inter-

TKTK

-section

inter-

Masthead

inter-

Content

-section

inter-

Notes from the

-section

Designer and Editor

Christina Badal + Gina Ciancone

Columbia University

inter-

*O*n Names:

TKTNK, Columbia University's multi-disciplinary undergraduate architectural journal, is the child of redefinition. Formerly *Tectonic*, the newly re-cast publication represents a spirit of revitalization and hybridity that speaks to the rapidly transforming nature of contemporary intellectual production. It attempts to do away with the hoary, conservative vestiges of academia while putting forth an effective, direct, and democratic optimism. Hence, *TKTNK*: a bold, stripped-down name uniformly rendered in capital letters.

*O*n Color:

In the hope and expectation of having founded a newly robust and long-lasting publication, *TKTNK* has been designed to establish a flexible template for future volumes. Though each issue is defined by a particular theme, it also exists within a growing collection. A single non-white paper color, reserved for the cover, project, and title pages, thus becomes a way

-section

to both identify a given issue and place it within a larger framework. *TKTNK One: Intersection* utilizes red paper to reference the representation of architectural sections, highlighting the way splitting open a form can reveal surprising interactions and adjacencies. The issue posits that cutting disciplinary lines to bring together varied creative output inspires productive insights and encourages the exploration of undefined realms.

Christina Badal + Gina Ciancone

On Intersections:

This act of breaking down—of exposing a system to see how disparate parts might suddenly cohere—further manifests itself in the use of type and formatting. Two font families, one a transitional—that is, between modern and old style—serif and the other, a sans serif amalgamation of classic realist typefaces, tout their hybrid nature while occupying opposing ends of the typographic spectrum. Their juxtaposition draws out both their differences and their complementary qualities. The monospaced san serif, for example, literally underscores quotations from cited works, pointing to the fruitful interaction of new and established ideas.

A playful interchange between successive paragraphs, which shuttle back and forth across the pages, suggest how the introduction of cracks in a body of work might spur novel thoughts and opportunities for collaborative expansion. Indeed, each submission is introduced with a provocation culled from its content, a kind of editorial mash-up of ideas that have risen to the top, ripe for re-interpretation. *TKTNK* invites the reader to exploit these intersections and create new incisions in the architectural landscape.

inter-

*T*o the Reader:

As the foundational installment of an expanding series, *TKTNK* arrives at a seminal moment within our design community at Columbia University. The work within is a selective sampling of projects undertaken during the past academic year. We have decided to combine design proposals and scholarly research to display a panorama of interests that represents an Intersection which has ultimately generated a series of design investigations on both domestic and international fronts.

*T*o the Architect:

Notes

This collection does not intend to incarcerate past work but rather aims to become a projection for future explorations. Contributions from a variety of disciplines, including Urban Studies, Philosophy, History, and Sociology challenge conventional boundaries of Architecture and invite us to reconsider the role of architects. *TKTNK* and the Intersection it engenders critically examines the expansion of our Architecture community into a network of Interdisciplinary Designers.

*T*o the Audience:

We hope you will enjoy

-section

MadCow: Food,

-section

Form, Memory

Victoria Douka-Doukopoulou
Royal Academy of Art, The Hague

*D*uring the month of November 2013, ten students from the Royal
Academy of Art, the Hague spent ten days in the Nieuwe Persvoeder Fabriek
in Veghel, Netherlands working towards a combined performance that
explored the vertical tower and uncovered how the factory could become a
site of new sensory digestions.

> The single night performance breathed new life into the old factory
> architecture: pipes and funnels burped and belched with sound; grain
> scuttled through the old cyclones; invisible air was rendered visible; a
> rhythmic manifesto resuscitated the cyclical nature of the machines;
> handwork transitioned to machine production and oral history bellowed
> from the basement. The performance poetically subverted the clockwork
> metabolism of the industrial food chain from molasses to the cow, to the
> suspensive sensory experiences of art.

MadCow was conceived as an exploration of the culinary underground of
Veghel's former fodder factory. It was born as a conversation between the
micro scale of art and the macro scale of the food industry. It grew to be a
composed performance–installation that dealt with the metabolism of the
industrial food chain and its architecture through an artistic medium.

> The Nieuwe Persvoeder Fabriek (NPF) processed animal fodder for livestock,
> mainly for cattle. Its principal location was a 30 meter tall feed processing
> tower constructed in 1956, which specifically produced "veekoeken"
> (compound feed for animals). The MadCow research project ruminates

MadCow

-section

on the location and the history of the NPF tower by means of three main research axes: the cattle and the cow, the architectural space, and the essence of evocation and remembrance. Metabolism acts as a common denominator between all three axes. More specifically, metabolism is a recurring theme within the cow's ruminant digestive system and the methods in which architecture "concretises the cycle of the year" and makes visible the passing of time. It also represents the symbolic, the synthesis, and the breakdown of memory (Pallasmaa 52).

The performance-installation took its title from the first research axis: as the public waits to enter the space they are presented with the "veekoeken," which has a distinct, piercing smell that fills the room and is caused by its main ingredient: molasses. The fodder processing tower, although inactive for decades, still carries this pungent smell. As the public prepares to enter the structure, they are formed into a receiver of the performance-installation similar to the cow's forced reception to the former fodder factory.

MadCow calls the public to be divided in two groups before entering the NPF tower. The two groups of spectators are guided through the performance by a team of guides holding flashlights. The guides also serve as the only constant light source in the almost pitch black fodder factory. The deep shadows and darkness are essential and aim to dim the sharpness of vision so that depth and distance become ambiguous and allow the unconscious peripheral vision and sensory fantasy to embellish as needed.

The first group enters the NPF tower from the west side and is guided up the stairs into what used to be the control room, where a series of television monitors on scaffolds are are now installed. The arrangement of videos portray a set of hands performing several actions: sorting, picking, blending, forming, molding, discarding—actions that the NPF tower formerly employed but scaled down and stripped from its complex mechanisms (Naja Ankarfeldt, Marius Mathisrud, Beng Yuenyong). While the second group comes in from the main entrance on the base floor and heads up the stairs to where the inactive screw conveyors are used as the
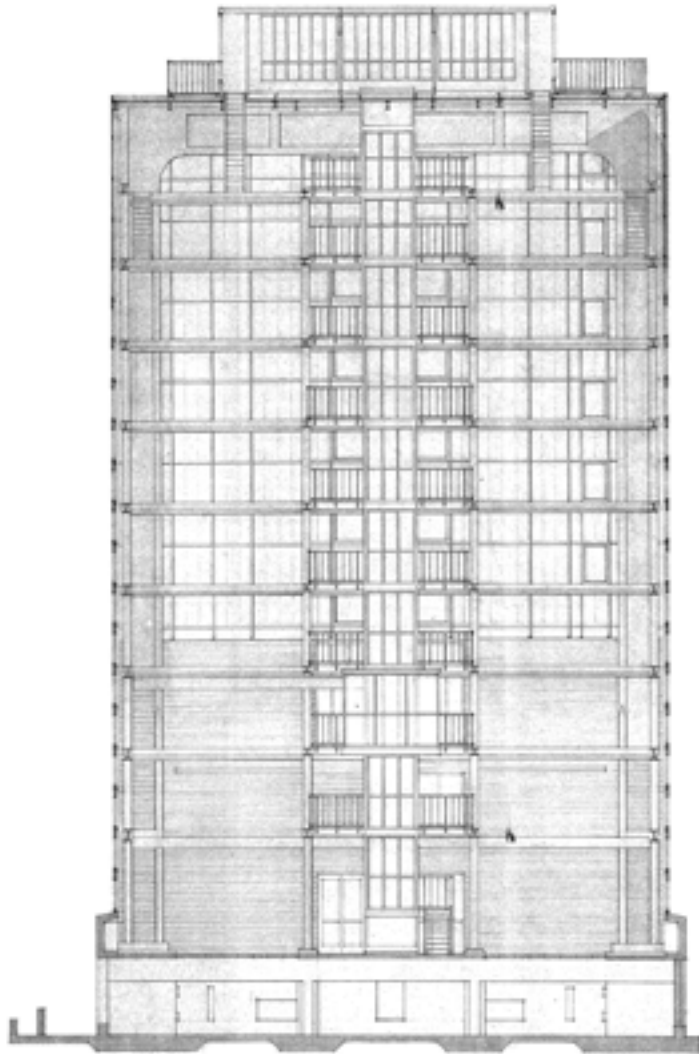
Victoria Douka-Doukopoulou

inter-

Blueprint of Nieuwe Persvoeder Fabriek (NPF) tower section

MadCow

-section
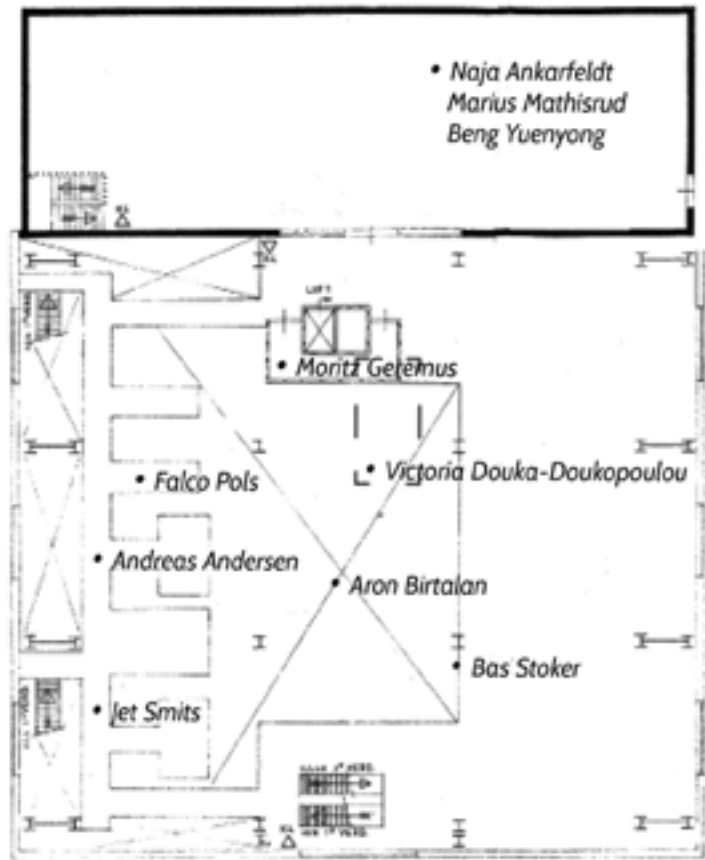
Blueprint of Nieuwe Persvoeder Fabriek (NPF) tower plan labeled with performers

background for a video installation of falling grain. The floor area between the screw conveyors is covered with a thin layer of grain, and as the public moves through the space, the imagery of the falling grain develops a physical presence through the senses of sound and smell (Jet Smits). The architecture of the processing tower directs both experiences, as it "underlines the 'subtle transference between tactile and taste experiences" and the audience is able to understand how the sensory experience of the world originates through the interior sensation

of the mouth. Under the idea that "the most archaic origin of the architectural space is the cavity of the mouth." the fodder factory now acts as the cavity while the individual mouth becomes an instrument used to understand it (Pallasmaa 60).

> After a short interval of time, the groups are brought together on the south work platforms, which provides a clear view of the mechanics of the grain elevator tower. They stand on the first and second floor work platforms while the light condition changes as a mild red light starts illuminating the space. Looking downwards, the manifesto of the performance is visible and reads:

> Tower of cycles –
> never-changing, nor ending.
> Built for the everlasting, bound in temporality
> Falling upwards, air thrusts –
> a neon summit muscles of steel, veins of light
> Ascending downwards, through moans of grain and bolts
> Pastoral rust and bones,
> Helix redemption

> – Áron Birtalan

MadCow

Looking up, the audience now sees the distributors and consignors, the funnels where the grains previously fell and the spouts that lead into a number of bins, silos, and tanks. Although clearly idle for years, the rusty mechanisms seem abiding for the evening, occupied by series of microphones and speakers that feed-back the resonance of the metal pipes (Andreas Sahl Andersen, Moritz Geremus, Falco Pols). After the 12 minute sound performance, the two groups switch places and to experience the installation. As the tower grows dim again, the group's decent to the bottom floor is drowned out by the warm sound of voices speaking and a faint light. As the audience explores the area, it becomes clear that the stories narrated about the factory stem from metal storing silos that occupy the

-section

ground floor and function as both the topic and the location of the narrative
(Bas Stoker).

When the performance comes to an end, the space shifts into darkness
for a final time. Stomping, walking, running noises fill the space and the
spectators' attention is drawn upwards to the previously unexplored top
floors. Bright white construction light suddenly makes the audience aware
of the size of the tower and the place develops a silence with room for only
the breath of the performer standing on the fifth floor funnel platform to be
heard. Breathe in, breathe out. The breathing is amplified by the acoustics
of the metal structure; eventually a clear plastic bag, which resembles a silo,
is dropped. Filled with the performer's breath swirling through the air, it
eventually hits the ground and marks the end of the performance (Victoria
Douka-Doukopoulou). Through stroking the boundaries of the space with

View of interior of NPF tower, left, and performacne manifesto from south work platforms, right

their senses, the audience's perception and imagination fuses and revokes
the architectural space of the former fodder factory with all its sounds,
smells, and light variations that merge vision and fantasy (Pallasmaa 70).
The later part of the performance-installation explores the possibilities
of synthesizing while disintegrating memories. It gievs a new view and use

Victoria Douka-Doukopoulou

inter-

to existing mechanisms and holds the potential of rebuilding new life.
The audience exits as they entered, the performers resume their initial
positions, and the sequence is repeated four times throughout the evening.

The public was warmly invited to experience the fruits of this artistic assembly line on
November 29, 2013 at the Nieuwe Persvoeder Fabriek in Veghel, Netherlands. The project
was made possible with the kind support of Kunstgroep de Compagnie and with special
thanks to Henk van Wanrooij.

with: Andreas Sahl Andersen, Naja Ankarfeldt, Áron Birtalan, Victoria Douka-Doukopoulou,
Moritz Geremus, Marius Mathisrud, Falco Pols, Jet Smits, Bas Stoker, Beng Yuenyong

Facilitated by Wietske Maas and Cocky Eek

MadCow

-section

Works Cited:

Pallasmaa, Juhani, *The Eyes of the Skin: Architecture and the Senses*. John Wiley & Sons, 2013. Print.

Victoria Douka-Doukopoulou

Diagramming

-section

Difference: a process beyond performance

Alex Porter
Columbia University

*T*he architectural polemic begun by Gilles Deleuze and Felix Guattari, which defined a diagram as an abstract machine, contains a challenge internal to its definition. The space between the definition's terms (abstract and concrete) posits a bridge between a virtual, or non-present plane and the metaphysics of presence with which architectural work typically complies. This study introduces an investigation into the conditions of possibility that enable such a transition. Working outside the assumption that presence determines the force behind a diagram, I propose a condition of difference under which the diagram performs. The performance of difference implicit in a diagram points toward Derrida's idea of *différance*, presenting the diagram as an abstract motor of design process that subverts the authority of the metaphysics of presence.

*A*bstract Machines

The diagram in architecture presents a conveniently ignored paradox: a machine at once abstract and concrete, both away and present. In Deleuze and Guattari's book, *A Thousand Plateaus* (1980), the abstract machine is an anti-genealogy which is "not physical or corporeal...it is diagrammatic...It operates by matter, not by substance; by function, not by form." (Deleuze 141). Outside of architecture, the abstract machine is a system of operation beyond presence, without

Diagramming Difference

-section
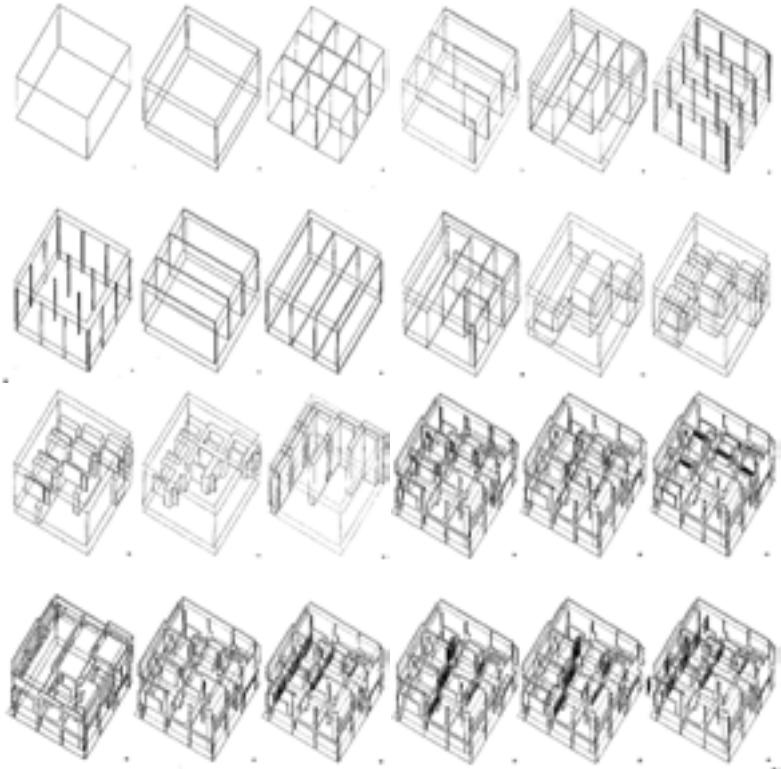
Eisenman, Peter. "Diagram of House II." (1969)

inter-

correspondence to a present substance or to a form within the boundaries of presence. Deleuze and Guattari replace Chomsky's genealogical binary structures with a dynamic model in which lines between points are important and the points themselves are not. They continue by stating "substances and forms are of expression 'or' of content. But functions are not yet 'semiotically' formed, and matters are not yet 'physically formed.'" This abstract machine avoids the static signification model by suggesting a performance; it does not present fixed information. Unlike a semiotic model in which something is, a performative model is one in which something happens. It is a condition by which an abstract machine must refer to an operation outside of the boundaries of physical form. R.E. Somol points out the difference between performance and representation as the difference between the virtual and the real (Somol 8). A performance is function and in opposition to form, which operates between physically formed points. It is an implication—for it is communicated by suggestion—cannot be articulated, and is never properly present.

Performance functions to generate a diagram-drawing, but the diagram becomes an image of presence when it produces an architectural analog. This incompatibility between a machine reliant on a non-physical performance and an image demanding a physical product is the ignored paradox of the abstract machine in architecture (Eisenman 27). The diagrammatic operation becomes architectural only by masking the diagram with a fixed layer of semiotic information which posits a univocal signification system: precisely the system to which Deleuze's diagram is opposed. Deleuze and Guattari further propose "the abstract machine is a pure Matter-Function—a diagram independent of the forms and substances, expressions and contents it will distribute." The Matter-Function operation is cleaved from the substance-form reality, an autonomy under which the nature of the diagrammatic performance might be realized. This is not a conflict seeking to deny architecture's compliance with the metaphysics of presence, but one questioning the relationship between a diagrammatic mechanism of performance and the way architecture uses it to comply with presence.

Diagramming Difference

-section

Reconciling the implicit paradox of an abstract machine with an analog in presence demands an examination of the conditions of possibility a priori of diagrammatic process. Anthony Vidler approaches this dilemma in his essay, "Diagrams of Diagrams," in which he argues that digital diagram practices upset the iconic statement of a traditional diagram by blurring the line between virtual and actual space (17). The study undertaken here, of the performance implied through diagram-drawings, is itself the diagram of diagrams. The meta-diagram of performance speculates on the possibilities of a diagram outside of practical application, and removes the traditional assumptions of material, form, program, etc. undermining the diagram's autonomy. Removing the architectural diagram from the context of architectural problems exposes the conditions under which it operates.

Because these are not the conditions of presence, the performative diagram does not conform to architect Stan Allen's definition of "an abstract means of thinking about organization" (16). This argument buries the diagram's performance in an assumed order of things, using a signification model to propose local possibilities and relationships. Nor are these the conditions of "the social-discursive aspect of architectural practice," as Dutch architects Ben van Berkel and Caroline Bos have suggested (19), This proposal operates under the premise that architects motivate a diagram from an abstract model into a present substance by mapping an image of reality. The image of the diagram within the metaphysics of presence is not escaped by Peter Eisenman's argument that the diagram is a space of writing, and that writing reveals a sub-conscious, already-written interiority that is outside the boundaries of presence. This proposal is rooted in the relationship between "an authorial subject, an architecture object, and a receiving subject": a relationship which carries the assumptions of all three and obscures its *a priori* conditions (Eisenman 29). While each of these hypotheses has venerable application in addressing a certain architectural challenge, the question of performance at hand demands an alternate condition: the condition of difference.

Alex Porter

inter-

Difference is the line between points, as described by Deleuze and Guattari's abstract machine; it is a performance between these points, without these points. While difference has historical place in diagrammatic practice as the device of repetition, the condition of difference does not necessitate repetition (Davidson 47). Rather, difference breaches the surface as an operative condition in a diagram's performance; it is given a plane of immanence, as Deleuze and Guattari might say ("What" 35). As Somol argues, the possibility of an epiphany created by the diagram, "the mise en abyme (or 'placing into the abyss') is a figure of difference, of infinite regress" ("Diagrams" 25). The projection of diagrammatic space prepares the diagram to reveal the condition of difference on which it stands, for it must only resemble a figure that stands in for the impossible presentation of difference. A "figure" of difference is a second paradox with which to combat the conflict between the diagram and the metaphysics of presence. This condition allows the "points" in the diagram (in a physical drawing) to fall away, behind the performance of the diagram. This recalls Stan Allen's apt comparison of a "stealth diagram" to the slogan of the 1998 Winter Olympics: "You won't see us but you will see what we do" (16).

A Shape to Fill a Lack

The performance of difference is predicated on the construction of diagram as shape. Shape is literal here; it is the establishment of the points that enable difference to emerge. As a geometric shape this idea is nowhere more clearly shown than in Peter Eisenman's serial diagram for House II (1969). A manifesto of the diagram's autonomous performance, the House II diagram develops a square prism outside of space by exploring the intersection of redundant spatial and structural principles. Ignoring the meanings of the varying spatial explorations, the geometric process language of Eisenman's drawing can be read as a shape for the difference between figures. The difference is a movement between, which allows the

-section

diagram to imply a series of external "forces" that effect these differences. "Forces" are not exactly the correct expression, for they are traditionally associated with an operative agenda in which the architect manipulates some substance to create an architectural object. The diagram for House II avoids operational performance, allowing the performance of difference to emerge more clearly. The procession of plates has less to do with a decision and suggests the movement of difference that happens—that must happen—in an axonometric space outside of presence.

For example, between plate 1 and plate 2, fission of the original square prism produces a movement from one to two square prisms. Between plates 3 and 4, and 5 and 6, these two squares demonstrate distinct and redundant structural and spatial properties that are possible because of the original fissure. The comparison between these figures constitutes the legibility of their difference. One can say that plate 3 (a 9-square spatial division) differs from plate 4 (a 9-square column structure) because both shapes of the 9-square grid are adjacent in the diagram. This difference is not teleological nor is it overtly operative (as the processions in House IV or VI are) but simply emerges in an objective comparison. The procedure of the House II diagram does not begin with presence but begins its performance of difference before the first prism shown in the shape of the diagram. It follows Deleuze and Guattari's paradigm for an abstract machine "laid out on a plane of consistency, and from which the One is always subtracted (n-1)" (21). The plates of House II can be considered as shapes to demonstrate the movement of difference, a movement that is like subtraction. If a diagram is read by subtraction, its performance reveals the condition of difference behind the surface.

The performance of difference considers the diagram as a shape responding to difference. This idea comes from William Faulkner's novella, *As I Lay Dying* (1930, rev. 1957), in which language is "just a shape to fill a lack" (58). As Faulkner implies, the shape is an imperfect, subjective fit that only partially covers some lack in the present. It is exactly this imperfection through which Eisenman's diagram reveals the performance of difference, making the diagram a shape for some lack. Considering

Alex Porter

inter-

the general program-form design challenge as a lack, this position is corroborated by Stan Allen's interpretation of architect Toyo Ito's "<u>Diagram Architecture</u>" as "<u>an architecture that establishes a loose fit of program and form, a directed field within which multiple activities unfold, channeled but not constrained by the architectural envelope</u>" (18). This acknowledges the form-diagram relationship as only one particular of many possible envelopes—a single shape amongst many to fill a given challenge. Following Eisenman's diagram through to a built form, the sum of the shapes of differences generates a "buildable" architecture object, a problematic conclusion based on the diagram's performance of subtraction (n-1). Eisenman immortalizes the shape of the diagram by crystallizing it in built form rather than considering it as an incomplete shape that both fills and reveals a lack. The device of repetition denies the building as an end point, for there is no hierarchy of figures within his diagram nor is there a univocal procession along an operative agenda. This contradiction between Eisenman's House II (physical) and Allen's commentary of "<u>loose fit</u>" confirms the common denominator to be a diagram that is the shape of difference.

With this interpretation, the shape of the diagram is a sheaf: an assemblage to present a difference. If we insist on the chicanery of the word "sheaf" then the performance of difference in architectural diagrams is not so distant from the différance hypothesized by Derrida (3). One can think of the différance as the meta-diagram revealed through the performance of difference, which challenges the authority of the metaphysics of presence (Derrida 10). Derrida explains that the différance cannot be exposed, for "<u>[o]ne can expose only that which at a certain moment can become present</u>," which the différance is not (5). If we are to follow French philosopher Merleau-Ponty, and consider a shape as "<u>pregnant with its form</u>," then diagrammatic sheaf, as a shape, can also be pregnant with différance (196). This is not to say that it contains différance but to suggest that it occupies the space, or the lack, in presence that remains where différance abandons presence. Through this lens, the mapping of semiotic information that is required to concretize an architectural diagram is only another shape "<u>put in the place of the</u>

thing itself," representing "the present in its absence" (Derrida, 9). Like Faulkner's shape, which first requires a lack, the diagrammatic procedure begins with absence for the diagram to fill in presence. This is similar to Somol's description of architecture "as the framing and posing of problems rather than as the definition of solutions" (26). By framing the movement of différance, the architectural compliance with the metaphysics of presence is not assumed but is a detour, containing a trace of the différance. This is why it is impossible to read a diagram without the armature of différance and equally impossible to build a diagram as a literal form: even Eisenman's house loses the serial performance of difference as a built form. It is the same reason that linguist Ferdinand de Saussure proposes a semiotic system of language predicated on the differences between terms and not positive meanings (117).

*T*he Time is out of Joint

A case study of the movement between diagram and architecture better explains what is meant by différance as a diagrammatic order. While this is not a historical investigation, architectural diagrams have been traditionally considered within two types: analytical/explanatory and generative. The distinction between the two ostensibly relates to their analogue in form, the former guiding the programmatic or conceptual organization of the architecture, the latter generating its physical presence. Considering the performance of difference in the diagrams for UN Studio's Möbius House (1993–1998) and Eisenman Architects' Max Reinhardt Haus (1992), the incompatibility in time between the diagrammatic order and the built order becomes more complex.

The diagram for Möbius House projects a programmatic arrangement based on a pattern of relationships resembling a Möbius strip. Ben van Berkel and Caroline Bos present this project in their 2006 book under the heading, "Living as Continuous Difference," suggesting the continuously

Alex Porter

separate movement of two distinct programmatic actors in the house.
Considering the performative diagram for this project, difference is also
invoked by the relationship of programmatic elements. The three different
classes
of program (living, working, and sleeping) are arranged in a sequence that
spatially relates sleeping, for example, to working and living. Following
Deleuze, the diagram performs these relationships by suggesting the lines
between points; it does not perform the activities signified by the points.
The essence of the diagram is the subtraction of points from the system,
leaving the relationship between parts as the performance of difference.
It is a system of points and lines which privileges lines. This performance is
possible because the semiotic system of program is mapped onto the lines
of a Möbius strip. These two things can exist at once, and each might be
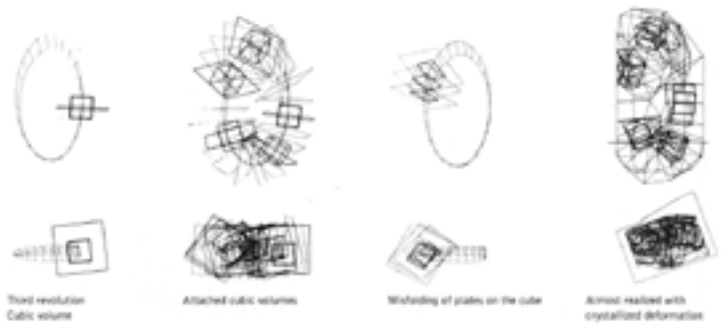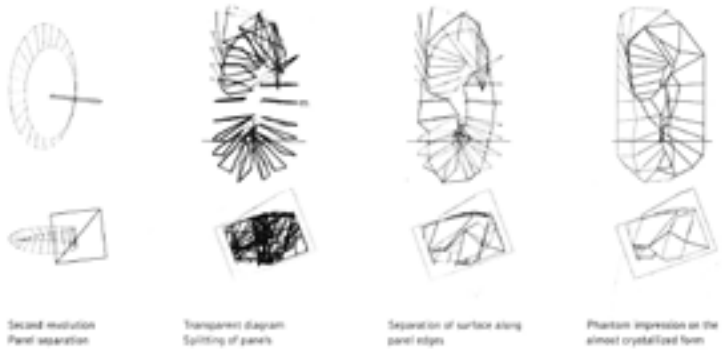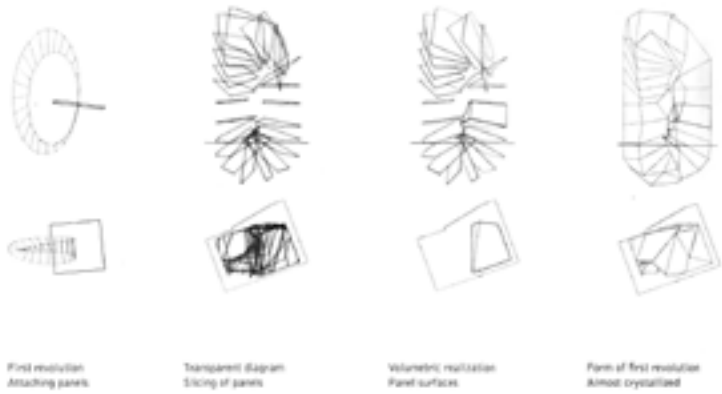
Diagramming Difference
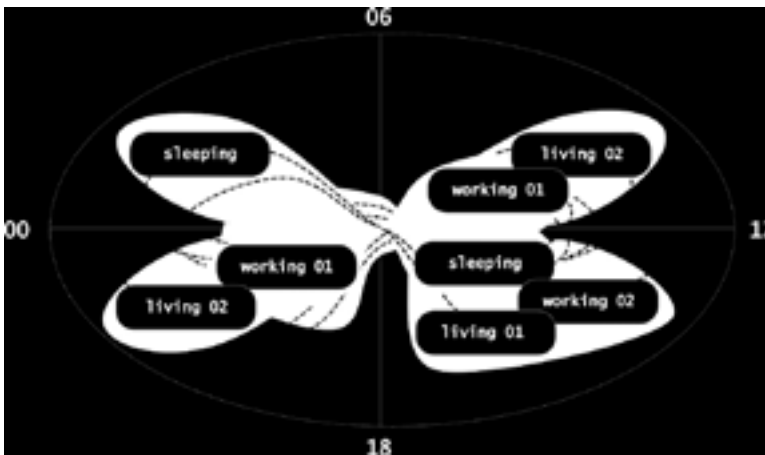
UN Studio. "Diagram for Möbius House" (1993-1998)

understood separately in order to subtract the points from the lines. The
basis for this organizational system is the space *between*, which is only
possible when the gesture occurs all at once.

-section

As a built project, the simultaneity on which the performance of difference depends is impossible, for each point and line must become a positive. Indeed, the dilemma of space is that the points of signification (i.e. a room for sleeping as opposed to sleeping at a point in the diagram) are themselves systems of points and lines. The complex condition of an absolute presence challenges the performance achieved in the diagram because every point and line is a positive and a particular. Any operation of subtraction leads to zero amongst equal positives, following the binary of presence or not-presence. With this obstruction to simultaneity, the transition to built work can be considered a disruption in time between a diagrammatic order that enables difference through simultaneity and a present order that denies simultaneity through particularity. Sleeping and working cannot occur simultaneously, and the movement between is circulation; all things become positives and the condition of difference, which the diagram precipitates is lost.

Alex Porter

The diagram for Eisenman Architects' Max Reinhardt Haus, an example of a generative diagram, creates a similar disruption in time between the simultaneous and the particular. Also using a Möbius strip, the diagram performs the crystallization of form as a product of a series of operations which feature a square panel revolving around the axis of a vertical Möbius strip. The performance of difference in this diagram works similarly to that of House II: it shows subtraction from a series that follows the paradigm of n-1. The Max Reinhardt Haus diagram is distinct from that of House II because it follows a clearer teleological order, a matrix processing toward a goal that fulfills the movements on which it is based. This means that the diagram's plates are read in a certain order, and each has a past and a future. For example, plate 2 directly relates to plate 1, and the motion from 1 to 2 is clear from the comparison. While this is true, plate 2 also projects toward plate 3 because plate 3 traces the progress (if such a thing is possible) from plates 1 and 2. This procession creates a network of implicit relationships enabled by the simultaneous presentation of plates in series. Each plate relates forward and backward, to the future and to the past, through the performance of difference. Subsequently, each plate is only a shape between other shapes or other possible shapes. As Deleuze and

First revolution
Attaching panels

Transparent diagram
Slicing of panels

Volumetric realization
Panel surfaces

Form of first revolution
Almost crystallized

Second revolution
Panel separation

Transparent diagram
Splitting of panels

Separation of surface along
panel edges

Phantom impression on the
almost crystallized form

Third revolution
Cubic volume

Attached cubic volumes

Misfolding of plates on the cube

Almost realized with
crystallized deformation

Diagramming Difference

*UN Studio. "Diagram for Möbius House" (1993-1998)*

-section

Guattari contend, "<u>It is composed not of units but of dimensions, or rather directions in motion. It has neither beginning nor end, but always a middle (milieu) from which it grows and which it overspills</u>" ("A Thousand" 21). The simultaneity in time creates a middle between middles, all participating in a movement of différance suggested by the space between.

Simultaneity must again be ruptured by the particular when the Max Reinhardt Haus is "<u>crystallized</u>" as a building (Davidson 222). While simultaneity enables the movement to extend forward and backward in a diagram, the building can only be an index of this process by extending to the past and not necessarily into the future. This makes the use of generative diagrams complex as a theory for practice. If architecture is measured "<u>by its performative effects as much as by its durable presence</u>," the rupture in time that the generative performance necessitates is problematic because it potentially constrains the performance of an architecture object to a remembrance of the past, and not a projection of the future (Allen 16).

This contradiction in time can refer to Hamlet's exclamation upon seeing his father's ghost, "<u>The time is out of joint</u>" (V.1.190). The disjoint in time is the disparity between the diagrammatic order that reveals différance through simultaneity and the physical order in which simultaneity is impossible. In both cases, architecture's physical fact behaves like a sign with a gap in time between itself and its diagram. The time is out of joint because of this irremovable rupture in time, which Derrida describes as a deferral between the moment of the shape's appearance and the moment of its signification. The diagram relates to its analog in presence by "<u>defer[ing] the moment in which we can encounter the thing itself</u>" (Derrida,9). Derrida properly calls this deferral the temporization of différance, an effect by which "<u>the 'originary' différance</u>" and the metaphysics of presence might form a dialectic (10). This dialectic posits the possibility of architecture to comply with the metaphysics of presence, an obligation with which most existing diagram theory begins. The fracture in time between virtual space and actual space under the conditions of

Alex Porter

inter-

différance might be bridged by this deferral. While this begins to reconcile the problematic relationship between matter and substance instigated by Deleuze and Guattari, it also departs from any traditional definition of architecture as product, object, or dwelling. The definition of architecture operating in this framework is closer Daniel Libeskind's preface to Chamber Works (1983):

> Architecture is neither on the inside nor the
> outside. It is not a given nor a physical fact.
> It has no History and it does not follow Fate.
> What emerges in differentiated experience is
> Architecture as an index of the relationship
> between what was and what will be. Architecture
> as non-existent reality is a symbol which in
> the process of consciousness leaves a trail of
> hieroglyphs in space and time that touch equivalent
> depth of unoriginality.

*O*r Not?

Diagramming Difference
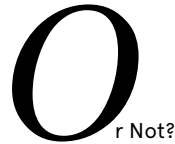
With the ontological consideration of a non-existent reality, a différance unavoidable under the conditions of difference a priori of a performative diagram, the difficult question lingers regarding the possibility of a diagram in practical terms. While I will not answer this question, I should hope to clarify its exact premise through an analytical project, and another passage of Hamlet.

> The practical question of being is the same question as Hamlet's interrogative "To be, or not to be?" (3.1.58). In an initial reading, the question presupposes a metaphysics of presence by building a binary along the axis of presence: [To be / or / not to be], in which "or" is the axis of presence. These two paths establish ontological limits prefacing Hamlet's

-section

question: that presence exists (as in "To be"), and that un–presence does not exist ("not to be"); the conclusion of a diagrammatic discourse based in the metaphysics of presence is that nothing is outside of presence. This closes the system of presence and defines it by positive terms. Architecture either is, or is not, there is no inbetween in which the diagram can operate.

To deconstruct this passage under the conditions of différance is a great reversal of this conclusion, because it properly includes the non–present realm of which Libeskind speaks. Recalling that Hamlet himself must leave the sensible realm in order to fulfill the imperative of différance, his question must be deconstructed thusly, outside the scope of presence. If the conditions of différance allow a movement away from presence, then the question no longer reads as: [To be / or / not to be], because we may recognize a missing distinction between "To be" and "not to be," indicated by something other than a positive–negative construction. While each term includes some form of the construction /to be/, the two terms are woven of the different fabrics, for one is capitalized while the other is lower case, and this capitalized "To be" is a precondition to the lower case "to be" in that it precedes it in time. This veritable difference wedges a space between the two terms, and the passage through this space demands a diagrammatic motion, which performs the difference between terms. The diagrammatic reading, then, is: [To be / or not / to be / ?], and the passage through the wedge between two statements of /to be/ is written as an "or not," spacing the two terms. This "or not" is the movement of différance between two terms for being: "To Be" (both capitalized now, for clarity) and "to be." As Derrida says, "<u>différance is not, does not exist, is not a present-being</u>," and this effects the separation of an /or not/ from the two terms for present-being in Hamlet's question. According to Derrida, the distinction between the "To Be" and "to be" exceeds "<u>the alternative of presence and absence</u>" (an alternative seen in the initial reading of Hamlet's question), because it is an alternative to two presences.

The question of diagram as a practice, then, is the question Or Not? It is a question that must be asked if a diagram migrates into presence and hopes to maintain the performative conditions of difference under which

Alex Porter

it operates. Or Not? is not a challenge to presence, but is a challenge to its authority over architecture by calling attention to the diagrammatic, virtual, un-presentable différance moving below the figural surface of design process. It is, perhaps, the same question posed by Arata Isozaki in his Fujimi Country Clubhouse on the authority of presence. It is a subversive question, which identifies the conditions of presence (conditions of site, context, society, etc.), and challenges their hegemony. This question is a shape to indicate the meta-diagram of performance, a diagram which comes before design. In such a framework, a diagram supports neither built form nor organizational program; it emerges as a provocation of the movements, energies, and differences shaping presence.
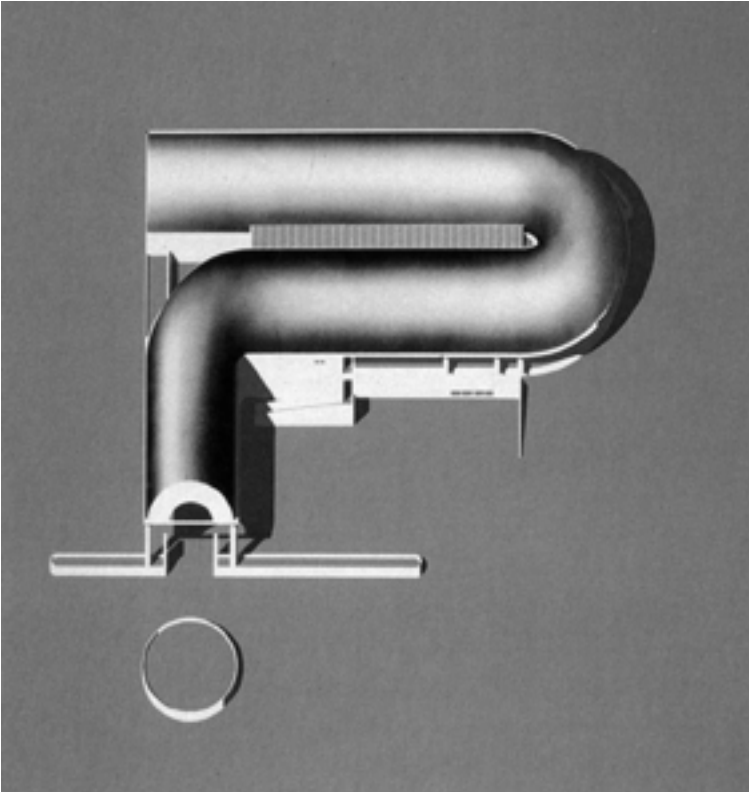
Isozaki, Arata. "Diagram of Fujimi Country Clubhouse" (1973-4)

Diagramming Difference

`-section`

Works Cited:

Allen, Stan. "Diagrams Matter." *ANY: Architecture New York* no. 23. Eds. Ben van Berkel and Caroline Bos. 1998. 16-19. Print.

Bos, Caroline and Ben van Berkel. "Diagrams-Interactive Instruments in Operation." *ANY: Architecture New York* no. 23. Eds. Ben van Berkel and Caroline Bos. 1998. 16-19. Print.

Davidson, Cynthia. *Tracing Eisenman*. New York: Rizzoli, 2006. Print.

de Saussure, Ferdinand. *Course in General Linguistics*. New York: Open Court, 1998. Print.

Deleuze, Gilles and Felix Guattari. *A Thousand Plateaus*. St. Paul: University of Minnesota, 1987. Print.

--. *What is Philosophy*. New York: Columbia University Press, 1996. Print.

Derrida, Jacques. *Différance*. Chicago: University of Chicago Press, 1980. Print.

Eisenman, Peter. "Diagram: An Original Scene of Writing." *ANY: Architecture New York no.* 23. Ed. Ben van Berkel and Caroline Bos. 1998. Print.

Faulkner, William. *As I Lay Dying*. Chicago: Vintage, 1991. Print.

Libeskind, Daniel. "In Search of Architecture." *Chamber Works*. London: Architectural Association Press, 1983. Print.

Merleau-Ponty, Maurice. *The Primacy of Perception: And Other Essays on Phenomenological Psychology, the Philosophy of Art, History and Politics*. Chicago: Northwestern University Press, 1964. Print.

Shakespeare, William. *Hamlet*. Ed. Barbara Mowat and Paul Werstein. New York: Simon & Schuster, 2003. Print.

Somol, R.E. "Dummy Text, or The Diagrammatic Basis of Contemporary Architecture." *Diagram Diaries*. Ed. New York: Universe Publishing, 1999. 6-25. Print.

--. "The Diagrams of Matter." *ANY: Architecture New York* no. 23. Ed. Ben van Berkel and Caroline Bos. 1998. Print.

Vidler, Anthony. "Diagrams of Diagrams." *Representations*. Berkley: The Regents of California, 2000. Print.

Alex Porter

inter-

The Liability of

-section

Delo Freitas
University of Washington

Excess

*D*espite the housing market's traditional associations with capitalism and consumerism, emerging counter-movements seek to promote sustainable living through a method entwined with the American dream. Since the economic crisis of 2008, an increasing number of Americans are embracing the "Tiny House Movement," in which every square foot is used to its full potential. Living small is a form of subversion: it de-commodifies one of the largest domestic markets by re-assigning control to homeowners instead of the global market.

The Liability of Excess

*M*cMansions and Market Optimism

McMansions are a product of free-market upper class optimism: a combination of market stability, available space, and obtainable natural resources. The prosperity and fiscal flexibility of the 1980-1990s paired with consumers' desire for space and goods generated a flourishing of these mega homes. McMansions became accessible and extremely desirable to a generation whose identity depended on that which they owned. In 1950, the size of an American home averaged 983 square feet; by 2004, that number grew to 2,349 square feet, a 140% increase in size. By 2004, 43% of new homes were constructed with expansive nine foot ceilings, as compared to just 15% of homes in 1980 (Solomon).

-section

The inevitable consequence of "supersized" homes is waste. The cost of a McMansion cannot be translated into dollars and cents but must be calculated in terms of space, air quality, resource depletion and a decrease in affordable housing options. Though the McMansion became a viable economic option to consumers, the proliferation of such architecture

DeLo Freitas

Typical suburban community of generic "McMansions" squeezed onto lots

should not be viewed as sustainable. Raw materials required to build such homes produced massive deforestation and ensuing environmental degradation. It is estimated that roughly 204 trees of 20-inch diameter are currently used for every 4,000 square foot house. For every 20 such houses constructed, 7 acres of forested land must be razed (Gromicko, London). In addition, larger houses require more energy to heat and cool than smaller homes. Environmentalists subsequently urged for reductions in suburban sprawl, car usage, and oil dependence, but they lacked the power to override the force of the market alone.

Floorplan for a 2,600 sq. ft. "McMansion"

However, the housing market crash and subsequent economic downturn challenged the American housing market and the deep values of the American people. A survey conducted in 2008 showed that more than 60% of potential homebuyers desired to own a smaller home rather than a larger, McMansion-style hom (Gromicko, London). Further research undertaken by

The Liability of Excess

-section

the National Association of Homebuilders showed that 59% of builders nationwide preemptively downscaled from the McMansion housing model before the recession even hit. News of this study came too late: in February 2012, the *San Diego Union Tribune* reported that 40 million oversized homes constructed in the U.S. were without buyers. Consumer preferences, though driven partially by necessity, shifted to smaller and more affordable dwellings, with only 43% of Americans preferring "`traditional big, suburban homes`" (Showley).

*T*he Tiny House Alternative

As people began to consider the benefits of living more sustainably, the Tiny House Movement began to gain popularity. Homes ranging from 100–1,000 square feet began to emerge nationwide, with the majority of growth occurring on the West and East coasts. Today, many young adults interested in home ownership find the market too conservative to buy into; they lack the required funds and personal financial history but want the privacy and autonomy of home ownership. Our generation, therefore, has become the movement's biggest proponents. Recent retirees comprise another demographic that has embraced the idea of sizing down (Marshall).

Tiny homes act as urban infill by sharing lots with preexisting homes, which has allowed more individuals to live within city limits. They provide a larger pool of people the choice to live where they work and play, helping to increase equity for marginalized groups. Tiny homes also provide supplemental income for the existing property owners, creating a resilient and localized market that allows for greater community investment.

Tiny Home owner and builder Jay Shafer is a paragon for the movement: his Tiny Home is a mere 89 square feet, a size too small to constitute a dwelling by legal standards. He and his wife managed to fit a seating area, a full kitchen, a bathroom, a lofted sleeping area, and storage space into

DeLo Freitas

inter-

The "Miter Box," a 122 sq. ft. Tiny Home by Portland Alternative Dwellings

The Liability of Excess

the house. Although Shafer represents an extreme of examples of Tiny Home construction, his "home tour" video on YouTube has been viewed over 1.5 million times since 2007. Shafer wanted to construct a Tiny Home because of environmental and social concerns and also desired to "return to the basics" and be more mindful and appreciative of his space and possessions. As he told *The Huffington Post*, "When you live in a tiny house you only have room for the things that truly matter. You have to choose what's essential" (Shafer).

-section

Interior of the "Miter Box," a 122 sq. ft. Tiny Home by Portland Alternative Dwellings

DeLo Freitas

*I*nside a Tiny Home

It is important to keep in mind that the Tiny Home movement is not an entirely new concept created in response to overconsumption and a struggling economy. The past 50 years depict enormous changes in lifestyle: modest homes issued to GIs returning from World War II, for example, were roughly 1,000 square feet each. Only within the past few decades have American standards of living changed so drastically. Stephen Marshall, owner of Little House on the Trailer (a building company for Tiny Homes), declared that the true fad will prove to not be the Tiny Home movement, but rather McMansions and the lifestyle to which they are attached. "[Tiny Homes] are not a mainstream thing," Marshall says, "but as time goes on they are going to enter the mainstream as people find they serve a need for affordable, sustainable housing for the future. McMansions are the thing that came and

are now leaving. And I don't think we're going to see any more of that, except in the super rich who haven't got it figured out that there's better things to do with your money than build a big house" (Marshall).

A Reevaluation of the American Dream

In an interview with *Fair Companies*, Shafer declared "in some cultures it's believed that the true self, or the key to happiness, is actually within and that the more you pare away the closer you're going to get to that. My primary reason for living small is just to be happy. And I think that a lot of extra stuff gets in the way of that." As people begin to recognize the utility and beauty of Tiny Homes, a cultural shift will ensue. Though Tiny Homes may not constitute the majority's current reality, the movement challenges established values and reveals that the earth cannot be commoditized. When Americans prioritize happiness Shafer's ideals will be rendered less strange and radical.

The Liability of Excess

> Tiny Homes puts the realization of the American Dream at stake. More homeowners recognize that the purported ideals of autonomy and self-reliance are mutually exclusive from consumerism and competition. In the future, success may not be proportional to square footage.

The Tiny Home movement represents a resistance to mainstream American ideals by tweaking mainstays of autonomy and ownership through a change in scale and method. Though not a singular solution, tiny homes hold valuable lessons and hope for the future. They are an integral part of a larger struggle to find long-term solutions to neoliberal problems and symbolize an equitable American Dream.

-section

Works Cited:

Anderson, Matthew B. "The Discursive Regime of the 'American Dream' and the New Suburban Frontier: The Case of Kendall County, Illinois." *Urban Geography* 31.8 (2010): 1080-099. Print.

Grinberg, Imanuella. "A Landmark Experience - CNN IReport." *CNN IReport. CNN*, 21 Sept. 2012. Web. 19 Feb. 2013.

Gromicko, Nick, and Rob London. "McMansions and Energy Inefficiency." *InterNACHI. International Association of Certified Home Inspectors, Inc.*, n.d. Web. 15 Feb. 2013.

Gromicko, Nick, and Rob London. "The Small House Movement." *InterNACHI. International Association of Certified Home Inspectors, Inc.*, n.d. Web. 15 Feb. 2013.

Marshall, Stephen. "The Human Scale of Tiny Homes and McMansions as a Fad." *YouTube*, 21 July 2010. Web. 18 February 2013.

"McMansion: A Closer Look At The Big House Trend." *Investopedia*, 6 Feb. 2009. Web. 19 Feb. 2013.

Shafer, Jay. "Jay's Tiny House Tour." *YouTube*, 12 December 2007. Web. 12 February 2013.

Showley, Roger. "U-T San Diego." *U-T San Diego. San Diego Union Tribune*, 2 Feb. 2012. Web. 19 Feb. 2013.

Solomon, Christopher. "The Swelling McMansion Backlash." *MSN Real Estate. MSN*, 2009. Web. 18 Feb. 2013.

DeLo Freitas

inter-

Understanding

-section

the Underground: London and New York City

Anton Fredriksson

Columbia University

"There is nothing natural about a map. It is a cultural artifact, an accumulation of choices made among choices, every one of which reveals a value: not the world, but a slice of a piece of the world; not nature but a slant on it; not innocent, but loaded with intentions and purposes; not directly, but through a glass; not straight, but mediated by words and other signs; not, in a word, as it is, but in code" (Wood, Fells 65).

A Tale of Two Cities

On any given day, over 3 million passengers descend below London's labyrinth of streets to ride the Tube. The London Underground acts as a nervous system for the city, serving 270 stations along 400 km of track. Helping the millions navigate the arteries that underpin this capital city is the map of the London Underground. Designed by Harry Beck in 1931, the map prioritizes efficiency by doing away with geographical accuracy. It serves a crucial role, outlining the various routes, assisting in trip planning and providing order to the tangle of streets on the surface. Although numerous iterations of the map have been made over time as the network has expanded, the design of the map has remained relatively unchanged since the inception of its new design in 1933. The map itself has become so intertwined with the identity of the city that it serves as a symbol for

London. In 2006, the London Underground map advanced all the way to the final stage of a UK-wide competition as the most iconic British design, just narrowly beaten by the now defunct Concorde (Jury).

Across the Atlantic, New York is home to another world-renowned transportation network—The New York City Subway. The system transports over 5 million passengers daily for a total of 2.6 billion trips a year, exactly twice the number the London Underground handles. It also holds the title for the world's longest metro system with close to 1,400 km of track. If stretched, the subway's network would be long enough to connect Paris to Rome. Whereas the London Underground Map has withstood the test of time, the subway map of New York City has undergone a number of changes since its creation in 1904. Unlike London, the current map of the New York City Subway faithfully adheres to the city's surface geography. But it wasn't always this way. In 1972, the Metropolitan Transit Authority adopted a radical new map design by Massimo Vignelli which adapted many of Beck's principles to New York. The response polarized the city, but the growing chorus of discontentment with the map's disregard of geography spelled the end for the short-lived diagrammatic map of the New York City Subway.

Why is it that the London Underground map has retained much of its original form to date whereas New York has seen multiple revisions? Why did the schematic map please Londoners while perturbing New Yorkers? How have the metro maps of these two cities been shaped by their histories and how can we explain their design differences today? This paper will shed light on these questions by exploring the histories of these two cities, the development of their transit systems and their respective maps.

*T*he Roots of the London Underground

In the early 19th century, London was the most important city in the world. As the capital of the expansive British Empire, the city served as a center

Anton Fredriksson

for commerce, innovation and culture. But London was quickly becoming
a victim of its own success. At the dawn of the 19th century, the city's
population numbered a manageable million. Just 80 years later however, the
population had exploded to a whopping 4.5 million (Perdue).

> The city was bursting at its seams and nowhere was this more apparent
> than in the streets. The sheer volume of horse-drawn vehicles on the city's
> streets consistently clogged up traffic and it was becoming increasingly
> difficult to transport people, goods and capital from one end of the city
> to another. In one count, on the London Bridge alone, a thousand vehicles
> passed per hour (Perdue). The streets that served as the crucial veins of
> the city were grinding to a standstill. Traffic congestion was a threat to the
> viability of the city as a whole and a massive change would be needed to
> alleviate the problem.

Charles Pearson, a respected politician, proposed a radical solution that
would harness the efficiency of the new railways that were being laid across
the country and adapt them for the congested city. His "trains in
drains" solution outlined a plan to connect the major rail hubs of the city
with an underground line stretching from Paddington to Farringdon. After a
number of political and financial setbacks, construction began on the new
line in 1860. Using a technique called "cut and cover," large swaths of
London were unearthed and tunnels were built before being covered over
again. The Metropolitan Railway's chief engineer, John Fowler, was paid a
handsome salary of £137,700 (equivalent to £10 million by today's standards)
reflecting the demanding nature of the operation (Cavendish).

> Just one month before the opening of his new railway, Charles Pearson.
> When the Metropolitan Railway opened in 1863, it marked the beginning
> of a new era in transportation. Never before had rail lines been dug below
> ground to allow for expedited transport of people and goods through dense
> traffic-congested centres. On opening day, over 30,000 people crowded
> the new platforms to catch a glimpse of the much-anticipated underground
> trains, spewing thick clouds of smoke as they thundered through the pristine
> tunnels for the very first time.

Understanding the Underground

-section

Although Pearson originally envisioned an underground system of pneumatic pipes similar to those the Royal Mail was experimenting with at the time, the Metropolitan Railway was originally steam-driven. Electrification eventually came with the construction of the City and South London Railway in 1890.

The large numbers that the Metropolitan Line drew on its opening day continued throughout the year. In its first year alone, the Metropolitan Railway transported 11.8 million passengers while noticeably reducing the surface traffic along the route (Watts). In an effort to capitalize off the surge in popularity for subterranean transport, new underground railway companies sprang up, each complete with their own lines and separate systems. The result of the competing lines was a tangle of underground railways which gave a whole new meaning to the notion of the urban jungle. Although profitable at first, these various lines began to run into financial difficulties at the turn of the 20th century due to increasing competition amongst themselves as well as to the growing popularity of motorized bus transport on the surface level. In response, the systems began harmonizing their systems, coordinating fares and schedules amongst themselves. Then in 1908 they started advertising their various lines together on the same map while remaining as separate entities (Turnbull 126). In 1913, a number of the lines merged to form one company—the Underground Electric Railway Company of London (UERL), which would later become the London Passenger Transport Board in 1933.

Mapping the Tube

The maps that were produced by the conjoined systems were geographically accurate but also increasingly difficult to read as the network continued to expand. Their strict adherence to the geography and scale of the street surface made the journey on the London Underground more daunting and confusing than it needed to be. In describing the confusing Tube maps of the time, Danielle Cull likens "the train lines [to] strands

Anton Fredriksson

of spaghetti with stations scattered throughout like meatballs" (Cull).

> Enter Harry Beck. As an engineering draftsman, Beck designed electrical schematics for a number of clients, including the London Underground. Beck was never actually commissioned to design a new map for the system. In fact, he was unemployed when he began working on what would be his iconic map in 1931, purely out of his own curiosity (Hadlaw 30).

Using his background in designing electrical systems, Beck approached the tangle of tube lines as he would with any other electrical assignment. He opted for straight lines joining them at 90 and 45 degree angles. He added distinctive interchange symbols and used "tick-marks" to denote stations which he spaced out evenly from each other (Cartwright, Fields 2013). Following in the footsteps of Stingemore, Beck maintained the use of color as a means to distinguish the different lines. In addition he completely removed any form of street detail. The only indication of the surface world was a faint outline of the River Thames that snaked across his map.

London Underground Map designed by F.H. Stingemore (1927)

Understanding the Underground

-section

Here Beck describes how he went about redesigning the Tube map:

> "Looking at the old map of the Underground railways,
> it occurred to me that it might be possible to tidy it up
> by straightening the lines, experimenting with diagonals
> and evening to the distance between stations. The
> more I thought about it the more convinced I became
> that the idea was worth trying, so electing the Central
> London Railway (the Central Line today) as my horizontal
> base line I made a rough sketch. I tried to imagine that
> I was using a convex lens or mirror, so as to present the
> central area on a larger scale. This, I thought would give a
> needed clarity to interchange information" (Garland 17).

Beck's decision to view central London through a "convex lens" and reimagine the representations of physical space, allowed him to do away with geographical accuracy all together. By shedding this constraint, Beck was free to simplify the depiction of the system in a way that was both easier to use and more aesthetically pleasing. No longer was the eye forced to trace the maze of individual lines in order to determine a simple route. He magnified central London, which was home to the most complex arrangement of lines, while shrinking the distances of the outlying areas. In doing so, Beck toyed with scale while dramatically altering previously entrenched notions of space and time. As Beck explains to Ken Garland, Director of the London Transport Museum, "If you're going underground, why do you need to bother about geography. It's not so important. Connections are the thing" (Garland).

> Beck's simple decision to eschew topography in the name of efficiency embodied the changing understanding of distance and duration that were evolving at the time. Ribbing each line, his equidistant ticks that demarcated stations, challenged the conventional notions of time and dispensed spatial distinctions in the name of utility and visual clarity (Hadlaw 33). Time and distance, formerly rigid categories, had become malleable in Beck's redesign.

Anton Fredriksson

inter-
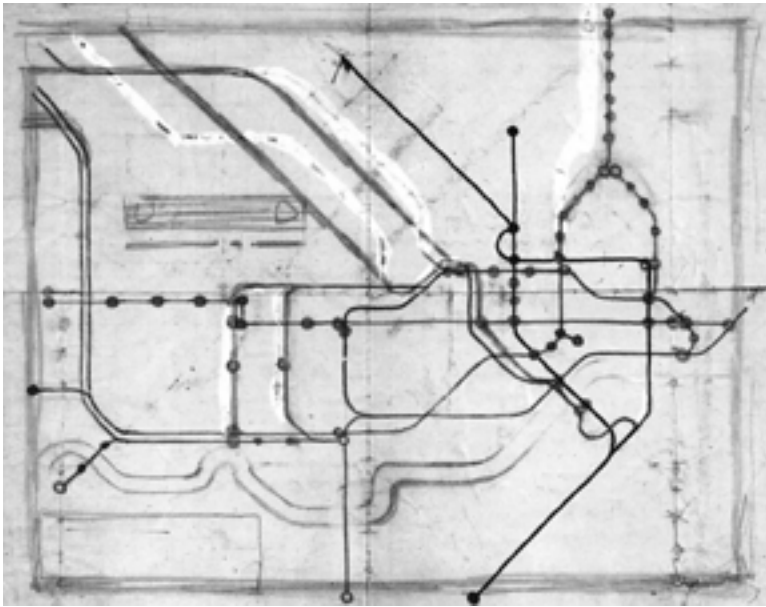
Harry Beck's rough sketch of his new map design (1931)

When Beck first submitted his design to the Underground Electric Railway Company of London (UERL), it was rejected on the grounds of being too revolutionary (Toor). It bore very little resemblance to the existing maps, and the directors were concerned that its renunciation of geographic reality would only serve to further confuse passengers (Turnbull 127). Undeterred, Beck went back to the drawing board and resubmitted a modified version in 1932. This time the UERL decided to give the design a trial run. 500 copies of the map were printed and made available at key stations. The maps came along with a simple message: "A new design for an old map. We welcome your comments." The map—or "diagrams," as they were called—was an instant hit with commuters who found the simplicity of the new design refreshing. The positive outpouring that followed encouraged the UERL to issue a run for 750,000 copies in 1933 followed by an additional 100,000 to keep pace with demand (Gießmann).

-section

Although initially rejected by the UERL, which was run by Franck Pick at the time, Beck's map would go on to play a fundamental role in a larger campaign initiated by Pick himself. Frank Pick took the reins of the UERL during a time of incredible transformation for underground transport in London. Following the recent merger of many of the lines, Pick quickly set out homogenizing the various lines into a single coherent system (Turnbull 128). A large part of this push was visual; a form of corporate visual identity for the entire system. Signs, advertising, uniforms, trains and stations were all overhauled with a common look. The goal was to put modernity on full display in an effort to make the Tube more inviting for potential commuters. Harry Beck's new Tube map, which was eventually embraced by Pick, did just that. His clean lines made the system considerably easier to comprehend and in the process removed much of the intimidation that passengers previously had when navigating the Underground.

Anton Fredriksson

Harry Beck's London Underground Map (1933)

Harry Beck's map, however, is far from perfect. A number of concessions had to be made in order for it to effectively streamline the complexity below. The problems with Beck's diagrammatic map emerge when the

inter-

commuter resurfaces to the street level. The modified lines below ground do not always match up with the geography above, which can lead to confusion. One famous example involves getting from Queensway to Bayswater. On Beck's map, the two stops appear distant from each other and the journey by Tube would involve changing lines at the busy interchange of Notting Hill Gate. Above ground however, the two stations are remarkably close: a 100 meter saunter to be exact. Of course the reverse holds true as well. This is most apparent in large interchanges where the sprawling network of tunnels that link separate lines often at different depths, can lead to transfer times of up to 15 minutes.

Challenges aside, Beck's Tube map has served London very well, providing a simple way to make sense of the daunting labyrinth of lines below. 80 years later, even with the addition of over 100 stations and six new lines, the current map is strikingly similar to Beck's first sketch; a testament to the success of his original design.

*B*eck's Design Beyond London

Just as how London spawned similar metro systems in cities the world over, Beck's revolutionary design principles influenced transit maps from Moscow to Montreal (Sinclair). On the opposite end of the globe, Sydney became the first city to fully adopt a "Beckensian" diagram complete with its own version of the iconic London Underground roundel. Harry Beck himself was commissioned to design a new map for the Paris Metro not once, but twice. The finished product was too revolutionary for the French and the project was quickly abandoned. Across the Atlantic, New York saw the introduction of its first Beck-like diagram in 1958 with George Salomon's map for the New York City Transit Authority. Until 1940 when the city took over, what would become the New York City Subway was dominated by two private companies: the Brooklyn-Manhattan Transit Corporation (BMT) and the Interborough Rapid Transit Company (IRT). In 1953, the New York City Transit Authority was
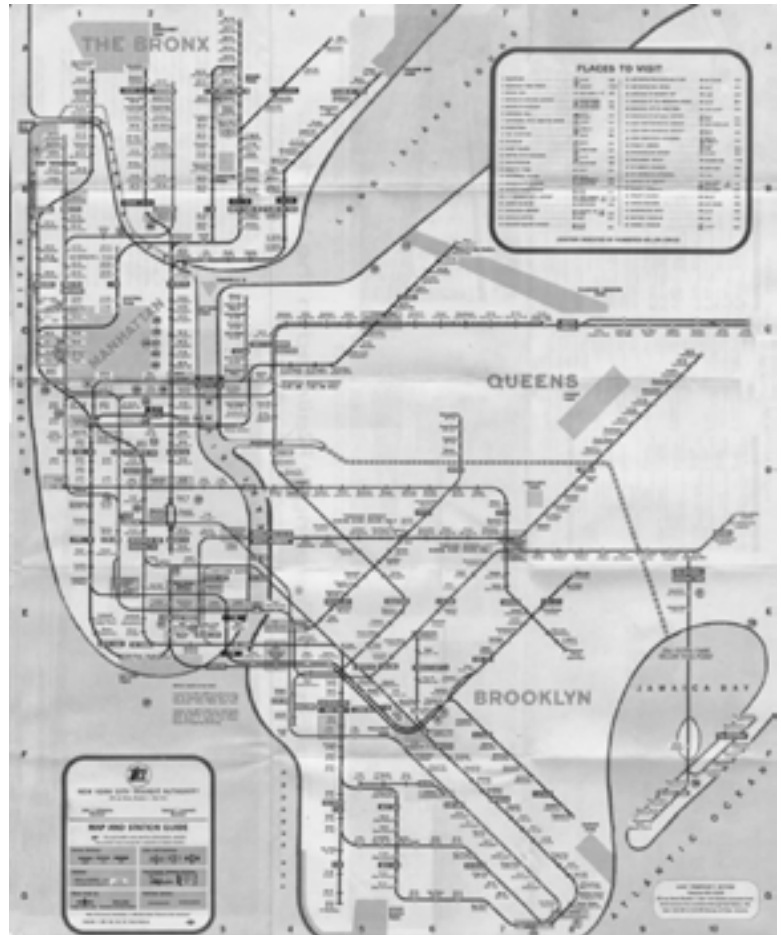
George Salomon's Subway Map (1958)

created by the city to manage the transit operations of the city both above and below ground. The 1958 design by George Salomon was the first time a map depicted the entirety of the combined system.

In 1965, Milanese designer Massimo Vignelli moved to the United States to head the New York office of the design firm Unimark International. Just months into his new job, his firm was commissioned by the MTA to overhaul

the entire signage system of the New York subway system. Following the success of the redesign of the now iconic signage and wayfinding system that is still in place today, the MTA commissioned Vignelli (now running his own firm, Vignelli Associates) to redesign Salomon's subway map to make it more inviting and easier to use (Shaw).
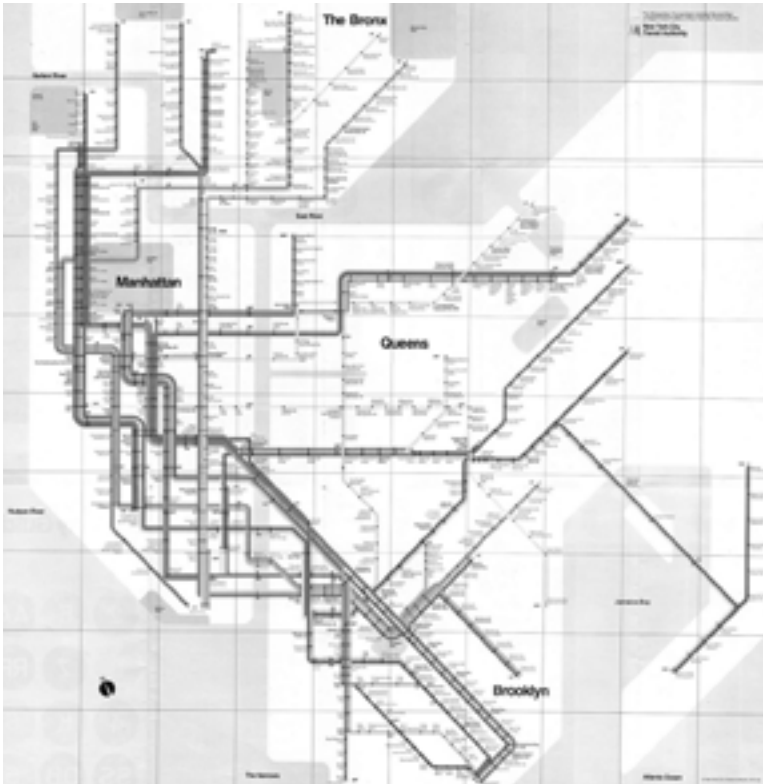
Massimo Vignelli's Subway Map (1972)

Understanding the Underground

Vignelli and his team approached the project with a single goal in mind: simplicity. They began by removing any extraneous information that would distract from the subway routes. Bright colors were used to differentiate lines, references to New York's surface topography were left to the bare minimum and, like with Salomon's map, the gridded streets above were

`-section`

ignored. Bright colors were used to differentiate routes and, in line with Beck's principles, the subway lines ran in 45 and 90 degree angles. Stations were spaced out evenly and represented by clean dots. The map is now revered by design aficionados as the paragon of system design. Today, it is even part of MoMA's permanent collection (Kabak).

> When Vignelli's map was unveiled to the public on August 7th, 1972, however, it polarized opinion in the city. Some commuters welcomed the new design and praised its ease in route-planning. For others, the new subway map was a travesty that contorted New York City in such a way as to render it unrecognizable. The fact that Central Park was depicted as a square sparked particular outrage. In addition, the new map did not align with the city's street grid. In Vignelli's map, the 50th St. stop on the Seventh Ave line (today the 1 train) is depicted to be west of the 50th St. stop on the Eight Avenue line (today the C and E) though it actually lies east. Occasionally, a dazed commuter would continue west in search of the missing stop. This caused considerable confusion for New Yorkers that relied on the gridded streetscape to orient themselves. Critics even took issue with the fact that the parks were not green and the water wasn't blue (Mindlin).

Almost immediately New Yorkers began calling on the New York City Transit Authority to replace the map with a new design. Vignelli described the two opposing views as falling between "`verbal people`" and "`visual people`." For visual people, a map is instantly intuitive and an indispensable tool for navigation. The verbal people, on the other hand, are lost when faced with a map and have a much easier time navigating with instructions such as "`turn left after two blocks, followed by a right`." But as Vignelli quips, "`Verbal people have one great advantage over the visual people—they can be heard`" (Rawsthorn).

> And heard they were: within the short span of seven years, the New York City Transit Authority, now run by the umbrella Metropolitan Transit Authority, caved to mounting pressure against the map. Vignelli's map was scrapped in favour of a geographically-faithful version, assembled by a team of twelve experts from a range of different disciplines.

Anton Fredriksson

The team was headed by local cartographer and historian, John Tauranac, and designed by Michael Hertz Associates. Their new map, simply titled "The Map," shifted the focus away from purely depicting the subway to showing the MTA system as a whole, indicating connections to ferries, buses and trains. Most importantly, the subway lines are superimposed above an actual surface map of New York, reducing the confusion around station locations. The addition of all this information, however, comes at a price: the map has the tendency to overwhelm the reader.

Vignelli describes the current map that replaced his as a "mongrel." The current map's designer, Michael Hertz, had this to say in response: "I should point out to Mr. Vignelli that 'mongrels,' or what I prefer to call 'hybrids,' are usually healthier, smarter and longer lived creatures than his 'thoroughbred' turned out to be" (Hogarty). Beyond the veiled hostility, Hertz raises an important point: despite its flaws, his map still remains in place.

*T*he Particularities of Place

The most common explanation for the failure of Vignelli's map is the mismatch between the subway map and the surface map. Vignelli's map came into direct conflict with another structured design that had preceded his subway map: the 1811 Commissioner's Plan for Manhattan (Bierut). The Commissioner's Plan carved the island of Manhattan into a tidy grid of streets. As Michael Bierut points out, due to the underlying order of the surface, "Every New Yorker knows that the 28th Street number 6 train stops exactly six blocks south and four blocks east of Penn Station." In New York, the streets themselves serve as the underlying matrix for moving around the city.

In London, the opposite holds true. As an amalgam of villages dating back from Roman times, the city has grown sporadically over the centuries. Even

Understanding the Underground

-section

after the Great Fire of 1666 that levelled much of the city, it was quickly rebuilt along the same jagged lines as before. For Londoners, Beck's Tube map does more than simply help in navigating the iron ribbons of the Underground: it provides a sense of order to the chaos above.

A study by Janet Vertesi, "<u>Mind the Gap: The London Underground Map and Users' Representations of Urban Space</u>," confirms this hypothesis. In 2008, she engaged in an ambitious study to explore the effects of the Tube map on Londoners' interactions with their city. Through a combination of surveys with carefully worded questions asking for directions and lengthier sit-down interviews with residents, she came to the conclusion that Londoners use the Tube map to make sense of their city above ground. For her extended interviews, she would begin by asking her respondents to "<u>draw London</u>."

She was surprised to discover that the majority of her interviewees began by drawing lines from the Tube map before city landmarks. In one particular case, the respondent carved the city into four quadrants using the Circle Line as the x-axis and the Northern Line as the y-axis. In another meeting, the interviewee admitted to living close to a Tube stop for the sole purpose of making it easier for her friends to find her apartment (Vertesi 14). The influence of the Tube map on the lives of Londoners should not be dismissed as only valid below ground.

Back in New York, the gridded street structure appears to be main obstacle to Vignelli's design. But the discrepancy between the topology and the topography put more at stake than the occasional lost commuter. In 1975, the committee that the Transit Authority had assembled to design an alternative convened for the first time. One of the members of the committee was environmental psychologist, Dr. Arlene Bronzaft, who participated as head of the Mayor's Transit Watchdog Committee. She believed Vignelli's map compromised the safety of New Yorkers by clearly delineating the cross-streets of subway stops (Lloyd). In New York, a city where only a few blocks might separate a safe neighborhoods from a dangerous one, this information can be vital to a person's sense of safety.

Anton Fredriksson

inter-

London as x/y axis of the Northern and Central lines (Interview 14), Vertesi (2008)

This was a pressing issue for New York during the late '70s, an era when crime—especially violent crime—was rampant in the city. In 1975, an average of five New Yorkers were murdered daily. In addition, during a time of financial crisis in the U.S., New York was hit particularly hard. The city only narrowly avoided bankruptcy during this period thanks to a last-ditch bailout by the federal government. The subway system at the time mirrored many of the problems that were going on above ground: blackouts were frequent, graffiti covered the trains and stations, and crime was a regular occurrence. Although Bronzaft was a vocal member of the committee, her theory did not serve as the principal impetus for change.

Peter Lloyd proposes an alternate reason for the change in design spearheaded by John Tauranac. As with many municipial issues, it came down to money. In the 1970s, the subway system—like the city it supported— was limping along financially. Ridership numbers were at an all-time low as commuters sought safer and more reliable means of transport. In 1974, David Yunich took over as the new Chairman of the MTA. Recognizing the dire situation of the subway system, Yunich embarked on a new strategy to

improve the popularity of the subway. For him, aggressive marketing was the solution. As a former executive with Macy's, Yunich had a background in marketing products. During his swearing-in speech, he revealed his plan of attack when he declared that "<u>transit marketing is not too different from marketing shirts or automobiles</u>" (Lloyd).

In order to remain financially viable, the MTA needed to draw more passengers underground. The subway map thus became an integral component of this strategy. The thinking behind the new geographically accurate map was that it would sacrifice the simplicity of how one navigated the system and instead emphasize where the subway could take you. It focused on the destination rather than the journey.

*M*apping the Future

Transport for London's 2016 Underground Map proposal

Though Beck's map has served Londoners well for the past 80 years, its limits are being strained by the ever-growing London Underground network. Indeed, William Cartwright and Kenneth Field argue that Beck's principles are not necessarily the best way forward, asserting that we should "find new ideas and generate new work rather than constantly framing our own work in the style of Beck" (Cartwright, Field).

Maxwell Robert's "Curvy Tube Map"

Professor Maxwell Roberts of the University of Essex claims that Beck would be displeased with the current Tube map, arguing that the original purpose of helping the passenger navigate the Underground has been lost in the over-abundance of visual data. Beyond writing about his concerns, Roberts has also attempted to design more minimal alternatives. For example, his "Curvy Tube Map," which preliminary usability studies show improves journey planning by 30%, has been generating a great deal of discussion.

Though Vignelli's New York subway map has seemingly been dismissed, it should be noted that he never intended for his diagrammatic map to be presented alone (Rawsthorn). In fact he submitted his original design along

Understanding the Underground

-section

with three other maps designed for each station: one of the entire network, another of the immediate neighborhood, and a Verbal Map that used words to explain common directions. But the MTA instead opted to use just one in the hopes that it could do quadruple duty. In doing so, the MTA doomed Vignelli's map from the very start. Here Vignelli outlines the benefits of multiple maps:

> "All New York subway maps have tried to convey all the information on a single map, with the result of making semantic overlaps, and a very fragmented and visually unpleasant map. The only way to provide clear information is to have both an abstract system map and a geographical map as separate complementary maps. One on one side, the other on the opposite side. Easy" (Challand).

Eddie Jabbour's "Kick Map"

The addition of alternative maps would be a logistical nightmare for the MTA, but with the ubiquity of smart phones in the hands of passengers, there is a now a new opportunity to redefine mapping via crowd-sourcing and other unofficial means (Krotov). For example, Eddie Jabbour, who redesigned the subway map in his spare time, produced the now widely used "Kick Map"

in 2007. Amid the growing divide in the cartographic community between the diagrammatic and the topographic, Jabbour's "<u>Kick Map</u>" seeks to blend the best of both worlds (Corbett). His design, though much more geographically faithful than Vignelli's, was still dismissed by the MTA as being too inaccurate. Regardless, thousands of New Yorkers are using his map today—albeit on their smartphones—to navigate New York's sprawling subway network.

NY/NJ Regional Transit Diagram for Superbowl XLVIII

In the heated debate over New York's subway maps, Massimo Vignelli may be having the last laugh: his design has lately been experiencing a resurgence. In 2008, *Men's Vogue* sponsored an update of the map, and in 2011, the MTA

Understanding the Underground

-section

officially reintroduced the design for their "Weekender" map highlighting service changes throughout the system. Vignelli's design made an additional appearance in 2014 when New York and New Jersey hosted Super Bowl XLVIII. The new map, which is being hailed as a "Regional Transit Diagram," was designed specifically for the event in order to encourage football fans to take public transporation (Noe). Most remarkably, it is the first regional transit map to include New Jersey ("MTA Creates First Regional Transit Diagram").

The histories of the visual representations of New York's subway and London's Tube, reveal the influence the maps, that many of us take for granted each day, have. The variations and approaches in the metro maps of both cities serve as a stark reminder of the underlying differences between cities. Even in an age of globalization and perceived homogenization of our urban environments, no two cities are alike and the same applies for their transportation networks. The maps of these systems highlight these differences while representing a specific time and place. When it comes to maps, there is much more than meets the eye.

Anton Fredriksson

Works Cited

Bierut, Michael. "Mr. Vignelli's Map." *Observatory. Design Observer,* 14 Sept. 2010. Web. 7 Dec. 2013.

Cartwright, William, and Kenneth Field. "Beck to the Future: Time to Leave It Alone." (2013). Web.

Cavendish, Richard. "First Day of the London Tube." *History Today.* Jan. 2013. Web. 16 Nov. 2013.

Challand, Skylar. "Designing a Better Subway Map." *IDSGN,* 2 Sept. 2010. Web. 3 Dec. 2013.

Corbett, Rachel. "URBAN TACTICS; Can He Get There From Here?" *The City Fix. The New York Times,* 22 Apr. 2007. Web.

Cull, Danielle. "Applying Beck's Tube Map Theories and Conventions to Non-Geographic Subject Matter." *Commission on Education and Training: International Cartographic Association* (2011): 1-30. Web. 25 Nov. 2013.

Gießmann, Sebastian. "Henry Charles Beck, Material Culture and the London Tube Map of 1933." *Amodern 2: Network Archaeology.* Web. 7 Dec. 2013.

Hadlaw, Janin. "The London Underground Map: Imagining Modern Time and Space." *Design Issues* 19.1 (2003): 25-35. JSTOR. Web. 12 Dec. 2013.

Hogarty, Dave. "Michael Hertz, Designer of the NYC Subway Map." *Gothamist,* 3 Aug. 2007. Web. 19 Dec. 2013.

Jury, Louise. "Concorde Beats Tube Map to Become Britain's Favourite Design." *The Independent. Independent Digital News and Media,* 17 Mar. 2006. Web. 10 Dec. 2013.

Kapak, Benjaming. "Ushering in the Digital Return of the Vignelli Map." *Second Ave Sagas.* 11 Oct. 2013. Web. 9 Dec. 2013.

Krotov, Mark. "The New York Subway-map Wars, Continued | Capital New York." *Capital New York,* 8 Dec. 2010. Web. 15 Dec. 2013.

Lloyd, Peter B. "Death of the Vignelli Map, I: Modernism, Maps, and Murder." *Zen and the Art of Metro Maps.* 20 Apr. 2013. Web. 1 Dec. 2013.

Lloyd, Peter B. "Death of the Vignelli Map, II: The Need to Market the Subway." *Zen and the Art of Metro Maps.* 25 Apr. 2013. Web. 1 Dec. 2013.

Lloyd, Peter B. "Death of the Vignelli Map, III: Reclaiming the Geography." *Zen and the Art of Metro Maps.* 6 May 2013 Web. 1 Dec. 2013.

Mindlin, Alex. "Win, Lose, Draw: The Great Subway Map Wars." *The City. The New York Times,* 03 Sept. 2006. Web. 10 Dec. 2013.

"MTA Creates First Regional Transit Diagram for Super Bowl XLVIII." *MTA,* 10 Dec. 2013. Web. 12 Dec. 2013.

Noe, Rain. "What Influences the Design of New York City Subway Maps? Vignelli Associates, Crime, and the NFL Superbowl." *Core 77,* 12 Dec. 2013. Web. 13 Dec. 2013.

Perdue, David. "Dickens' London." *David Perdue's Charles Dickens Page.* Web. 18 Nov. 2013.

Rawsthorn, Alice. "The Subway Map That Rattled New Yorkers." *Art & Design. New York Times,* 5 Aug. 2013. Web. 10 Dec. 2013.

Shaw, Paul. "The (Mostly) True Story of Helvetica and the New York City Subway." *AIGA.* N.p., 18 Nov. 2008. Web. 24 Nov.

2013.

Sinclair, Mark. "Harry Beck: The Paris Connection." *CR Blog. Creative Review,* 4 Mar. 2009. Web. 3 Dec. 2013.

Toor, Amar. "Meet Harry Beck, the Genius behind London's Iconic Subway Map." *The Verge*, 29 Mar. 2013. Web. 10 Dec. 2013.

Turnbull, David. "Maps and Plans in 'Learning to See': The London Underground and Chartres Cathedral as Examples of Performance Design." *Skilled Visions: Between Apprenticeship and Standards*. New York: Berghahn, 2007. 125–41. Print.

Vertesi, Janet. "Mind the Gap: The London Underground Map and Users' Representations of Urban Space." *Social Studies of Science* 38.7 (2008): 7–33. Sage. Web. 24 Nov. 2013.

Watts, Peter. "London Underground's History." *Time Out. Time Out London*, 17 Apr. 2007. Web. 15 Nov. 2013.

Wood, Denis, and John Fels. "Designs On Signs/Myth And Meaning In Maps." *Cartographica: The International Journal for Geographic Information and Geovisualization* 23.3 (1986): 54–103. Print.

Anton Fredriksson

inter-

Freedom Museum:

-section

Retaking Havana

Sandra Bonito

Columbia University School of General Studies

The City of Havana has been left to decay for decades. Half of the city's stock is in average or poor condition. Even monumental buildings undergo a continuous deterioration and destruction caused by the lack of maintenance, hurricanes, and the government's insensitivity towards the built environment. Deficient telephone and internet service are also the result of retrograde technology and governmental control. Yet this project anticipates the inevitable collapse of Communism and the special opportunity it affords to reassert a long-forgotten set of design relationships without threatening national heritage.

Freedom Museum re-defines decay: it portrays Havana as a large cracking wall corroded by time, but one whose collapse symbolizes freedom from oppression. Highly contrasting modern materials showcase both new technology and the metaphorical transition represented by water's changing states. Ice serves as source of inspiration to symbolize the Cuban reality: a state of mind frozen from years of communist control. The design solution suggest a liberating journey. The structure evokes thawing ice traveling from a closed interior to more clear transitional spaces until finally reaching the public exterior. This approach suggests an escape from the boundaries of an enclosed, suffocating regime while also targeting current urban issues of privatization of public spaces. To "retake" Havana, changes must occur in order to restore the lost value of the city's property.

Freedom Museum

-section

Downtown Havana site analysis: transportation and technology—forces of the old and new
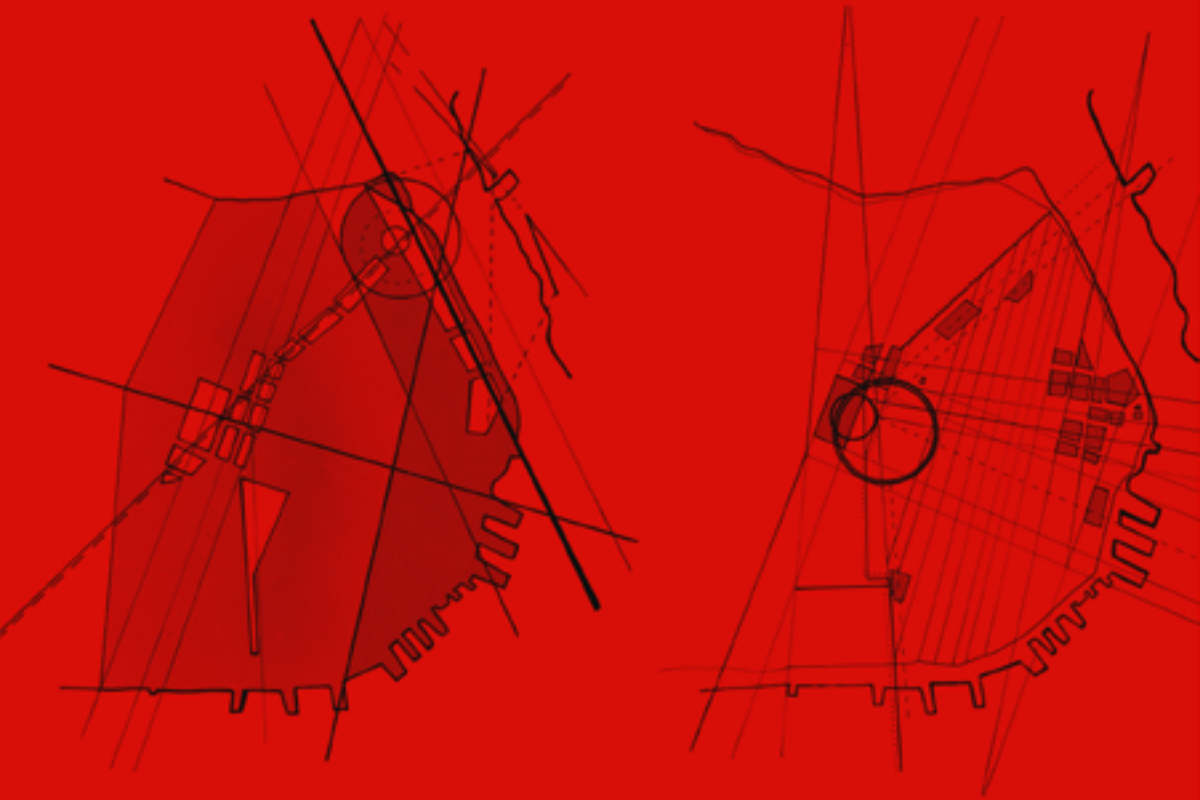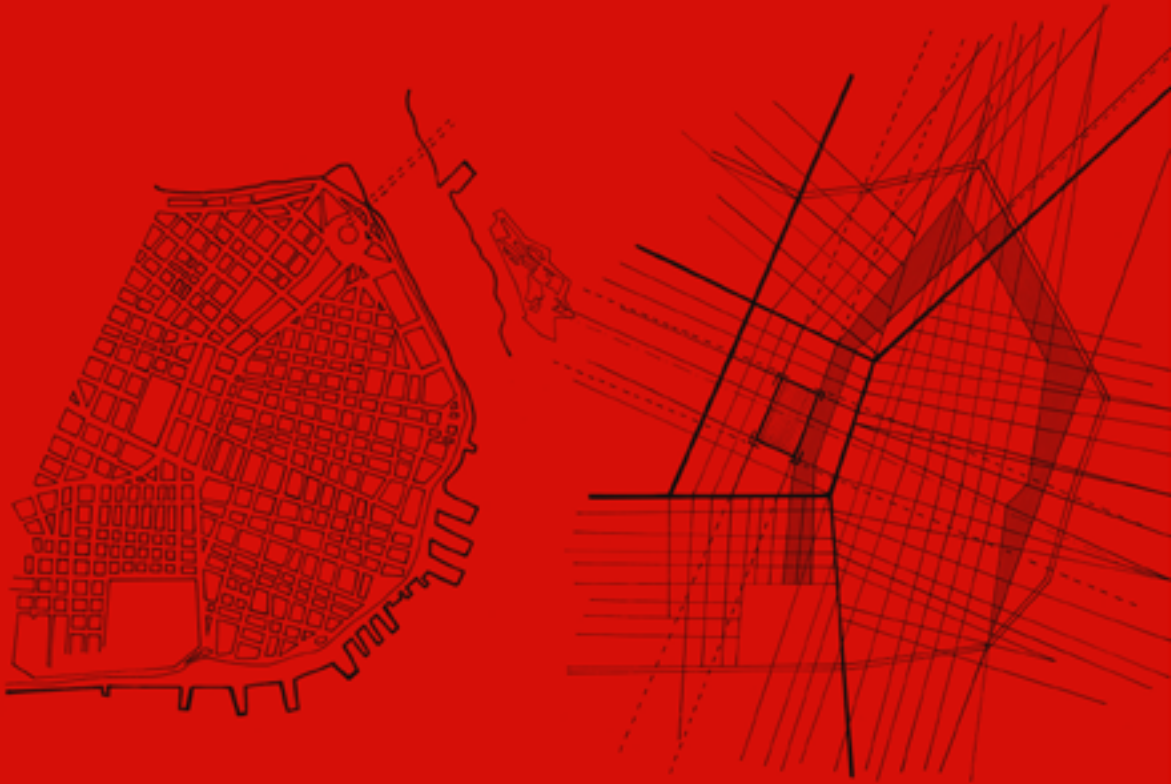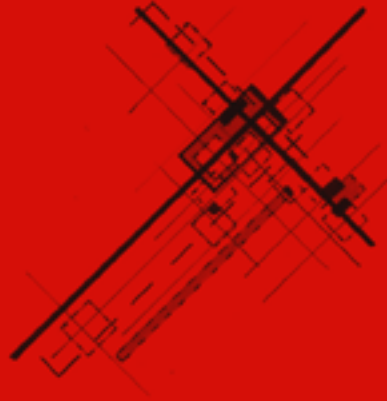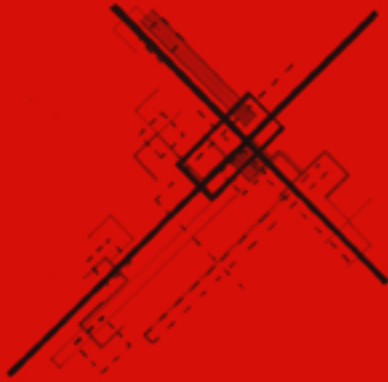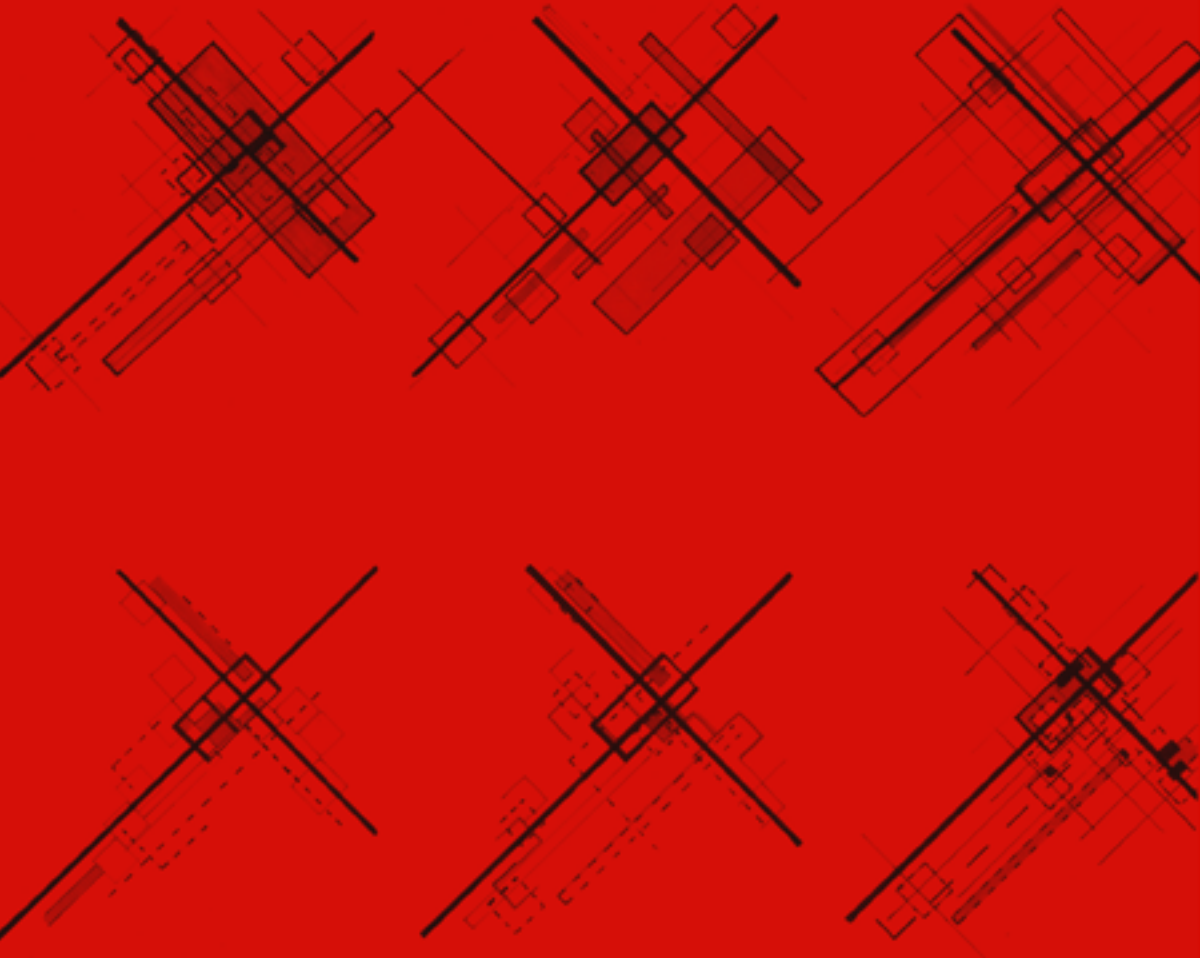
Building site analysis: circulation and materiality—forces of the old and new
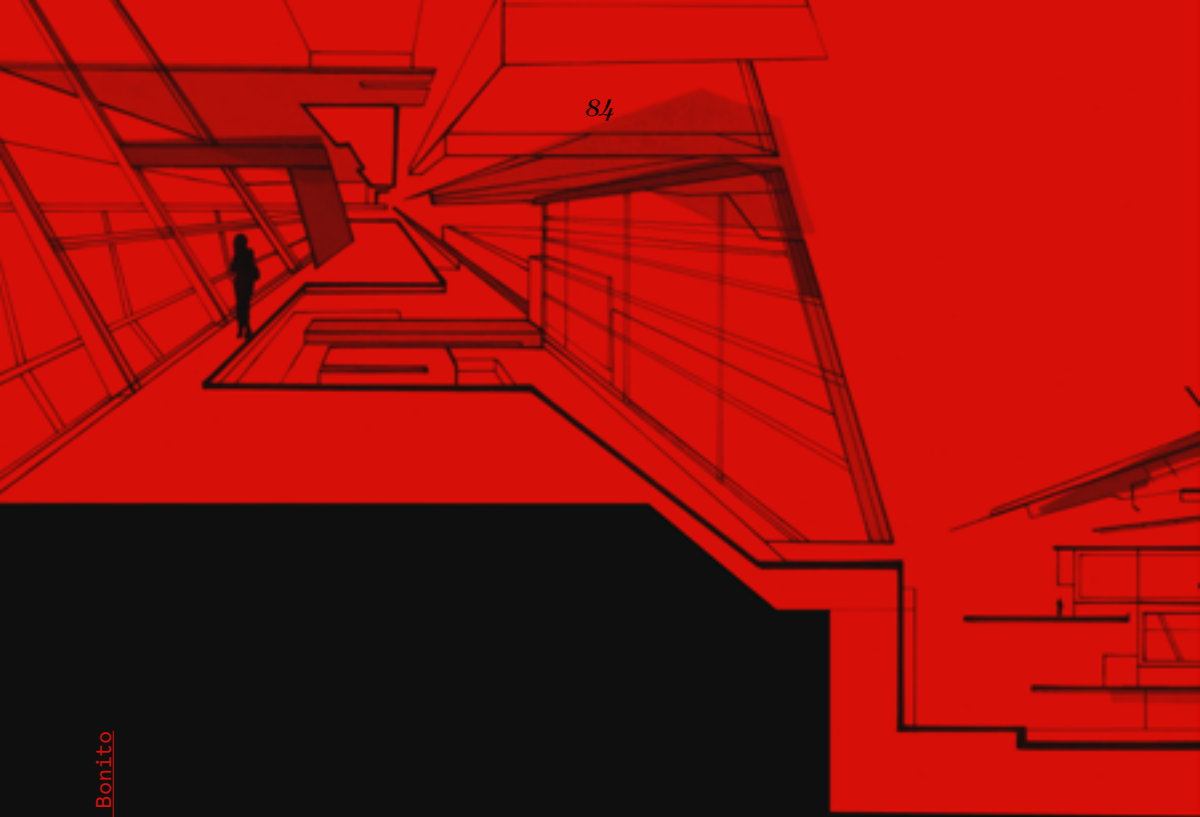
-section

Sandra Bonito
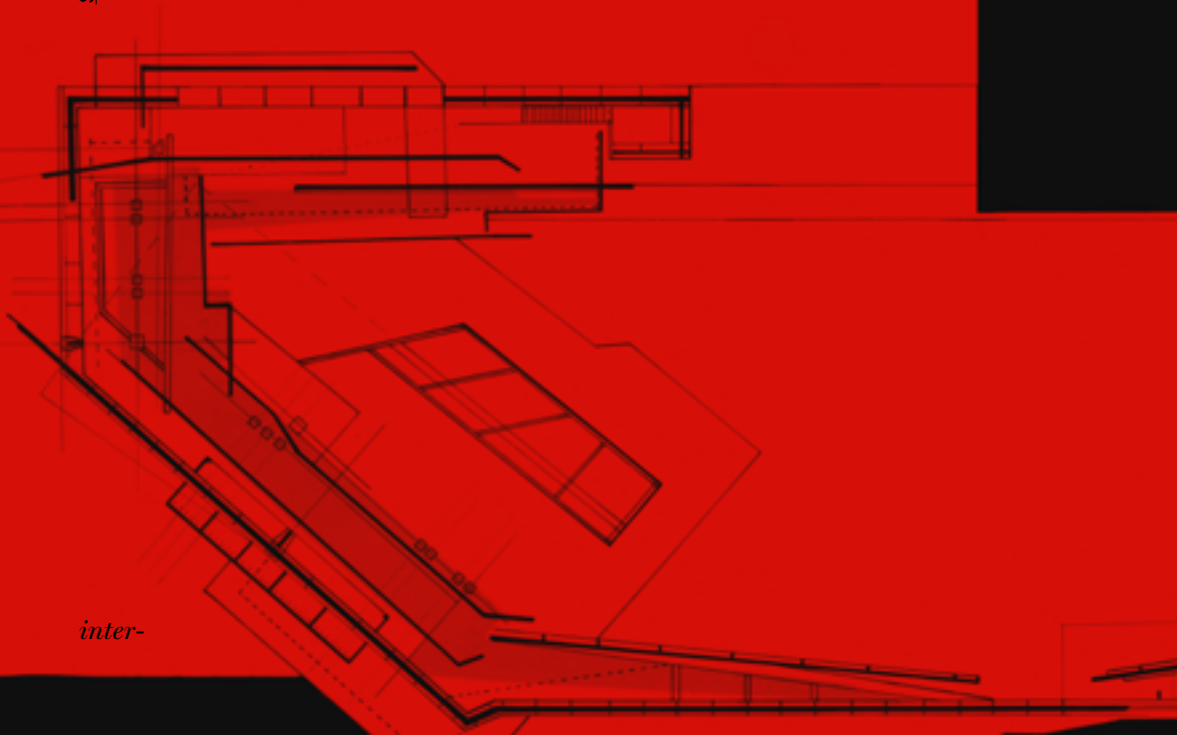
inter-

Freedom Museum

Floorplan, left, and section, right
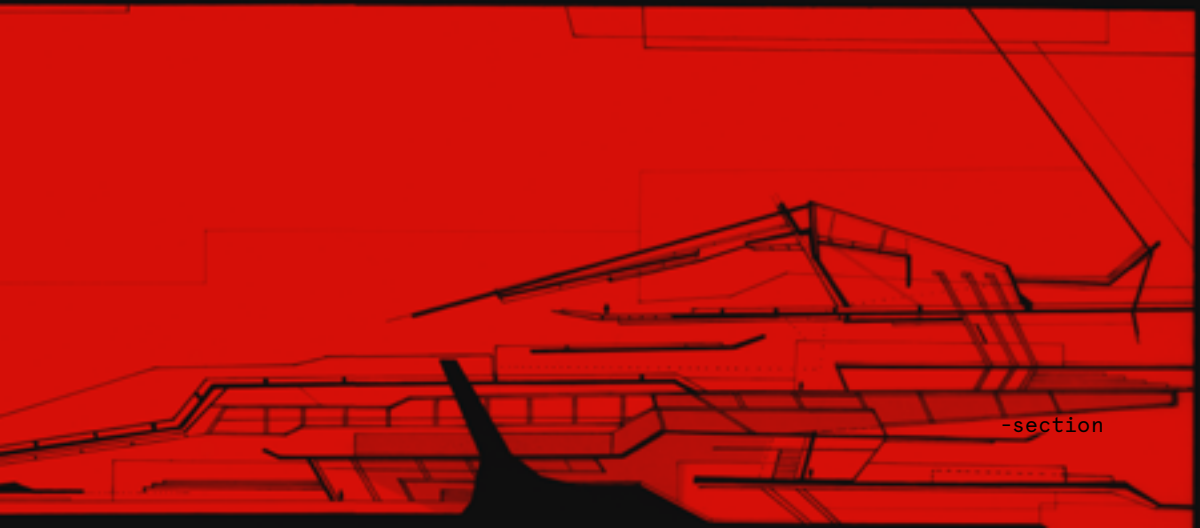
-section
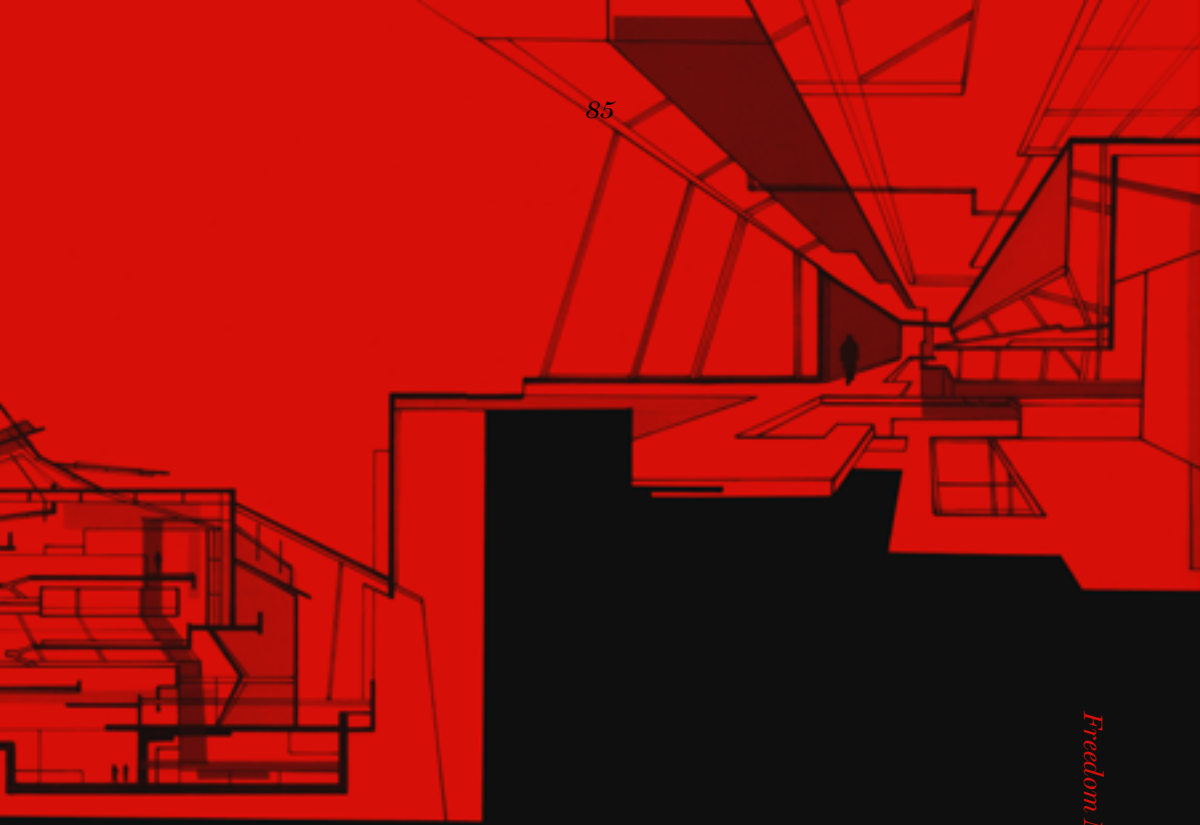
Sandra Bonito

Perspective renderings, left and right, and section, center

inter-

-section

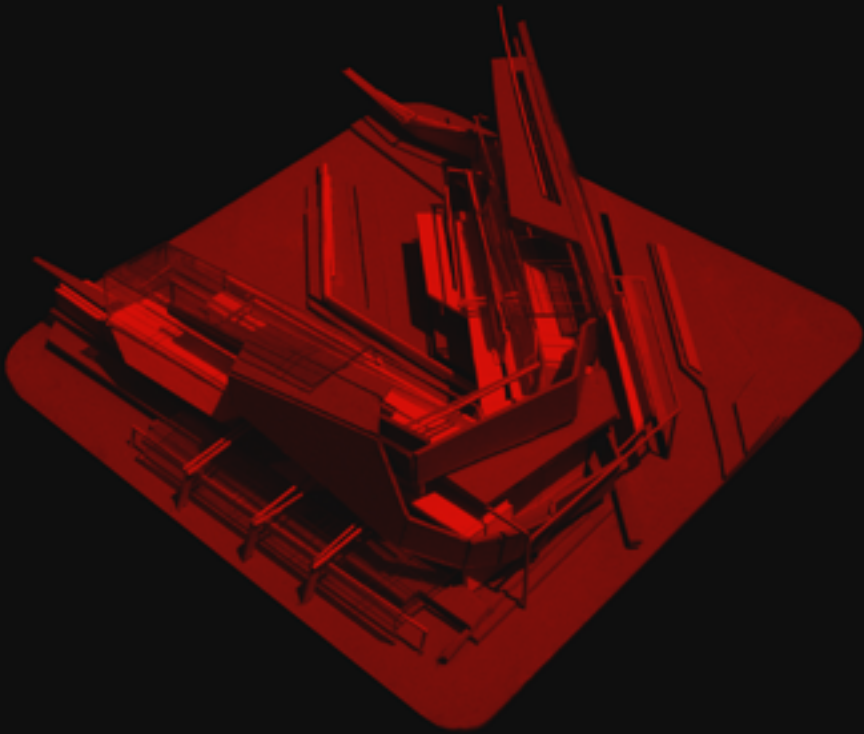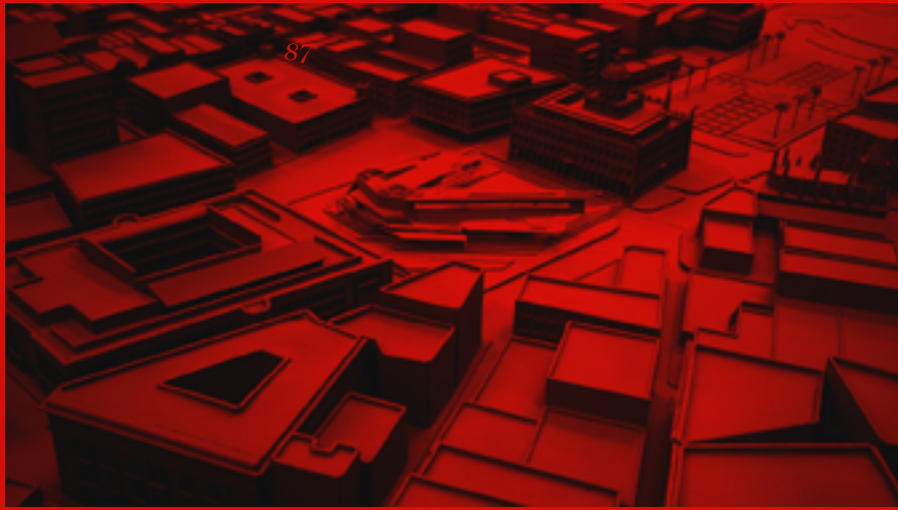Sandra Bonito

Final model, left and above, and force diagram, below

-section
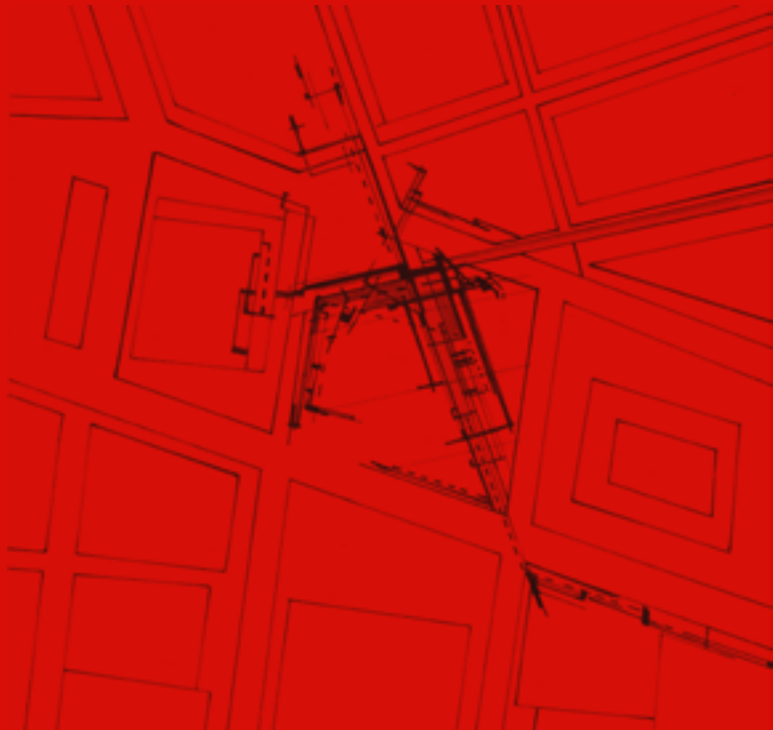
Sandra Bonito

Freedom Museum

-section

Sandra Bonito
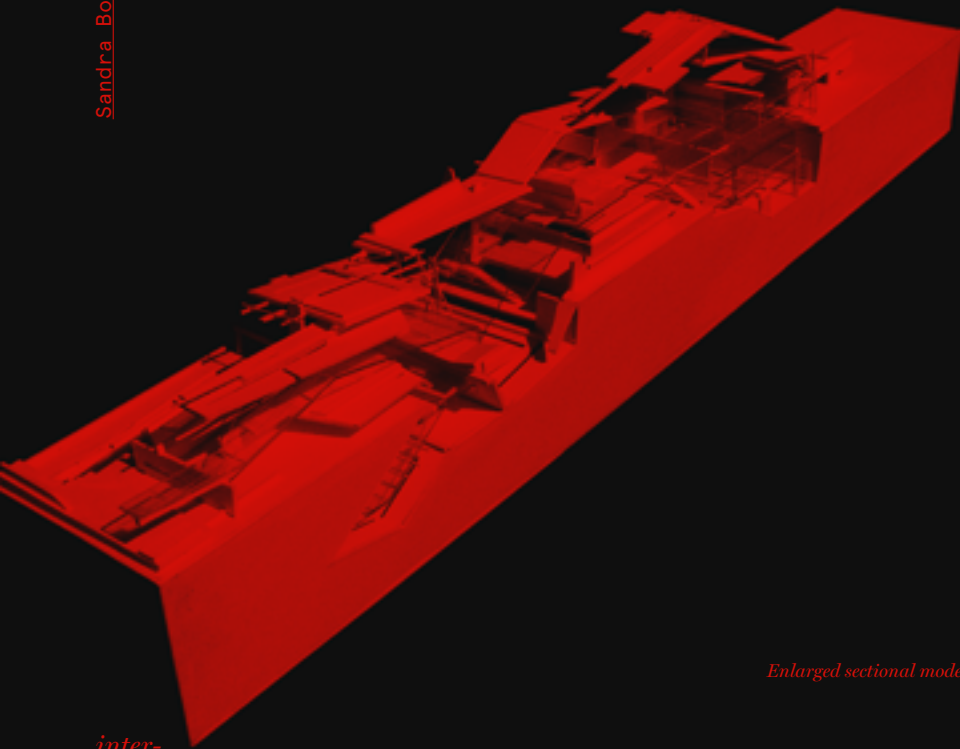
Enlarged sectional model of final proposal

Blurring

-section

Democracy: the U.S. Embassy of Beijing

Sam Nolan
Columbia University

*D*uring the Cold War the U.S. experienced a significant push to bolster its foreign presence through embassy-building. As evidenced by a case study of U.S. embassies across the globe during the second half of the 20th century, embassies began to embody the "embassy as fortress" form, with prominent security features and structures resting on untouchable landscapes. In the 21st century, U.S. embassies like the Eero Saarinen embassy in London attempted to bridge the gap between government land and the public realm with large public promenades and gardens. Although this new model represents a significant step in U.S. embassy design, the project, with its garden walkway buffer and moat-like water features, still retains elements of veiled fortress symbology.
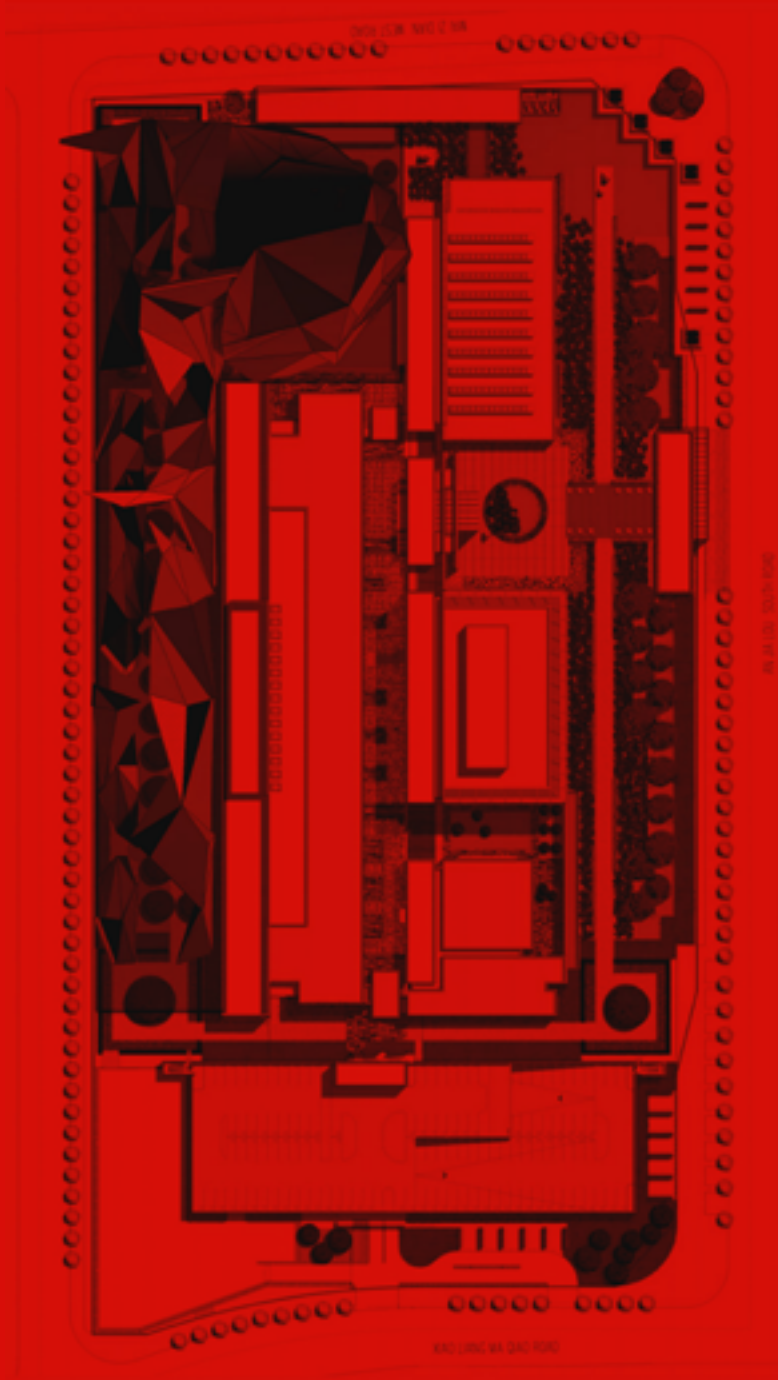
Blurring Democracy attempts to work with the existing landscape of the U.S. embassy in Beijing and repurpose the consulate's private garden. A partially covered landscape provides an interstitial space between the embassy and the public to allow for new interactions between government officials and the Chinese people. The space provides the opportunity for programmed events, for example, as well as informal usage by Chinese vendors and pedestrians. Primarily constructed with Zetix fabric, a synthetic textile able to withstand bombings, the structure acts as a protective barrier between the public and the embassy compound while maintaining the appearance of a light geometric canopy on the street level. The form and color of the canopy is derived from the principles of modern camouflage, allowing it to disappear in satellite images to provide another layer of security. In this way, the embassy is rendered physically accessible and transformed into a political barometer. Though the U.S. embassy and its surrounding sidewalks are currently Chinese property, *Blurring Democracy* proposes that this border might expand and contract based on the relative political climate and China's receptivity to the changed landscape.

Blurring Democracy

-section
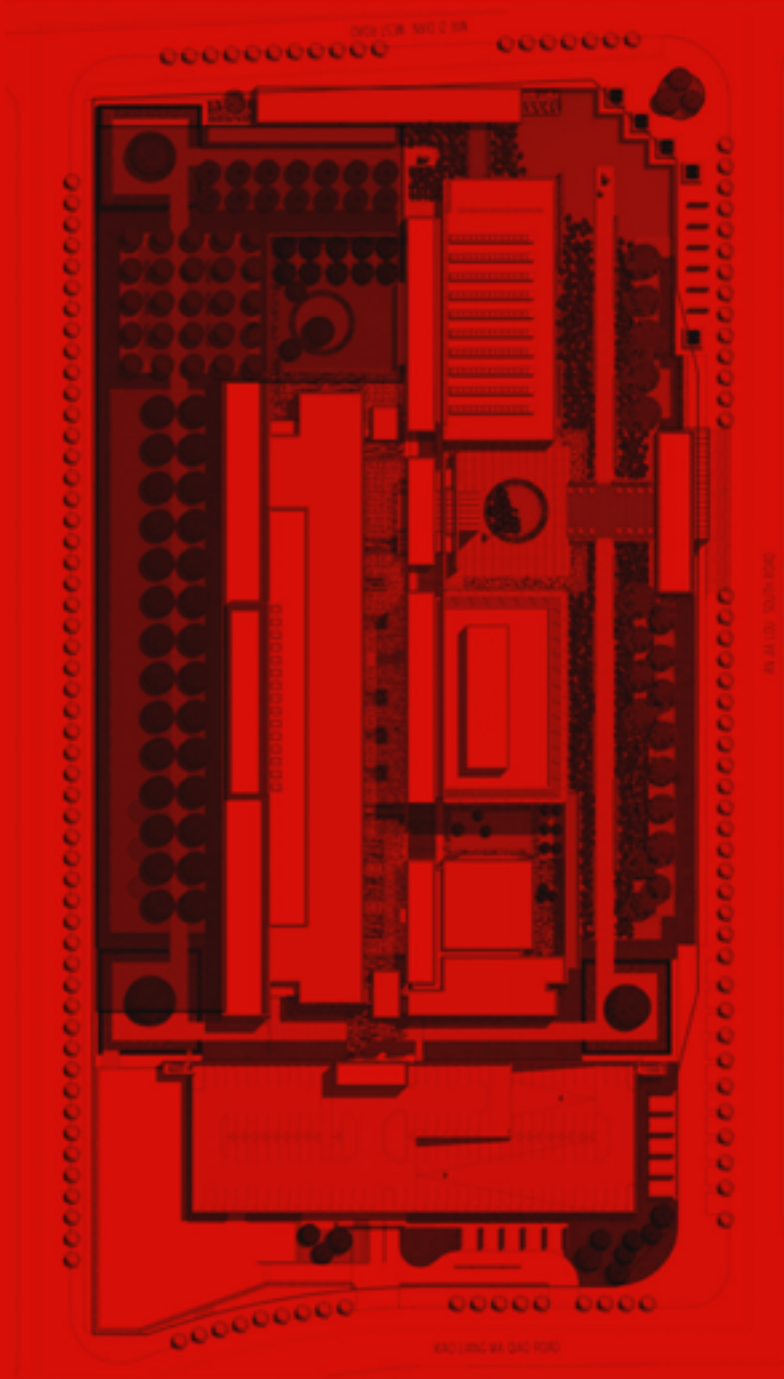
Sam Nolan

Plan of current U.S. Embassy of Beijing by Skidmore, Owings & Merrill (SOM)

inter-

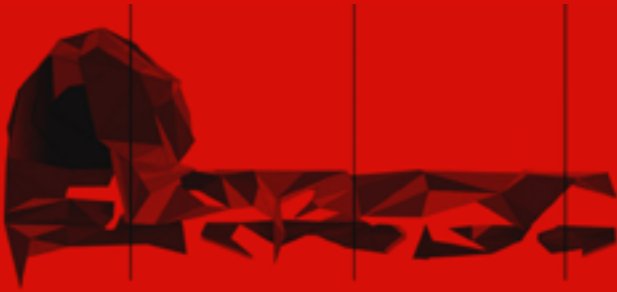*Plan of Blurring Democracy site intervention in private consulate garden*

-section

Sam NoLan

Model photos

Blurring Democracy

Sam Nolan
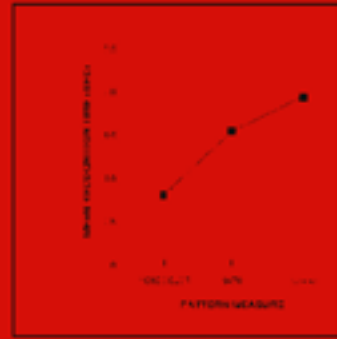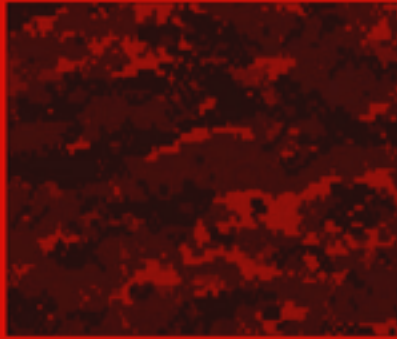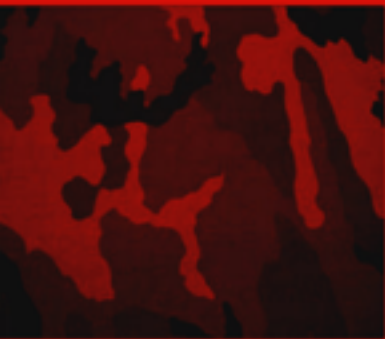
Blurring Democracy

Sam NoLan

-section

Sam NoLan

inter-
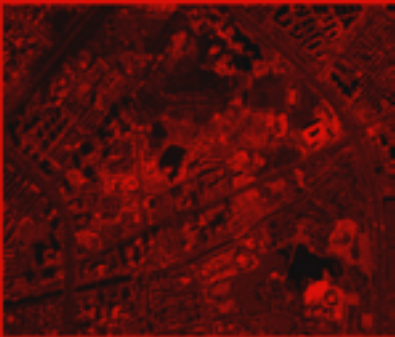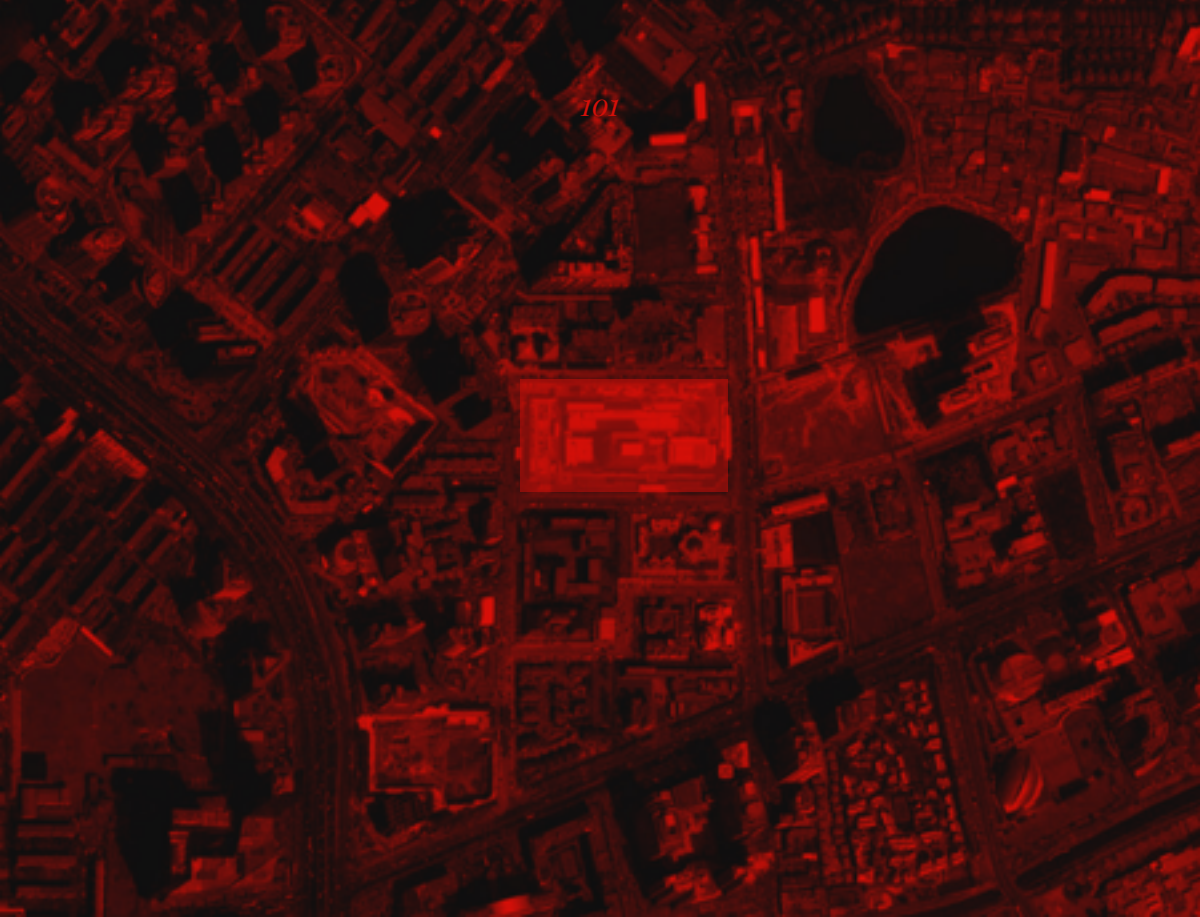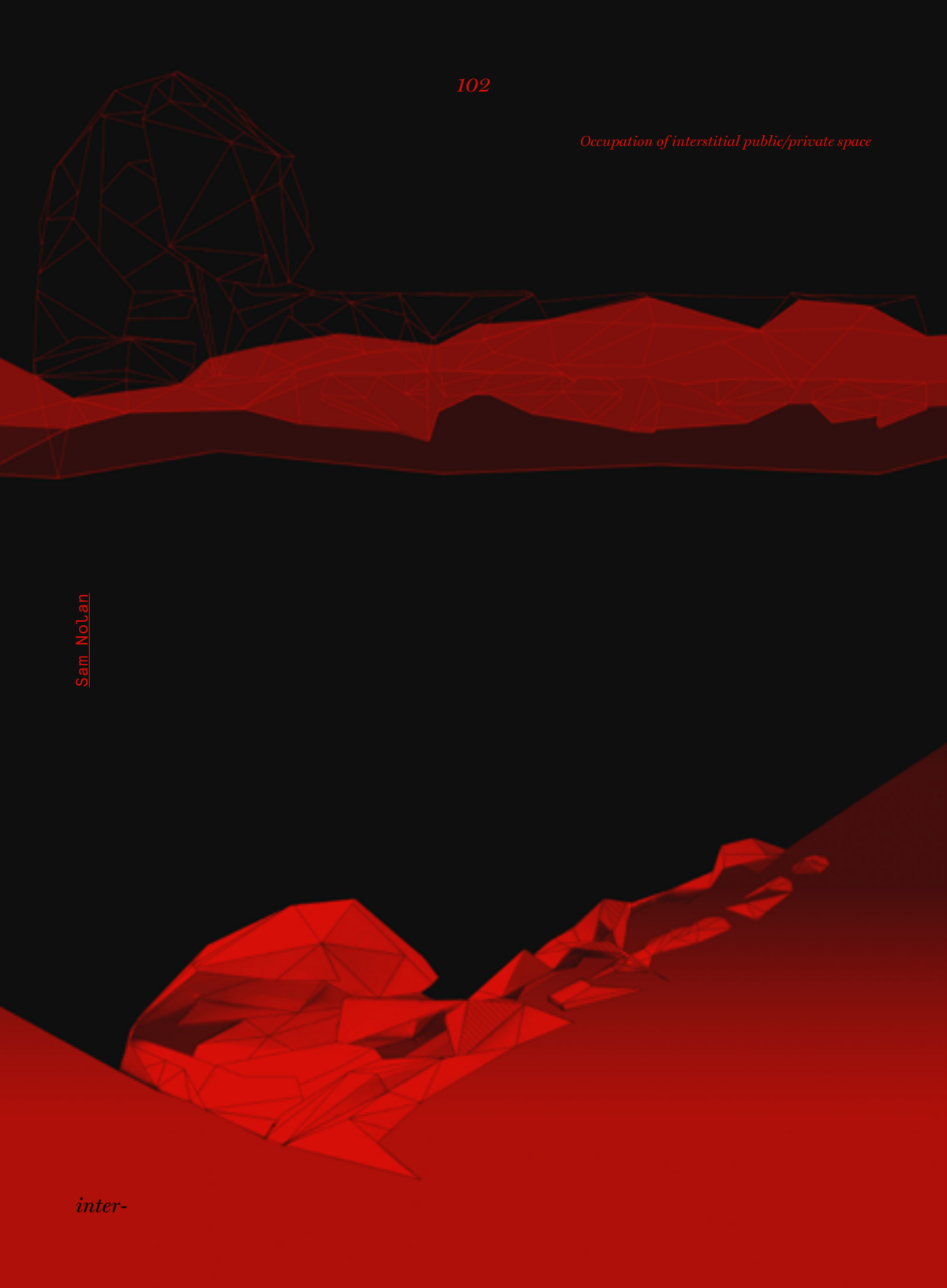
Vision in the

-section

Anig Enocnaic
Columbia University

Desert

"<u>There is no realism worthy of the name if it abstracts</u> <u>from this strongest element in reality, an unfinished</u> <u>reality.</u>" Ernst Bloch

Vision in the Desert

*I*n a manner reminiscent to the short-lived career of Antonio Sant'Elia, Paolo Soleri was an architect whose career transcended the traditional bounds of a spatial builder and dynamically merged with those of philosopher, artist, and writer. The majority of Soleri's architectural work was never constructed; much of his oeuvre remained in literature and drawings that emphasize a Platonic ideal in which his idea was the reality, as opposed to its physical manifestation. Soleri's idea of arcology is both a reaction against the destruction of post-war Italy and a development akin to the modernist ideals aiming to synthesize the rapid development of technology with architectural form. Yet, similar to Sant'Elia, Soleri boldly enlarged the scale of modernist utopian ideals to the size of an entire city. This paper aims to explore Soleri's placement within architectural discourse of his contemporaries and the modern movement. What did an attempted physical construction mean for the utopian values driving his architectural work? What was the reaction of his contemporaries to the translation of his work from drawings to physical form? How do we interpret Soleri's transition of scale from early castings of palm-sized bells to mental constructs of monumental metropoleis?

-section

*C*osanti: (noun). Before Things.

Almost immediately following Soelri's graduation from Politecnico di Torino in 1947, he boldly placed an inquiry with American architect Frank Lloyd Wright. Soleri boldly asked Wright for admission into the Taliesin West community located outside of Scottsdale, Arizona. Not only was Soleri offered an apprenticeship, but Wright granted Soleri the opportunity "without any tuition…if [Paolo] has the chance to come here, we will put [him] on the right track in [his] work" (Lima 79). When Soleri finally arrived at Taliesin West in 1948, Wright stationed him as a waiter and gardener in order to acquire knowledge of the English language. For months, Soleri was completely silent. Yet this "silence stimulated his sight and hearing. His work seemed [at first] unconnected to architecture but it pushed him to see the connections between outside and inside, and he absorbed all of it" (Lima 81). Soleri's perception of the spatial continuum on both small and large scales fueled his thinking of the building–land dialectic, the role of light, "architecture's vitalizing fluidity," and the spiritual aspects of space ("Camera Three"). As Soleri's architectural talent grew prominent among the other apprentices at Taliesin West, his relationship with Wright became contentious. Soleri's reception of Wright's initial design philosophy transformed into a rejection of his "iconization of any object, physical or not" ("Arcosanti" 77).

Motivated by a libertarian vision, driving need to experiment, and a desire for mobility at a minimal cost, Soleri left the "Master of Organic Architecture" in 1950. The move was thought to be "truly more advanced on the path than Wright ever was," showing a relationship between Wright and contemporary critics fraught with bellicose. Though Soleri left Taliesin, he merely readjusted the vocabulary Wright imbued in his own work: circle, dome, and triangle. Polish

philosopher, Henryk Skolimowski declared that Soleri had not abandoned Wrights founding principles, but rather, "<u>his path can be seen as a continuation of Wright's own idiom</u>" (35). According to Soleri, Wright "<u>built houses or buildings in harmony with nature… the problem is that we are deceiving ourselves because one house in harmony with the environment is something we can all agree on; but when you have to build two billion houses, then you have a problem because they are no longer in harmony with the environment</u>" (Wilson 51).
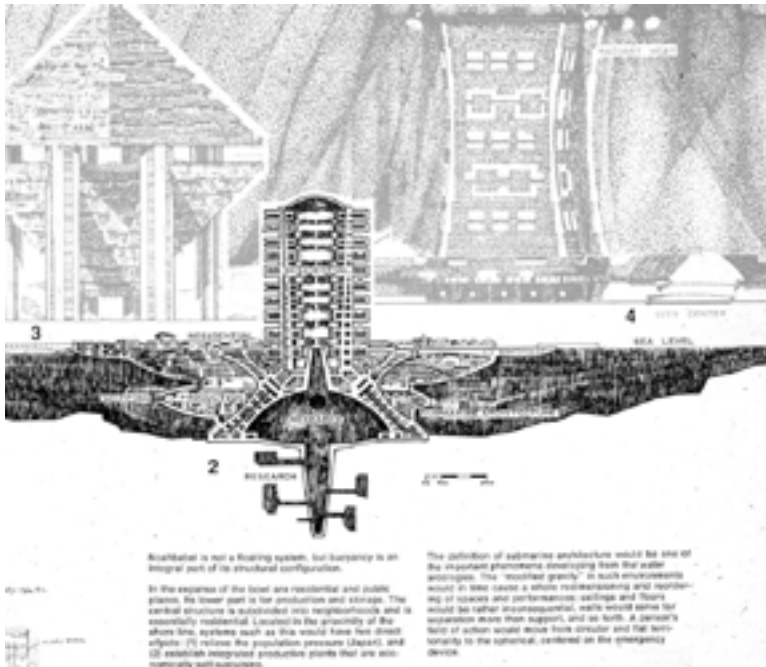
Drawing of Noahbabel (a city of 90,000 near the coast to relieve population density) (1969)

Wright was interested in the sensitivity of architectural form to their surrounding micro-climates. He aimed to integrate his buildings into their immediate surroundings whereas Soleri's work developed into structures "<u>with seemingly negligible roots in the landscape. To</u>

European eyes, they seem to squat on the arid Earth, waiting for the order to fly" ("The Urban Ideal" 17). Soleri's work became obsessively aware of its placement within the overall context of a macro-environment, evocative of Walter Gropius' attempt to "see things whole" ("Champions Small Scale" 7).

Yet prior to consciously inserting his work into a larger, ecological framework, Soleri briefly returned to his home in Northern Italy. There, he imported the crafting technique of earth-cast pottery: a ceramics method indigenous to the native communities of the American Southwest. Soleri

FLOOR DISTRIBUTION BY FUNCTION
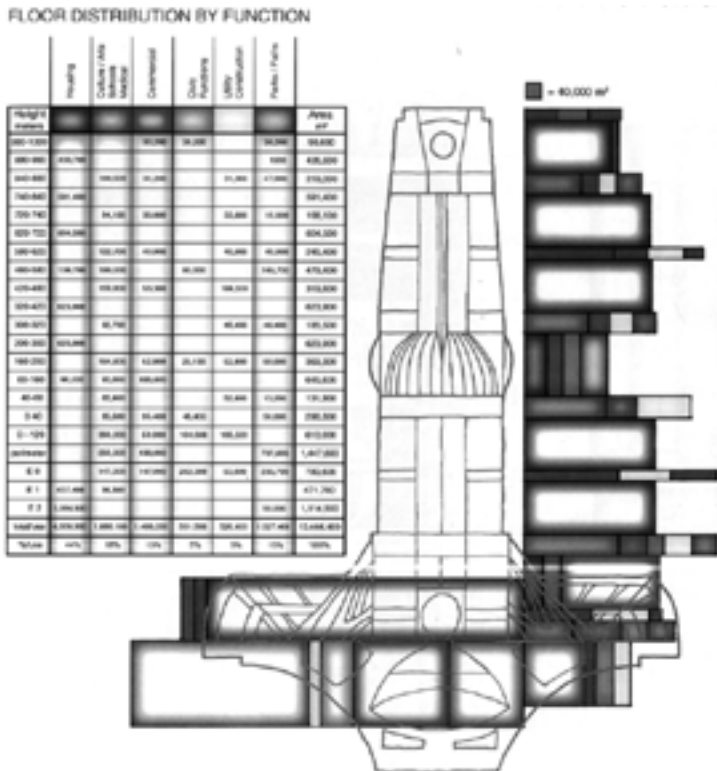
Progrm diagram for Hyper Building (1996)

built a pottery studio where he refined his earth-casting experiments and began creating other ceramic artwork, such as bells and wind chimes. By carving a hole in the ground, Soleri created a void that acted as a mold for pottery. Soleri's ceramics were controlled by his manipulation of Earth's surface, but ultimately, they emerged from Earth's own resources. Similar to the concept of large-scale arcologies, these palm-sized earth-castings were representative of self-contained, singular objects whose general impression "is a crop of mushrooms caught in the act of breaking through the earth's crust" (Greene 433). Soleri's most well-known application of this earth-casting technique rests just outside of Scottsdale, Arizona at Arcosanti. Arcosanti, as this paper will later discuss, was Soleri's sole attempt to materialize his visionary architectural drawings. Indeed, Soleri relied upon the earth-casting techniques to materialize Arcosanti, "[pouring the shell] in place using concrete over pre-shaped mounds of silt and then hallowed out or excavated" in a process where the earth is used as a model to create a building (Wilson 21). "Surely," writes Jeffrey Cook "the exercise of producing thousands of pot-shaped bells has surely affected Soleri's architectural proposals of enormous community-sized pot shaped buildings" (Cook 22)

Soleri's architecture focuses around his own philosophy of arcology, a self-generated portmanteau of the words architecture and ecology which form a gestalt concept that attempts to "make the metropolitan landscape in [man's] own image: a physically compact dense, three-dimensional energetic bundle, not a tenuous film of organic matter" (Banham 199). Unlike Wright's belief in the liberative aspects of technology, most notably through the automobile, Soleri challenged the notion that "decentralization is the key to happiness and prosperity" by viewing urban sprawl, such as Wright's Broadacre City, as a dissipation of cultural energies and a "flight to boredom" ("Paolo Soleri" 17). To Wright, decentralization was an inevitable reaction to the technological boom beginning in the 1950s that "separated and united a series of diversified units, the farm units, the factory units, the roadside markets, the gardening schools..."

Vision in the Desert

-section

(Hamilton 53). And to Soleri, decentralization formed the apex of the crisis of urban living, which according to his beliefs ultimately represented the crisis of civilization, since cities were the heart of civilization's sustainability. In response, Soleri's arcologies relied on the concept of miniaturization to counter the decentralization of Wright's "urban" philosophy. Yet how can miniaturization describe the monumental-sized visions drawn by Soleri?
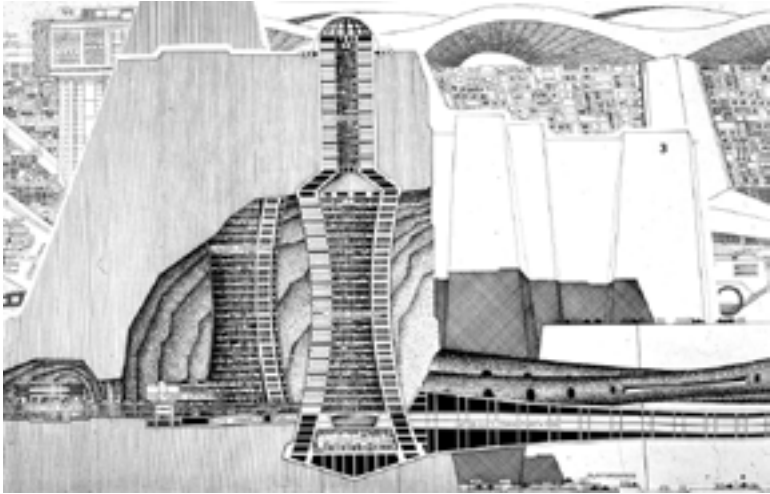
Drawing of Arcondian I (a city of 20,000 on a cliff) (1970)

Arcologies were based on the idea of implosion and regeneration of the "<u>scattered and often disassociated parts and limbs of the same organism into one homogenous, compact, corrdianted system</u>" (Skolimowski 37). The concept does not symbolize a movement towards simplicity, but rather illuminates a built system of progressively complex matter in progressively smaller frames. Soleri admits that this notion stems from his early fascination with Teilhard de Chardin, who believed life generates by way of complexification (Kostof 93). However, "<u>in terms of applying this paradox to the problems of habitat</u>" Soleri is "<u>a loner</u>" ("Arcosanti, Arizona" 77). In fact, Soleri was so invested in the conceptof his drawings representing a "miniaturization" that he opened his book *Arcology* with the statement: "<u>This book is</u>

about miniaturization" (18). He resented his placement in Banham's book, *Megastructure: Urban Futures of the Recent Past*, because he did not consider his drawings representative of the other "oversized, multifunctional buildings with interchangeable parts" (159). Polish philosopher Henryk Skolimowski wrote that arcologies were "important because they denote[d] a new conception of an architectural system which is a normative one" (39). Soleri's representation of arcologies was through hundreds of drawings, much like his predecessor Antonio Sant'Elia, who was an architect of ideas and not construction. However, whereas Sant'Elia's drawings were sketched onto tiny slips of paper, Soleri's depictions were massive in both subject and representation. The viewer was "struck by their alien beauty, and by their intimate relationship with their almost lunar desert surroundings" (Skolimowski 54).

Soleri attributed the progression of scales at which he worked to a frustration with the environmental movement of the 1960s. Environmentalists had "not hinted at the connection between our presence in terms of habitat and the environment," which directly countered Soleri's belief that the "salvation of the environment is in the city." Should the city be ignored or forgotten, according to Soleri, the environment would turn to shambles. Though Soleri's arcologies counter Wright's own vision of a sprawling suburbia where "the bigger a house is the more isolated that house is going to be from the next house," he proposes an isolation from nature "to limit society and not invade nature's domain." This containment, in turn, will expand human connection beyond the mental connection still present in Wright's propositions but "connect physical needs—groceries, utilities, garbage, water, sewer. We have a need to congregate" ("Urban Ideal" 45).

The drawings themselves represent a beautiful and urbane pronouncement that is, at the same time, of cataclysmic proportion. Soleri's drawings do not show nature. In fact, what little of "the natural remains [in his drawings] is pattered mechanically in zipatone" (Kostof 92).

Vision in the Desert

-section

The drawings are not meant to depict a context in which Soleri's arcology can flourish, but rather, by removing context from this depiction Soleri is privileging their physical structure. The horizontal sprawl of a city, Soleri believed, epitomized a false social order that architects and city planners of the Beaux-Arts order epitomized by intuitively "working at the physical designs without first formulating coherent and fundamental theory about community, society, and culture within which they operate" (Higbee 20). According to Skolimowski, Soleri's drawings are themselves an almost demonic manifestation of a new synthesis: one between architecture and society (35). Soleri's condensed, vertical megastructures could house anywhere from 3,000 to 3 million people, and anticipated a prevailing urban context that could eventually shape the condition of architecture.

Little is noted in Soleri's drawings besides small indicators allocating certain spaces as "public" or "commercial" or "neighborhood." Evidently, Soleri underplays specialized functions relying on "the synoptic presentation having the advantage of brevity" ("What If" 26). Drawings of physical arcologies have little building detail; materials and construction techniques are minimized. Soleri himself explains that he was "doodling with urban questions—nothing too serious, just fragments" in the late 1950s when a German who worked for Soleri as an earth-cast bells salesman suggested Soleri attempt to design a city. Soleri had already been experimenting with the notion of cities in fragments, and now he could attempt to produce an entire Urban Effect which he later defined as "the impulse of reality towards organizing itself in such an intense, interlocked, interweaving, interacting set of elements that all of a sudden, it creates life and, perhaps, consciousness where before it was only mineral stuff" ("Urban Ideal" 35). Soleri admits that his unwillingness to segregate interrelated elements in his drawings accounts for a certain repetitiveness— "so many things belong to so many other things!" (Wilson 7) that allow his cities to regain their capacity of survival. The propagation of institutions in Soleri's arcology enhance and propel the quality of life within the structures, according to Jeffery Cook:

Anig Enocnaic

inter-

> Soleri's personal perceptions of urban pleasures
> are private, endless, intricate, and mostly
> unspoken. From the slow-motion civic observations
> of trees growing, babies born, playing, flirting,
> coupling and producing new families, to the
> instant snaps that replay the familiar with ever
> new appreciation—these are the constant pleasures
> of sensual renewal that are magnified in an urban
> setting where friend and foe rub shoulders…
> Soleri's true theoretical urban institution is the
> perceptual succor of the individual ("Urban Ideal" 13).

To Soleri, the mutilation of social and individual life should not have to be tolerated because inadvertently, technology severed the texture of real city life from genuine human relationships.

> The intellectual origins of Soleri's work were reactions against the devastating tragedies of two world wars preceding his career. Along with the cultural positivism that emerged from the post-war generation appeared a hope that international industrialism could "provide for substantial lives as well as materialize dreams for ordinary people" ("Urban Ideal" 14). Soleri's "noble" goal to provide an environment in harmony with man shifted him from "Soleri-the-architect to Soleri-the-philosopher" (Skowlimoski 36). Soleri's work was met with enthusiasm by the youth of the 1960s, since his structures were concerned with both the pollution of the physical landscape and the ideas and behavior of those populating it. As Spiro Kostof stated in 1971, Soleri "is very much of his time, and very unlike his predecessors of history, since others were concerned about planting on the surface of the earth their man-made vision and not with conserving nature" (95). Moreover, the basis of Soleri's arcologies is rooted in a rejection of Fascism—a poltical and economic system that became engrained into his life in Italy even before the onslaught of the second World War. Soleri designed his arcologies with the realization that equity is essential and that the only "really passionate society is the one

Vision in the Desert

-section

that has equity contained within an ecological congruence"
(Malcolm 28). Soleri reintroduces a moral connotation in the concept of
order in his arcologies "now that we have those responsibilities"
with the justification that "complexity is, per se, divinity" ("Urban
Ideal" 115). Much like Le Corbusier, whom Soleri claims was his own "first
architectural hero," Soleri's work presents a liberation from the land
though Soleri abandons the giant piloti and orderly platforms prominent in
Le Corbusier's design for Algeria in 1931 ("Urban Ideal" 13).

A rcosanti: (noun). After Things.

After Soleri's work was displayed at the Corcoran Gallery in Washington
D.C. in 1970, interest in Soleri's radical re-definition of architecture swelled.
When the exhibition traveled to the Whitney Museum of American Art in New
York City, he continued to generate polarized responses from architectural
critics and the public. Regardless of the establishment's varied opinions,
critics agreed that "Soleri was a living paradox: an architect
who [built] little, a poet who [expressed] himself through
drawings, and a philosopher who [had] the temerity to
philosophize through architectural and urban forms"
(Skolimowski 33). Yet it was this dynamism that often made Soleri appear as
an unorthodox figure of art, as opposed to a traditional architect. Critics
voiced similar questions that challenged whether "Soleri was a real
architect...or perhaps a frustrtated artist who cannot make
up his mind about what medium to choose [so] muddles in
everything" (Skolimowski 34). Soleri's work created a polarization within
the architectural industry since, as critic Ada Louise Huxtable noted that
"the observer of Soleri's abstract schematics either bolts
in horror or he falls in love with the vision" (Higbee 21).
Perhaps, this is because Soleri's "flamboyant" sketches were "at once
delightful and faintly depressing" at the same time (Higbee 20).

inter-
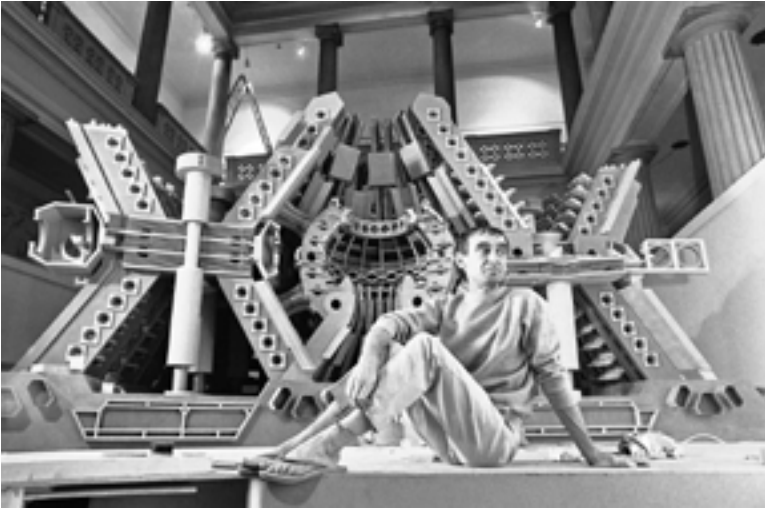
Soleri in front of his "3-D Jersey" cutaway model displayed at the Corcoran Gallery (1970)

Vision in the Desert

Progressive Architecture voiced a concern shared by the entire architecture establishment when it portrayed Soleri's architectural work as "<u>sculptures</u>." By the end of the 1960s, none of Soleri's architectural visions were built to human scale. They remained in model form, adding to their perception as objects of art and not representations of inhabitable space. Moreover, Soleri received his first American honor in 1963 from the American Institute of Architects—not for his architectural drawings or models, but for the "<u>craftsmanship of his creative windbell design</u>" which incorporated elements of nature in both their formation and design (Wilson 30). Though Soleri consistently denied that he had adopted a craftsman's attitude towards material, since they "<u>express the material</u>" and "<u>must bring out everything which is possible in terms of the material</u>" whereas for an architect "<u>material is meaningless, is a meaning for something that goes beyond that which is material,</u>" he spent hours standing outdoors in the Arizona sun to experience materials "<u>in their actual behavior in the weather</u>" (Hamilton 60).

-section
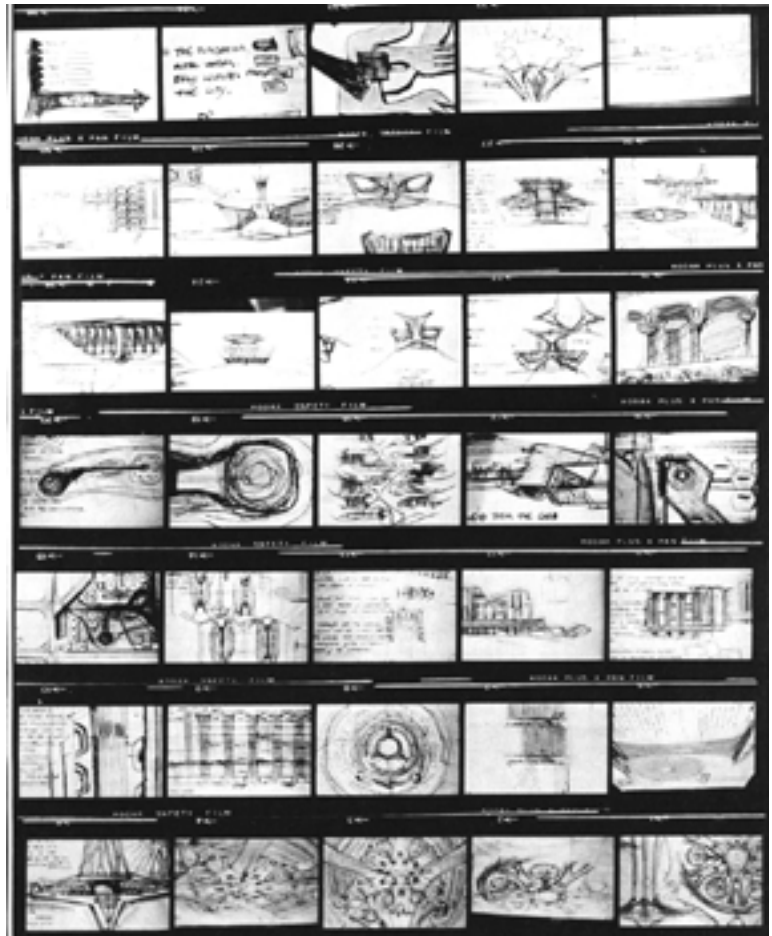
Pages from Soleri's album of notes and drawings , Domus 402 (1963)

An early publication of *Architectural Association Quarterly* portrayed Soleri as a philosopher of both drawing and literature. The creativity he wields with the English language "<u>shapes and invents his [vision] with such freedom that it has become almost a personal language</u>" ("Paolo Soleri" 23). These ideas can be traced back to Soleri's drawings, "<u>which developed both verbally and visually to the point</u>

inter-

that they have been transferred to the draughting studio
to emerge perhaps as a proto-typical city megastructure"
("Paolo Soleri" 22). In fact, Charles Eames flatteringly called Soleri's
notebooks the most important since Leonardo da Vinci's (Collins 22).

Nevertheless, while Soleri may have himself been hailed as providing the
architectural industry with professional innovation through dynamism,
not all architectural critics were sold on the concept of megastructures,
regardless of the philosophy providing differentiation within the
architectural genre. Alexandre Persitz provided the supreme compliment
of attack to the niche industry of megastructuers (Soleri included) when he
states in *Recherches* that "[megastructures and their designers]
effectively have nothing to do with concrete response
to problems, but are manifestations of violent defiance"
(Banham 64). Persitz continues to proclaim that though project proposals
from "megastructuralists" are found as encouraging, their expression of
vitality cannot be mistaken as a model for a city of the future (Banham 64).

Vision in the Desert
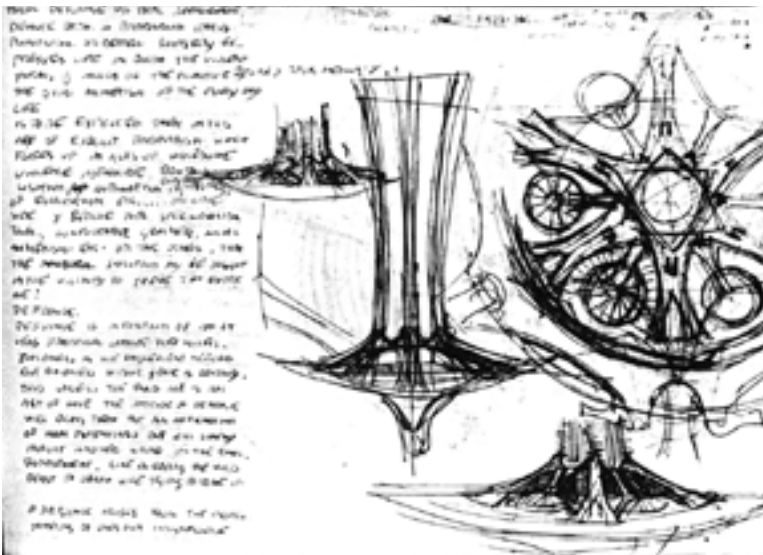
Excerpt from Soleri's album of notes and drawings, Domus 402 (1963)

-section

Yet, the inability to categorize Soler according to typical architectural roles generated varying degrees of hostility within the professional industry. These feelings sprung from an audience who often misinterpreted Soleri's work as a "radical rejection [of the] presuppositions and actions of the way of life" (Hamilton 57). *Industrial Design* refused to call Soleri a "visionary" because "adding the work visionary to the word architect although supposedly flattering, is self-contradictory (the visionary dreams of that which cannot be built; the architect designs that which can be built) and very misleading" (Hamilton 57). Soleri's ability to spend eight hours each day in conceptual work while part of a production-oriented society was considered "rebellious" and "astounding." Interestingly, his drawings centered on the submission of man's own efficiency to that of an arcology's machine-like structure. To the architecturally-oriented readers of *Industrial Design*, however, Soleri's work was "so limited or vague that they seldom had an opportunity to evaluate [his] ideas when they are expressed in architecture" (Hamilton 59). Soleri's plans for "City on a Mesa" were further dismissed as "vague (neither materials or structure are specified), sometimes regressive, and alas derivative." Critics attribute Soleri's non-technical style as cause of "a certain distaste on his part for automation, a queasy uneasiness when faced by the cold efficiency of the machine world" (Hamilton 60).

> Skolimowski noted that Soleri's work "represents a post-technological utopia...because [in his arcologies] technology is no longer worshipped as a sacred cow" (39). Indeed, the lack of technical detailing in Soleri's work underlies a "warning that the graphic conceptual diagrams are not to be taken literally—they are symbolic of the idea structure which is basic" (Higbee 18). This conscious decision to eschew the very technology that drove the economy of the 60s and 70s "signifies a radical turning point in architecture" and ushered in an era Banham classifies as that of sheer confidence and nerve (Skolimowski 33). It was, according to Banham, natural at the time to create such radical structures.

Anig Enocnaic

inter-

According to Banham, the categorization of megastructures as "Utopian"
was inevitable given their earliest publication was within the context of
publications from the early 1960s with "utopian" in their subtitles, such as
Fantastic Architecture by Conrads and Sperlich (79). According to Banham,
classifying Soleri as "utopian" not only located his work as a revealing
and unsettling initial example of megastructures, but also suggested a
connection between Soleri and early urban visionaries, such as Sant'Elia.
"Thirty years later," Banham states, "ideas are taken up again
which were frequently hinted at, even if motivated by
different considerations" (79).

<div style="margin-left: 2em;">

Nevertheless, the oft-misunderstood term "utopian" should be clarified.
While it can refer to serious propositions of a radically new and perfected
social order, it can also refer to work that is both visionary and improbable.
As these terms can be applied to architectural developments, Banham
suggests designers were inclined to undergird two distinct camps of utopian
thinking (79). One interpretation was of "blind visions" unrelated to
any known or anticipated condition within human society. The other sought
to merely amplify present conditions within society (Banham 79). Spiro
Kostof declared that "there is something isolated, something
aristocratic in Soleri's thought that sets him apart.
Unlike others he is not moved by pragmatism and will not
save his energies to save a false order," which Soleri himself
defined as Wright's philosophy on urban sprawl (95). Soleri proceeded to
address a question from *Architectural Association Quarterly* about the
future perception of his work as utopian:

</div>

<div style="margin-left: 4em;">

Well, suppose for the moment that you could
project two realities, one in which the arcologies
existed, and one in which they remained conceptual.
Evidently, if the idea is realized, it will not be
utopian. But in different circumstances where there
is no concrete example of the idea, it will be
considered utopian.

</div>

Vision in the Desert

-section

Soleri would be the first to deny that his ideas were utopian. In fact, *Architecture Association Quarterly* interviewed Soleri to discuss whether Arcosanti, one of Soleri's only materialized projects, could be compared to Noah's Ark. Soleri responded by stating that "it is the Earth itself which is the Ark today" (57).

Architectural scholar George R. Collins proposed that Soleri's drawings be considered as "illusory and figurative as the visions themselves" (67). Arguing that they "point the way towards the future" because they act as "signposts indicating the direction towards future possible worlds," Collins suggests Soleri's vision of "total environmental control within a highly controlled social order" make his structures a means to humanize the environment (65). Architects since the Middle Ages had regularly produced schemes for the ideal city, but Soleri's work "[reflected] subordinate social positions and an escape from the mental bonds of current reality" (Schaer 109). Indeed, "utopia" gives form to the idea of human beings as entirely social and a person as having neither a supernatural nor individual reality even if social order is conceived as part of a wider natural order. Soleri's "arcologies attempted to eradicate problems such as crime and ethnic segregation and his belief in the important influence on the built environment upon the social one is clearly because a social pattern is influenced, if not directed, by the physical pattern that shelters it" (Schaer 112).

Soleri's work appears at a time when the substance of the modern movement developed into a foundation for the establishment of a "higher" architecture. As the *Architectural Association Quarterly* reported, "urban evolution will process through miniaturization of cities and a substantial exploration of the vertical dimension will increasingly permit 'spiritualization" of human life'" ("Paolo Soleri" 17). Skolimowski argued that "Soleri [reintroduced] a moral connotation in the concept of order in his arcologies," making him "not merely an analytical critic of

Anig Enocnaic

society, but also a moralist" (37). Produced as a result of the IV International Congress of Modern Architecture, which focused on the "functional city," the Athens Charter emphasizes the spiritual, cultural, and economic value of architecture within urban development schemes (Mumford 5). Soleri's work embodied this kind of thinking and helped shift meaning in architectural theory through his unconstructed structures (Tournikiotis 18). Indeed, the radical nature of Soleri's work "propounded new conditions and new directions that dismantled the concept and the unity of the modern movement" (Tournikiotis 167). Certainly, Soleri's work has aided in the proclamation of Lefebvre's "right to city" by opposing "a return to traditional cities" and championing "a renewed right to urban life" (158).

Soleri's image of the future affected the future. According to Skolimowski "Soleri stands in the ranks of great builders who confronted the problem of their epoch as today's problem: the degeneration of urban life by technology" (40). Whether Soleri's drawings and visions worked as a glorious plumbing system for human cities or "an effective network channeling human energies in the most satisfactory manner" remains an open question (Skolimowski 37). In the same way Sant'Elia was remembered, Soleri was described "as a prophet of a much more general sort—an artist-architect who issued a clarion call to the glories of modernism, who wanted to proclaim the potential of 20th-century technology to remake the world." Soleri's radical drawing and model-making methods stirred controversy within an architectural community experiencing a collapse of ideals, and ultimately opened a discourse on the nature of urbanism, construction, and design. Soleri pointed to the danger within architecture of confusing the built object with the complete idea. Thus, "he is not so much a scholar locked into ritual, definition, and pattern, but a philosopher with perishable methods and open-ended inquiry" ("Camera Three"). Soleri embraced his own incompleteness so we might take his ideals to a higher level of resolution: so that "the burden is shared" ("Camera Three"). There was more than even he could imagine.

Vision in the Desert

-section

Works Cited:

"Arcosanti, Arizona: Job Site for Utopia." *Progressive Architecture*. 54 (1973): 76-81. Print.

Banham, Reyner. *Megastructures: Urban Futures of the Recent Past.* New York: Thames and Hudson, Ltd., 1976. Print.

Camera Three- The City in the Image of Man: Ideas and Workings of Paolo Soleri. Dir. Merril Brockway. CBS-TV, 1972.
      Film.

Collins, George R. *Visionary Drawings of Architecture and Planning: 20th Century through the 1960s*. Cambridge: MIT
      Press, 1979. Print.

Cook, Jeffery. Introduction. *The Urban Ideal: Conversations with Paolo Soleri*. ed. John Strohmeier. Berkley: Berkley
      Hills Books, 2001. Print.

Cook, Jeffrey. "Paolo Soleri." *AAQ: Architectural Association Quarterly*. 1.2 (1969) 16-23. Print.

Cook, Jeffery. "Soleri Champions Small Scale?" *Federal Design Matters: National Endowment of the Arts*. 23 (1981): 1-8.
      Print.

Elkington, John. "Paolo Soleri: A Flight from Flatness." *AAQ: Architectural Association Quarterly*. 6.1 (1974): 59-64. Print.

Greene, David. "A Blast From the Past." *Architectural Design*. 41 (1971): 433-434. Print.

Hamilton, Alfred. "Soleri's Urban Landscape." *Industrial Design*. 17.4 (1970): 52-55. Print.

Higbee, Edward. "Soleri: Plumber with a Mind of St.Augustine." *American Institute of Architects, Journal*. 55 (1971):
      17-22. Print.

Jensen, Robert. "Arcosanti Antithesis: Paolo Soleri and the Counter Culture." *Architectural Record.* (1974): 121-126.
      Print.

Kostof, Spiro. "Soleri's Arcology: A New Design for the City?" *Art in America*. 59.2 (1971): 90-95. Print.

Lima, Antonietta Iolanada. *Soleri: Architecture as Human Ecology*. New York: Monacelli Press, 2003. Print.

Malcolm, Miles. *Urban Utopias: The Built and Social Architectures of Alternative Settlements*. New York: Routledge,
      2008. Print.

Schaer, Roland, et al. *Utopia: The Search for the Ideal Society in the Western World*. Oxford: Oxford University Press,
      2000. Print.

Skolimowski Henryk. "Paolo Soleri: The Philosophy of Urban Life." *AAQ: Architectural Association Quarterly*. 3 (1970):
      34-42. Print.

Soleri, Paolo. *Arcosanti: An Urban Laboratory?* San Diego: Avant Books, 1984. Print.

Soleri, Paolo. *What If?: Collected Writings 1986-2000.* Berkley: Berkley Hills Books, 2002. Print.

Tournikiotis, Panayotis. *The Historiography of Modern Architecture*. Cambridge: MIT Press, 1999. Print.

Wilson, Marie. *Arcosanti Archetype: The Rebirth of Cities by Renaissance Thinker Paolo Soleri*. Fountain Hills: Freedom
      Editions, 1999. Print.

betterEutaw:

-section

placemaking in a divided Baltimore

Rachel Yalisove + Cindy Jian
Maryland Institute College of Art

*b*etterEutaw was a Maryland Institute College of Art student-lead initiative that sought to re-assert identity, pride, and ownership in central Baltimore by using architecture as a celebration of similarities. Its mission was to investigate whether design-build interventions could activate underutilized urban public spaces. In particular, the project sought to help the neighborhoods surrounding Eutaw Place Park rise above socioeconomic and racial differences in order to identify as one diverse but united community. Extensive public engagement culminated in a multifaceted outdoor event held in August of 2013. The project aimed to generate interest in Eutaw Place Park and set a precedent for the use of surrounding parks to resolve similar instances of social tension.

To establish Eutaw Place Park as the best possible location for the project, we mapped out housing market typology and vehicular and pedestrian traffic patterns through observational studies. Eutaw Place Park measures 57 feet wide by 740 feet long and sits on the dividing line between the Bolton Hill and Central West Baltimore neighborhoods. It was once one of the premier parks in the country. Since then massive housing projects, supermarkets, and infrastructural changes within adjacent streets weakened the community's sense of ownership and pride, which deemed the park a no man's land. The chart below exemplifies stark racial and socioeconomic differences between the neighborhoods located on either side of Eutaw Place: Upton and Bolton Hill/Midtown. Black residents substantially outnumber White residents in Upton while the reverse is true in Bolton Hill and Midtown. An even greater difference exists between the

-section

economic statuses of each side, with 50.6% of Upton households below the poverty line compared with 5.5% of Bolton Hill/Midtown households.

	Upton	Bolton Hill/Midtown
% Black	92.4	32.1
% White	3.9	52.7
Racial Diversity Index	15.4	61.8
Median Household Income	$13,835	$38,331
% Households Below Poverty Line	50.6	5.5
Median Sales Prices for Housing	$30,000	$190,000
% Vacant /Abandoned Property	34	4.7

Comparison of Upton and Bolton Hill/Midtown, Baltimore demographics, Vital Signs 11 (2013)

betterEutaw used a prefabricated design-build process with a grassroots sensibility to examine and address social tensions between the neighborhoods surrounding Eutaw Place. The project publicized itself through social media, posters, literature, and on-site interactions. Multiple stages of the project built up to the final betterEutaw event. To begin the

Blocks east of Eutaw Place (black) represent the highest housing market while blocks to the west (white) represent the lowest category, Baltimore City Housing Typology (2011)

Rachel Yalisove + Cindy Jian

inter-

social architecture intervention, pie and craft stands doubled as park stations for three months to allow neighbors to share with us their current perceptions and future projections of the park and how they envisioned it as a revitalized space. In addition, betterEutaw asked for input at monthly meetings hosted by the No Boundaries Coalition, an organization run by locals striving to unify neighborhoods in Central West Baltimore.

Photos from building workshops between Pedestal Gardens and Mosher Street walk on Eutaw

These mediations culminated into a final block party event. Emphasis was placed on the concept of a self-sustaining system in which intervention is constantly constructible and lives on in the hands of the community. It also made use of placemaking strategies in which an event or sculpture functions as a symbol of local identity ("Placemaking"). MICA Interactive Arts major Rachel Yalisove designed a central mound built from locally found recycled pallets, which became the event's visual and experiential icon. Its purpose was fluid and changed based on temporal and user-based factors. The structure was disassembled and subsequently re-manipulated by users of the park to form different, iterative forms. Leaping children eventually gave way to older residents resting their feet along its ledges. Live music

betterEutaw

-section

from folk, rap, and rock groups drew crowds from both sides of the park and offered a sense of uniform vitality to the space. Beneath a neighboring tree, a volunteer from the local Artist & Craftsman art supply shop painted geometric designs on children's faces. Next door, more volunteers manned a screen-printing booth, prepared with the help of Baltimore Print Studios, a public-access print studio affiliated with MICA. Adults from both neighborhoods socialized over dinner provided by local food vendors, perused craft and fleamarket stands, and watched games of catch in adjacent dog-walking areas. Friends, parents, and children gathered in one last celebratory gesture by dancing with lead musical act, Rye Rye, an internationally acclaimed rap artist with roots in East Baltimore (Kalipatrick).

Rachel Yalisove + Cindy Jian

Local children playing on pallet playground constructed at Eutaw Place

While betterEutaw's event became a positive and rewarding venture, we encountered unforeseen obstacles along the way. Maintaining clear, friendly lines of communication with the public proved to be one of the project's most grueling tasks. Bolton Hill homeowners, who do not rely on public transportation to the same extent as many Upton residents, were angered over street parking bans, thus losing sight of betterEutaw's mission. The

inter-

event's large size and complexity limited betterEutaw's ability to identify and address such nuances in public needs.

> The event served as a catalyst and experimental initial step towards activating the park space. Residents of both neighborhoods were optimistic and showed interest in future involvement. Contacts from the Upton Improvement Council, No Boundaries Coalition, and Jubilee Baltimore expressed gratitude and appreciation for betterEutaw and interest in future event planning. Interacting with residents and various Baltimore businesses during the course of the betterEutaw initiative helped to formulate new ideas for further interventions. Only persistent experimentation and small manageable steps will lead to change in the social fabric of a community that spans much larger than any individual.

betterEutaw

-section

Works Cited:

"2011 Housing Market Typology Map." *Baltimore City Planning Department, Department of Housing and Community*

   Development (HCD), The Reinvestment Fund. Web. April 2013.

Kilpatrick, Kate. "Rye Rye Is The Baltimore Club Kid Who Had To Grow Up Fast" *Washington Post,* 2 August 2009. Print.

"Placemaking for Communities." *Project for Public Spaces.* Web. April 2013.

"Vital Signs 11." *Baltimore Neighborhood Indicators Alliance—Jacob France Institute*, Spring 2013. Web. April 2013.

Rachel Yalisove + Cindy Jian

inter-

Principles for

-section

Parametric Designers

Camille Baumann-Jaeger

Barnard College

*C*aught in a world trying to find new meaning in decoration, parametric design reclaims the potential of ornamentation as an intermediary field between organization and articulation. It forces interaction between multiple systems and offers a new form of understanding in terms of spatial design. A hybrid between art and systems design, parametric design in contemporary practice streamlines designers' creative processes through an incomparable flexibility. From a theoretical standpoint, Patrik Schumacher argues for its intrinsic potential to create innovative interactions between the abstract and the physical. As a result, it offers a new form of understanding spatial design ("Parametric Patterns"). Parametric design, through its generative and differential process, creates a connected yet complex order, which can be altered in parts while retaining a unified, harmonized whole.

Principles for Parametric Designers

To some, parametric design represents a paradigm-shifting force. In a traditional design process a designer's intent is kept vague at the onset and is then strengthened throughout the project's development. Through generative design, the initial basis must already be strong in order to create a more coherent result that can be expanded through countless variations. Parametric design revolutionized preconceived schemes and systems of architecture by creating parameters to solve unique and specific problems instead of focusing on utopian solutions, as was the goal of modernism. The power and potential of parametric design stems from its ability to solve what modernism could not while also transcending the capabilities of postmodernism.

-section

However, parametric design is restrained in contemporary use, which has lead to a shortage of parametric interpretations. Michael Meredith discusses this occurrence in his text "<u>Never Enough (transform, repeat ad nausea)</u>," in which he describes designers' common misinterpretation of parametric ideas. These misinterpretations manifest as generative mimicry designs instead of true parametric occurrences. He cautions that the presence of complex geometric reproduction in a design does not justify its classification as a parametric work. He criticizes the obsession over visual unity behind such works as a force that stifles the field of architecture. Meredith suggests that designers focus on a parametric derivation from multiplicity and scalar parameters which could, perhaps, sacrifice a certain amount of visual but allow for a greater depth in generative design (8).

Keeping in mind Meredith and the criticisms surrounding parametric design, I would like to propose a series of principles and conditions for the design of a theoretical itemization that might produce a successful parametric design.

*P*rinciple 1: Viewer Engagement

First, parametric design must engage the viewer to prevent the production of an item that is either too literal or too metaphorical. These restrictions are necessary because they highlight the weaknesses inherent in parametric design. While a powerful tool, parametric architecture currently achieves only limited goals. Often, designers have the tendency to employ it as a means of alluding to theory, a strategy that fails to motivate or inspire the viewer. Or worse, they simply translate pre-existing designs or objects into a new realm characterized by an aesthetic inherent to generative design. Without introducing a new perspective, these efforts result in cold, mechanical designs that cannot connect with human experience.

Instead, parametric design should aim to create an object that engages instead of an object that alienates, in order to reveal its potential as a

Camille Baumann-Jaeger

transformative tool. Hence, my first principle is that parametric design must forego concept and focus primarily on the observer. From there, parametric design can progress in its development, for once it is firmly grounded within reality, it can produce a stimulating bridge to the abstract.
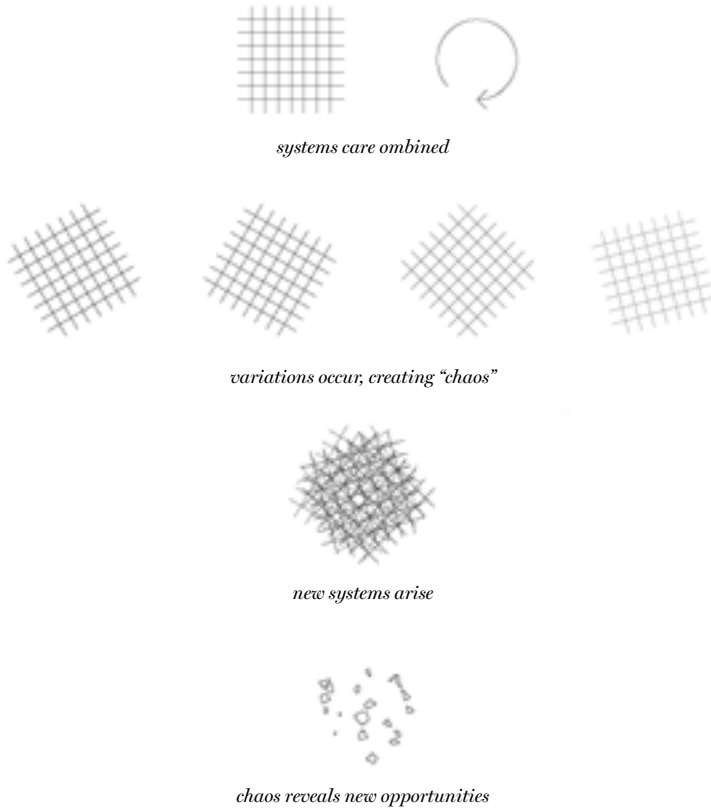
*P*rinciple 2: Envelopes and Boundaries

How does one engage the viewer? I propose that in order to accomplish a harmonious relationship between functional object and observer, surfaces of the item must be constructed by focusing on its inherit boundaries rather than its complex geometric form. Designs leveraging the boundaries between person and object and between surface and void are able to bridge concept (the object) and context (the viewer). As architect Bernard Tschumi describes in his text *Vectors and Envelopes*, it is a concept that "distinguishes architecture from mere building" (64). Thus, in this case the design of an item takes on a conceptual approach, becoming structural while simultaneously differentiating itself from the common object. Approaching objects in this conceptual manner may risk alienating a viewer—a potential failure of which many designers have previously expressed fear. Yet, this approach remains necessary to elevate the object from the status of a mere commodity. The objects at hand are, in the end, functional instruments for which conceptual existence is secondary to physical form and utility. Following Tschumi's example, the question then centers around the role of the envelope and how it can develop the relationships necessary for the success of form.

*P*rinciple 3: Informalities and Chaos

Parametric design prides itself in upholding order and logic in its

Principles for Parametric Designers

-section

development. For this reason, an element of chaos is needed in order to create the most potent variability. Chaos can be achieved through the consolidation of different systems. As expressed in Cecil Balmond's text "Manifesto," chaos can be understood as an informal system that emerges from the combination of several differentiated organizational frameworks. While this method does promote improvisation and leads to initial uncertainty, it eventually generates a successful, informal system. Such a system reveals the inherent opportunities within initial orders that were not first apparent. Within this structure of development, informal systems that emerged from chaos spread small seeds of potential stability while also creating tension between one another.

All of these principles combine to create a narrative. Parametric design possesses the potential to generate unified yet complex patterns by repeating results over and over again. In such a state, form sacrifices structural narrative for the sake of visual continuity. Ironically, this results in a stagnant design, which loses sight of its potential. On the other hand, if parametric design was able to retain a narrative, its structure would become purposeful, the rhythm of its repeated shapes would have meaning, and it would transcend visual play by digital means in order to become a true method of expression. Designers would harness purpose and intention, no longer would their design be a simply accumulation of inputs. Furthermore, as designers focus on creating a narrative instead of a display, parametric design can be used as a framework for interaction while still retaining the continuity of form that makes it so successful. By choosing narrative as the focus for parametric design, the characteristics that make the field so exciting and successful can be explored and employed. In doing so, designs following these principles can advance the field beyond contemporary limitations as the digital becomes immersed and revolutionary within reality.

Camille Baumann-Jaeger

inter-

systems care ombined

variations occur, creating "chaos"

new systems arise

chaos reveals new opportunities

Principle 3 diagram

Principles for Parametric Designers

Works Cited:

Balmond, Cecil. "Manifesto." *Informal*. New York: Prestel, 2002. Print.

Meredith, Michael. "Never enough (transform, repeat *ad nausea)."* *From Control to Design: Parametric/Algorithmic Architecture*. Barcelona: Actar, 2008. Print.

Schumacher, Patrik. "Parametric Patterns." *Architectural Design* 79.6 (2009). Print

Tschumi, Bernard. *Vectors and Envelopes*. Tokyo: Contemporary Architecture, 2003. Print.

Camille Baumann-Jaeger

inter-

Urban

The

-section

Domestic: Frank Lloyd Wright's Johnson Wax Headquarters

<u>Saint Archibald</u>
Columbia University

*A*s an architect with over four hundred built works to his name, a vast collection of personal writings including sixteen books and hundreds of articles, and his own set of dedicated scholars, Frank Lloyd Wright (1867-1959) has become a profoundly rich subject for exploration. Yet for all the data, resources, and manpower, he remains maddeningly elusive, and the comprehensiveness and consistently inconsistent nature of his thoughts and designs seems only to magnify the contradictions. But Wright also held deeply ingrained beliefs—encapsulated by his continuously reiterated notion of "Organic Architecture"—the slow evolution of which over his substantial lifetime point to the coherent unfolding of a man who vigorously rebuffed examination while constantly publicizing himself. Indeed, central to the idea of Organic Architecture was the primacy and integrity of "the individual": that is, the Jeffersonian freedom afforded by the protective, plastic enclosure of space to express oneself—to reveal an "interior quality of the spirit"—without the fear of impinging on or being impinged upon by others (Wright, *The Disappearing City* 16).

At its core, architecture is for Wright domestic: a private, interior condition centered on upholding the sacred family unit, inevitably helmed by the representative father figure. In Wright's own, somewhat awkward language in *The Natural House* (1954), "the idea of organic architecture [is] that the reality of the building lies in the space within to be lived in, the feeling that we must... enclose ourselves in an envelope which is the building.... Democracy, proclaiming the integrity of the individual

-section

per se, had the feeling if not the words" (Pfeiffer 16). Though typically launched as a pejorative, the notion of Wright as an essentially "domestic" architect here speaks to the way Wright understood and formulated all his work through this vital lens of family-centered, interior life. While this perspective lent itself readily to the design of single-family, detached homes, its application in the "non-domestic," large-scale realm of office buildings, towers, multi-use complexes, and even entire communities yielded perhaps the most innovative architecture.

In fact, when discussing of the design of the modern metropolis in 1932, Wright proclaimed that "the family holds within itself the seeds of the future," suggesting that the urban realm is salvageable if fundamentally domesticated (*The Disappearing City* 35). Although the current city, with its monstrously crowded skyscrapers, each thoughtlessly "taking the natural rights of life, breadth and light and space, away from one's neighbor," is an ugly visual reminder of self-serving, commercial expedience, "a new space concept" might be applied in which "life... [is] more naturally conserved by more light, more freedom of movement and a more general spatial freedom in the ideal establishment of what we call civilization" (*The Disappearing City* 46, 7, fig. 1). In speaking of "civilization," Wright is referring to ideas developed in previous pages on the "ingrained instinct of the human race" derived from a kind of ur-civilization split between cave-dwellers and wandering tribes (*The Disappearing City* 6). According to Wright, though we still possess some of the rugged individualism of the adventurer, this free-roaming spirit has been largely eclipsed by "the material defenses and the static forces of the material establishment of the cave dweller," whose fortified homes became the forbearers of the modern city (*The Disappearing City* 6).

For Wright, then, the city is inherently defined by individual, stable enclosure—what we might see as the contemporary suburban ideal—preserved by a respect for the "spatial freedom" required by every individual. If Wright's historiography seems dubious at best, the paradoxical vision of the domestic city it yields, wherein each building is itself a living, breathing entity, is intriguing and certainly under-examined (on a lighter note, in this context the question of "air rights" seems to take on a strangely philosophical tenor). How this belief system manifested itself in Wright's

urban architectural projects demonstrates how such a vision could be realized. Consequently, the term "urban domestic"—an urban architecture conceptually defined by the self-sufficient household unit—might be used to describe this Wrightian sensibility and the projects it characterizes. The Johnson Wax Headquarters, in many ways representative of the "urban domestic," will be used as a case study to unpack this term and explore specifically how it was developed and realized architecturally.

Fig. 1 Frontispiece of Wright's The Disppearing City by Fairchild Aerial Surveys, Inc. (1928)

The Urban Domestic

Situating the Johnson Wax Headquarters

That the quotations used thus far come from publications produced after 1930 signals the importance of positioning an argument about Wright's architecture in the appropriate context of his own timeline. While larger

-section

themes remain fairly constant throughout his career, the specifics of language and focus shift in significant if nuanced ways, indicating Wright's desire to self-edit and re-define his work. For this reason, a study of the Johnson Wax Headquarters in Racine, Wisconsin, a two-part complex begun in 1936 with the Administration Building and completed in 1949 with the connected Research Tower, should be understood within the framework of the latter half of his career, a line demarcated loosely by the Great Depression.

Saint Archibald
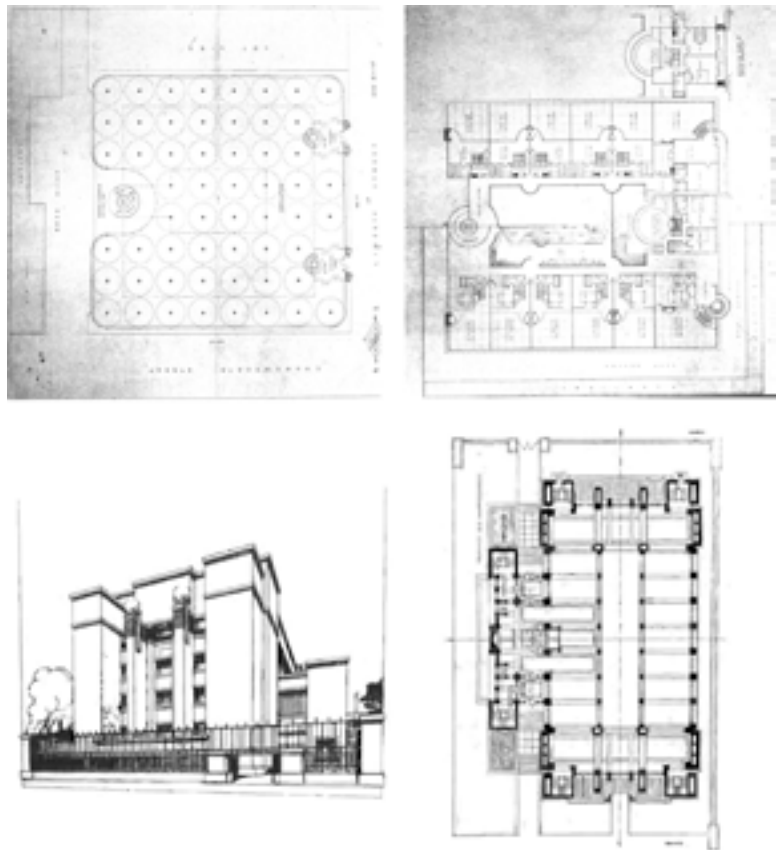
Figs. 2 and 3 Plans for Capital Journal, top, and Larkin Administration Building, bottom

Though the negative effects of the economic downturn broadly affected architects and builders, a succession of scandalous marital problems gleefully chronicled in gossip columns; two devastating fires and the murder of his mistress at his beloved home and workplace, Taliesin; and an unprecedented decline in work—Wright had only two built projects between 1928 and 1936—put him in a position of acute desperation. In an attempt to resuscitate his career, Wright began publishing articles at a rapid clip; launched a lecture series and traveling exhibition in 1930; founded the Taliesin fellowship, an immersive, holistic apprenticeship program, in 1932; and built Taliesin West as a winter home for him and his young draftsmen in 1937.

Now in a position to "think" more than "do," Wright took an almost psychologically introspective turn while simultaneously casting his eyes towards a grander, often theoretical scale of work. Indeed, Taliesin West was the most sprawling iteration of the home/studio yet, expanding into an almost wholly self-sufficient live/work complex with Wright presiding over a "family" comprised not only of his own (by now rather developed and multifarious), but also of his workmen and apprentices. Wright also began publishing his Broadacre City proposal in 1932, a massive, dispersed urban planning project that appeared far removed in scale and feasibility from the more typical single-family home commission. This strain of work continued with the fantastical Mile-High Tower for Chicago (1956), a kind of vertical, super-condensed obverse to Broadacre City that took the cantilevered taproot structure of his unbuilt St. Mark's-in-the-Bouwerie Towers (1927) to its utmost extreme. By this point in his career, Wright had in fact assembled a substantial pool of unbuilt projects, and several of these served as inspirational kernel for the Johnson Wax Headquarters. The 1936 commission to design the Johnson Wax Administration Building thus came as a crucial opportunity for Wright to rebuild his reputation and finally realize elements of his more recently developed large-scale, urban thoughts and previously unfulfilled architectural projects.

Along with a modified St. Mark's tower structure, which came to fruition as the Johnson Wax Research Tower, Wright drew heavily on the plans for

The Urban Domestic

-section

his unbuilt Capital Journal project (1931) and his first comparable building, the Larkin Administration Building (1904) for the Larkin Soap Company in Buffalo, New York. In his autobiography, Wright actually says of the Johnson Wax project, "At once, I knew the scheme I wanted.... I had it in mind when I drew the newspaper plant at Salem, Oregon...a great simplicity and grace—organic" (Lipman 17). Yet he also references the Larkin Building in a press statement he wrote shortly after designing the Johnson Wax Administration Building, declaring it to be "the predecessor of the building for 'S.C. Johnson Wax'" and "the first word in the world for building as the same direct expression where materials and purpose are concerned that you may see in any battleship or an aeroplane..." (Lipman 182). From both projects, Wright borrowed the large hypostyle workroom ringed by a mezzanine of semi-private office space, and from the Capital Journal in particular he pulled the curvilinear, streamlined enclosure; the pair of spiral staircases by the entrance; and field of mushroom columns supporting a roof slab (fig. 2). Wright also repeated Larkin's general massing, albeit without its angular delineation and vertical emphasis, separating the main workroom from an auxiliary carport structure with an entry circulation zone (fig. 3).

*F*reedom and Security

Notably, all these projects were placed on urban sites, and their outwardly fortified and reflective aspects—formally distinct from the splayed, porous character of his detached homes safely ensconced in the natural landscape—were clearly a response to the metropolitan surroundings Wright so loathed. The massive orthogonal masonry piers of the Larkin Building belied an open, spacious interior (fig. 4), and while the curtain walls of the St. Mark's and Capital Journal projects allowed for a certain degree of transparency, Wright understood glass as a tool for transmitting light and atmosphere—achieving translucency, breathability, and visual effect—

Saint Archibald

inter-

rather than creating a connection with the exterior. Indeed, renderings of St. Mark's depict the towers as reflective, object-like prisms, with only the slightest traces of interior spaces visible (fig. 5). Furthermore, in an appeal to George Putnam, editor and owner of the Capital Journal, Wright emphasized the "free and effective ventilation...had by an offset at the ceiling and near the floor through which breezes may blow" (Johnson 60).
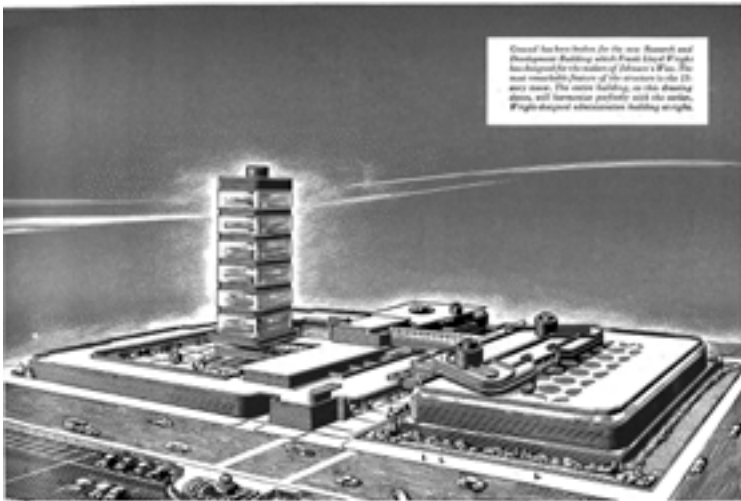

Figs. 4 and 5 Interior of Larkin Building, left and rendering of St. Mark's Towers, right

Interestingly, Wright also spoke of transparency as a means of advertising: by making "the interior working of the plant" visible, he would create the "effective type of building that expresses the spirit of it's [sic] owner and his paper" (Johnson 60, 61). In the daytime, pedestrians might look in awe at the mechanic purity and efficiency of the noisy, vibrating presses; at night, the building, lit from inside, would become a symbolic beacon for the company. Significantly, the relationship with the street was defined by condensing the building to a pared-down, symbolic form: a public face, as it were, beneath which private affairs might proceed freely. This same drive influenced the formal

-section

treatment of the Johnson Wax, particularly the tower, "<u>one of the most symmetrical and ideal forms [Wright] ever designed</u>" (Lipman 125). The entire complex, unified by its streamlined curves, coalesces into a taut, almost vacuum-packed exterior: the sleek cover model for company ads (fig. 6) and a shining beacon at night (albeit not *quite* as powerful as Wright had originally rendered it, figs. 7 and 8). Wright also overtly valued

Fig. 6 Ad for S.C. Johnson & Son, Inc. in Architectural Forum 88.1 (1948)

inter-
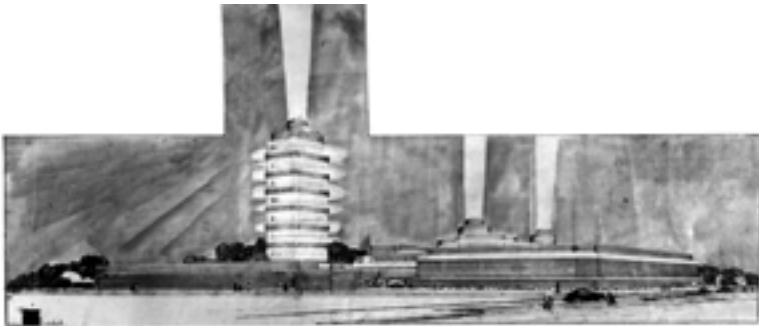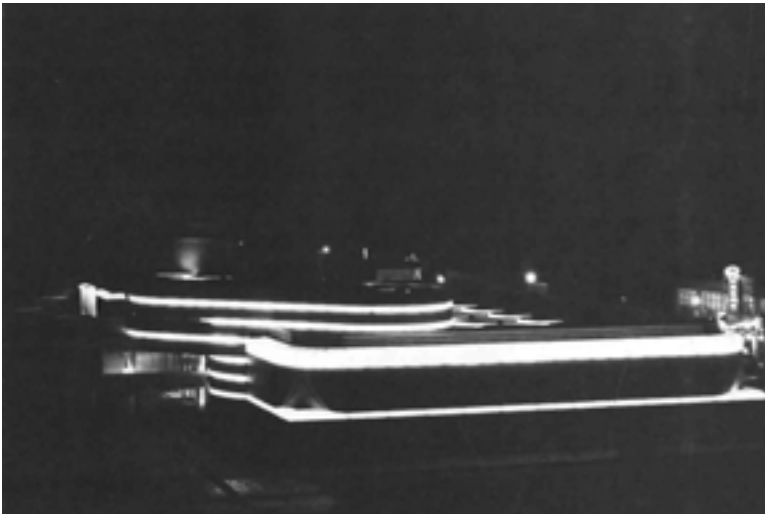
Figs. 7 and 8 Aerial view of Administration Building , top, and evening rendering, bottom

the translucency and optical effects of glass over its transparency. He converted all windows to stacked, continuous rows of Pyrex tubing, which were further reduced to slim wrap-around clerestories and geometrically arranged skylights in the brick-clad Administration Building. Wright even considered substituting solid tubes for some of the hollow tubes in the Research Tower " <u>...to give a marvelous irridescence [sic]– using these in places where we want a particularly rich effect</u>" (Lipman 134).

-section

As with the Larkin, the Capital Journal and Johnson Wax emphasized the enclosure of space and the purified, liberated interior microcosm it was meant to create. With these earlier projects Wright already perceived the conceptual implications of the free office plan and the position of freedom and control it provided the owner. In explaining to George Putnam, "I decided to give the matter so broad and general a treatment of enclosed space that it would leave you free to do almost anything you would want to do with it," Wright echoes his sentiments about the need for "a new space concept," a homestead-like enclosure protecting the integrity of the individual (Johnson 60). Here, of course, the individual is not the father and the brood he oversees, but the father-figure of the owner and the employees he manages. The hierarchy of a well-staffed company, however, is more finely grained and related more to questions of efficiency and skillset than blood relations, a consideration that was not lost on Wright.

Across all three projects, with slight variations, this organizational chart begins to emerge in elevation. In the Larkin Building, secretarial staff on the workroom floor busies themselves under the watchful eyes of managerial staff on the mezzanine; in the Capital Journal, employees would have overseen machining equipment from above, with the owner and senior-most staff allotted duplex "bachelor's apartments" in the penthouse. The Johnson Wax Administration Building combines aspects of the two: secretarial staff again populates the "Great Workroom" with their managers occupying semi-private offices in the mezzanine, and the president and his senior associates claim space in a sinuous penthouse hugging the workroom below. As Wright would later remark in the 1948 issue of *Architectural Forum* he edited, one of the chief virtues of the tower is that "...the segregation of various departments is effected vertically instead of horizontally," allowing for "shortened and direct" communication between departments. The separation of functions via hierarchical distinction emerges also in the simple splitting of the carport structure and administration buildings in the Larkin and Johnson Wax projects. The move suggests that early on Wright foresaw the need to begin spatially distinguishing different programs as the scale and complexity

Saint Archibald

inter-

of the building's functions grew. Already with these previous projects Wright is expressing the ideal of the "urban domestic" by enveloping space to preserve the integrity of its "spirit"—here, that of the company and its owner—and creating a distinction between its outward, symbolic aspect and the inner "reality" it shields. Furthermore, in elaborating on this simple enclosure by embedding it with mechanisms for atmospheric control and defining a new spatial hierarchy within, Wright moves toward the creation of a unified microcosm and the sense of the building as a complex, self-sufficient organism.

An Ideal Client

But the fact of the commission itself, its fortuitous placement in Wright's sagging career trajectory, and the opportunity it provided Wright to realize older works were not the only aspects in making the Johnson Wax Headquarters a critical and formative urban project. Indeed, the ways in which Wright modified and expanded upon elements of these previous projects reveal not only how his thoughts on the "urban" condition had developed independently since 1931, but also how the particular circumstances and needs of his client, the Johnson Wax Company and its young president Herbert F. Johnson, favorably shaped the vision and outcome of the project. The successful Johnson Wax Company, expanding even during the Great Depression, required a continuously growing space that would dwarf previous projects in terms of scale and multi-functionality, a challenge that meant Wright needed to further develop his explorations of programmatic division and spatial hierarchy. Ultimately, the Administration Building and Research Tower complex would spread across two square blocks of an approximately 125,000-sq-ft site with a program that included a broad spectrum of departments, an auditorium, a model home, wax gallery, research labs, parking, a squash court, and rooftop garden. Though Wright, having steeped for several years in his Broadacre City concept and unimpressed with Racine's "unsightly streets," initially proposed the company move to a Taliesin-like retreat several miles outside the city

-section

limits, Jack Ramsey, the company's general manager, insisted on remaining sited by the old headquarters and factory (Lipman 123). In demanding that Wright adjust from the comfortable blank slate of unfettered acreage to the unpleasant, crowded commercialism of the city, Ramsey prompted Wright to produce an urban Organic Architecture *in situ*.

But while the company presented certain challenges, Johnson Wax was in almost every way the ideal client for Wright, offering great flexibility and a consonant philosophical outlook. Family owned and run since its inception, Johnson Wax focused on the happiness and well-being of its employees, and instituted radical strategies like profit sharing, a no-layoff policy, paid vacations, and reduced hours to improve working conditions. To Wright, who vigorously asserted the need to preserve the "dignity and worth of the individual" (*The Disappearing City* 15) against the "false system" (11) and "false economy" (21) of the landlord- and money-driven city, Johnson Wax was the diamond in the rough: a corporation that seemed to value its employees' welfare above self-serving profit concerns. If a stronghold of truth and purity could be produced in opposition to the city of falsehoods, it was most certainly the Johnson Wax Headquarters. Indeed, Wright's vision of the ideal social state as an "organic unity—that is to say—the free growth of many individuals as units free in themselves, functioning together in a unity of their own making" (*The Disappearing City* 16), seems to align perfectly with President Johnson's more modestly expressed desire "to be sure that the people who worked for him felt a part of everything that the company was trying to do" (Lipman 1). Simply put, Johnson Wax was the "family" company Wright yearned for in his idealized urban future ("A Family Company" is, in fact, the current tagline). Beyond this "domestic" sense, however, the company also made a name for itself with its robust and innovative in-house research and development team. Just as Wright pushed the limits of material technology in his architecture, Johnson Wax made a point—to great success—of constantly revolutionizing in its product line, and this shared pioneering spirit allowed (and perhaps inspired) Wright to take an unusual number of risks with the design of the company headquarters.

Saint Archibald

inter-

P

rogram, Circulation, Structure—Discipline, Order, Unity

More than with any of his previous projects, Wright now had a clientele that might provide the basis for that "<u>great unity</u>" wrought by "<u>the common-spirit of a people disciplined by means and methods and materials, in common</u>" (*The Disappearing City* 19). Key in this phrase are the ideas of "<u>discipline</u>" and of an integrated system of "<u>means and methods and materials</u>," suggesting that, along with a mutual ideology or purpose, a shared *architectural* organization might actually fuse its inhabitants into a unified whole. Notably, while Wright envisioned the domestic family unit as the basic seed for its larger urban equivalent, he subtly adjusts his language to fit the context of the city and the need for a productive office environment. Whereas the single-family detached home might require only enclosure and a protective buffer space, the urban multi-use complex, by virtue of its many functions and large scale, requires the development of a circulatory system and efficient hierarchy just to sustain itself as an independent entity. In fact, Wright would often refer to the "<u>vital organs</u>" and "<u>vital fluids</u>" in the building, and former apprentice Wesley Peters recalls "<u>his great struggle to make space flow</u>" (Lipman 31) while still arranging every function and individual "<u>in proper order</u>" (Lipman 183) to one other.

The notion of things "<u>in proper order</u>" became particularly important for Wright, who repeatedly used the phrase in his description of the hierarchical organization of the building's various departments. For example, Wright notes that "<u>Herbert Johnson's offices are at the center of the penthouse; the other officers grouped about him in proper order</u>," while "<u>below, disposed in proper order in the great work space, are the office workers</u>" (Lipman 183). Wright spent a great deal of time attempting to resolve the various office relationships, both between individuals and between functions. Even early plans for the Administration Building show each office marked for a

-section

specific individual; likewise, the sectional drawings for the Research Tower are a palimpsest of constantly re-worked departmental assignations (fig. 9). As Peters remembers, Wright had particular trouble finding a form for the penthouse that could simultaneously dispose the offices "`in proper order`" and fluidly connect the main building to the carport. Furthermore, the corridor as an ordering element and connective tissue appeared somewhat problematic for Wright.

Though Wright expressly states that "`there are no corridors in the building`" (Lipman 183), several are visible in plan, including one bridging the penthouse and squash courts, a catwalk spanning the entrance of the Great Workroom, and three (later removed) tenuously linking the Research Tower to the surrounding complex. Wright denies the existence of the corridor because it represents "`dead space`" and "`waste motion`" (Lipman 183), suggesting that he hopes, not unreasonably, to merge ordered functions as closely and efficiently as possible. But that these corridors do exist—albeit in highly attenuated form—implies that Wright could not wholly unite the multiple functions of the building without some "`waste motion`." Yet the corridors might also be read as internalized counterparts of the street, a system that Wright had become enamored with in Broadacre. In that project, the street was not "`waste motion`," but in fact the desired and integral circulatory link between appropriately separated functions. While the street has the benefit of hosting the automobile which Wright so loved, the internal corridor may have appeared as the necessary form for maintaining the all-important degree of breathing space. Much like the set-back required for towers—the Research Tower included—the corridor here achieves a certain distance and privileged view.

In addition, Wright did attempt to imbue these circulatory paths with extra functionality: for example, though ultimately nixed, Wright proposed making the catwalk of the Administration Building a space for a pipe organ and stand from which President Johnson might address his employees. The corridor from the penthouse, encased in a sheath of glass tubing, likewise took on an added decorative flourish befitting the executive staff it served. In this way, while acting as a fluid connector of space, the structural makeup

Saint Archibald

of the corridor itself or its placement in a particular architectural context embedded it with hierarchical meaning.

The reoccurring issue of "order" alongside "fluidity" seemed to lie in the fact that the enclosed space was not merely the private sphere of an individual (i.e. the nuclear family) but of a *community* of *individuals*. In this scenario, not only is the integrity of the individual at stake, but also that of the system which allows them to coexist and function in a single building.
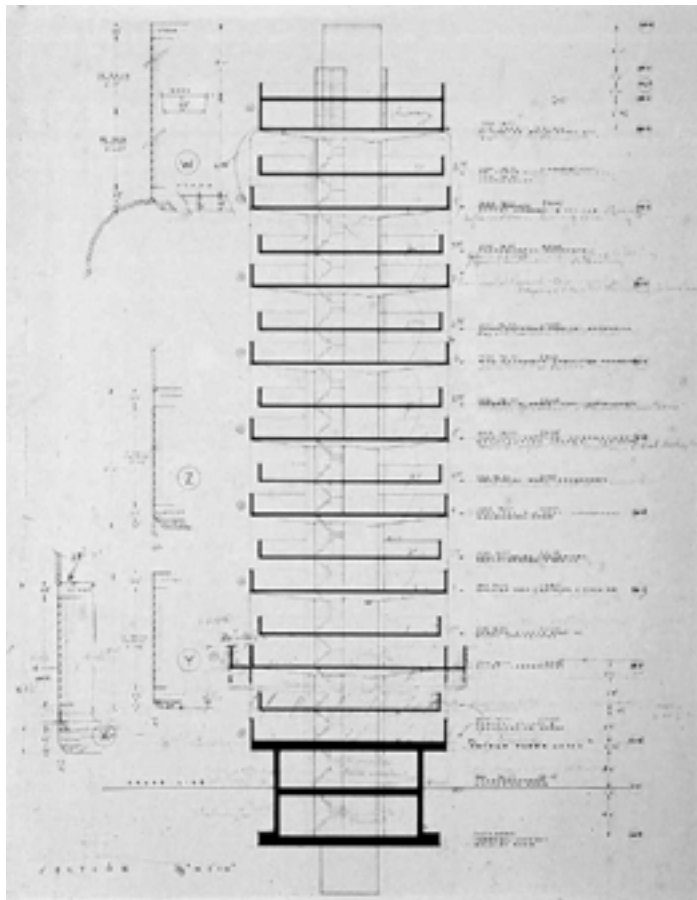

Fig. 9 Section drawing of Research Tower wuth program assignations on right

The Urban Domestic

-section

Figs 10-13, clockwise from left, Desk prototype, 'tub' desk, theater, and private penthouse office

Wright's language thus subtly transforms from emphasizing freedom of the individual and the domestic unit to a "harmony" of individuals and the large-scale "domestic urban" unit. In the city where many of these "domestic urban" units might exist—perhaps as modern, multi-functional skyscrapers—mutual respect between and cohesion within units becomes essential to maintaining the vitality of the urban landscape. In solving this problem and generating an enclosed unit of space that would be—to use some of his many synonyms—fluid, harmonious, streamlined, synthesized, and unified, Wright developed the architectural systems he had explored at a smaller scale or in a more piecemeal way to become wholly unified and wholly integrated *unifiers* of space.

To this end, Wright began modifying his architectural toolbox of unifying elements to engage an entirely new scale of space. In the single-family household Wright might have effected a cohesive space across scales by imbuing the structural language of the home and its ornamentation—its furniture, fixtures, and non-structural decorative motifs—with a common abstracted geometric vocabulary. In the Johnson Wax Headquarters, however, where the range of scales and the interdependency of

inter-

architectural elements grew exponentially, the functional and integral
nature of these unifying parts became increasingly critical. Paradoxically,
ornamentation began to take on a multidimensional and often structural
role: the bespoke furniture set transformed into an entire typology of desks
and chairs (figs. 10–13), the decorative stained glass window evolved into a
comprehensive glass tubing system, the structural pier sprung into both a
horizontal field of mushroom columns and a vertical array of cantilevered
floor plates, and atmospheric control mechanisms combined to form a
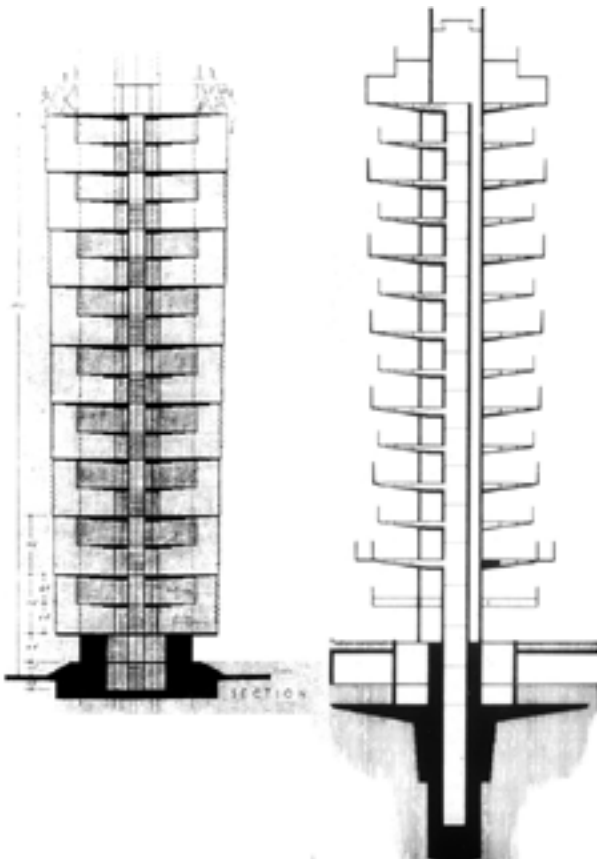
Figs. 15 and 16 Comparison of sections for Research Tower, left, and St. Mark's Tower, right

The Urban Domestic

`-section`

nearly self-sustaining microclimate. Indeed, a comparison of the sections for the Research Tower and St. Mark's, its direct predecessor, shows Wright's attempt to modify the foundational taproot to mimic the form of the mushroom column (figs. 14, 15). Similarly, in his drawings Wright vertically nests the three types of mushroom columns employed in the Administration Building, suggesting their interrelationship and architectural evolution from one another (fig. 16). When the elongated front desk of the Administration Building wraps around a mushroom column, piggy-backing on this support system, Wright achieves a particularly effective moment of unity between furnishing and structural systems. In an analogous fashion, Wright delicately transforms the character of the glass tubing: in the Administration Building skylight the system blooms into a decorative, radiating geometry while in the clerestories it settles into minimal horizontal lines, all while sinuously winding the entire complex in a seemingly unbroken link (figs. 17, 18).
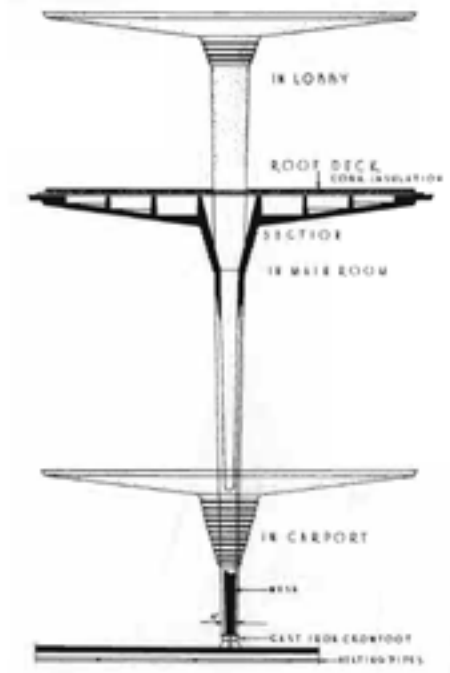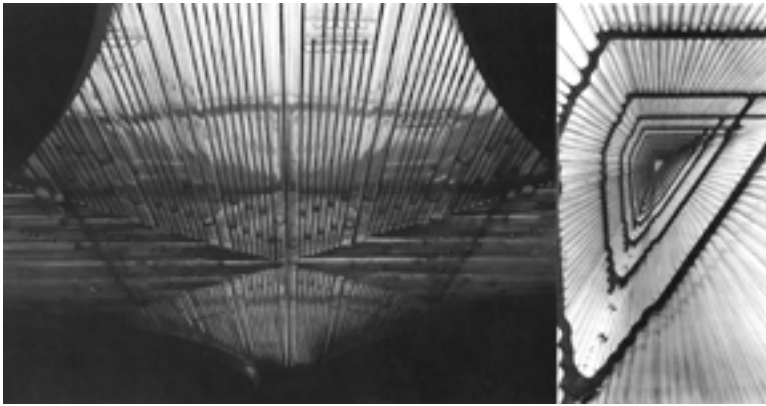
Saint Archibald

Fig. 16 Rendering of Administration Building mushroom column typology

inter-

Figs. 17 and 18 Administration building skylight, left, and interior of upper clerestory, right

These structural systems begin also to integrate with the utilities and latest climate control systems, which, as Wright proudly notes, have "<u>a more highly developed synthesis of form and idea</u>" than ever before (Lipman 182). The building, he continues, "<u>breath[es] from above through nostrils where the air is fresh, deriving comfortable warmth from the floors beneath the occupant—climate rather than heating—and economy of heat</u>" (Lipman 182). While its predecessor, the Larkin Building, was "<u>absolutely fire proof</u>" and "<u>the first 'air conditioned' building in America</u>," the Johnson Wax combines the full spectrum of cutting-edge mechanical systems to create a building "<u>so complete in itself for its own sake that is in no way inferior in harmony to the ancient cathedral</u>" (Lipman 182). The sense of the structure as a lifeforce in itself, a building fully united in function and form, demonstrates the way Wright strove to realize the liberation of domestic encapsulation in a hostile urban environment where the individual is enmeshed in a complex social network. That Wright compares this organic unity with a cathedral reiterates his belief that, whether in the countryside or the city, the integrity of an "individual" spirit—whether it be one person or a group unified under one banner—is maintained through its protection in architectural enclosure.

The Urban Domestic

-section

Works Cited:

Buitenhuis, Peter. "Aesthetics of the Skyscraper: The Views of Sullivan, James and Wright." *American Quarterly* 9.3
(1957): 316–324. Print.

Eaton, Leonard K. "Frank Lloyd Wright and the concrete slab and column." *Journal of Architecture* 3.4 (1998): 315–346.
Print.

Goodman, Paul, and Percival Goodman. "Frank Lloyd Wright on Architecture." *The Kenyon Review* 4.1 (1942): 7–28.
Print.

Johnson, Donald Leslie. "Frank Lloyd Wright's Design for the 'Capital Journal,' Salem, Oregon (1932)." *Journal of the
Society of Architectural Historians* 55.1 (1996): 58–65. Print.

Kaizen, William and Peter Reed, eds. *The Show to End All Shows: Frank Lloyd Wright and the Museum of Modern Art*,
1940. New York: The Museum of Modern Art, 2004. Print.

Kaufmann, Edgar, Jr. "Frank Lloyd Wright: Plasticity, Continuity, and Ornament." *Journal of the Society of Architectural
Historians* 27.1 (1978): 34–39. Print.

Lipman, Jonathan. *Frank Lloyd Wright and the Johnson Wax Buildings*. Mineola: Courier Dover Publications, 2003. Print

Mostoller, Michael. "The Towers of Frank Lloyd Wright." *Journal of Architectural Education* 38.2 (1985): 13–17. Print.

Pfeiffer, Bruce Brooks, ed. *The Essential Frank Lloyd Wright: Critical Writings on Architecture*. Princeton, Princeton
University Press, 2008. Print.

Riley, Terence. "'Frank Lloyd Wright: Architect', Visions and Revisions since 1910." *MoMA* 16 (1994): 1–5. Print.

Wright, Frank Lloyd. *Architectural Forum* 68.1 (1938). Print.

Wright, Frank Lloyd. *Architectural Forum* 88.1 (1948). Print.

Wright, Frank Lloyd. "Broadacre City: A New Community Plan." *Architectural Record* 77 (1935): 344–349. Print.

Wright, Frank Lloyd. *The Disappearing City*. New York: W. F. Payson, 1932. Print.

Wright, Gwendolyn. "Frank Lloyd Wright's Domestic Landscapes." *On and By Frank Lloyd Wright*, ed. Robert McCarter
London, Phaidon, 2005. 88–95. Print.

Saint Archibald

Austin City Limits

-section

Chiara Geremia
University of Texas

*I*t only takes one visit downtown to understand why construction cranes are thought to be the unofficial bird of Austin, Texas. With high-rise apartment complexes constructed overnight and the next coolest bar being built across the street, it is hard to be in Austin and not see one of these "birds" hoisting up the framework of an expanding skyline. The city is growing at an unprecedented rate, and the demand for housing downtown has skyrocketed. Architectural design and city planning have not only met the needs of Austinites but have continued to preserve the eccentric culture of the city itself.

One of the most enduring qualities of the developing downtown environment is the preservation of human-scale design. Despite tremendous growth, Austin does not dwarf its inhabitants. For example, Zilker Metropolitan Park comprises over 350 acres of publicly owned land and is located less than three miles from the city center. It is situated next to the Colorado River, which serves as a physical buffer between the bustling city and the older, more residential sections that surround Austin. The mix of intense innovation and undisturbed greenery in Zilker Park has enhanced the unique culture of the city. Residents of Austin demand a high quality of life. We envision Austin as a big city that welcomes small businesses, contains enough open space to host some of the largest music festivals in the country, has bars sprinkled on every corner blasting live music and, most importantly, accumulates a tiny carbon footprint. I am consistently impressed with how the architectural planning of Austin has provided this for its residents, especially in the realm of sustainability.

Austin City Limits

-section

Aerial view of Zilker Metropolitan Park during the Austin City Limits Music Festival 2012

Chiara Geremia

From where I sat in Zilker Park on a beautiful day last fall, I could see how tall buildings comprising the Austin skyline were planned to allow space for pockets of greenery in the heart of downtown. Creating a sustainable environment, however, requires much more than just planting a few trees. Commercial buildings are arguably some of the biggest users of natural resources. The city of Austin viewed this as an opportunity to utilize highly accessible, sustainablee technology when planning its urban expansion. Our commitment to sustainable design has created an architectural environment that fosters a healthier and more socially conscious lifestyle. Many existing roads have been stripped of their curbside parking to make room for bike lanes, and running trails have been added around major waterways in order to keep them clean and provide Austinites with convenient ways to stay physically active. Living in a city that has plans to fill 35% of its energy needs from sustainable sources within the next decade encourages widespread public participation. Synthesizing new building development with increasingly green city planning plants responsibility at the feet of each citizen. Austin will inevitably grow, but I believe that as long as our architecture industry maintains a commitment to minimize the carbon footprint of Austin's urban landscape, individuals will continue to follow suit.

inter-

Small

the

To

-section

Eleanor Debreu
Barnard College

Doorknob

*T*here was a time when thou didn't exist.
Hand would reach but not embrace the surface
Of thine burnished skin, no delicate wrist
And palm would twist and warm like a furnace
Thy round brazen cheek cold and shivering.
I have come and thou art there for me,
Waiting, blushing, alluring in thy stare.
What lies close beyond thy threshold hiding?
I do not know. Dearest, what will I see
As thou turns and moves me to worlds unseen?

To the Small Doorknob

-section