittkower in his book Architectural Principles in the Age of Humanism (1949) and the essays by Colin Rowe titled "The Mathematics of the Ideal Villa" (Architectural Review, 1947) and "Mannerism and Modernism" (Architectural Review, 1950). This paper, which is a work-in-progress excerpt from PhD research by the author, argues that these works established a dominant fiction(1) in the discipline of architecture, or a way for architects to perceive and interpret the built environment. However, with advances in the technology of production in the last twenty years, and, in parallel, the development of contemporary discourses of computation and digital design in relationship to the natural sciences, this system can be questioned and the dialogue between forms of production, systems of proportion and architecture re-opened.

1 – The term 'dominant fiction' was outlined in Silverman, Kaja. Male Subjectivities at the Margin, Psychology Press (1992).

BEYOND THE PROBLEM

Andrew Atwood, University of California, Berkeley

In the productive spirit of this session, this paper creates a problem with "The Problem." How might we use the simple coupling of these two words in combination with the world's most basic symbol as a discursive device? How might different forms of emphasis change our readings of the session title? What conversations might we discover?

The Environment Schism

THE ORDER OF ORDER: TOWARDS AN ENVIRONMENTAL FUNCTIONALISM

Caroline O'Donnell, Cornell University

Kallipoliti, in her call for papers, describes an 'anything goes' condition, in which so-called environmental projects act without consistency of expression. Pushing deeper into the logic behind this condition, this paper asks why these projects—which have in common very physical environments—would be so disparate? This question is imperative not because of a need for the categorization of this work as a style but because the lack of consistently suspiciously indicates a dilution or impotency in the work. If this work is so urgent, so vital in today's architecture and for the planet, why is its presence not more forcefully inserted into our discipline? Why instead is it concealed behind a veil of normality of global architecture and a contemporary modern aesthetic? And more importantly, what models might be deployable to destabilize this situation and allow environmental architecture to emerge from behind the curtain?

The secondary ranking of environmentally responsive architecture and the dominance of the aesthetic is attributable to Vitruvius, who wrote that the only thing more important than climatic concerns was order and symmetry in architecture. This hierarchy has been difficult to overthrown for generations of architects. Translated to today's terms, we see, through a series of brief case studies, how the Vitruvian hierarchy remains true today.

In order to find a way to invert or destabilize this hierarchy, this essay looks to the style which aimed to both do something and to express its doing, to express its mechanics and systems: functionalism. We are reminded of the biologic origins of the term functionalism and by maintaining the biologic in the understanding of the term, propose a new environmental functionalism for today.

SKIN PROBLEMS

James Lowder, The Cooper Union

As architecture cast off the last vestiges of its inherent anthropomorphism and the symbolism that it embodied, it has moved towards biological and ecological models to emulate, investigating solutions that evolution had laboriously developed over thousands of years through the trial-and-error processes of natural selection and mutation. The rudimentary correlation between an organic biological skin and the skin of a building was fairly self-evident, as both had to manage more or less the same criteria: house a series of tectonic networks and aggregates that form a protective barrier preventing the infiltration of the elements, control of an interior "body" temperature, and a sensory network that registered and accommodated changes in the environment.7 Through these mimetic operations, buildings were now being engineered and articulated to possess a range of dynamic and responsive properties in relation to various environmental stimuli and, at least through the eyes of the engineer, were beginning to operate like organisms and exhibit a range of almost animalistic behaviors.

ECO-MACHINIC OTHERS: FROM POLARITIES TO GRADIENTS

Dana Cupkova, Carnegie Mellon University

The discipline of architecture constructs itself between the twinned poles of art and science, producing schizophrenic tendencies of acute ambivalence towards the determinacy of the quanta and the ineffability of the sublime. This paper examines how quantitative methods, which have traditionally served as a kind of limit function in engineering and the construction of built form, can be used generatively as a search algorithm within a stochastic domain in an effort to reintegrate the function of ecology within the built environment.

Our means of proceeding with technology depend fundamentally on our approach to the problem, an epistemological question, the positing of which predetermines our answer. When we look at technology as apart or disconnected from environmental processes, we create a cognitive landscape with a limited horizon, envisioning the world as a series of problems to be solved sequentially. When we see technology as fundamentally connected to other intrinsic natural processes, our horizon broadens and we see our role not so much as engineers or problem solvers but in more general terms as orchestrators, hydrologists, managers – redirectors of material and energetic flows.

This paper discusses a design approach situated in the framework of natural history. The historical context offers raw material – the disciplinary norm – in the form of types, organizations, systems, or processes, from which, through code, the new adaptations evolve.

The goal is to negotiate the tension between the notion of non-determinism of design processes, and 'metrics': deterministic loops of use quantitative data within specific subroutines. Within the current computation paradigm, the dichotomy of deterministic and non-deterministic processes is becoming increasingly critical. The goal is to undermine this dichotomy by showing the particular design ideology that navigates the interpretation of data sets through the lens of cultural ecology and the metrics of bioprocessing into a continues gradient.

The Problem. 2

THE PROGRAM AS PROBLEM: ORIGINS AND IMPACT OF CRS'S PROBLEM SEEKING

Brian Kaplan Schermer, University of Wisconsin-Milwaukee

This paper contributes to our understanding of the problematizing of architecture by focusing on how the task of defining the scope and nature of a future architectural project, commonly referred to as the "program" or "brief," came to be framed as defining a problem to be solved through design. This story takes us through post-World War II America, the design of the first schools to accommodate the baby boom, and the growth and management of CRS Architects, an architecture firm that pioneered an approach to architectural programming, that still influences the profession. The approach, known as "problem seeking," is now synonymous with managing overwhelming amounts of information associated with large and complex building projects. During the systems thinking era following World War II, in which management theorists struggled with understanding decision making under uncertainty, problem seeking emerged in response to the very real challenges met head on by an aggressive architecture firm that aspired to both design innovation and corporate growth. In covering the origins and impacts of problem seeking, this investigation helps us to understand how the problematizing of the program presents a problem for contemporary education and practice. The critiques of the problem seeking approach are many. Problem seeking is said to artificially divide programming and design. Its internal logic obscures the notion that the process of defining a problem simultaneously solves it. Problem seeking is too technocratic. It privileges the analytical and the objective over the intuitive and subjective. Its narrow focus on form, function, economy, and time obscures other, more "architectural values," such as aesthetics, meaning, and sustainability. It restricts design creativity. By promoting programming as a specialization, the problem seeking approach has contributed to the splintering and diluting of the profession. And, problem seeking leads to emphasis on narrow, wishful futures rather than long-term strategies. Yet, problem seeking continues to shape the profession's ideas about programming. It is the conceptual basis for the pre-design portion of the licensing examination, and its basic elements are required for professional training according to the National Architectural Accreditation Board. Most importantly, programming, or the potential insights that derive from it, offers a means to add real value to clients and provides an avenue for architects to differentiate themselves in an era in which design services are increasingly commodified. The conundrum for teaching programming is similar to the one for teaching design creativity. It is possible to outline the steps, but more difficult to teach real insight.

ARCHITECTURE'S DIGITAL MODEL PROBLEM

David Eskenazi, The Ohio State University

As the Albertian adage goes, architects do not make buildings; they make representations of buildings. Increasingly, strange conundrums are creeping up that may ask architects to reconsider some of the assumptions underlying this paradigm. At the center of these problems lies the introduction of the digital model. The digital model situates itself in a gulf it has opened between conception and representation, suggesting a slew of changes to the nature of drawing, construction, and communication in architecture. Although we could say Alberti's adage continues unabated, it goes without saying that some problems are quickly adding cracks in the transmission of an architectural idea to its representation then to building.

The following problems delineate some conceptual outlines that digital models pose for architecture. They do not assemble an exhaustive list nor are their descriptions deeply penetrating, but serve more to suggest some areas for architects and scholars to expand as disciplinary knowledge. It is my assumption that some, if not all of these problems, may exhaust themselves over time and be replaced by others. In their current form, these problems assume that digital models exist in transmittable computer files, are displayed on a flat computer screen, operate with a keyboard and mouse, are programmed by someone other than the architect themselves, simulate an infinitely large three-dimensional and full-scale environment, and must somehow be interpreted to make conventional drawings and models. I have no doubt these parameters will change over time and pose other problems instead.

THE TOOLPATH PROBLEM: COMPRESSING REPRESENTATION AND THE REAL

Gabriel Fries-Briggs, University of California, Los Angeles
Brendan Shea, University of California, Los Angeles
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The toolpath has a deep history as a problem, yet can be newly conceived in our computational moment and at the end of the early digital age in architecture. Fundamentally, the toolpath is a set of instructions operating between making and drawing, material and line, working and designing. As such the toolpath acquires its potency by compressing a form of representation and a form of fabrication. Through this compression, the toolpath provides a specific, bounded, operative area of investigation for the discipline, largely because of its medium-insolubility, or resistance towards simple categorization within one of architecture's more well-established representational protocols (plan, section, axonometric). The toolpath is positioned to become a rich medium for experimentation when appended to this standardized set of architectural representations.

The toolpath problem is of renewed interest particularly in light of it's portability; it cuts sideways across new tools for digital modelling, new machines for fabrication, new techniques of visualization, and new conceptual approaches to computational design. A new pedagogical approach to the problem, one that engages the rich history of representation located at the core of architecture's encounter with material, is required to wrest the toolpath away from discussions of solutions (optimization, efficiency, and CNC-axes). Beyond discussions of generic translational protocols (data, parameters, etc.), the re-examination of the specific disciplinary boundary drawn by the toolpath positions architecture to engage the excesses of the real, as irreducible to either procedural or linguistic description.

SATURDAY

Open 1

THE HUMAN FACTOR IN PRISON DESIGN: CONTRASTING PRISON ARCHITECTURE IN THE UNITED STATES AND SCANDINAVIA

Megan Fowler, Iowa State University

Prison design is a controversial topic in the field of architecture. The "all-seeing" Panopticon prison of the eighteenth century introduced by British social reformer Jeremy Bentham brought academic attention to the issue of prison design. Two centuries later, French philosopher and social theorist Michel Foucault used the Panopticon as a metaphor for society and its power to control beyond the physical.

At the beginning of the nineteenth century in the United States there existed two competing penal and prison "systems" -- the Pennsylvania System and the Auburn System. The Pennsylvania penitentiary system was influenced by the idea of penitence; solitude was thought to serve as punishment as well as giving time for reflection and contrition. The prison designs often recalled the Panopticon with centralized configurations. The opposing system was known as the Auburn System, after the eponymous facility in New York, where imprisonment was punishment instead of a chance for reformation. It was at Auburn where the core idea of Bentham's Panopticon, total surveillance, became a reality. The Auburn system and corresponding architecture have been described as "machine-like" where prisoners are kept in tiny cells (seven feet six inches by three feet eight inches and seven feet high) under "complete, demeaning control at all times." The Auburn System has predominated prison design and theory in the United States. In American society today some resist involving architects in creating prison facilities. "Architecture" for these buildings is discouraged.

In 2013, Pelican Bay supermax prison, with its "8x10-foot, soundproof, poured-concrete cells with remote controlled doors and no windows," inspired hunger strikes across California in solidarity for the appalling living conditions. Simultaneously, a petition to the American Institute of Architects attempted to forbid architects from creating prisons. Why would an architect create a space that has such negative effects on human life and morale? Yet, what these events prove is that there is a dire need in places like Pelican Bay for the touch of an architect. The environments in American prisons create opportunities for violence, tension, and hostility in inmates. Even employees in American prisons have been found to have a higher risk of various stress-related health issues. Trained architects could solve the design-driven problems.
Different justice systems create distinct prison environments. Comparison of the history and theory of prison design, media portrayals, and prison inmates' experiences in the U.S. and Scandinavia suggest that the Scandinavian approach is better. Scandinavia's justice system allows the opportunity for an "open prison," which emphasizes reintegration rather than punishment. While it may not be obvious to the American eye, Scandinavian prisoners are also punished for their crimes. Yet, the Scandinavian designs create environments that are more efficient at lowering crime and recidivism while still remaining humane. Scandinavian prison environments induce remorse and responsibility and are more effective than those causing resentment and cynicism. Architecture has powerful effects on the human soul and spirit, as recognized by Foucault, which should be utilized in a positive way to design prisons and accomplish both goals of inmate retribution and rehabilitation.

LIVING IN THE TROPICAL LANDSCAPE – A VISUAL TOOLKIT: OLD MODELS FOR FUTURE BUILDINGS

Jacob L. Brillhart, University of Miami

Thanks to a booming concrete industry in Miami's backyard, the region has developed an almost relentless adherence to building in concrete, such that the idea of building in anything else would seem absurd.

The pervasive belief is that the costs associated with building a residential project in steel and glass would be exorbitant or that it would be too complicated, especially given that there isn't enough skilled labor on hand. Ironically, we have old models, dating back to the 1950s - '60s, of structures made of concrete, wood, steel, and hybrid systems. Simple, rational, efficient, cost-effective buildings that celebrate the tropics, these designs lend feasible and innovative alternatives for future buildings.

South Florida's postwar architects - such as Alfred Browning Parker, Rufis Nims, Robert Bradford Browne, Mark Hampton, Paul Rudolf, and others - gave birth to a tropical modern school of thought and developed their own regional interpretations of the International Style by turning to local landscape, climate, and materials to inform their designs.

In an era of optimism and experimentation, these architects married building traditions with passive systems, new technologies, and innovative construction techniques. Emphasis on construction methodology was central to their work and became a model for sustainable design in the tropics.

Unfortunately, as a movement, Tropical Modernism spanned only a couple of decades, and not all homes survived. There were practical challenges, largely due to the nascent character of the materials used and the cultural context in which they were built. Thermal qualities of glass were minimal, insulation technology had not been explored, and the theoretical constructs behind these buildings were competing with the advent of air conditioning. Nevertheless, the ideas embedded in these designs are particularly applicable today. The goals - and challenges - behind Tropical Modernism are echoed repeatedly in our expanding material discourse, made current again because of the sustainability movement and emergent technologies. From a practical standpoint, today's higher performing materials (i.e. thermal insulation and low-emissivity glass) allow the local architect to seriously reconsider these past models for construction.

To illustrate this, this paper includes:
(01) New drawing research on the material selection and architectonic assembly of residential architecture built in South Florida's postwar period. As models, these projects display an incredible range of materials and buildings systems. As a critical research vehicle, the drawings provide a contemporary interpretation of the original work. As a visual tool-kit, they serve as a resource for emerging architects looking for innovative design solutions that take advantage of the tropical climate and lessen the impact on the earth.

(02) A Case Study House (my house actually) which I built on the Miami River in 2013. Looking for some alternative to concrete, I studied the Tropical Modern models in detail, ultimately turning to a steel and glass superstructure that included inventive details. In choosing steel over concrete, I used more sustainable materials and wasted less; simplified the assembly; and reduced construction time and costs, while allowing for increased cross-ventilation and a heightened sense of living within the landscape.

Open 1 (continued)

A TALE OF TWO CITIES: DISSIMILARITY AND THE NORTH AMERICAN GALLERIAS OF HOUSTON AND TORONTO

Gregory Marinic, University of Houston

On the surface, the North American cities of Houston and Toronto share very little in common. Their climates, geographies, cultures, and urban forms are radically different. Their political sensibilities and civic aspirations reveal remarkably divergent philosophies in regard to the public realm. Both cities represent dynamic, global, cosmopolitan places that are important at both national and international scales. Both cities act as primary gateway cities for immigrants to their respective nations. Both cities have witnessed rapid expansion and transformative development during the 1970s—development that shifted their status in regard to economic and cultural significance on a global scale.

It is widely known that Houston and Toronto laid the foundation for their rise during the 1970s, an era in which each city grew dramatically in prominence. It was during this time that both Houston and Toronto received several key architectural landmarks, and more particularly—a new, destination-type, regional shopping complex modelled on the Galleria Emanuele II in Milan. These new translations—the Houston Galleria and the Toronto Eaton Centre—reflected a shift in mall culture as an alternative design approaches to retail, urbanism, and the public realm in their respective cities. Two gallerias—one at the heart of its downtown and the other at a peripheral edge—aspired to more. They were built as architectural manifestations of the complementary powers of consumerism and popular culture in North America, as well as attempts to authentically resolve issues of urban growth. The Houston Galleria and Eaton Centre urban-interior "stage-sets" supported the financial aspirations of national retailers, while addressing shifting retail expectations and climate-responsive interior civic environments. Developed as hyperspaces, the Houston Galleria and Toronto Eaton Centre blended lessons learned from late 19th century, internally-focused European urbanisms with late 20th century consumerism. Conveying a Post-modernist aesthetic, these gallerias reflect the larger system of capitalism and guilty pleasures of consumerism—pioneering the expansion of North American cities at the hyper-interior scale as well as redefining expectations for the conventional, enclosed shopping mall.

As urbane and sophisticated shopping malls, each stood apart from reigning conventions to assert long-term design influences merging consumption with increasing commercialization. Furthermore, each of these twentieth century 'gallerias' presents a very different case for extending the city. In Houston, the Galleria would ultimately influence the design of master planned projects for tabula rasa greenfield locations in the metropolitan area and beyond. In Toronto, the Eaton Centre set into play a greater awareness for historic preservation and the urban fabric—key aspects in redefining and ultimately reshaping the project itself as well as the larger city. Both projects offer significantly different responses to the architecture of "urban-interior" retail, however, each has endured the test of time to remain resilient, desirable, and profitable within an ever-changing retail landscape. Beginning with a survey of interior urbanism and the history of arcade typologies, this essay attempts to unpack the lessons learned from both gallerias—and how these lessons have contributed to the radically contrasting architectural and urban development cultures of each city.

SPAIN IS EVERYWHERE: ASSET URBANISM AND THE SPATIAL AVATARS OF NEOLIBERALISM

Matthew Soules, University of British Columbia

Ghost cities with millions of purchased but unoccupied units China. Speculative housing estates constructed in Ireland only to be demolished before ever being inhabited. Penthouses in unprecedentedly tall and slender Manhattan towers purchased, for sums like $90 million, as investments by numbered companies. Housing affordability crises in a large number of cities, from San Francisco to London. The expanding role of real estate investment trusts in configuring America's built environment. Brand new but abandoned airports in Spain. The confounding opacity of mortgage-backed securities. Fifty percent office vacancy in Dubai while hundreds of new office towers are constructed and planned for the near future. This is a brief sample taken from a very deep inventory in what has become a familiar storyline of contemporary urbanization. From specials aired everywhere from 60 Minutes and to This American Life, and in the digital ink of The New Yorker, The Economist and lesser known local dailies alike, there is a widespread and emergent impression that the contemporary flows of financial investment and their mineralization into socio-spatial conditions are new, unprecedented, and different from those preceding them. A truism of the built environment is that it takes its form in relation to a large number of factors and performs in a polyvalent fashion in relation to them. One of these factors is, of course, money and its various abstractions. One layer of the money factor is the degree to which the increments of the built environment – parcels of land, buildings, and units – perform an investment asset function. Or in other words, the way these tangible ('real') entities function as locations to invest capital in the pursuit of financial gains achieved through an escalation in value that is facilitated with buying and selling in the real estate market. While the quanta of architecture and urbanism have served this asset function since at least the time of Vitruvius, when Roman properties were bought and sold in markets not entirely dissimilar to contemporary capitalist models, the degree to which built space functions as an asset is increasing and in diverse ways of which the effects on architecture and the city are under conceptualized. The name that this research applies to this new phase of architecture and urbanization is 'Asset Urbanism.' This paper explores the conditions of asset urbanism in Spain, and makes the case that in their extremity, they offer useful insights into what are now defining characteristics of 21st Century neoliberal space.

Performative Architecture: Entangling New Audiences

A PERFORMATIVE DANCE OF AGENCY

Bess Krietemeyer, Syracuse University

Emerging micro- to nano-material innovations for improved building envelope performance are radically shifting the possible design outputs for architecture - both in terms of environmental performance and for design aesthetics and user experience. They are also driving the need for designers to develop computational tools for envisioning their architectural implications, and consequently, for designing their engineered behaviors. The result is a co-design process that not only causes our disciplinary center to migrate to unfamiliar territories, but also invites the migration of other disciplinary centers into our world. In effect, a remarkable malleability and responsiveness of new materials will enable building envelopes to effortlessly capitalize on local environmental flows while offering a tremendous range of architectural outcomes that are subject to the desires of designers and the people who will occupy these spaces. Until this point, there haven't been building envelope technologies that have provoked the engagement of occupants to the degree that they offer now. Never before have we had materials that can respond simultaneously to environmental inputs and interact so subtly or explicitly to the preferences, moods, and individual expressions of their inhabitants. These developments are clearly on the "outsider" side of the schism, using architecture as an active tool for environmental and socio-political change. However, these materials also have the ability to satisfy certain architectural formal ideologies while still contending with outside forces. The environment schism isn't something to be resolved, but rather new architectural materials and technologies offer a both/and condition, where energy and aesthetics are informing each other, unable to be separated. The result is a diversified experience that is at once sustainable and empowering.

BETWEEN THE PYRAMID AND THE LABYRINTH: EXPLORING THE 'THIRD CONDITION'

Paola Zellner-Bassett, Virginia Tech

Public exhibits offer designers opportunities to speculate about design in relationship to the work to be displayed and the trends in design practice. At present, significant changes in the media landscape influenced in part by the overall increase in the production of content and by the exponential ease of access to knowledge ask, among other things, that we envision anew what museum experiences can be.

Within the triad content-space-visitor that determines a museum experience, the paper observes the changing nature of the visitor that increasingly seeks to participate in the making of the learning experience, and focuses on the role of the space in informing that experience. The immersion of the sensing body into installation spaces and museum environments has the potential to expand the quality of the experience from a visual and cognitive perception to a more diversely informed one, now scaled up by the incorporation of space as an integral component of the exhibit.

Referencing George Bataille (The Labyrinth) and Bernard Tschumi (The Architectural Paradox) the design for the environment Between the Pyramid and the Labyrinth, is presented here as an exploration in a series that aim to test and discover desirable implementations of interactive architecture (IA) and responsive technologies (RT) to augment the experiencing of the space and of the content.

Designed for a K-12 audience, the responsive environment sought, through the 'lived experience', to expose students to emerging technologies (content) and to learning possibilities available at the convergence of art and technology, while simultaneously raising the awareness of the physicality of the space as a result of their implementation.

The project was designed and fabricated by students in the course Textile Space offered by the School of Architecture + Design, and was installed in the black box theatre, The Cube, in the Moss Arts Center in Blacksburg, VA, during the opening week, October 2013.

Performative Architecture: Entangling New Audiences (continued)

STAGING ARCHITECTURE: THE EARLY PERFORMANCES OF DILLER AND SCOFIDIO
Whitney M. Moon, University of Wisconsin-Milwaukee

By the late 1970s, when architects Elizabeth Diller and Ricardo Scofidio formed their practice in New York City, performance had become the go-to strategy for artists to explore conceptual ideas, suggesting that through disciplinary trespassing and collaboration, new forms could be generated. Whereas postmodern architecture primarily aimed to resuscitate the corpse of modernism through historical pastiche and parody, postmodernism in the arts aimed towards interdisciplinary practices and performance. Rather than retreating into disciplinary autonomy, Diller and Scofidio opted to redefine architecture through direct engagement with the material world.
In the first decade of their creative production (1979-89), Diller and Scofidio differentiated themselves from other architects by designing dynamic constructions for theatrical productions. These works, which I call performances, were not scaled representations of buildings. Rather, as full-scale constructions, including costumes, props, and stage sets, they served as building experiments to test out ideas about the relationship between architecture, the human body, space, and time. Their first three forays into set design — The American Mysteries (1983/1984); Synapse/The Memory Theatre of Giulio Camillo (1986); and The Rotary Notary and His Hot Plate (A Delay in Glass) (1987) — in turn influenced architectural projects like the Slow House (1989-91).

For Diller and Scofidio, performance offered a new interdisciplinary lens through which traditional forms of architectural representation could be subverted. Interrogating a series of strategies ranging from kinetics to illusory devices, this paper argues that Diller and Scofidio pursued performance as a means to release architecture from its static objecthood and disciplinary autonomy. By seeking out this expanded field of performance art, they not only exposed themselves to a variety of artists and techniques, but also aligned themselves with theater and dance collectives, with whom they collaborated to design stage sets. Situating their early works within conceptual and postmodern performance, Diller and Scofidio are to be understood not only as beneficiaries of this rich performative culture, but likewise key contributors. As a result, Diller and Scofidio redefined how architecture was created and experienced through performance.

SETTING AND UNSETTLING THE STAGE
Beth Weinstein, University of Arizona

Within the last decade in visual, performance and performing art circles, French philosopher Jacques Rancière's lecture on the Emancipated Spectator has changed the debate about the dilemma of spectacle and spectating versus engagement and participation.

How does architecture participate in not only staging scenarios but also participate in scenarios? To perform must architecture actively become a dynamic, mobile actor in an event? Or can it do so by empowering humans to participate as dynamic actors or physically active interpreters? Or can it construct more engaging relationships for 'distant spectators' to also be 'active interpreters,' as per Rancière's terms? Can these three modes of performance be a way to question the performance of architecture in performance events?

Within a context of architectures for contemporary dance performances this paper addresses architecture's staging and participating in the scenario, and its engaging and empowering the performer, the public or participant. The works discussed in this essay resulted from collaborations between architects and choreographers, including Frank Gehry, TWBTA, John Pawson, Jaafar Chalabi, Thom Mayne, Nikolaus Hirsch with Michel Müller, and Francois Roche.

Open 2

DHARAVI REDEVELOPMENT PROJECT: CONTESTED ARCHITECTURE AND URBANISM

Vandana Baweja, University of Florida

Dharavi, located in Mumbai in India, is one of Asia's largest slums and shot to global fame with its depiction in the Oscar winning film Slumdog Millionaire. In 2004, Dharavi Redevelopment Project was launched as a public-private alliance between the Maharashtra Housing and Area Development Authority (MHADA) and global corporations. Its principal architect Mukesh Mehta listed the key goals of the Dharavi Redevelopment Project as: "sustainable development; rehabilitation of all the slum families and businesses; reestablishment of non-polluting industries; and the integration of slum dwellers with main stream residents." The Dharavi Redevelopment Project has been marketed as a form of sustainable urbanism through the HIKES (health, income, knowledge, environment, and socio-cultural development) program. The HIKES program, which effectively realizes the "world-class city" urban vision of neoliberal urbanists is postured as sustainable urbanism, making it attractive to neoliberal urbanists and middle class environmentalists alike. In theory, the Dharavi Redevelopment Project would provide Dharavi residents with cross-subsidized materially upgraded permanent high-rise modern housing, piped water, sanitized waste disposal, drainage, and green parks. Yet Dharavi residents have rejected it as a hubristic unsustainable modernizing project, designed to evict and disenfranchise them. This paper examines why the Dharavi Redevelopment Project is a contested model of architecture and urbanism to argue that the project is emblematic of class warfare over architectural typologies, urban space, urbanism, and the role of the state in making world-class cities. The Dharavi Redevelopment Project reduces slum rehabilitation to a simplistic problem of numbers in terms of Floor Space Index (FSI). At the core of the battle over Dharavi Redevelopment Project is a cultural conflict over urban citizenship and what the ideal city should be.

REIMAGINING ARCHITECTURAL THEORY FROM THE HISTORICIZED PERIPHERY

Joseph M. Godlewski, Syracuse University

While architecture curricula have been reconfigured to meet the demands of various theory transmutations, the Euro-American core of theory has remained surprisingly stable. While it may be argued that the center of theory has migrated, the presumption that theory emanates from Western global centers to the underdeveloped peripheries of the Global South has remained fairly constant. Moreover, due to theory's proclivity for assessing challenges facing the current moment and speculating forward toward possible futures, it tends to overlook historical concerns. The intention of this paper is to illuminate the productive potentials of shifting the center of theory both geographically and historically can have for generating a more fluid, interconnected, and relational understanding of space. The paper borrows insights from postcolonial urban theory and scholarship on the "risk society" to propose a terrain for the future of architectural theory. Theories about the architecture of the risk society have yielded compelling insights about contemporary architecture, though like the theories of Beck and others on which they are premised, they tend to focus on examples from Western metropoles. Using the decentralized political structure and urban form of Old Calabar as a counterpoint to studies of contemporary architecture and risk, the aim of this paper is to expand and historicize risk. Is it possible that by decentering our point of reference, we can generate theories more reflective of the dynamism and rich diversity producing the global built environment? It is argued that examining the architecture of Old Calabar reveals the diverse ways in which the local and the global are intertwined. Expanding our vocabulary to reflect the networked and impermanent spaces in Old Calabar can provide a more imaginative way of understanding the spaces of contemporary globalization. The historicized periphery rather than contemporary "center" marks the terrain of the architectural theory of the future.

EXPANDING NOTIONS OF HOME: CONCEPTUALIZING AND REPRESENTING GLOBAL CONSCIOUSNESS IN VANCOUVER

Mari Fujita, University of British Columbia

For the mobile and culturally diverse residents of Vancouver, home has become a plural concept; one that does not rely on a singular and static notion of place. In "Sovereignty without Territoriality: Notes for a Post-national Geography" Arjun Appadurai labels the production of transposed localities translocalities. He argues that people's tendency is to produce localities. Because people are increasingly moving across a more porous set of places that cross borders, the result are translocalities that may coincide and overlap within a given place. As Vancouver becomes increasingly globally conscious, how is the nature of home changing? While the potential for architecture to play an active role in the expanding notion of home in Vancouver exists, its proponents are yet to emerge. This paper explores the factors that contribute to the expanding notion of home in Vancouver. The context for this expanding notion is described historically and through the lens of fast-paced global development.

Way Beyond Bigness

THE BUILDING OF A CHINESE MODEL NEW TOWN: CASE STUDY OF SUZHOU INDUSTRIAL PARK

Zhongjie Lin, University of North Carolina at Charlotte

Each year more than 16 millions of China's rural residents – equivalent to nearly half of Canada's total population –move into urban areas. This massive urbanization has continued for three decades in what geographer David Harvey regarded as the "largest mass migration ever seen in human history." Amid such dramatic demographic shift and the resulting construction boom are ambitious plans throughout China to create new towns to house swelling population and to sustain economic growth. A series of prototype new towns have been built under various governmental initiatives. They are often conceived as exemplary piece of urbanism showcasing the latest planning ideas and environmental technologies, and represent the country's continuing effort of organized urbanization as a strategy to address complex economic and social issues.

Suzhou Industrial Park (SIP) is one of such high-profiled national demo new town projects. It was created in 1994 as a joint venture between the central governments of China and Singapore to introduce the latter's successful experience in new town development. Occupying about fifty square miles, SIP not only houses thousands of high-tech industries and businesses, but has also grown into a beautiful city with more than 700,000 residents. Its planning is characterized by advanced infrastructure, rigorous control in programs and urban form, and an extensive network of open spaces. Its residential areas are organized according to the principles of "neighborhood unit," a concept originating from American Regional Planning yet revised with Asian density and building types through Singapore's adaptation. An elaborate review system was established to ensure that all projects, from buildings to landscapes, are orchestrated under the master plan. This has distinguished the SIP from other new towns in China, and has been lauded as the "Suzhou model" and emulated by many succeeding projects. However, SIP is also emblematic of typical issues that impact the development of Chinese new towns. Despite its order, economic vitality, and popularity, SIP is dominated by super-blocks with corporate campuses and gated communities in the scale of automobile rather than pedestrian, and its uses are often separated.

This paper focuses on Suzhou Industrial Park as a case study to examines the planning and development of "model new towns" in China. At the center of investigation through the lens of urbanism is the relationship between place making and social development. It raises important questions about the urban transformation in China: what kinds of roles do the public agencies and the private sector play in these new town projects? Has the growing awareness of sustainability become a driving force for innovative design, or does it remain political rhetoric for the marketing of entrepreneurial governance? To what extent is the force of globalization embedded in the process of place making under specific local conditions? What are the benefits and compromises of the approach of "model" in town building? Studying China's emerging new town movement from design and policy perspectives, this paper contributes to the understanding of new patterns of urban growth in the global context.

FROM MASONRY DESIGN TO SOCIAL AGENCY

Hooman Koliji, University of Maryland

Stretched along the northern mountains of Tehran, Ferdowsi Garden (30 acres) —the recipient of a 2001 Aga Khan Architecture Award—represents a synchronized rendition of a "nature-urban" public landscape at both the micro and macro scales. Initially conceived with the goal of limiting the urban sprawl that was leading to the destruction of many private and public gardens that once graced the city, the design and craft of the Ferdowsi Garden has exceeded that objective at many levels.

Commissioned by the (former) reformist Mayor of Tehran for an "innovative approach to environmental design, which limits urban development and promotes an awareness of conservation and nature amongst the urban population of Tehran," the design successfully achieved environmental, sociocultural, and political aspects. In Postwar Iran and at a time of societal shifts in the nation, the design of Ferdowsi Garden responded to the needs and aspirations of a diverse and divided society. The design in part satisfied the formal view of a conservative state, and partly fulfilled the informal aspirations of the society, two perspectives with minimal overlap.

This paper examines the underpinnings of design thinking and process associated with Ferdowsi Garden through the following lenses: environmental, material, and sociocultural, attributes. This paper also examines the inherent connection between each of these categories. How informed and playful use of material can draw from larger cultural and environmental contexts and grant a social identity to placemaking? How meticulous masonry design can relate to suppressed aspirations of a city (both environmentally and culturally) and its inhabitants? And how these can be as social agencies in terms of designed spaces. The study draws on field studies conducted by the author, existing literature, and most importantly, original drawings, notes, construction photographs, and interview with the project designer.

Way Beyond Bigness (continued)

LOSING GROUND: URBAN SACRIFICE ZONES IN THE MISSISSIPPI RIVER BASIN

Shelby Elizabeth Doyle, Louisiana State University

The redesign of the Mississippi River Basin is an architectural project. As a constructed surface, the vastness of the Basin can be analyzed, understood, and reconsidered through examinations of its material assemblies and their consequences. Material undoes the abstraction of vastness and is an antidote to the haziness of the mega-scale. Each individual design from wall detail, to 'every square foot of new pavement', accumulates to the mass of the Basin: 11,400 square miles of material consequences. The upland Basin is folded, controlled, and directed to maintain navigation, tame flooding, and prolong human settlement. Inheriting the results of this prioritization is Coastal Louisiana, the drainage outlet for forty-percent of the continental United States and part of two Canadian Provinces. Manipulation of the Basin's surface into failed stasis resulted in the disruption of the sediment cycles and subsequent destruction of the Louisiana Coast, which is disappearing at a rate of 16.57 square miles a year, equal to the loss of a football field of coast every hour. (USGS Report, 2011) (Figure 1)

The Louisiana Coast reflects the aggregate consequences of the anthropocene sooner and faster than possibly anywhere in the United States. Consequently, the present conditions of the Louisiana Coast represent several possible scenarios for the future of the nation's coasts and provide a real-life context for examining the tools, methods, and practices that will be required to cope with those consequences. A possible tool, the US Board of Geographic Names, measures the loss of urban conditions in the Mississippi River Basin. The town of Leeville, Louisiana is presented here as a surrogate for towns throughout the Gulf South. Unprotected by the levee system and exposed to the impacts of a changing climate, coastal land loss, and increasingly violent storms, fewer than thirty permanent residents remain on a sliver of land between the expanding Bayou Lafourche and beneath the now elevated Highway LA-1. As a harbinger of coastal Louisiana, the town of Leeville is from the future. The town represents the urban and environmental conclusion of current industrial socio-economic organization, while simultaneously presenting opportunities for preservation, restoration, and renewal strategies. Leeville reveals the architectural and urban scale of the Basin's material construction and exposes that the ecological restoration of the Louisiana Coast as an architectural issue. This paper introduces the concept of 'urban sacrifice zones', identifies the US Board on Geographic Names as a metric for urban loss, and presents a graduate architecture studio about Leeville, Louisiana as a case study.

Beyond Patronage

INSTALLATION WORK

Anna Neimark, Southern California Institute of Architecture

The XX Center for Art and Architecture in XX, annually invites an artist to collaborate with an architect on an installation in the XX gallery. The role of the artist is rather straightforward: to place a work of art inside the gallery space. The role of the architect could be considered in parallel: to place a work of architecture inside the gallery space. But when architects are confronted with this task, it is not entirely clear what that should mean. How does one place architecture inside of a gallery? What does it mean in disciplinary terms? What should it mean in terms of professional practice? After all, if architecture should remain a critical practice, it would have to resist occupying any such space neatly or clearly.

With many museums and galleries offering such projects to architectural firms today, the proposals to curtail architectural problems into the format of an installation extend beyond any one particular case. Not too small to be an exhibition of models from the office and not too big to be a full commission, it seems to be a comfortable way for young architects to express their ideas on a small budget and outside of practical constraints. And although this new model of patronage often offers the only outlet for many designers who have not yet established a traditional client base, there are many problems that arise from its format that push the architect into a peripheral field.

XX is a project that attempts to position the architectural installation as another professional service within the context of the gallery. It is a project that is, therefore, strangely normal. Rather than push boundaries through interdisciplinary experimentations that point outside of the field, it makes the conventions of building and its representation, as well as the norms associated with specification and codes of construction, explicit. It is an installation about the translation of drawing to labor, requiring us to revisit all the social conventions and disciplinary tools that determine the domain in which we operate. In particular, it is a response to some work that moves the field into diluted interdisciplinary territories, defying all conventions and building methods in lieu of technical determinism.

When architects are asked to work on an installation, they often end up designing a big sculptural object. Neither a piece of architecture, nor a model, it confuses us about what its role in the discipline might be. Contrary to this, when architects are asked to provide a professional service—to remodel a bathroom or design a house—the project is usually executed through the conventions of architectural drawing and building practices. Those kinds of mundane limitations, often left behind by the installation, seem to be fundamental to the labor of an architect. The project uses the specification book as a practical manual as well as a representational medium. Finding abstraction within conventional instruments of practice, the project attempts to locate a series of disciplinary problems within practice.

UNEXPECTED DEFINITIONS: PRACTICING WITH A CITY

Cathlyn Newell, University of Michigan
Brandon Weiner, Creative Rights

Strategically operating among the questionable and fluctuating legal and material definitions abundant in Detroit, the creative practice and pedagogy stemming from the work of Alibi Studio, with collaborators Creative Rights and Broken City Lab combines inquiries of law and design through built material works. Sparked by a research collaboration of designers and lawyers this impactful approach acknowledges that there is no better way to productively research, reveal, and agitate the distressed state of a city than engage it directly through making. In doing so the weight of cultural realities, direct material manipulations, legal interpretations, and the actualities of spatial production collapses architectural interpretation with the city itself as a bold relationship centered around unexpected definitions.

ON THE AGENCY OF ARCHITECTURE IN CONTEMPORARY PUBLIC EDUCATION

Erkin Özay, University At Buffalo, SUNY

In the context of shrinking public budgets and reformist pressures, current education planning processes in the US tend to overlook crucial spatial parameters. Mainstream school building practices are also highly prescriptive, limiting the possibility of synthetic and multi-scalar approaches. At the same time, the contemporary public school project is in dire need of a new conceptual framework to address emerging procedural and urban factors. The paper gives a brief account of the post-World War II era research on schools as a precedent for constructing such a framework. It then discusses potential openings for effective architectural practice in the context of educational facilities through two cases of collaborative engagement. In order to arrive at a potent socio-material practice capable of rethinking our public institutions, the paper emphasizes the need to confront procedural and urban indeterminacies head-on.

FROM INSTITUTIONAL TO SMALL-SCALE ECONOMIC STRUCTURES

Luis Diego Quiros, University of Maryland

Socio-spatial theorist Neil Brenner argues that even as planetary urbanization has expanded and evolved, urban production "remains a fundamentally capitalist process." As a result, cities worldwide are plagued with social and spatial situations that for critics like David Harvey exemplify the imperfections of the economic model. One of them is the loss of power that central social and administrative institutions – such as municipalities and local governments, have to manage, invest and produce a more democratic and equal city. Consequently, understanding the holistic apparatus that enables social and urban changes – especially when it comes to the economic and institutional sustainability of a long-term project such as Medellín's urban and social transformation is critical. As such, Medellín's Transformation Model presents a unique opportunity to analyze the role that different institutions, programs and agents of change played in the city's evolution from the most dangerous city in the world to the most innovative. And so, as many architects and urban planners naively argue that it was mainly a series of spatial interventions that triggered the transformative process, this paper explores the principles, institutions and political changes that in fact made the territorial interventions possible and feasible. In particular, the paper examines the role that two important institutions have as financial and technical supporters of the project: Medellín's Public Utilities Company [Empresas Publicas de Medellín or EPM] and the Urban Development Company [Empresa de Desarrollo Urbano or EDU]. These two companies are vital in the city's development efforts as they provide economic and technical resources that enable the Municipality to act through participatory processes on behalf of the population. This topic is critical because as municipalities and institutions around the world struggle to meet financial obligations - as revenues decline and costs increase, the role that the EPM and EDU played in Medellin's makeover serves as an example of a model that goes from production of capital to design and action at multiple scales.

Design Agency By Engaging Industry

FAST CASUAL ARCHITECTURE

Karen J. Lewis, The Ohio State University

In the fall of 2013, Ohio State University partnered with the Bob Evans Corporation to develop a research studio around the question of how to redesign Bob Evans Restaurants. Using the trope of the "Fast Casual" restaurant, design studios are charged to work in a fast and casual manner to identify flexible components. Quite quickly, the lines between food, site, service, demographics and architecture became very casual.

IN ADJACENCY: ARCHITECTURE AND THE WASTE MANAGEMENT INDUSTRY

Curt Anderson Gambetta, Princeton University

This essay investigates how design speculation in the university can produce social accountability and change within the world of new forms of environmental management such as waste management. It considers the case of three design-based prototypes that were developed as provocations not only to industry, but to other groups such as advocacy-based organizations and government agencies. Reflecting on the limits and consequences of each protoype, the paper proposes an idea of adjacency as a mode of engaging industry, drawing on anthropologist Paul Rabinow's understanding of researching scientific research as a groundwork for architecture's disciplinary role as observers.

DREDGEFEST: SOCIAL EXPERIMENTS IN SEDIMENTARY LANDSCAPES

Rob Holmes, University of Florida
Brett Milligan, University of California, Davis

This paper provides a critical account of 'DredgeFest', a series of design events conceptualized and produced by the Dredge Research Collaborative. DredgeFest is an interdisciplinary and public event series consisting of symposia, exhibitions, landscape tours, and design workshops, all of which are deployed to investigate the anthropogenic design and manipulation of sedimentary processes. This manipulation, performed in large part by the "dredging industry", which we construe broadly to include dredge operators, materials manufacturers, environmental consultancies, engineering firms, and government agencies, is extraordinarily extensive. Correspondingly, interest in its design potential has recently grown within design disciplines, yet agency in this sedimentary field has thus far generally eluded designers of the built environment.

DredgeFest is an effort to address these disconnections between designers and industry. The social intent of these events is to provide a novel and generative forum that draws together designers, corporate practitioners, industry suppliers, academics, federal and state agencies, scientists, activists and the general public to share expertise and discuss challenges related to dredging and other sedimentary manipulations. Conceived as a four part series examining North America's four coasts, two of these events have been completed (DredgeFest New York and DredgeFest Louisiana) while DredgeFest Great Lakes and DredgeFest California will occur within the next two years.

Situated at the midpoint of this multi-year research project, this paper documents the intentions and actualized activities of these events, as well as what they have achieved or not yet achieved with respect to creating a space for active experimentation in real world contexts of environmental design, planning and engineering. Additionally, this paper provides a provisional set of lessons learned through the DredgeFest event series which may be broadly applicable to efforts to link design and industry.

STORM RESILIENT DESIGN WITH PRECAST CONCRETE: NEW PRACTICES, NEW KNOWLEDGE NETWORKS

Matt Burgermaster, NJIT

This paper describes the work of the Precast/Pre-stressed Concrete Institute (PCI) Architectural Design Studio, an industry-sponsored program at the New Jersey Institute of Technology. As a partnership between the academic community and professional precast concrete industry, the program couples together a focused, intensive, semester-long exploration of a specific material and construction type - precast concrete building systems - with a more expansive study of multi-disciplinary issues associated with the emerging field of resilience. It is a demonstrative example of an academic program that strategically positions the discipline of architecture between a specific body of industry knowledge and general knowledge in an expanding field.