Dimensions is a student-produced, annual publication of the Taubman College of Architecture + Urban Planning that seeks to document the energy of students, faculty, lecturers and visiting fellows through their work. The journal will reach members of the College, patrons of university libraries and architects worldwide.

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Dimensions
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We have 192 pages to describe 210 days of 24-hour production.

Dimensions aims to capture what drives the school. Forces that move through and pull ideas along with them; moments of intensity that affect both our work and us as studemts. What makes us excited. What makes us uncomfortable. What makes us stop and think. Like a cold shot of whiskey, *Dimensions* forces one to pause and notice what buzzes. When people ask what TCAUP is about, we offer this publication—in short: 'it is all this at once.'

Throughout the year, visiting lecturers fly through and deposit new ideas, while annual fellows come and stay; both cause ripples that reverberate throughout the school. And we read—a lot. Books fall in and out of fashion, crowding our desks where they begin to proliferate. Ideas from the outside virally grow through the pores of our studio walls and influence what we do.

There are the projects, and furthermore there are those bursts of energy that emerge: MiSo, conversations about the perimeter, international travel studios. In the end however, it remains the studio work that most clearly defines who we are and the direction in which we head.

Foreword

Professor Tom J. Buresh is Chair of the Architecture Program and Associate Dean for Academic Affairs at the Taubman College of Architecture + Urban Planning at the University of Michigan and a Principal of Guthrie + Buresh Architects. He received his BA in Architecture from Iowa State University and M.Arch degree from the University of California, at Los Angeles in 1985.

The Far Side of the Moon

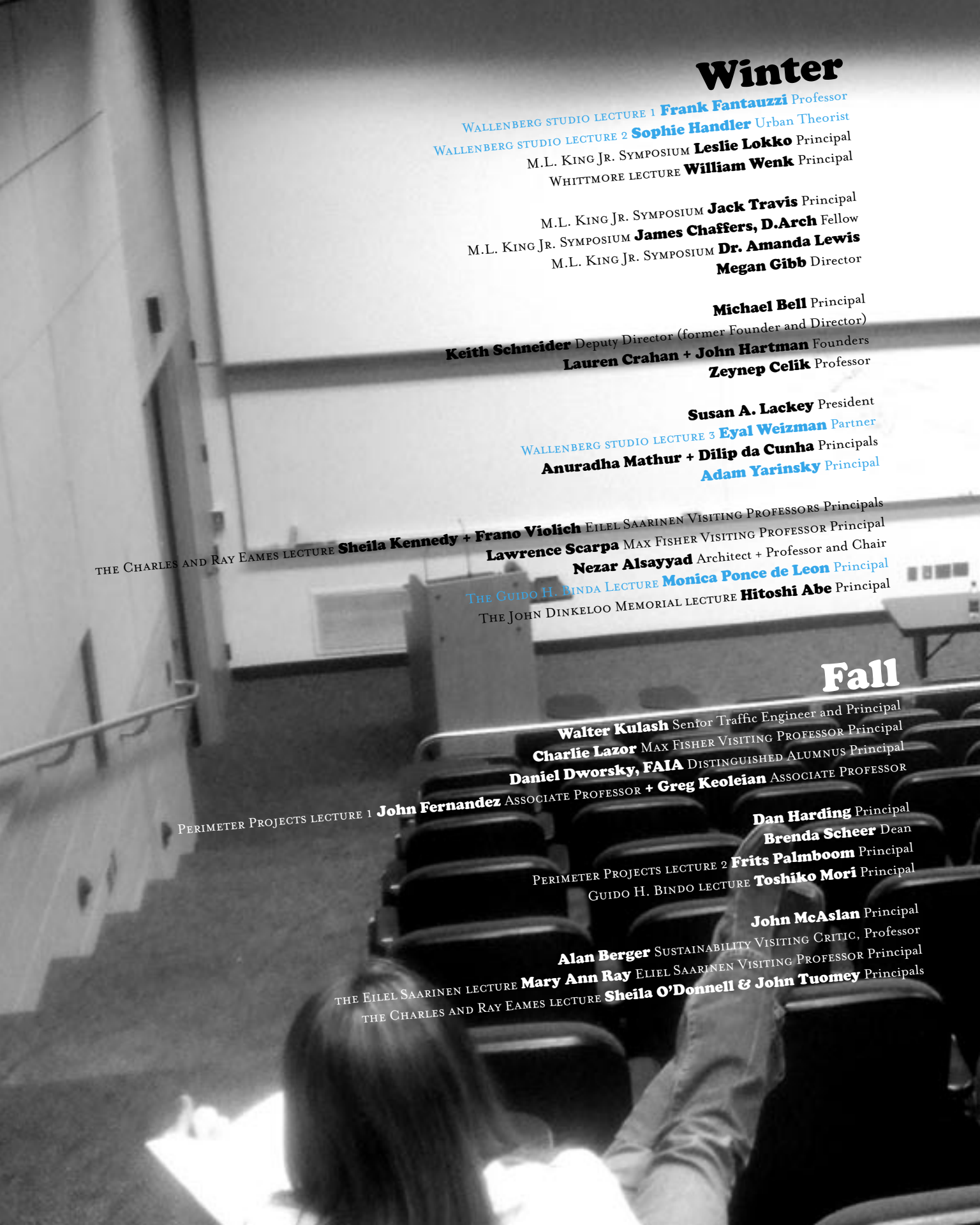
More often than not, real insight occurs when and where its least expected. During the time that the work in this issue of *Dimensions* was produced, I attended a performance of *The Far Side of the Moon*, a play written and directed by Robert Lepage, performed by Yves Jacques, with music by Laurie Anderson. The narrative centers on an individual's personal loss coupled with the collective experience of the first unmanned explorations of the moon—a merging of in and out of body experiences. As provocative as the story line is, the lasting impression occurs in the play's final scene. The solo performer is lying on stage with a horizontally mounted mirror fixed to wall behind him. The body-length mirror is tilted so that the audience has a view of the performer on the stage floor. The actor begins to move in a manner that, from one point of view appears to be emotional distress, while from the other vantage point the same body is seen as seemingly ecstatic in its weightlessness. The effect is such that one's attention toggles between the competing visions. As time passes the audience becomes ever more aware that they are witnessing not only the conflation of these contradictory images on the stage floor and in the mirror, but also the apparatus by which those images were delivered.

Stunning.

That apparatus is architecture—visibly enabling and constructing human experience. If modernism proposed an architecture born of industrial processes, material integrity and esthetic abstraction, and the postmodern valorized cultural critique, authorial intention and constructed image, then *The Far Side of the Moon* delivers on both, via a clearly understood device. Issues that currently shape our discipline are more often than not flattened by feeble attempts at problem solving and appearances, satisfying only to those least engaged. Consider this an appeal to work more forthrightly with the circumstances that shape architecture—in a manner more existent than ironic.

You are invited to take a glance or a long, slow look at *Dimensions 19*—the collective efforts of the faculty and students of the Architecture Program at the University of Michigan. Along the way, keep in mind lessons from *The Far Side of the Moon*: inner and outer space, conflict bundling, all apparatus and experience—startling and beautiful.

Septmeber 2005—Ypsilanti, Michigan



Winter

Wallenberg studio lecture 1 **Frank Fantauzzi** Professor
Wallenberg studio lecture 2 **Sophie Handler** Urban Theorist
M.L. King Jr. Symposium **Leslie Lokko** Principal
Whittmore lecture **William Wenk** Principal

M.L. King Jr. Symposium **Jack Travis** Principal
M.L. King Jr. Symposium **James Chaffers, D.Arch** Fellow
M.L. King Jr. Symposium **Dr. Amanda Lewis**
Megan Gibb Director

Michael Bell Principal
Keith Schneider Deputy Director (former Founder and Director)
Lauren Crahan + John Hartman Founders
Zeynep Celik Professor

Susan A. Lackey President
Wallenberg studio lecture 3 **Eyal Weizman** Partner
Anuradha Mathur + Dilip da Cunha Principals
Adam Yarinsky Principal

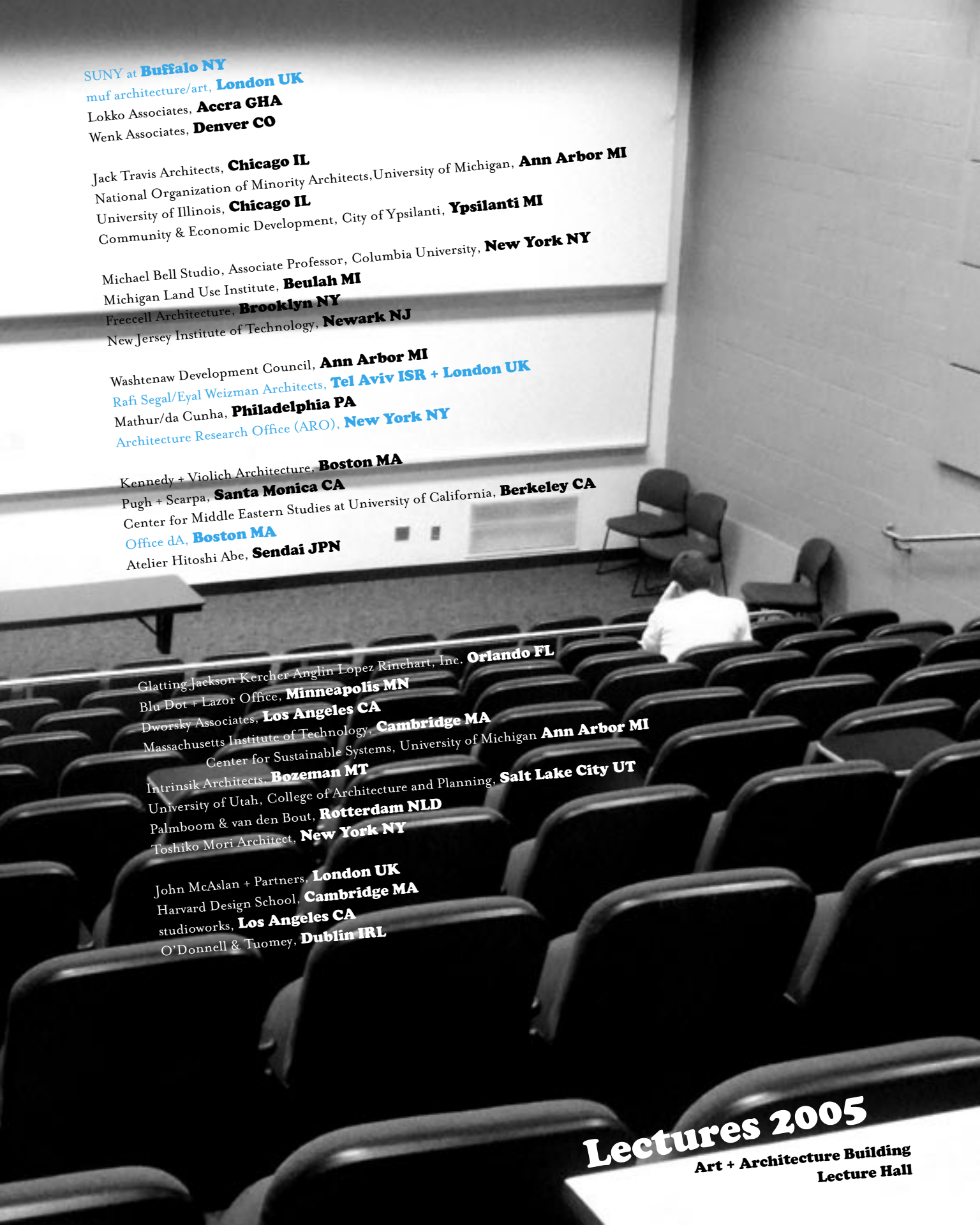
the Charles and Ray Eames lecture **Sheila Kennedy + Frano Violich** Eilel Saarinen Visiting Professors Principals
Lawrence Scarpa Max Fisher Visiting Professor Principal
Nezar Alsayyad Architect + Professor and Chair
The Guido H. Binda Lecture **Monica Ponce de Leon** Principal
The John Dinkeloo Memorial lecture **Hitoshi Abe** Principal

Fall

Perimeter Projects lecture 1 **John Fernandez** Associate Professor **+ Greg Keoleian** Associate Professor
Walter Kulash Senior Traffic Engineer and Principal
Charlie Lazor Max Fisher Visiting Professor Principal
Daniel Dworsky, FAIA Distinguished Alumnus Principal

Dan Harding Principal
Brenda Scheer Dean
Perimeter Projects lecture 2 **Frits Palmboom** Principal
Guido H. Bindo lecture **Toshiko Mori** Principal

John McAslan Principal
Alan Berger Sustainability Visiting Critic, Professor
the Eilel Saarinen lecture **Mary Ann Ray** Eliel Saarinen Visiting Professor Principal
the Charles and Ray Eames lecture **Sheila O'Donnell & John Tuomey** Principals



SUNY at **Buffalo NY**
muf architecture/art, **London UK**
Lokko Associates, **Accra GHA**
Wenk Associates, **Denver CO**

Jack Travis Architects, **Chicago IL**
National Organization of Minority Architects,University of Michigan, **Ann Arbor MI**
University of Illinois, **Chicago IL**
Community & Economic Development, City of Ypsilanti, **Ypsilanti MI**

Michael Bell Studio, Associate Professor, Columbia University, **New York NY**
Michigan Land Use Institute, **Beulah MI**
Freecell Architecture, **Brooklyn NY**
New Jersey Institute of Technology, **Newark NJ**

Washtenaw Development Council, **Ann Arbor MI**
Rafi Segal/Eyal Weizman Architects, **Tel Aviv ISR + London UK**
Mathur/da Cunha, **Philadelphia PA**
Architecture Research Office (ARO), **New York NY**

Kennedy + Violich Architecture, **Boston MA**
Pugh + Scarpa, **Santa Monica CA**
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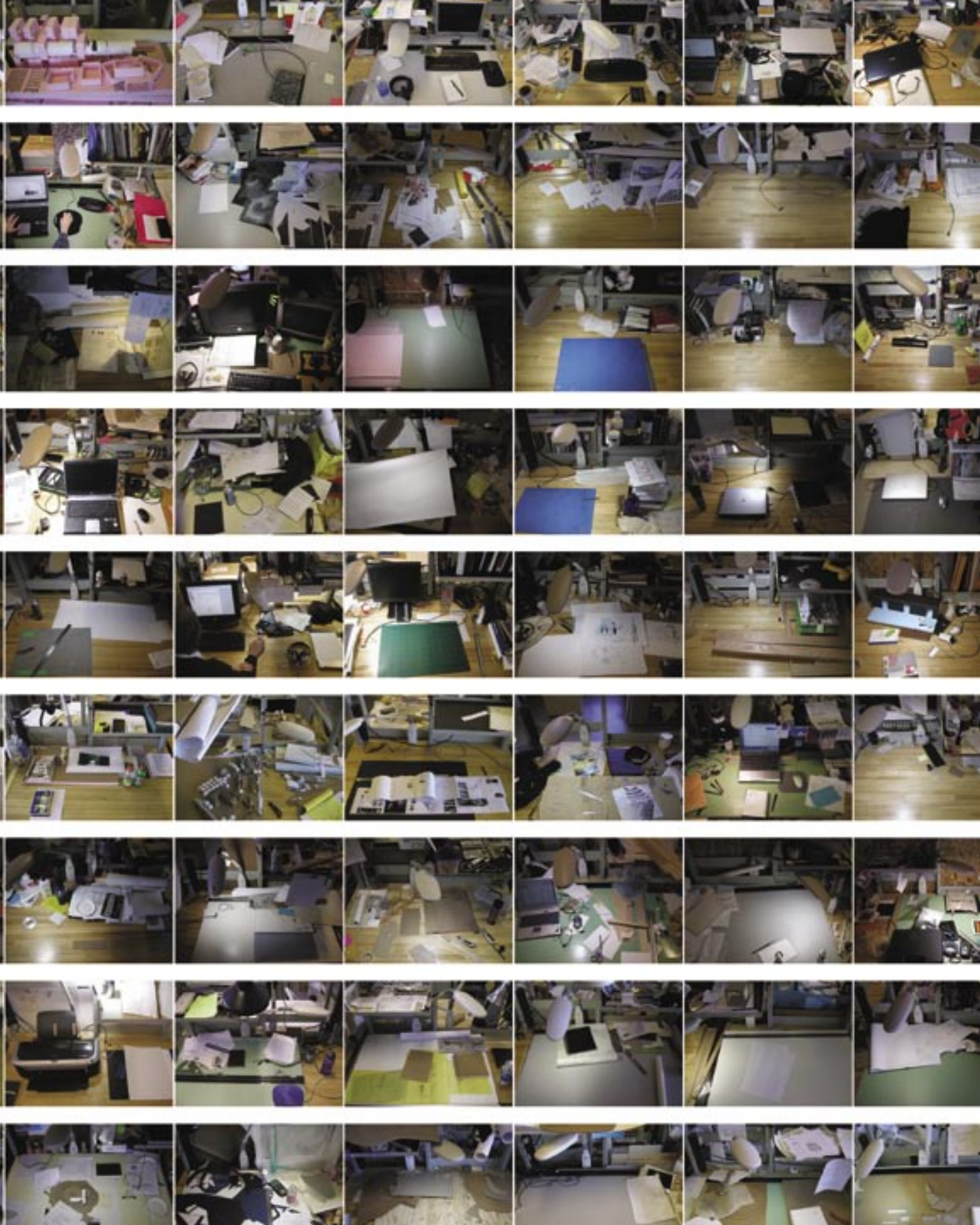
Blu Dot + Lazor Office, **Minneapolis MN**
Dworsky Associates, **Los Angeles CA**
Massachusetts Institute of Technology, **Cambridge MA**
Center for Sustainable Systems, University of Michigan **Ann Arbor MI**
Intrinsik Architects, **Bozeman MT**
University of Utah, College of Architecture and Planning, **Salt Lake City UT**
Palmboom & van den Bout, **Rotterdam NLD**
Toshiko Mori Architect, **New York NY**

John McAslan + Partners, **London UK**
Harvard Design School, **Cambridge MA**
studioworks, **Los Angeles CA**
O'Donnell & Tuomey, **Dublin IRL**

Lectures 2005

Art + Architecture Building
Lecture Hall



Don't Tear The Sheet;
Non-experts, Vertical Perimeters

Editors note:

We asked Robert Adams, Jerry Herron and Jason Young to record this conversation. We thought maybe they would talk about creative practices, contemporary culture, the city or urbanism more broadly conceived. We did not expect their organizing idea: that literary classics might be thought to exist on the same plenum as TV commercials. They explore the idea of tearing this plane of reciprocity apart, who would do that, why, and what the consequences of such an act might be. Along the way, they cover some pretty interesting ground. Enjoy.

Erin Crowe 3G, David Karle 2G

Burger King_ Management

Robert Adams: In thinking about education, and the education of an architect, I am curious to know why, as director of an Honors program, you use the city as the medium to build an honors curriculum, while it seems that many Honors programs are based on reading the classics, the great books. So you read the classics, have conversations, expand on that topic, write essays, but now you've put the city into play. It's interesting—the shift from the canonical texts to the city as primary source material. What is the effect of this within the institution and how do students engage the material of the city itself?

Jerry Herron: It's attached to a little trope I love to refer to—the Burger King effect. The name references a very successful campaign initiated by J. Walter Thompson, the "Aren't you Hungry?" campaign. In the commercial, you see beautiful flames licking up through an ideally beautiful grill and then a hand drops a beautiful meat patty on the beautiful grill and the voice over starts, "Aren't you…" and then the hamburger is assembled and by the time it's fully assembled it's a thing of such vivid beauty that even vegetarians will crawl helplessly toward the screen and just want it. " Aren't you Hungry? Aren't you Hungry for Burger King now?" I think the commercial really works because it raises a question to which your experience already seems to spontaneously provide the answer by the time you get to the punch line. That is, the commercial doesn't come on like Uncle Bob's Carpet Store and say, "Don't be stupid, buy my carpet." It seems to raise a question that your own experience has been waiting for in order to achieve some kind of coherent purpose and intention. And obviously it's selling something, but it doesn't feel like it's selling something. It feels like a public service announcement. Wow, I was sitting here with all of these nameless, meaningless, unfocused yearnings and desires, and until I knew that the question was posed to me in this special, poignant and relevant way I didn't realize that my whole life was directed towards this one moment of desiring Burger King now. So my pitch for the classics is that they work the same way, that Hamlet is still around, not because people read it every day but because every once in a while somebody will say, "I'm so racked by indecision I don't know what to do." And then along comes, "to be or not to be," the soliloquy where Hamlet is trapped between these two equally undesirable alternatives: "Whether 'tis nobler in the mind to suffer the slings and arrows of outrageous fortune, or to take arms against a sea of troubles, and by opposing end them?" The proposition is that the classics are worthy of study because they make you richer in terms of the equipment you have in your imaginative life, your supply of Burger King Effects. You may need to think this problem through some day and the reason people have kept around the ancient texts, and Elizabethan drama, and the reason they kept around Charles Dickens, and the reason we kept around certain songs and certain kinds of architectural forms is that they help raise Burger King Effects sorts of questions that continue to be relevant. You may need to ask yourself those questions someday and you may find it helpful the way that this person or that person thought through this dilemma at some earlier point. Okay.

Jason Young: And the fast food angle is fun. Funny and kind of weird…

JH: So if that's the definition of a classic, then the proposal I make about the city is that the city is just like a classic text. It's an anthology of conclusions people have reached about these great human questions: Who are we? Where are we going? And, What should we do? Except instead of writing a musical composition, or making a painting, or writing a play, people have made cities and inscribed in them a history of the answers. I think this is what makes a city even more interesting: There's not only a history of the answers to those questions, but it also has a history of what we made of those answers. By which I mean the city answers a question, who are we? But, it also contains a kind of critique of that answer. So you can see a lot of answers

in the city of Detroit, for example, to these profound questions of life. But you can also see a running commentary in terms of what's become of the city that answers questions in that certain way, a running commentary on how worthy those answers were.

RA: In terms of the "Aren't you Hungry?" commercial, does it even have relevance to incoming students? Do they even remember that commercial, that pick-up line? I thought it was "Just do it," "Is it in you?," and "I'm lovin' it." Watching someone cook the ideal burger is too slow. Advertising has shifted gears to dancing with iPods, digital animations, lifestyles and attitudes.

JH: Sure, but what I love about the Burger King spot is that a lot of it doesn't even have language with it. It's just visual. And it doesn't seem to tell you things, it seems only to ask a question that you're going to be able to answer spontaneously, just like the spots you just mentioned. I wanted intentionally to use a commercial because I think what students often assume when they talk about classics is that they are somehow above the ugly world of gritty commerce. That they're not smeared with the fingerprint of toil, which is complete bullshit. What we think of now as classics were all economic runaway successes before they were considered "classical literature." If you take Dickens, for example, in the middle of the 19th century the classically trained scholars, the critics, excoriated Dickens for completely degenerating the taste of the English-reading public. Now of course we know that he's a timeless classic that rises above the mere world of commerce and hubbub. And the same is true with Shakespeare, obviously. It's hard to pick a single example of a classical text that was an economic failure. I don't know of one. So the Burger King tag, the commercial tag, is fully intentional.

JY: I want to project into what the students might think, or what might go through our minds, when introduced to an institutional or academic imperative that is prefaced by a TV commercial. I just imagine that it opens up a willingness to think of the classics and the city and the academy through the agency of something that deserves no equal billing, so to speak. At least that's what we're told about TV commercials; you know, that those things are used just to sell. We know that commercial. That commercial is a crass attempt to extract our discretionary income for the profit of that company. Yet what I am hearing here is that it intellectually does other things, impacting the way we might practice ideas, because it suggests that there is an equivalence being made between the things that get endorsed by the academy and things that exist commercially.

JH: Right. I agree. And I think if you imagine critical discourse to be a sheet of paper, and if you tear it in half and say classics over here and the merely popular over here, then I think what you do is completely devalue the classics when it comes to having any critical role in our society. For example, all of the decisions that I've made that are really consequential—where I live, what I eat, how I spend money on cars, clothes, entertainment, food—those are all driven by market forces that have little or nothing to do with the classics. That is, the classics didn't motivate me to buy the suit I'm wearing today, to buy the Volvo, or the furniture I bought. I learned how to do all that stuff reading advertising. That's where my desires came from. So if here's the world of my desires and the underlying presuppositions and prejudices, and if there's the world of classical inquiry or appropriate university subject matter, and if you disconnect the two, then we're never going to accomplish anything. All of this "classic" stuff we're talking about is just masturbatory. It's never going to address itself in the domain where decisions are really made. Nor will the way that we make decisions ever get looked at with the kind of care and intention supposedly reserved for the "classics."

Driving Range

JY: I can imagine a certain set of students who say, "Yeah that's right, the university is just a masturbatory exercise, and is simply replaying the same interpretations of the same texts, reciting them generation after generation." For them, maybe Burger King looks a lot better than Hamlet. Maybe the whole thing reverses itself. I don't know that that's my position, but it's certainly a fear that we're all gaming with, or it's the ultimate test of one's scholarly ability. Can

you beat Burger King? Can you compete in that world? We teach in a graduate program that's looking at perimeter conditions: situations that are disentangled from the slow, narratively constructed relationships that you might find in the city, where commercialism and market forces and topsy-turvy pragmatics are depositing amazing things. So we're an academic institution that's doing a similar thing to what you're describing.

RA: Yes, and increasingly our institution, perhaps like many schools of architecture, is trying to establish credibility between those "out there" doing it, and the production of knowledge within the academy. At *Pulling Triggers*, the conference a couple of years ago at our College, Brian Boigon gave this great talk called "Unaccountable Static," where he discussed various ways that the speed of the academy and the speed of the street are at odds with each other. He used to be in the academy and he got out, and now he's hitting the market full-on within advertising as a "culture producer", as he puts it. The worry embedded in the project of perimeter urbanism and design education, and between these two speeds, is that by getting too close to popular culture, you are either selling out to the market or simply aestheticizing the commercial landscape. For me that is all the more reason to go there and find out what is possible, especially in cities like Beijing, along I-75, 8 Mile Road and other sites.

Target_Truck

JH: I think that's true about the perimeter. I mean, perimeter means that something exists on both sides. That is, it doesn't have to turn into something else. Or, at least one interpretation of a perimeter condition is that it's a worthy and useful condition to maintain. It's not a condition to be gotten over.

JY: So what you're saying is, why try to escape the tension between the two? When you talked about tearing the sheet of paper, tearing the classics away from the commercials, you were interested in keeping those things somehow in touch with one another.

JH: Correct. Keeping them separate but always keeping them adjacent so there is always a perimeter. It's our job to saturate or to bring popular culture into the academy and to have that be studied. The culture outside the academy is always going to be smarter, cooler, hipper, faster, more saturated. It's good because it is fast, it's delightful and it's filled with the possibility of pleasure and all kinds of attachments because of its throw-away and ephemeral quality; and that's what makes it what it is and that's why it's good. It's an instant discovery device for ranges of feelings of attachments, sentiments, prejudices and desires, that people may not be aware of until they see them vividly presented. Okay? So that's fine and it's going to be healthy all on its own. I think the academy's usefulness is to talk about what's worthy and what's not worthy, what's stupid and what's good, what's interesting and what's not interesting. In other words, to go at it from a different velocity, if you want to use that metaphor, and that's what the academy has been doing for a long time.

There are things that people knew how to do that I think the academy is very useful for preserving because sometimes you have to know other stuff in order to get at the thing that's still Burger King worthy in the old stuff. So I think having a perimeter where there are always these border challenges going on is probably the richest relationship; people wanting to move across the perimeter in one direction or the other, negotiating the rules of passage as to who gets to go and who doesn't get to go. But the academy—I think for the most part—says nobody's going from one side to our side, or else we're going to simply colonize popular culture and preside over it like some kind of potentate who has now conquered this domain, and once that happens most academic appropriations of popular culture are so stupid that they turn it into something completely unpleasurable and therefore lose their meaning.

JY: I like how you are talking about this, but we're not seeing academic institutions and the agencies that service them, like publications, journals, whatever, advancing this kind of interplay between Burger King and Dickens. Why not? Why is that? I mean, it sounds really great and I think that to some extent we would say, "Yeah, this is how we work," but why don't you see institutions, or a

number of them, or more academics, for that matter, producing this kind of work?

JH: I think to build an academy that walls-off certain procedures, certain ways of knowing, certain primary textual material and say, "Here it is, we can now spend our time indoors going over this," is to overlook the possibility that new knowledge may not be possible in that paradigm. I think it's a lot edgier to say, "No, we always have to be reinterpreting what's inside with respect to something that's evolving at a faster speed outside of here."

RA: So you value that? You said more edgy, but you also meant more powerful.

JH: Sure. If the academy is not always trying to, or some people in the academy are not always trying to hang out at that perimeter, then what's this good for? Practically nothing. I think if the energy and the desire that gets swept up into a successful advertising campaign doesn't speak to these fundamental questions about who we are, where we are going and what we should do, then where did its power come from? Well, I think its power comes from the fact that it mobilizes people's wishes to answer these questions, to know about themselves. It's just that if the academy has this more stable body of interpretive strategies and primary textual data, then I think the whole point of attachment is to be discovered through what's going on in terms of successful music, successful advertising campaigns, cars that people want to buy, trends in building materials, clothes. I mean, that's where you can really find out, minute-by-minute, who we are, where are we going and what we want to do. And then the business of complicating that really does get organized around contemplation and careful thought. The complicated part is figuring out what is that ephemeral, day to day, refreshable stuff? What does that tell me about these ongoing answers and questions that we've been contemplating? Just thinking, "What are the popular advertising campaigns currently underway? What kinds of cars do people drive? What is the most popular building style? Currently, how big is a house?" Those are all questions that are saturated with our unexpressed answers to these questions about who are we, where are we going, what should we do and where we might find pleasure.

JY: Pleasure is risky. Pleasure is hard to quantify, maybe. It's hard to be a specialist in pleasure.

Immediate Loose Fit

JH: And dangerous, because it would get the academy into disputes that would go immediately to the heart of American capital, American social policy, the way we make decisions about who gets health care and who doesn't… All of those things are bound up in the way that we make sense of our lives in terms of popular culture.

RA: Sure. Pleasure is not simply pleasure, inasmuch as pain is not simply pain. In Elaine Scary's book, *The Body in Pain*, part of the discussion is how torture is used to build down and build up completely different senses of identity. I think it is a really important text. The body in pain, the body in fear—this seems to be the condition driving a range of issues in the world today. It has an effect on how we teach and what students will take with them beyond the design studio.

JY: So we're trying to get future generations, future thinkers and practitioners, to be more nimble, to be more aware of the surface area that is present on this sheet of paper, to understand the kind of storm front between things that might be safe-guarded by an institution and things that might be shot out of the end of a commercial. We want them to be able to see the two things as constantly moving in and out of one another.

RA: At least two things. And more. Raising at least three or four questions. Continuously. In the design project, it is always a game of how many things and issues you can keep in the air and still have something that is great in terms of design.

JY: Malcolm McCullough quoted this statistic to me the other day. He said that there are 60,000 words in the English language, yet only 8,000 show up on TV. His motivation, it seemed to me, was to say, "if you're only getting your information from TV, you're getting a little more than ten percent of what's out there." If you think about this disparity in the context of working a perimeter between street speed and institutional or academic speed, then if someone is only

watching TV, I'm not sure they do anything more then go buy the burger from Burger King. You don't have the 52,000 other words that TV doesn't provide to leverage some kind of position within whatever project or product they're putting forward. And likewise, maybe the 8,000 words that show up on TV are really important words for understanding a mode of creativity that doesn't start from a disaffected, sterilized cultural position; a creative model that doesn't already wrap itself in an ivory tower as a starting point.

RA: It's uncanny, the numbers. I just read that there are approximately 80,000 types of construction materials available in the market, but only between 5,000 to 15,000 are used in a typical commercial building. And that's not just 2x4s and steel trusses, but it also includes the blue ink on the stamp that says, "American Standard." There is something to this. The language of words and the language of construction, and how the production speed of each, like making a building and producing a TV commercial, have something in common.

Beijing_SOHO

JY: I think this mixture of speeds is an interesting model in thinking about creative work. Particularly if you think of our students who are constantly doing the math that gets them from the conversation we're having in class to one they might be having in an office somewhere. And there would be a kind of anxiety about whether they're learning specific terms and skills and practices that will reproduce themselves in that faster-moving world.

RA: In a professional context, not architecture as a discipline.

JY: Yeah right. To be a productive member of that society. Their concern might always be, "Okay, I need those 8,000 words. I am learning about 52,000 other terms, but I really want to stay close to the 8,000 I already know." And I think that this tearing the piece of paper that Jerry proposed earlier, or even flirting with tearing the piece of paper, already conceives of things as on the same plane, which is a big help in this. So they are co-requisites or mutual constructions of one another. They're working, somehow, in unison. I like that mixture or mingling of things on the same plane. I think it is a helpful visual aid for thinking interestingly about the potential of being excited by both the 8,000 and the 60,000.

JH: There's one other thing I would like to say about the 8,000 and the 60,000 words. I think the academy can perform a really useful function in the domain of the 8,000 in the sense, and this is my short-answer definition of pleasure, that the more opportunities for creative practice you have, the more pleasurable the world seems to offer. For instance, if there were only two flavors of ice cream and you invented a third one, that would seem like a revelation; more sources of choice, therefore more pleasure. I think the more you increase the choices a person can possibly make, the more you increase the ability for their imaginations to manipulate the world in unexpected ways and the more you increase the likelihood of pleasure.

Mr. Stone

RA: It can backfire, though. Too many choices increase an anxiety about which one, and then nothing gets decided. But I agree, more creative practice can increase the odds for more pleasure.

JH: I think if you really want to cause trouble, get people in touch with unsupervised sources of pleasure and lead them to the conclusion that they should expect it all the time. It makes it very hard for them to have an uncritical attitude about work, for example. If you taught people to have higher expectations about the unsupervised sources of pleasure, well, a lot of television begins to look pretty stupid. Commercials don't have the sheen and gloss and pleasure that they used to because now you're teaching people to expect higher quality pleasure. So, I think if you launched yourself on this project for pleasure that it would really cause trouble and things would get out of hand really soon, I think, in terms of an academic's ability to supervise. I would say, for the students as well, it's really important to have the confidence to be a non-expert and be able to interact with the world previous to your being conferred an expert status.

RA: I agree, it's essential. But how does this shift how one learns, how one

teaches, how I teach? For example, when I think about architectural education here and rapid urbanism in China, they are at complete odds. In China, a building design is unveiled after winning a competition, and six months later there are six copy-cat buildings already under construction. It is a completely different model of learning, or appropriating or stealing, as the case may be. Obviously it is causing a huge crisis in terms of intellectual property at the level of international law. But in China, it is about getting the work done as quickly and effectively as possible. I am interested in the models of architecture that are under appropriation in China, suspending the intellectual property issue for a moment, and how this may affect how we think about urbanism here in the United States. This past semester, I started writing a brief for my design studio under the theme of perimeter projects, and in this case, perimeter pleasures. I started by stripping out text from various sources, linking them, adding other things: where someone may have been talking about music I would insert architecture or perimeter. I produced a list of aphorisms wherein the appropriated language freely flipped in and out. So, "a perimeter is a result of space pilfered from the tyranny of choice" is one of the aphorisms. This thing from Brian Boigon where he says "There is no arch, or no story, no arch, no suspense, just spending money," I add "The perimeter thrives in a transmissional environment." Or, from Yung Ho Chang's essay about working in China, "Learning from Uncertainty," I took the notion that the perimeter is a set of conditions that "makes anything possible but everything extremely difficult." So given all the choices, it makes it all possible, but the crisis is in taking action, such as ripping or tearing. I would like to think more about this and its consequences on making architecture.

JY: I use a story a lot with my students, or have in the last three or four years, that is really a basic narrative. It's almost a myth because it's stripped way down. It's completely untrue and true at the same time. The story goes like this: To make architecture, we go to a place, a site, and there's a reason we go there because we've been asked to think about that place or to make something for that place, and we smell bread baking and we talk to someone and the sun comes between two buildings in a really unusual way and the air feels like it's collecting on our skin, and we think about what we remember the last time we were in a place like this, and so on. All of these complexities arise, and all of these complex indicators are in play. Then we do something to get at that, to record it. We take photographs or we make notes or we talk to someone, whatever. Then, we go back to the studio environment and that complex experience undergoes a consistent and systematic abstraction, and, somehow, all that complexity gets traded out and we end up with a thing: a diagram, a drawing, a sentence or two that we could be absolutely clear about. So it's like we understand a place or a city as having a deep complexity but we don't know the diagram for that, we don't know how to sustain that in the conversation that we're having in the studio, which has ambient tools and techniques attached to it, so the complexity gets whittled down to the point where we can convince someone, maybe some critics somewhere, that it's loaded.

RA: Loaded with what? That we're in control?

JY: That we're in control. Right. That it's clear, that it has a future. And then a lot of work happens from that stripped-down version of the actual complexity. The abstracted condition gets foregrounded, and the rich thing that led to that abstracted condition gets displaced. Now, there is an operating budget of faith that says this abstraction is still about that complexity, but it's not usually ever about that. I think that this is fundamental to what architects do—that abstracting down or abstracting out of a complex situation is what we will inevitably have to do. But I've gotten more and more interested in the last few years in trying never to trade out of the complexity such that the abstraction has to have the messiness of the original condition trapped inside of it. It's got to be clean and clear, and noisy and full of static at the same time. I pursue this as an antidote to the kinds of practices we see that might recognize complexity but can't act on it. It would be like those murky

moments as a writer when you might finally feel like you can catch the subject matter in the writing, instead of simply writing about it—that we can finally say what we thought we wanted to say but never knew how to.

JH: When I was writing my book about Detroit, I was trying to figure out a way that I could think all at once about what it feels like to be here under multiple, contrary conditions. That is, some people are still wanting to come to the city, some people are happy to live in the city, some people hate the city, some people want to move out of the city, some people are returning to the city. Then I came up with this window idea. Here's a window with a historical inscription on it in this invented building with people sitting behind it eating this phony, invented pizza and I can see myself reflected in it. I still find it useful to think of all the people whose behavior I was trying to comprehend. I can tell sequential stories, but the form of my response falsifies the experience because it's as if there was a kind of sequential narrative connection between all of these disparate elements, when the connection is much more like a musical notation with things piled on top of each other, or like this window with stuff written on it that you can see through and people behind it and people reflected on the front. And I'm guessing that city-making is probably a lot more like that. So I think the hard thing is to try and see a complex range of relationships and, for me at least, imagine some spatial metaphor so I can see it all at one time.

RA: If you look at a city like Beijing, it is producing multiple forms of urbanism within a market economy, but is bound to a completely different script: the new city within old, city on city, city eclipses village. It is a development that is unlike American cities, with their core density, first-ring suburb, ex-urbs and so on. The Chinese city seems to parallel what we are asking of our students: to read Shakespeare, to know something about cuisine, to speak three languages, to grasp a multitude of complex things, to seek certain truths about your emerging condition, to get us all closer to the understanding of perimeter that has surfaced in this conversation.

Beijing_Wrapper

JH: Yeah. I was thinking about the perimeter in the earlier example of tearing the sheet of paper. It's like it exists in one consistent plane and then gets troubled. But it still exists on one plane. So it's a spatial plane or a temporal plane. But what if the perimeter is between something like time and space? And I don't mean to begin sounding like Star Trek…(*pause*) So, we talked about there being one way of doing things inside the academy and then there's a perimeter thing, and here's how business is done outside the academy. Or there was one way of imagining history, and there's a perimeter, and temporally we have a new way of imagining history. But what if a perimeter condition existed not only horizontally, that is in the same plane, but also vertically? Imagine a series of overlays that are parallel to the ground plane and stacked. On one of these horizontal planes, lets say there's inside and outside 8 Mile Road and there's a perimeter that preserves certain kinds of making on one side and you could read that perimeter spatially. You could certainly read it in a kind of narrative way: The city got to here, built a wall around itself, and you can't exceed the wall. But then there's also a kind of perimeter that exists in the vertical direction. Maybe you also get this vertical, cultural perimeter. So Eminem's movie, *8 Mile*, gets to be a big deal and so now a lot of people think Detroit is cool. So, you're driving around this horizontal city, the first level perimeter, and you're in your car and now the city has invented a new way of asserting itself. You're feeling inside some new condition that has nothing to do with the initial condition and you may be crossing it in the most improbably ways, but you're still participating on another level that seems entirely consistent. You know, you literally drive over 8 Mile Road while you're thinking of this new kind of globalized version of Detroit and so, 8 Mile Road, on that level, ceases to exist. And then I can imagine some other layer that's purely private and esoteric, that you think your connection to the city through, and that's saturated with personal narratives and feints: how your house smelled in the old neighborhood, or how the city stinks now. So this discussion of city/not city, city/suburbs, city over/city not over, I think, is not nearly

complex enough to garner enough information to talk about how people's actual behavior is a result of whatever it is that they think of, whatever it is when the city is being staged in their imaginative theatre. The one level or layer, the notion of one perimeter, I don't think, is sufficient to begin to describe or address it. And I'm not sure that when city or civic authorities, or whoever, think about city making or city unmaking that these other layers of experience ever get addressed.

JY: My sense is that they don't. I think that's a really beautiful way of thinking about it. I mean, you could almost imagine that urbanism has kept right on moving across one layer, vanished, and maybe it came back up here on another layer. Not "came back," but reverberated. Maybe urbanism kept moving and hit some kind of limitation, a territory where it could no longer maintain its velocity because it hit upon conditions it couldn't perfect, let's say. Then it reverberated back in and produced another thing not within its original horizontal plane. Not like a pocket of suburban homes in the city, but a new manifestation of the impulses of urbanism altogether. And now there's a vertical perimeter reverberated back in a different way, and it produces another layer in this city that is culturally undisputable but doesn't show up on the map. You're hard pressed to place it, to make sense of it, to take stock of it, to measure or track it, but it's there and it somehow wraps itself around your neck as it comes back. I think the notion that there might be a kind of diagonal, or atonal, logic among these layers is pretty interesting.

Fermi Farm

RA: The layers of urbanism remind me of Bruno Queysanne, who is a philosopher of the history of the history of architecture at the University of Grenoble. He was one of the key leaders in the 1968 student revolts in Paris and went into the academy while many of his friends went into politics. He once gave this amazing lecture about the sands of the Sahara dusting the southern slopes of the Alps. He drew a layered pyramid, like the FDA nutrition one, but he parsed it out in terms of geological time, civilized time, an epoch or lifetime, everyday time, and we added nano. It seems the conversation about the vertical perimeter would have to tear this diagram apart to see the relationship of these different measures. It seems some of the conversations in architecture today are stuck in one, maybe two, layers of time. The conversation about technology, new software, new modes of production, info-architecture, new materials and so on, all really tends towards the here and now, faster, the nano, make it quick, make it light and so on. It's almost a resistance that Queysanne was putting forward, or maybe this kind of new measure which isn't a new measure at all, but you could test the condition of any architecture, any building or city for that matter by measuring it against these different layers of time from the geological to the nano.

JY: And we're back to what Jerry said about the Burger King commercial—that the experience sort of justifies itself or brings itself to a closure. It's like an unfolding condition. The Burger is cooking now. It's got a beauty to it. You can almost smell it. It's creating it's own context through a kind of experiential lead. Your imagination is cued up in a certain way and I just think that being a non-expert, if we could say that that's a theme to some of this conversation, would entail figuring out a way not to lose the sense that our condition is unfolding—that the complexity of our intellectual task comes into trajectory in and amongst these measures of time, in and amongst vertical perimeters of urbanism that lurk in the city, when we can conceive of the sheet of paper with the classics scribbled on one side and the TV commercials on the other, when we are willing to dare one another not to tear the sheet.

RA: Don't tear the sheet!

JH: Not me, man.

Robert Adams
University of Michigan
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THESIS Master of Architecture

The Haptic Theater of Cruelty **EMILY FISCHER** 3G*

Dr. Strangelove Twenty-O-Five **BRANDON ANDRZEJCZAK** 2G

Synthetic Perceptions **NICOLE ADLER** 2G

Fast/Slow: Spatial Negotiations of Temporality **AMANDA R. CHRISTIANSON** 2G

Retreat from Consciousness **JENNIFER HARMON** 3G

Mapping Heterotropia: Accelerating Capitalist Space **ALEXANDRA NEYMAN** 2G

A.M.P. [Architecture Mis-Programmed] **NEIL THELEN** 3G

Graduate Thesis Faculty

Craig Borum
Caroline Constant
Malcolm McCullough
Karen M'Closkey
Keith Mitnick
Neal Robinson
Gretchen Wilkins
Jason Young

4/77 Gallery Exhibition

September 12–28, 2006

Kara Boyd
Emily Fischer
Jennifer Harmon
Neil Thelen

These four examples—drawn from the seventy-seven projects completed during the winter 2005 thesis studio—demonstrate the wide range of topics explored by MArch students over the course of one academic year.

2005 Michigan Graduate Architecture Awards

Molly Johnson
AIA Henry Adams Medal

Jessica Van Houzen
AIA Henry Adams Certificate

Emily Fischer
Marian Sarah Parker Memorial Award

Amanda R. Christianson
Alpha Rho Chi Medal

Graduate Thesis Awards

Kara Boyd, Home and Away
Jennifer Harmon, Retreat From Consciousness
Neil Thelen, A.M.P. [Architecture Mis-Programmed]

* The 2G/3G designation denotes the student's undergraduate background: graduate students holding a pre-professional undergraduate degree in architecture complete the program in four semesters, while those with a degree from a different field of study require seven semesters—in both cases, a self-guided thesis proposal is the pinnacle of the graduate's architectural education.

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The Haptic Theater of Cruelty

EMILY FISCHER Graduate Thesis — Faculty Advisors: Malcolm McCullough, Keith Mitnick, Jason Young

PROJECT COORDINATORS/GROCS ADVISORS: Stephen Rush, Linda Kendall Knox, John Merlin Williams
Project Team: Angela Veomett (Graduate Media Arts Program/Music), Ben Van Dyke (Graduate Art and Design), Jacob Richman (Graduate Media Arts Program/Music) Miranda Hill (Graduate Music), Norm Adams (PhD Electrical Engineering), Stephanie Metz (MArch 2004)

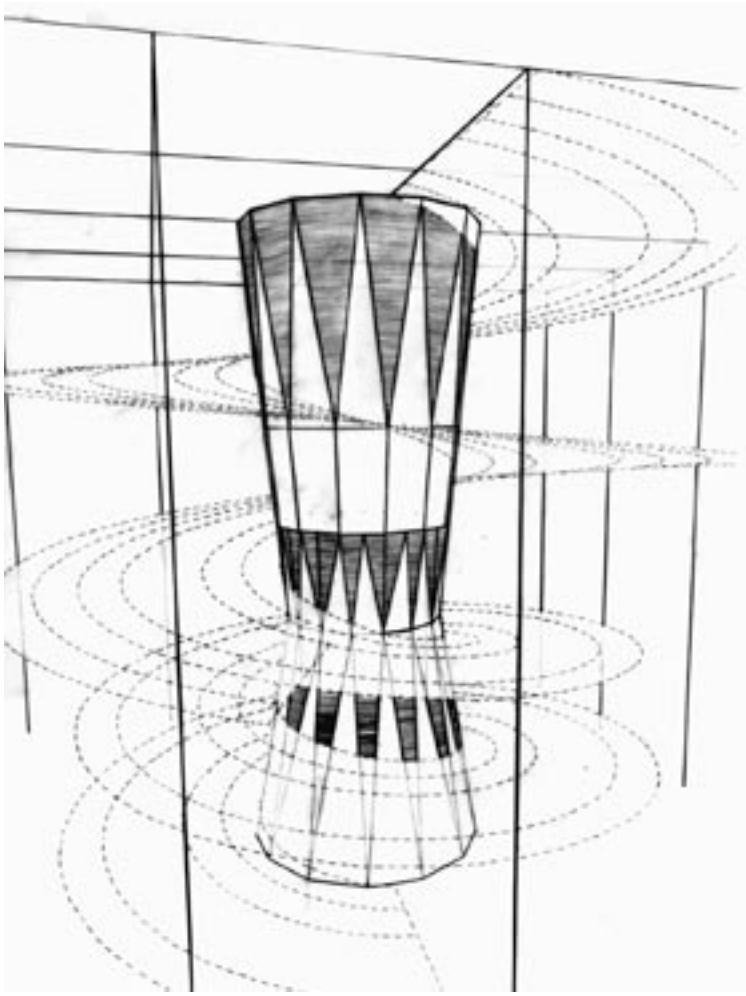
The Haptic Theater of Cruelty (HToC) is a construct that attempts to realign the experience of performance and the everyday with a renewed sense of embodiment. Through the adoption of rich media tools and interactive design, this projects seeks to reposition and privilege the human body in a world where technology has come to deprive the senses instead of flood them.

We live in a media-saturated world where it is no longer desirable or possible to derive meaning through a constant reading or textual decoding of information. As Antonin Artaud once said, "words only decorate thought." Audiences are beginning to rediscover and cultivate raw experience over the textual, intellectual means of information reception through the utilization of haptics, or the sensory mechanisms through which the human body orients itself in space.

Information should reach us like a hammer hitting our brains—with shock, with cruelty and with a sincerity to correct our lost sense of embodiment. Information necessarily saturates our world, but coupled with rich media and interactive design, our world will become easier to understand. Media should serve a performative and responsive role in our environments, returning us to a precognitive state of knowing. The HToC works like the plague: though infection, through analogy and through magic.

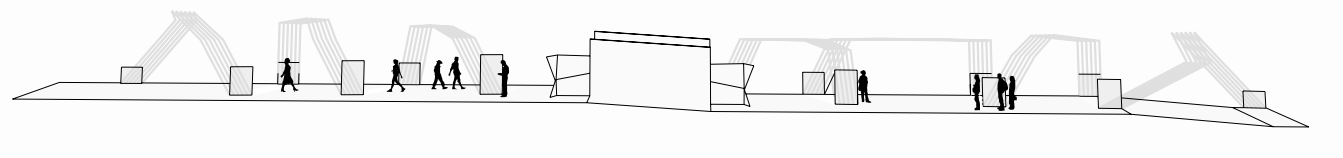
The deployment of playful physical offerings in the form of built obstructions attracts an audience. Like a medieval miracle play or a traveling circus, the HToC operates within preexisting everyday spaces by transforming them with an infectious and celebratory atmosphere. As Rem Koolhaas has said, concerning the proliferation of such spaces, it is a "hallucination of the normal."

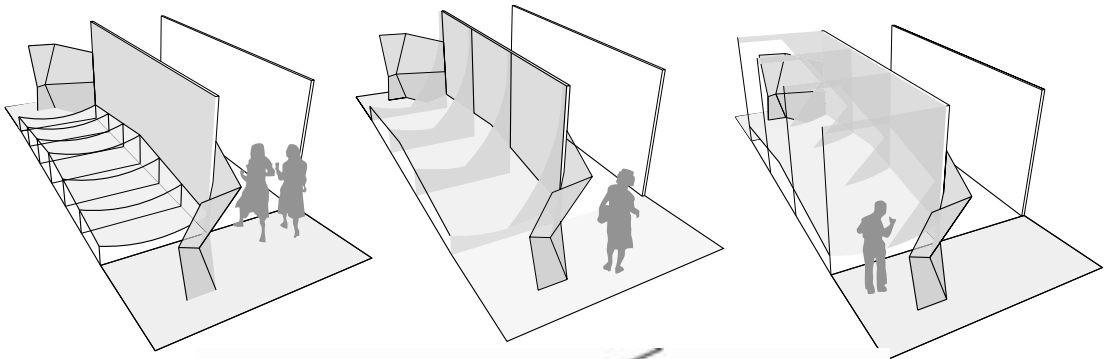
Media within these spaces connects the visitor to a primitive, personal physical body and an electronic body of information shared by the collective. Interactive elements allow the space to act, emote and fluctuate according to users. This creates a network of experience that transcends a single spatial environment.

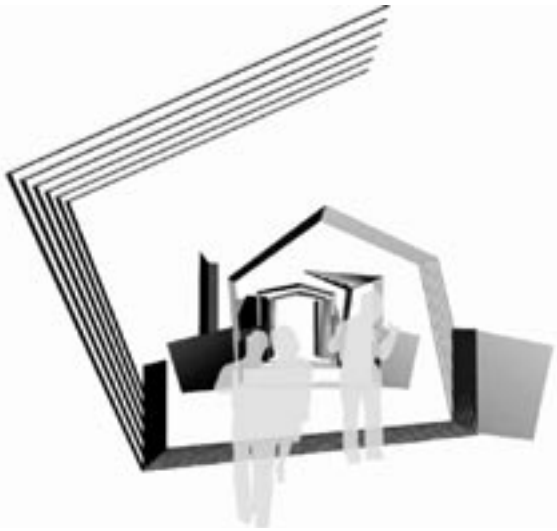


Corridor Installation - North Campus Duderstadt Center

Seven complex arches built of one-half inch EMT conduit spanned the length of the connector corridor. The arches were designed digitally with a specificity of angle, length and height that could not be achieved without 3-D modeling technology, as each joint turned in two directions. To support the spans, fixed hinges locked the angles in place, allowing the arches to be placed in larger units. Shear plates cut of translucent corrugated plastic were zip-tied to the conduit. These plates were cut into an invented phonetic alphabet that was evocative of language, without carrying a hidden, encrypted meaning.



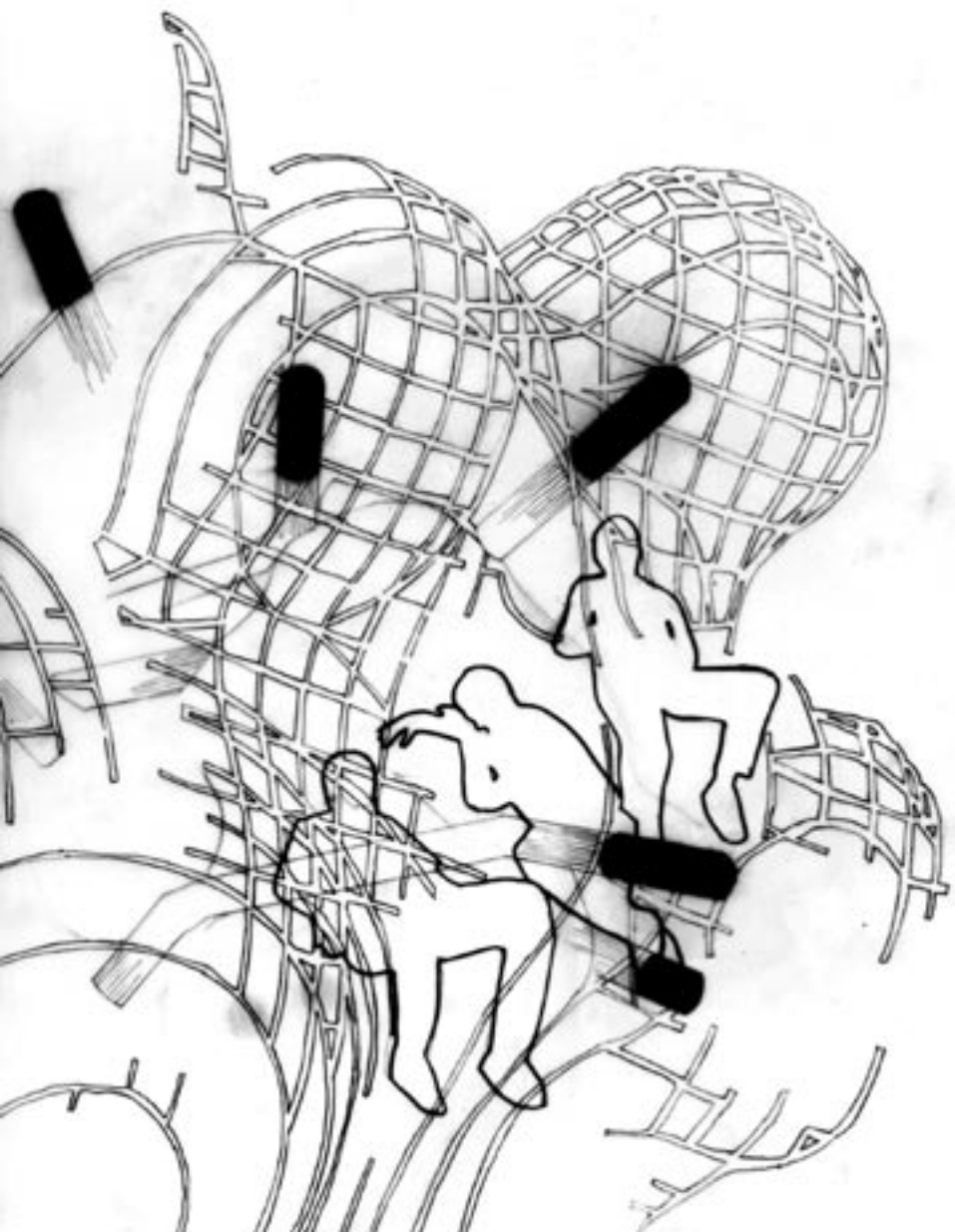


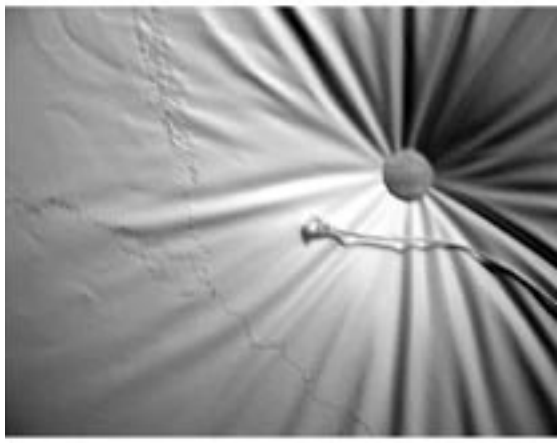


Dream Arbitration

The Dream Arbitrator was an instrument in which the bodily actions of the visitor/actor directed what was received as an experience. Unlike a traditional instrument, the correlation between input and output was not known by the visitor, but dictated by an algorithm, forcing visitors to explore their bodies' movements within the space. This instrumental space used biologically ambient information to create an interactive environment that fostered embodiment.

The Dream Arbitrator was the most technically sophisticated and successful piece within the HToC. The beds used thirty-two pressure sensors embedded within the soft upholstery foam to collect ambient information describing the actions of users. This analog information was interpreted digitally by a specially designed Max-MSP program that selected an ever-changing and uniquely related sound/image sequence to play back instantaneously to the visitor(s). The general public had no awareness of the complex systems employed to make the beds function. However, even to those of us responsible for the programming of the Dream Arbitrator, it clearly possessed a mind of its own.





Architecture As Theater

Interactive design and new media tools are increasingly becoming incorporated into the discipline of architecture. These new interfaces accelerate or encourage audiences to participate in larger social groups, transcending traditional boundaries of space and temporality. The development and application of interactive design has garnered much debate in recent years, as many consider such science fiction possibilities as potentially destructive. This resistance is more or less the result of a generational line. Moreover, it illustrates the blind spot most designers have for understanding the traditional role architecture has as a mediated experience. Architecture has always sought a wider spatial and temporal field, by whatever means necessary.

Media is no longer an applied architectural element but physically integrated into the space and surface of architecture. Unlike the Gothic cathedral, new interactive spaces are capable of responding directly to the physical presence of the audience, augmenting the real dimensions of a body in space without a script. New interfaces can also perform structural and environmental roles, as seen in such works as Toyo Ito's Sendai Mediatheque.

These new four-dimensional spaces have more in common with the primitive theater of Artaud than with the traditional occidental theater because it is the space itself that performs, and the audience that directs it through ritualized means that engage with the body directly. The traditional differentiation between the actor and audience, the spatial distancing and framing employed in information reception as well as the presence of the script no longer exist.

Interactive design is almost exclusively employed in public art and gallery installations, meaning it exists far outside the mainstream of commonplace architectural environments. Taken outside of the gallery context, these projects are received as being a waste of time, money and effort, as evidenced by the polarized public response to the Haptic Theater's installation. Interactive environments may grow to find applications in domestic and commercial environments by fostering new uses in office spaces, kitchens, backyards and shopping centers. But perhaps delight is reason enough to employ interactive media in architecture. Such elements offer a gratuitous necessity in our lives; perhaps pleasure is the ultimate Wagnerian undercurrent to the act of design itself.

Dr. Strangelove Twenty-O-Five

or "How I Learned To Stop Worrying and Love The Suburb"

19.77 architectural givens in the suburban context

19.77 family
19 marketability
18 location
17 climate
16 soft connections
15 hard connections
14 entry
13 facade
12 envelope
11 section
10 core
9 plan
8 square footage
7 foundation
6 landscape
5 back yard
4 front yard
3 side yard
2 street
1 cost

25 observations on the suburban context:

1 Housing choice is limited.
2 Oddity is limited.
3 Coolness is limited.
4 Broad amounts of information are available.
5 A gap exists between broad availability of information and the implementation of that information for effect and change.
6 The suburban context is slow to react.
7 Space is over-valued and under-utilized.
8 Artificial themes are not interesting.
9 Community regulations are temporal and restrictive.
10 Temporal events, architecture, and intensities are counter to the static condition of the suburban context.
11 "Bottom-up" strategies are valued.
12 "Flows of exchange", once confined to the "core of the American City" are now seeping in.
13 Experience occurs predominantly within the home.
14 History is history.
15 The suburban context is safe and healthy.
16 The automobile is the automobile.
17 "Smart Design", "Mass-Customization", "Sustainability", etc. could be looked at as driving forces for image change.
18 The individual house and its plot of land are too reliant upon established typologies to react to radical models of living.
19 The lifespan of the physical housing stock is simultaneously too short and too long.
20 Value judgments are suspect.
21 Residents may be more unlike their immediate neighbors than individuals living in other parts of the nation or globe.
22 It is not inherently political yet flows in and out of political "Ö charge-often for only a brief moment-through their (its) participation in the systems of communication and consumption that constitute the developed world."
23 It is not available to everyone.
24 The residents are multi-cultural.
25 The architectural section is homogeneous.

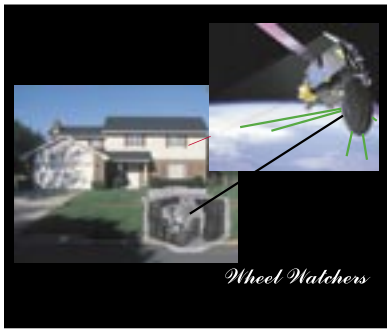
Fitter, happier, more productive,
comfortable,
not drinking too much,
regular exercise at the gym
(3 days a week),
getting on better with your associate employee contemporaries,
at ease,
eating well
(no more microwave dinners and saturated fats),
a patient better driver,
a safer car
(baby smiling in back seat),
sleeping well
(no bad dreams),
no paranoia,
careful to all animals
(never washing spiders down the plughole),
keep in contact with old friends
(enjoy a drink now and then),
will frequently check credit at (moral) bank (hole in the wall),
favors for favors,
fond but not in love,
charity standing orders,
on Sundays ring road supermarket
(no killing moths or putting boiling water on the ants),
car wash
(also on Sundays),
no longer afraid of the dark or midday shadows
nothing so ridiculously teenage and desperate,
nothing so childish - at a better pace,
slower and more calculated,
no chance of escape,
now self-employed,
concerned (but powerless),
an empowered and informed member of society
(pragmatism not idealism),
will not cry in public,
less chance of illness,
tires that grip in the wet
(shot of baby strapped in back seat),
a good memory,
still cries at a good film,
still kisses with saliva,
no longer empty and frantic like a cat tied to a stick,
that's driven into frozen winter shit
(the ability to laugh at weakness),
calm, fitter, healthier and more productive
a pig in a cage on antibiotics.

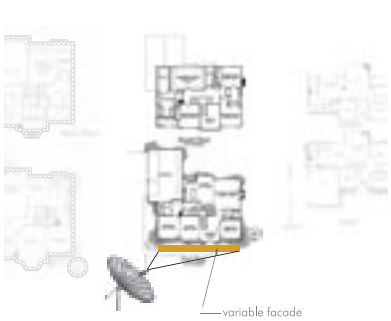
-Thom Yorke "Fitter, Happier" 1997

BRANDON ANDRZEJCZAK Graduate Thesis — Faculty Advisors: Neal Robinson, Jason Young

History is history. The suburban periphery is growing while most cities continue to shrink. Current information has direct relevance for operating today and into the future. Focusing on architectural history, theory and methodology can and often does lead to a short-circuiting of plausible, applicable propositions for today's environment. Architecture too frequently and easily deals with issues relevant to today's society by loading propositions full of historical precedence, with little relevance to content on the ground at present. The Modernist project of the early 20th century attempted to create architecture that dealt with current and future industrial trajectories at both practical and theoretical scales. This thesis is similar in spirit and attempts to propose a near future house which anticipates the condition six months from now.

This thesis proposes a methodological study of the suburban house and its potential form and performance in a post-informational society. Imagine, as a starting point, a generic *Model House* that is situated by a post-informational society in which there are growing numbers of displaced personnel whose expertise has become obsolete. Information technology is no longer a marketable skill. Accordingly, the suburban neighborhood becomes the new territory of affordable housing projects, of which the *Model House* is one such project.





Test Strip A 1.1

The ability for information to penetrate all aspects of our daily lives with greater efficiency creates simultaneous conditions of resistance and refinement, resistance by those unwilling or unable to adapt to new modes of living and refinement in hitting target markets regardless of consequence.

"Wheel Watchers" thrive on information. This test strip looks at both the increased desire for privacy through fortification and ultimate connectivity disguised as necessity.

Test Strip B 1.2

"It is a choice to live through brand, a collective existence recognized both by those who have made a similar choice and by those who have not."

—Michael Speaks
City Branding,
Individualization Without Identity

Identity is in constant flux. The home as an image, reflective of the inhabitant's choice of lifestyle, too often lacks identity. It is primarily based on issues of cost and maintenance. Test Strip B looks at the possibility of multiple identities sponsored by both market forces and national affiliations.

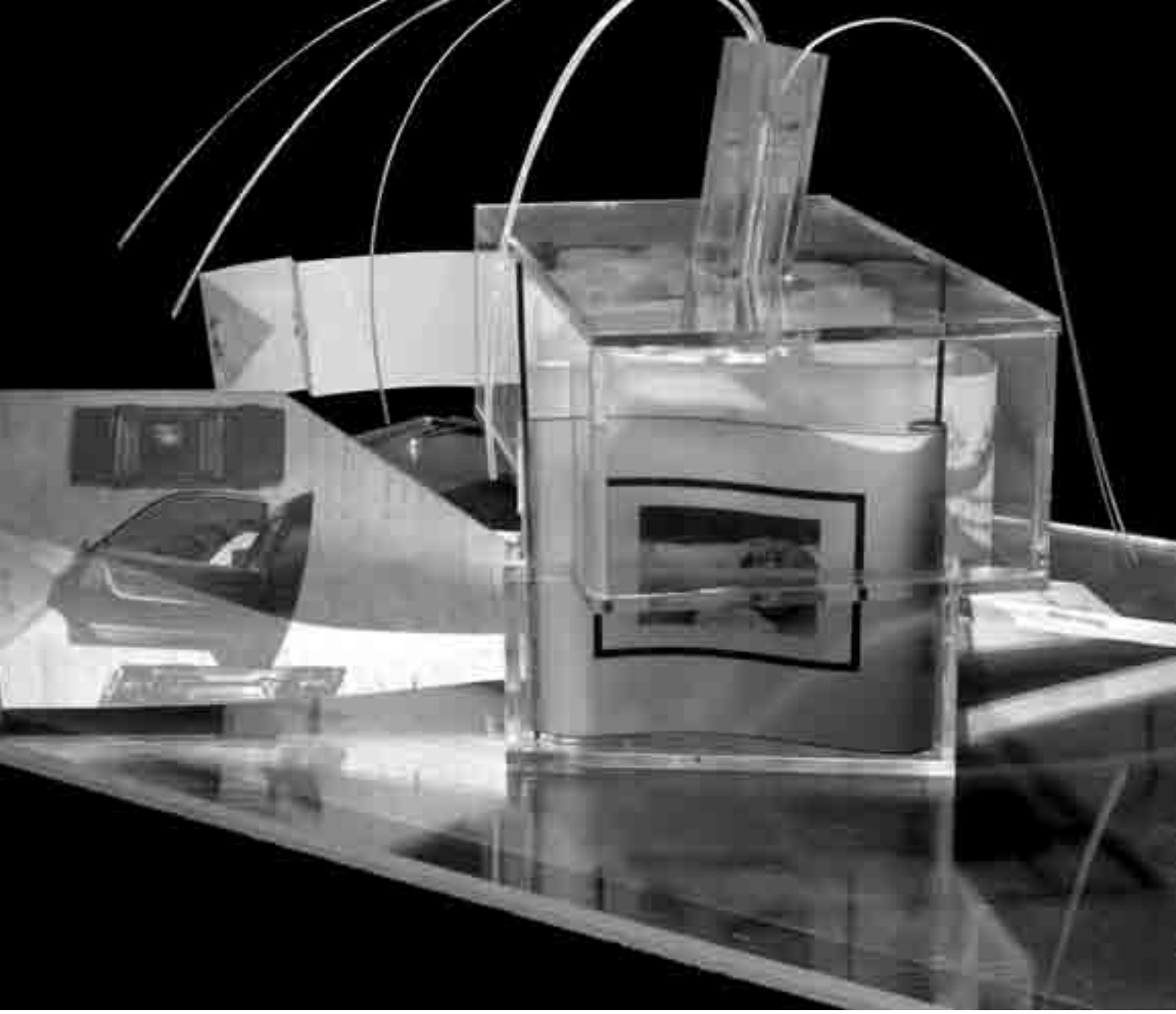
Test Strip C 1.1

Compost:

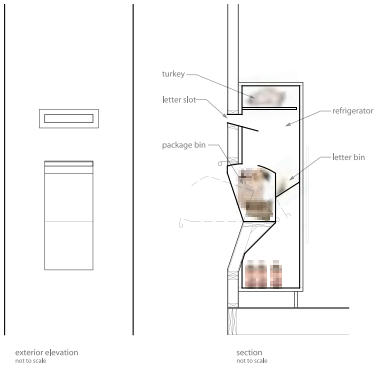
1. A mixture of decaying organic matter, as from leaves and manure, used to improve soil structure and provide nutrients.
2. A composition; a mixture.

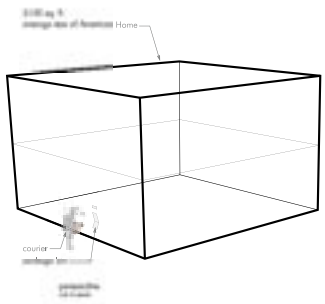
Encouragement of "responsible" living taken to an extreme; the farming of compost provides both capital for the homeowner and simultaneously places them into an elite group of society, the "environmentalists."

Hybrid composts would most likely occur from pollution, at both the scale of the site and through the ingestion of highly processed feed for both the inhabitants and their livestock.



Research began through development of the *25 + 19.77 Matrix*. Twenty-five (25) postulates on the new suburban context were set against nineteen point seventy-seven (19.77) architectural givens in order to prescribe nearly five hundred (500) moments of exploration into this new condition. Such moments provide the agency to lead, deform and/or transform the architectural implications of the generic *Model House*. Thus, methodologically, this thesis germinates from a set of relationships that are systematic and specific, purposely avoiding the predictability of research that relies too heavily upon precedents. Significance, as a result, is not beholden to merely a few preeminent issues; rather, it is driven by as many moments as can be prescribed.





Test Strip EA 1.0/Test Strip EB 1.0
soft connections 16:12 "flows of exchange"...
are seeping in architectural givens:
contextual observtions

Test Strip E 1.0
Commodities once attainable only in major cities are now available almost everywhere. Live-work and work-live paradigms transform the function of the home through new models of living.

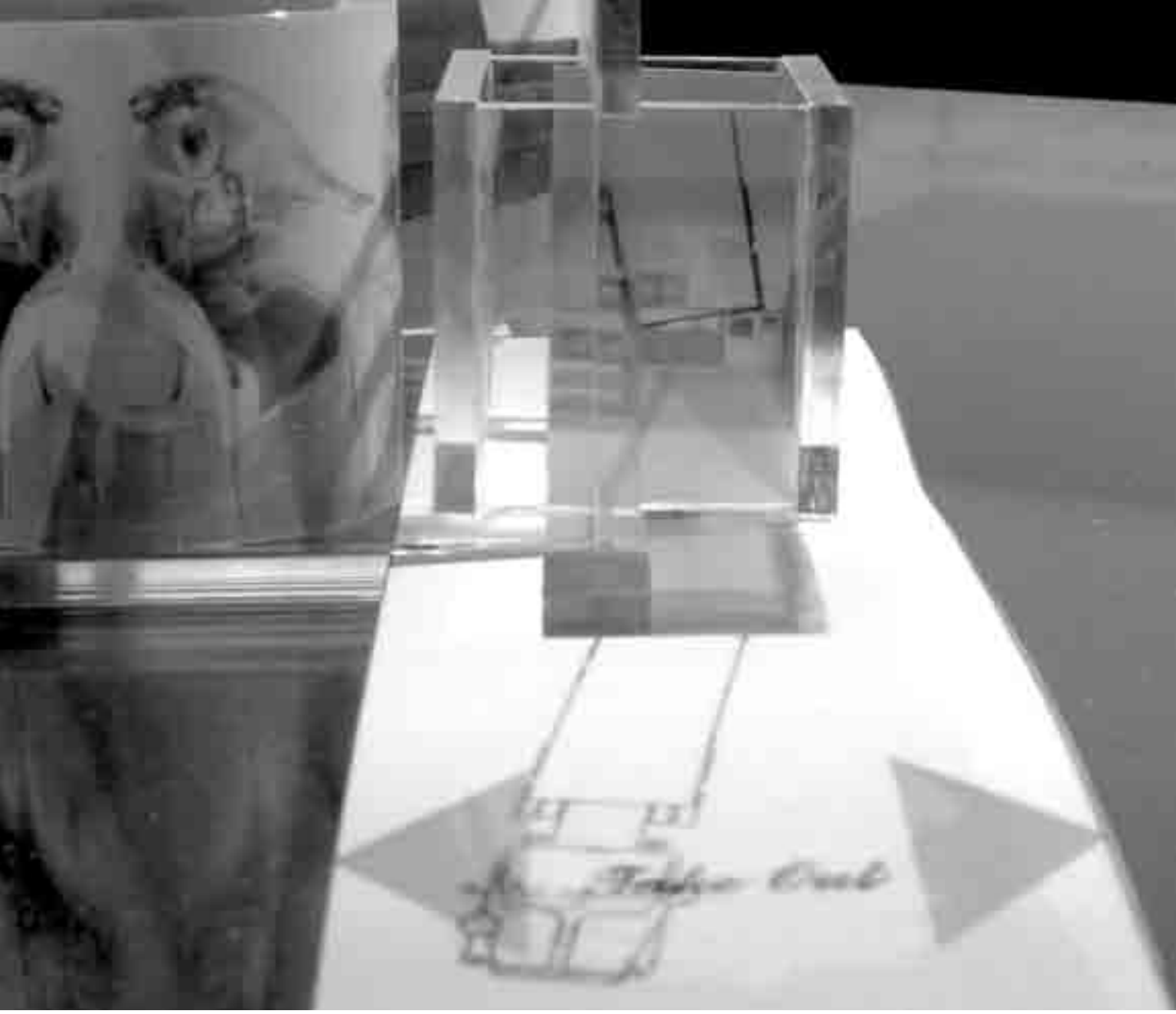
Input and output of commodities via international couriers like UPS allow people to perform all the functions of traditional businesses from the privacy of their homes. Could a physical insertion of courier services into the suburban condition create new social relationships between residences?

Test Strip EA 1.0
If ordering groceries online is now possible, rethinking delivery and storage seems a logical next step. The convenience of ordering groceries online is lost when the resident must be physically present to receive them. A package delivery space within the family refrigerator solves this problem. Now groceries can be ordered from work, along with the latest novel, and be delivered to the home with no commitment of presence.

Test Strip EB 1.0
Through the investigation of the Test Strips, the *Model House* becomes visible. Development of the house happens at the scale of individual pieces and simultaneously at the scale of the whole. The size of the average American home is the formal launch point.

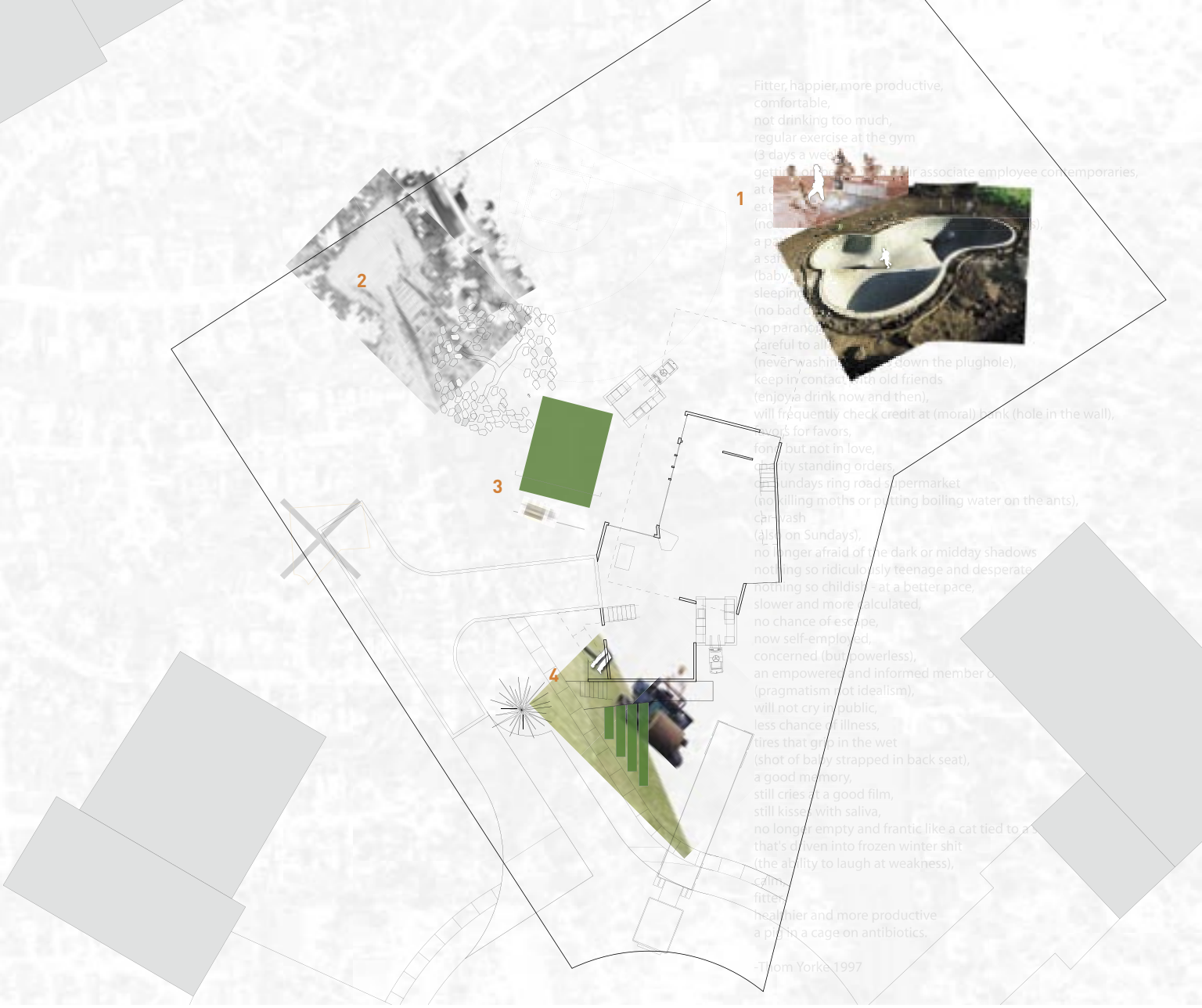
Test Strip D 2.0
America's crisis with obesity has taken a prominent role within the cultural psyche. Test Strip D investigates the issue of obesity together with the nation's perpetual energy shortage.

If a percentage of the power needed to sustain one family and their home was left to individual residents, a new program might emerge. Solutions could range from hot-wiring the treadmill and the blender to the pirating of energy off neighbors and/or the government.



Test Strips (or *Superficial Plans of Action)*, which are derivatives of the *25 + 19.77 Matrix*, were utilized to better understand conditions present on the ground in the American Midwest. Each test consists of a collage which attempts to locate new possibilities within existing juxtapositions that might enable architecture to remain relevant. In addition, short briefs were included to supplement the diagrams and provide additional layers of accountability. A final scalar element, either a single house plan or a larger development plan, was then introduced to evaluate the broader architectural consequences.

Proposing the form of a single *Model House* transpired during the last stage of development, with the intention of making visible the issues introduced by the *25 + 19.77 Matrix* and the *Test Strips*. Absent specifics, the goal of the design became to exaggerate the larger idea to its positive end. Thus, the final iteration is a conceptual fetishization of the existing condition. As a nod to Modernism, the artifact is a glass box. As a 21st century gesture, the box relinquishes its purity. It becomes an object of the post-informational society; chaotic, superficial and interactive.



1 Back yard 5:15 the suburban context is safe and healthy

Aspiration for privately owned outdoor space is seemingly universal. Although the size and configuration of a suburban lot varies from one house to the next, all residents can claim their parcel of nature tamed.

The function of the backyard is one of both cultivation and recreation. The increasing desire for children to excel at athletics drives the *Model House* backyard. Cultivation of nature now includes maximizing latent athletic prowess via personal ball fields and hardscapes.

2 Family 19.77:9 community regulations are temporal and restrictive

Community boards legislate in order to maintain the status quo. The desire to guarantee comfortable and acceptable aesthetics and performance often comes at the expense of the development as a whole.

An ad hoc tree house with bleacher seating creates a space for observation and play. Disregarding the need for order and concentrating on the ground information, the *Model House* puts "family values" into spatial terms.

3 Landscape 6:23 it is not available to everyone

In terms of up-front cost and maintenance, turf is an expensive commodity. To cut down on the time and money required to maintain the yard, a single section of turf is used as the focal point for the living space. Angled slightly toward the house, grass becomes a common suburban element elevated to the status of the picturesque.

4 Front yard 4:20 value judgments are suspect

Any moral considerations at to whether the architect's role should be one of promoting sprawl have been suspended for the purpose of research. The market's demand upon aesthetics and performance is increasing through businesses like HGTV and Home Depot.

The front yard's aesthetic is a compromise between the high cost of interesting plant material and that of good quality sod. Exotic vegetation takes precedence, leaving dirt and a few strips of sod to compose the homeowner's image.

5 Plan 9:7 space is over-valued and under-utilized

The fast-pace lifestyle people sustain is often not conducive for maintaining day-to-day family bonds. The nostalgia for the stereotypical 1950s dinner conversation is brought into the twenty-first century *Model House*.

While the individual members of the family may be too preoccupied to take time to catch up around the roasted turkey, they still occupy simultaneous spaces at specific times of the day; in particular, the ritual of getting ready for a day's work/play/school. The *Model House* uses the space of the clothes closet and transplants it into the shared private hallway, creating opportunity for conversation and negotiation.

6 Entry 14:8 artificial themes are not interesting

A collection of family artifacts and a stairway, two moments typically contained within the home, are deployed as the front facade. Constantly in flux, the displayed artifacts allow real time changes to an individual's identity. opening up conversations without saying a word.

Synthetic Perceptions

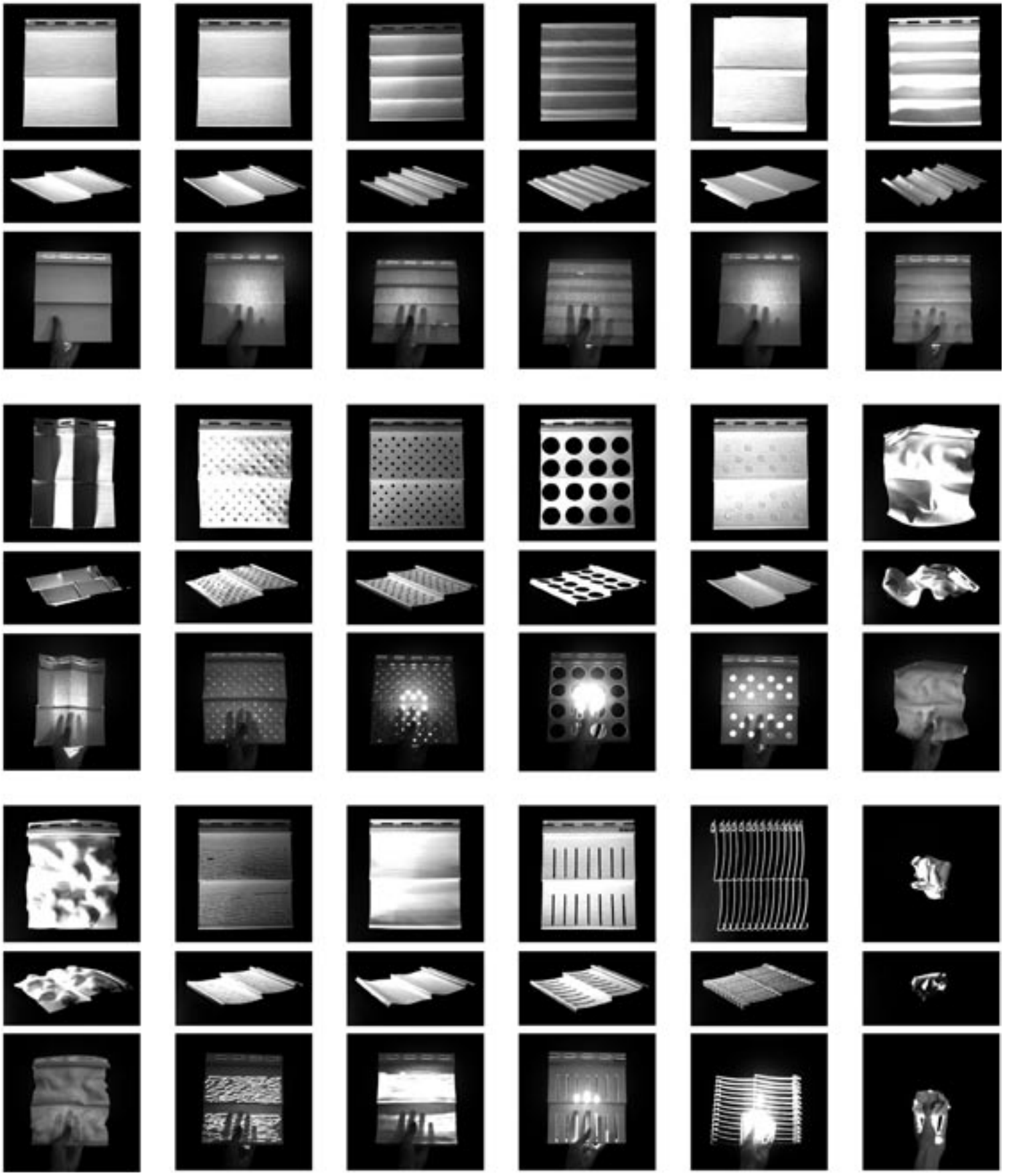
NICOLE ADLER Graduate Thesis — Faculty Advisors: Craig Borum, Neal Robinson

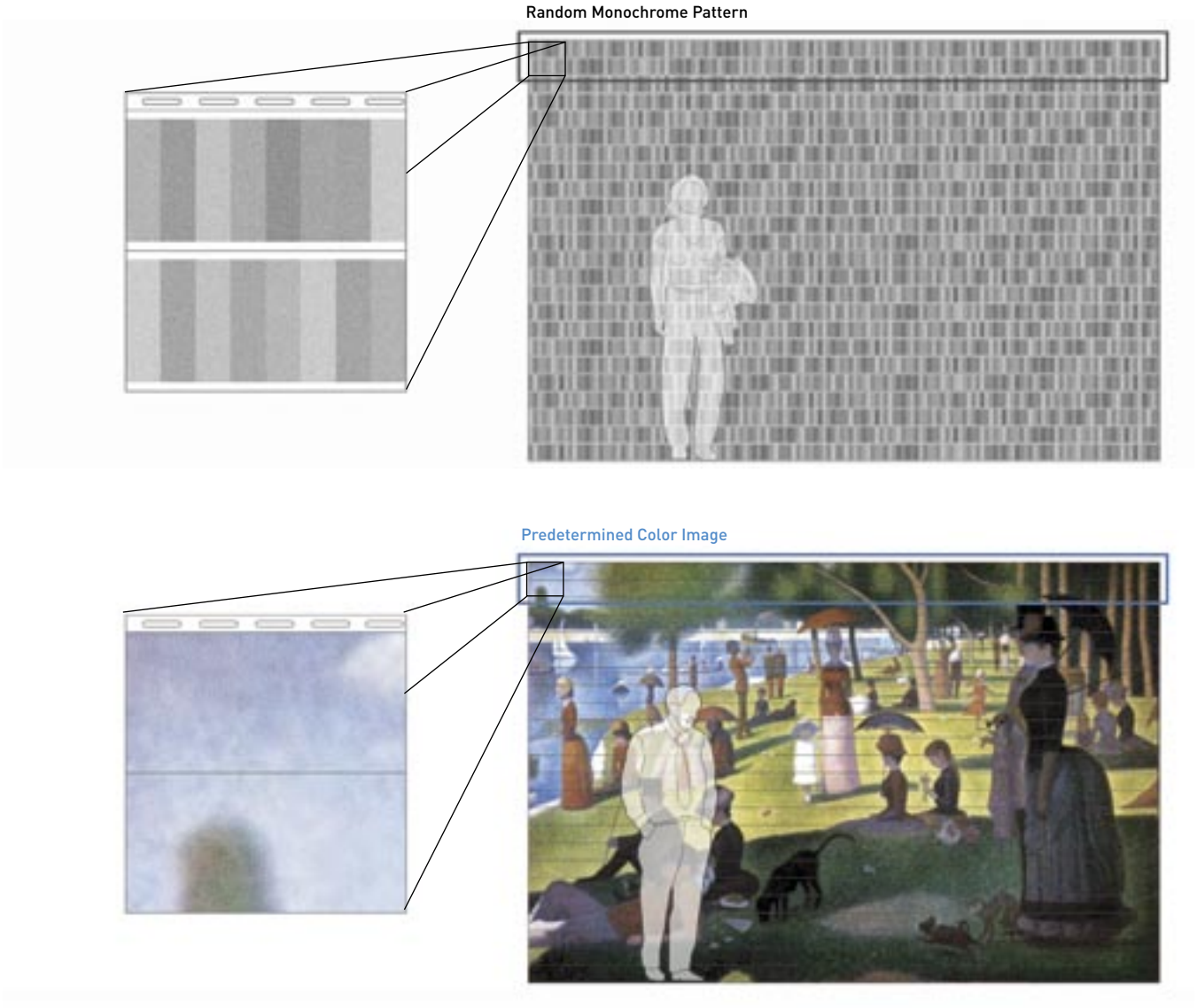
Synthetic materials are growing increasingly prevalent, but they continue to struggle against stereotypes which result perhaps from the specious distinction between what is natural and what is synthetic. The perception is that synthetic materials are passive and that they are less expressive than their natural counterparts. They have a reputation for visual and tactile poverty which overlooks the possible richness of these materials.

The challenge, therefore, is to substantiate the visual and tactile value of these synthetic materials. Simply rejecting the notion that synthetic products are materially mute provides a decent starting point which begins to rethink their material perception. The next step might be to deploy a synthetic material in an innovative way, altering its formal appearance and thereby reinventing the product. This project reinvents the ultimate synthetic product: vinyl siding.

As is the case with most synthetic materials, vinyl siding was developed as a substitute for an existing product. Consequently, vinyl siding strives to mimic wood siding in every possible manner, from profile dimensions to faux wood grains. Because it is impossible for vinyl to look or feel exactly like wood, the material is devalued relative to the thing it is not. In fact, the word "synthetic" is often used as a euphemism for "imitation." These are not synonyms. Synthetic materials might assert their unique identity.

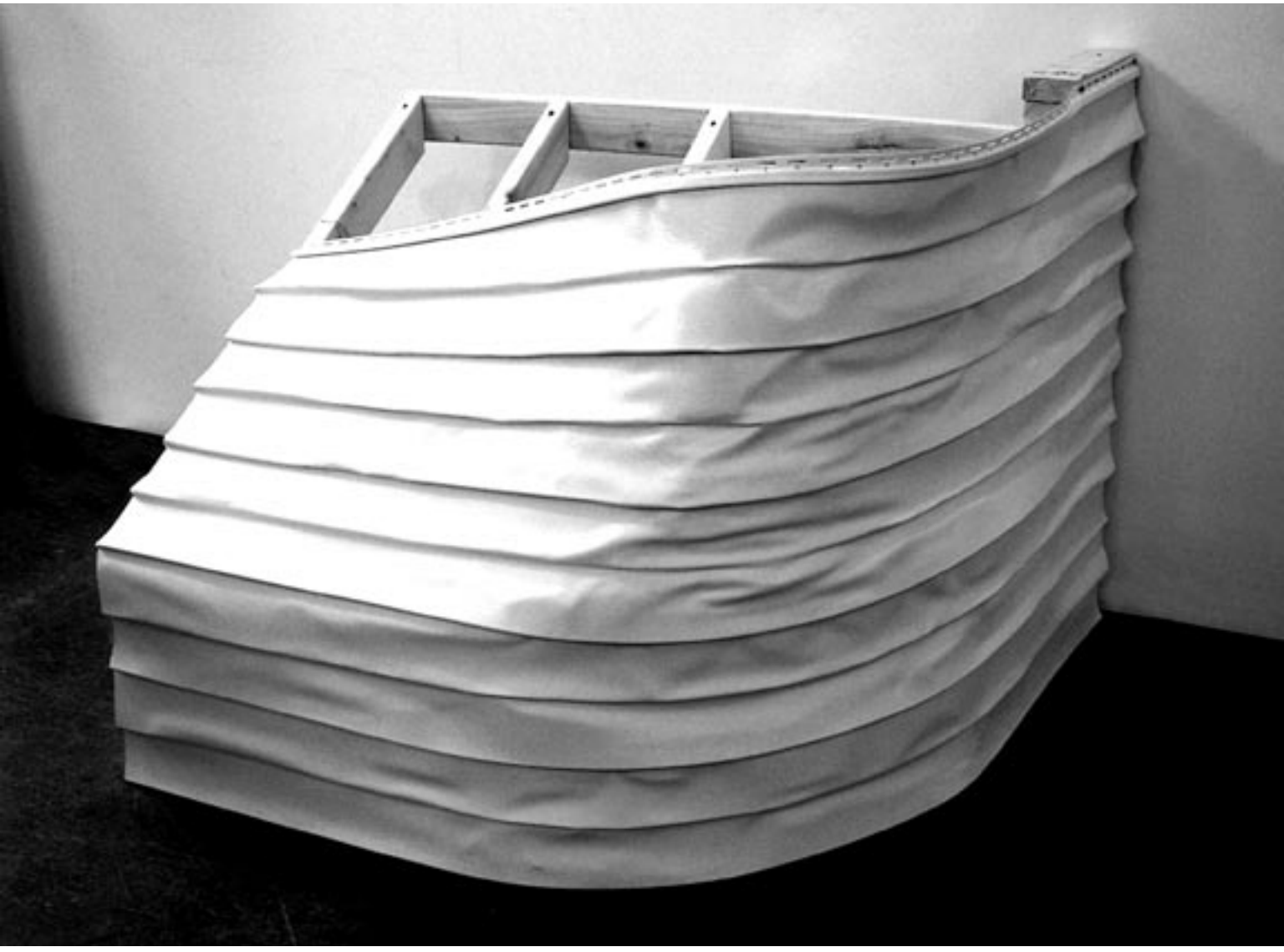
"Synthetic" technically refers to something that is "produced by synthesis." In fact, research into the method of production uncovers several material properties, any one of which might suggest a range of synthetic expressions that are unique to the product. For example, the current production process allows for specific points of control over the material's appearance, including its color, texture, profile, inked imagery, permeability and length.



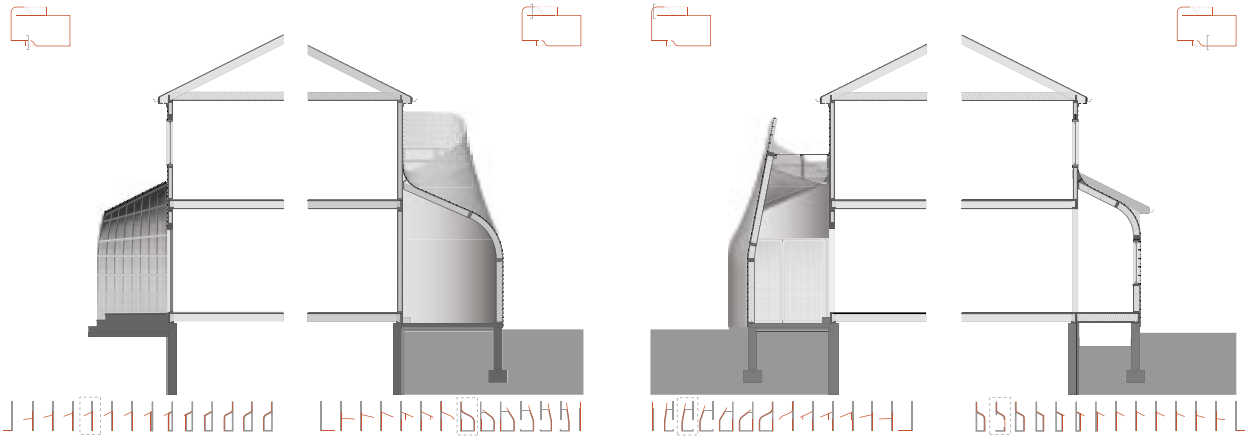


The augmentation of one of these processes leads to an exciting possibility for material transparency. Scale studies reveal the material's striking capability to filter and diffuse light, creating an opportunity to explore vinyl siding as more than a gap-filler between windows. Rather, this siding can be used as a continuous element, enveloping the house while simultaneously allowing light and air to penetrate in ways that challenge the conventional window and, incidentally, exceed the capabilities of natural wood siding.

As an envelope, vinyl siding exhibits properties of continuity and fluidity which, coupled with vinyl's inherent plasticity, allows the siding to become a true wrapper. Thus, instead of terminating at the corners and the roof, the planes of siding can extend and wrap around the volume of the house. A result of the deformation required by this continuous transition, pockets of space are formed between the old structure and this new skin. Such a de-lamination sets up a refreshing formal opportunity that was explored through the design of two additions to an existing house.

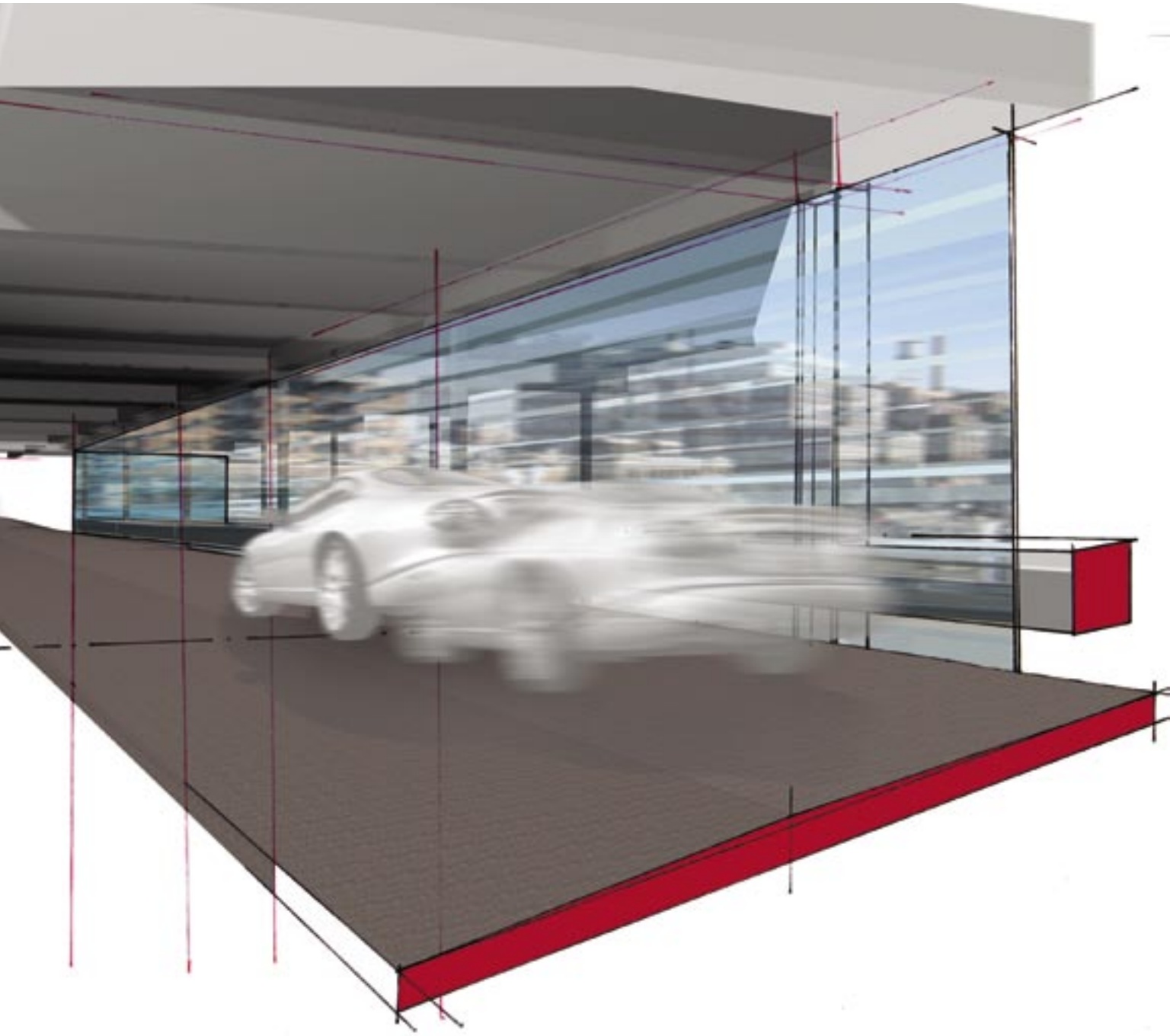


Deformation, and the resulting de-lamination, literally implies the twisting and turning of the material which can be exploited in order to create varying degrees of shelter and enclosure. Traditional distinctions between the wall and the roof become indistinguishable as the vinyl siding bends to perform both functions seamlessly. Now, instead of bluntly puncturing through an envelope, passage might occur between the places of disjunction, wherein the gap might function as either a door or skylight. Additionally, in locations where the vinyl siding passes over areas of the structure that were previously designated penetrations, the transparent qualities of vinyl siding will generate an expressive pattern of light. At other instances, the cladding might be allowed to further detach itself from the stud structure, becoming either its own enclosure for visitors or perhaps a shading element in the backyard.

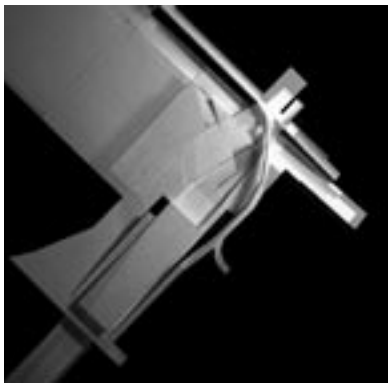


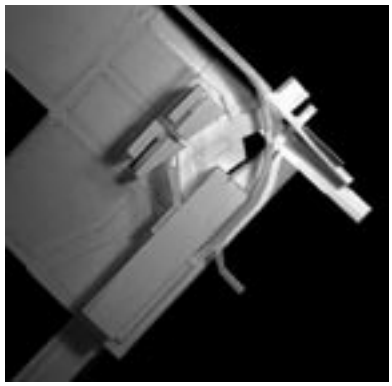
Thus, augmented material production leads to innovation. The resulting envelope, while remaining faithful to the materiality of vinyl siding, also reveals a new facet of this synthetic material. Light glows from behind a puncture in the wall structure. Air passes through perforations in the detached siding. People slip inside through a subtle gap. The space behaves differently. Vinyl siding is only just beginning to realize its potential.

Despite its scientific birth, vinyl need not be relegated to a material of imitation. Rather, the true character of synthetic materials should continue to be explored and pressed into increasingly dynamic roles. This may be the next frontier of material development.



FAST/SLOW: Spatial Negotiations of Temporality





While the speed of events rushes along at ever-accelerating market rates, there is always a slower paced, more powerful progression occurring beneath. It is this pace that constantly modernizes the way in which we operate in our daily lives. While there is a coexistence of events occurring at fast and slow rates simultaneously, architecture must physically resolve the space of fast-paced change and this slow progression. As a driving force, the market produces conditions of temporality at varying scales. Architecture must accommodate these changes by firmly rooting itself within the infrastructural network, which is characterized by permanence, irreversibility, flexibility and adaptability.

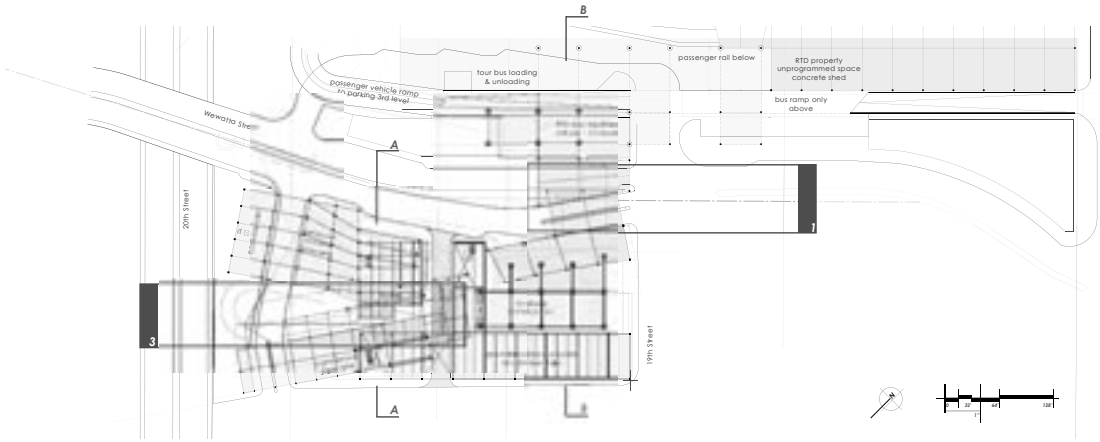
While architecture cannot physically alter its form at the rate of the market, it cannot remain static and unaffected over time; it must negotiate between fast and slow. First, the built form must be able to embody both fast-paced, market-driven change as well as the slow track of evolutionary progress associated with infrastructural systems. That established, it is then necessary to indicate different scales and types of change possible within the architectural form and to identify their spatial consequences. An argument is generated for a form that can successfully negotiate the accommodation of scalar changes throughout time.

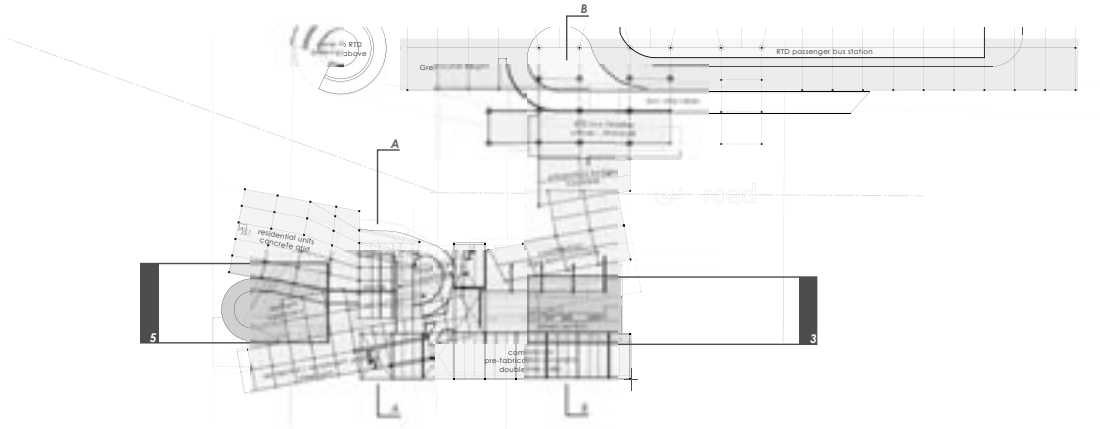
A building must be able to endure slow changes–it must have longevity. In this manner, architecture reaps benefits from slow advancements over time, yet it must also be able to survive the form-altering demands of the fast. Slow infrastructural changes occur over long durations of time. Therefore, if a building's form does not last through an improvement at this slow pace, then it does not get the chance to adapt, as an infrastructural system would, to maintain its viability in everyday activities. An important aspect of longevity is the architecture's ability to be responsive with regard to change at the infrastructural level. Architecture must be able to withstand modifications to its form or within its form.

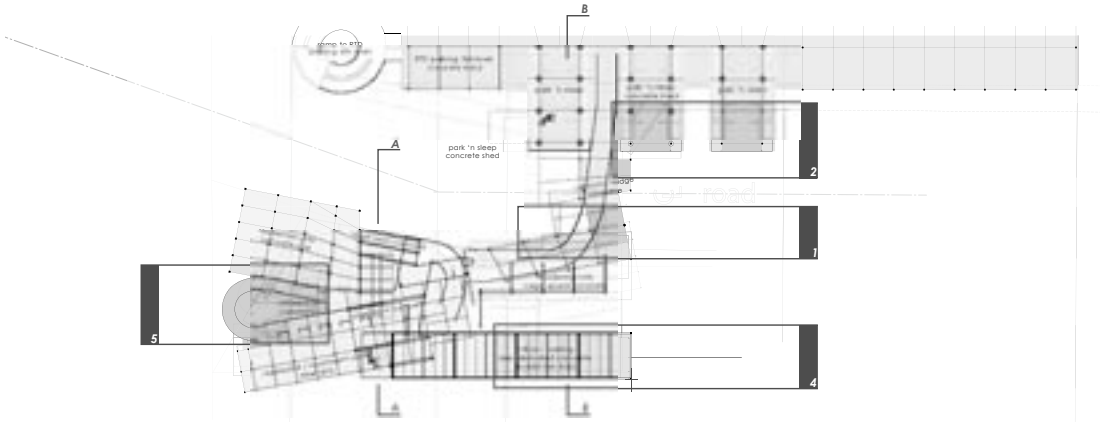
Architecture must simultaneously have an inherent flexibility, which allows for quick integration and disintegration of variations that are fast, or market-driven. Like infrastructure, buildings must be a grounding basis for operation or design to occur within. With ease of integration and incorporation comes ease of disintegration and removal; a cool designer loft in 2007 needs to easily give way to a different model for 2008.

The variability of program within a stable structure is a mid-scale change to a building. These changes remain governed by the form and quantity of infrastructure available—by both access to infrastructural routes (such as street frontage) and the services of the necessary utilities (such as vertical circulation cores and electricity). Patterns of change begin to emerge at this scale, operating in units. Commercial programs tend to rely on street frontage for survival. Their long, linear forms are governed by party walls and depend upon having street frontage on one end and service access on the other. Residential units are mirrored so as to share water walls and utilities between two units. They are more rigid in their unit size, while changes within are frequent and hold no permanence. An appropriate example would be that of a warehouse conversion into a loft and office space.

At a larger scale, a permanent infrastructural evolution (the slow change) has the most affect upon a structure and the subsequent changes that will occur thereafter. These changes do not replace previous ones, but are layered upon existing systems. Building utilities, service cores and structural systems receive large scale changes. At any scale, changes may be held over depending upon their level of permanence. Architecture begins to gain incredible richness by the accumulation of modifications at the infrastructural level and the variety of users and programs that ensue.


B
passenger rail below
RTD property
unprogrammed space
concrete shed
tour bus loading
& unloading
passenger vehicle ramp
to parking 3rd level
bus ramp only
above
Wewatta Street
20th Street
A
1
3
19th Street
A


B
to RTD
above
RTD passenger bus station
A
residential units
concrete raft
5
3
A


B
ramp to RTD
above
park 'n sleep
concrete shed
A
2
1
5
4


5
residential
+40 feet
+24 feet
Wewatta Street
2
RTD parking level
pedestrian / vehicular
4
A
B

Scenarios Throughout Time

Different structural materials, patterns, and grids were chosen for the dominant programs that would initially occupy the site. If another program resides in that grid, initially or later in time, it must respond to the infrastructures set in place for the original functions. A programmatic 'unit' may be caught in between two systems, having to negotiate change based on both infrastructural systems present.

commercial

office

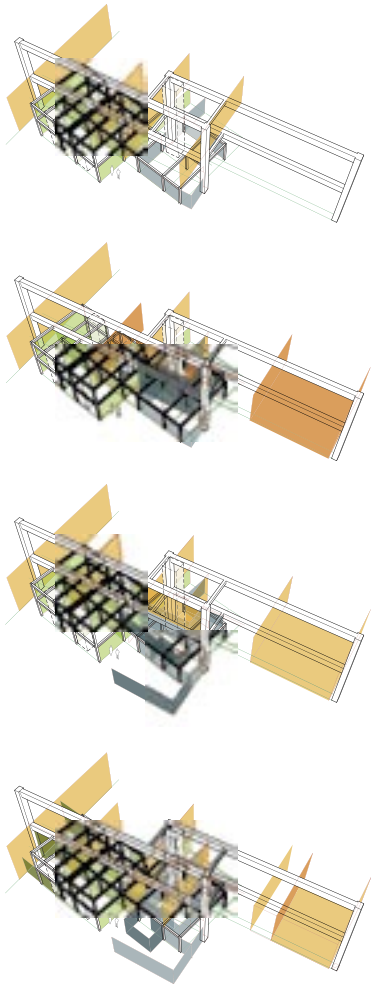
loft / residential

motel

Spaces change because market forces (the fast) are inevitable. Shape and form is dependent upon infrastructures (the slow), which are already engrained into the site. The variability of use within a stable structure is a small scale change. The duration of a given user can range from temporary and sporadic to consistent and constant, but their presence can never permanently affect the infrastructural quality of the space. In a farmer's market, one vendor can easily replace another, but the program of selling goods will never change. The more infrastructural a space tends to be, (e.g., a road), the less time a user spends at a given location. In cases where inhabitation is so transitory, the infrastructural quality would not allow a user to make any small-scale changes. Places with fewer infrastructures render more flexibility to make non-permanent changes because they lend themselves to longer durations of stay. The renter of an apartment would be able to make many small changes and modifications because here the purely infrastructural components may be separated from the individual units (e.g., parking lots, water walls and hallways). However, the necessary adjacency between the apartment units and their supportive infrastructure would only allow users to make changes within the space of inhabitation.

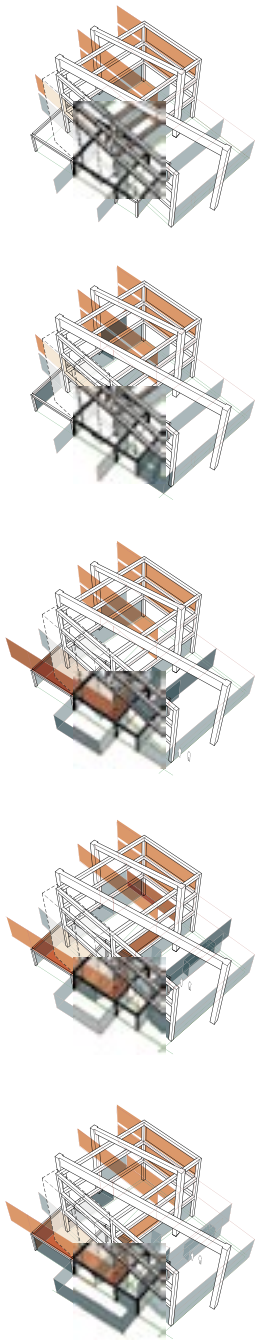
Scenario 01.08

A small scale steel grid and a large span concrete grid overlap at a minor street. Commercial programs fill in the first floor of the motel on an accessible edge, but program on the second level reorients to the large concrete beams which are structured for vehicular transportation.

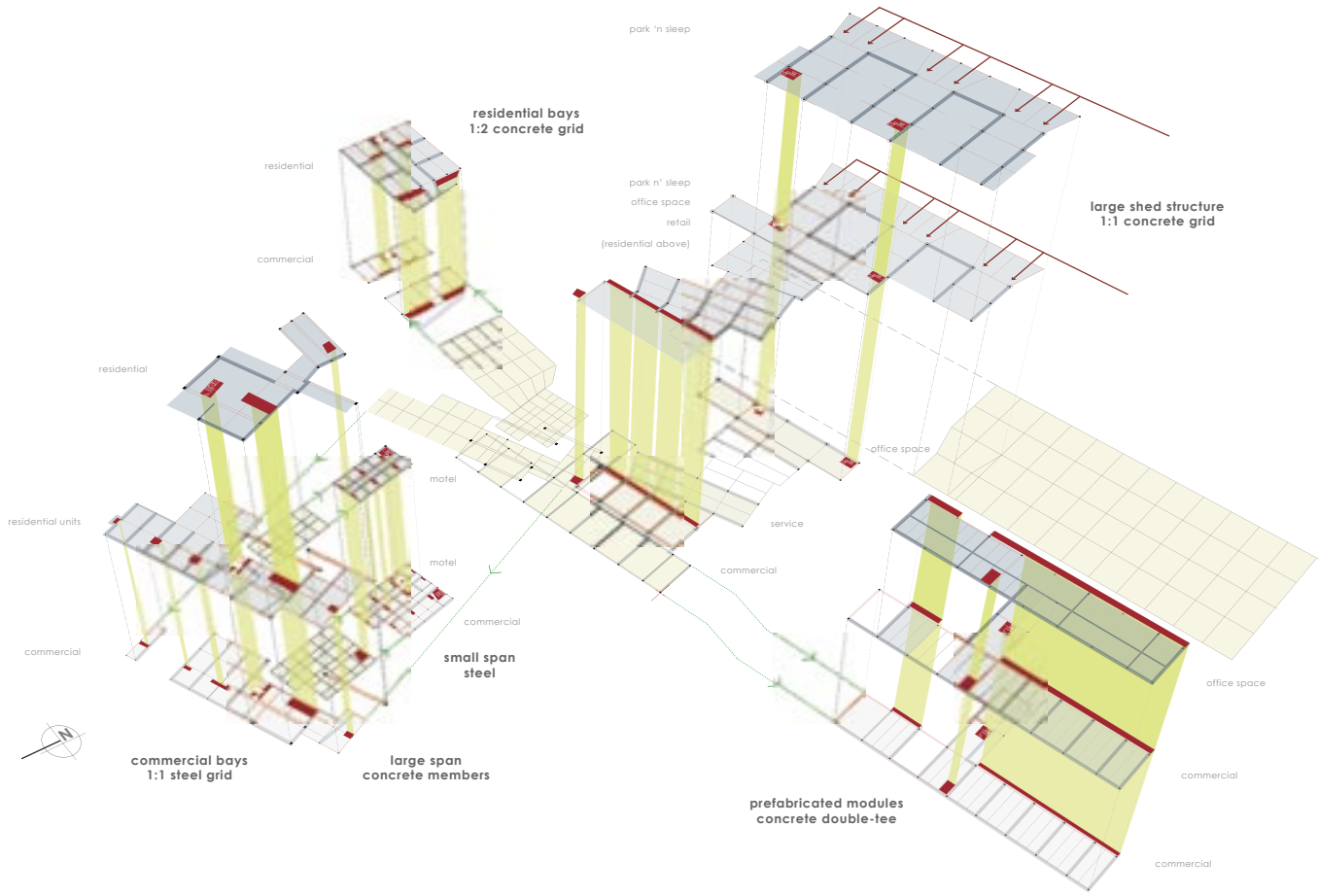


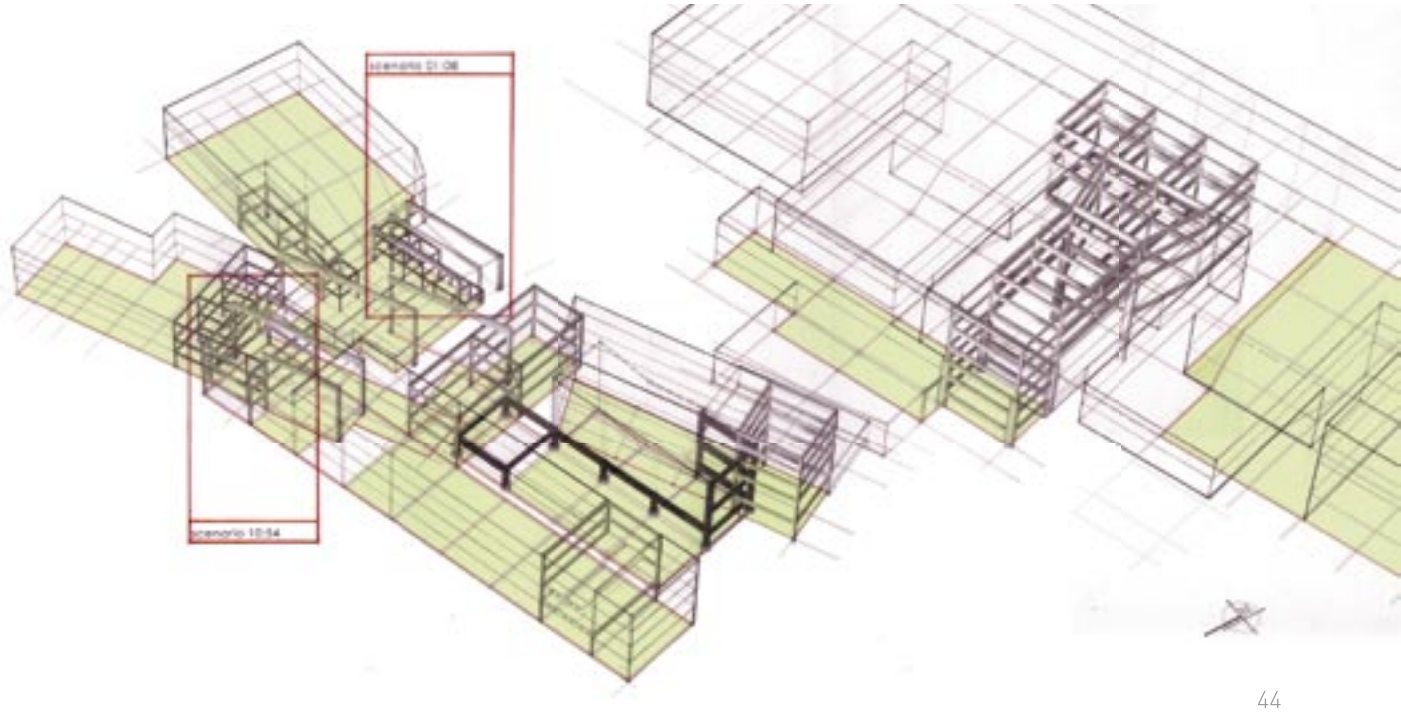
Scenario 10.54

Concrete grids, such as the pre-cast double-tee system, have more rigid characteristics than steel grids. Double-tees have directionality, making fast or slow change much easier in one direction than the other. Vertical circulation and other cores naturally gravitate to the exterior of the pre-cast system, leaving the interior free of obstructions. Commercial programs require street frontage; therefore, as they line up horizontally along the edge of the grid, the service cores must be at the back of the commercial units, so that the street frontage is not impeded.

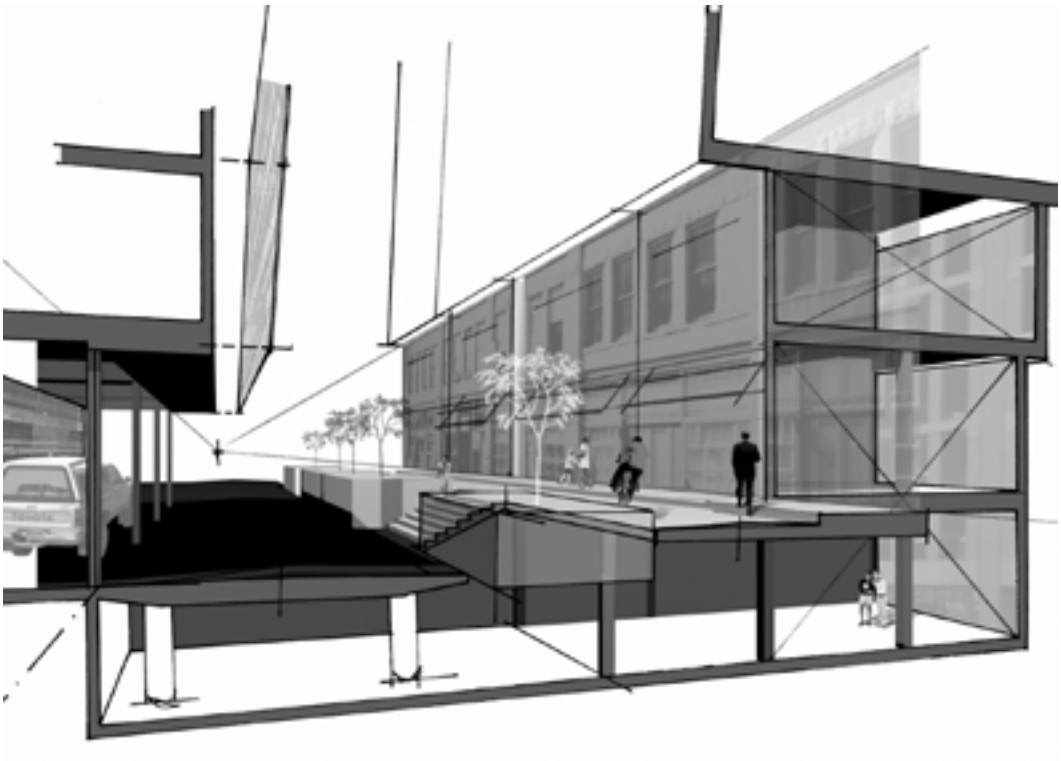


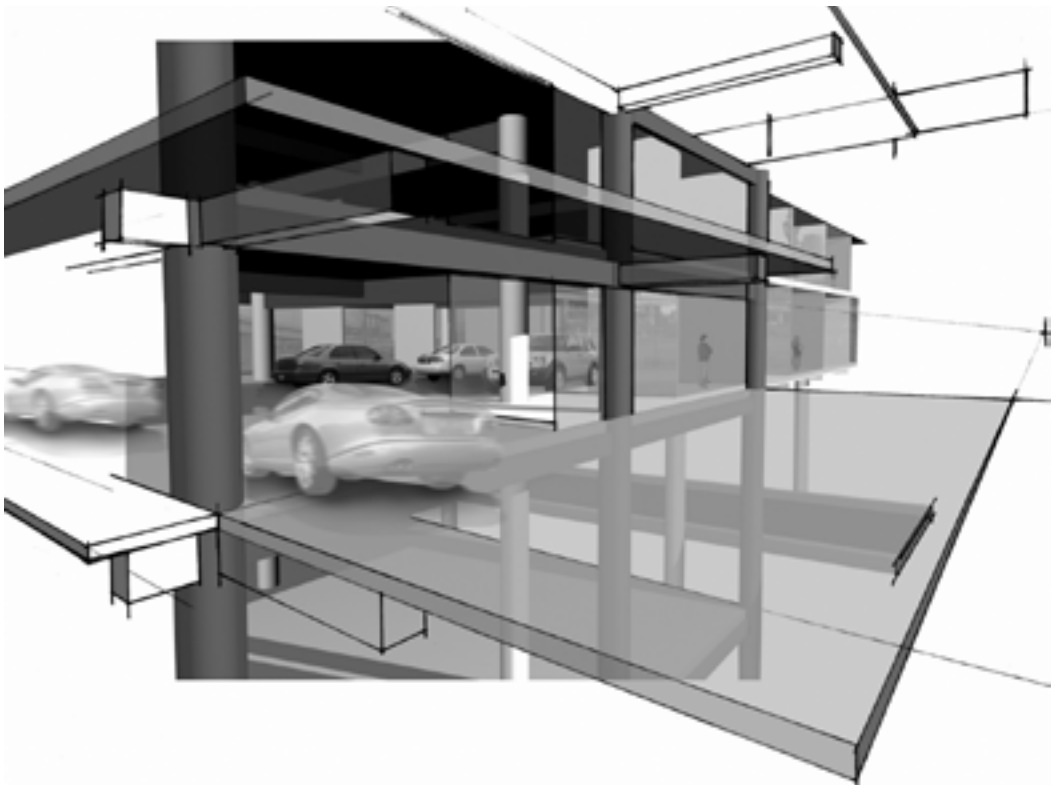
Scale of the program (exploded axon diagram)
Access to/from the site and building services core, which may also include vertical circulation. Programs are distinguished as a 'unit' and its relationship to the building cores. For example, the residential unit plans are mirrored, so that their water walls can be shared between two units. The thicker the line appears, the more resistant a wall between two or more units is to change.

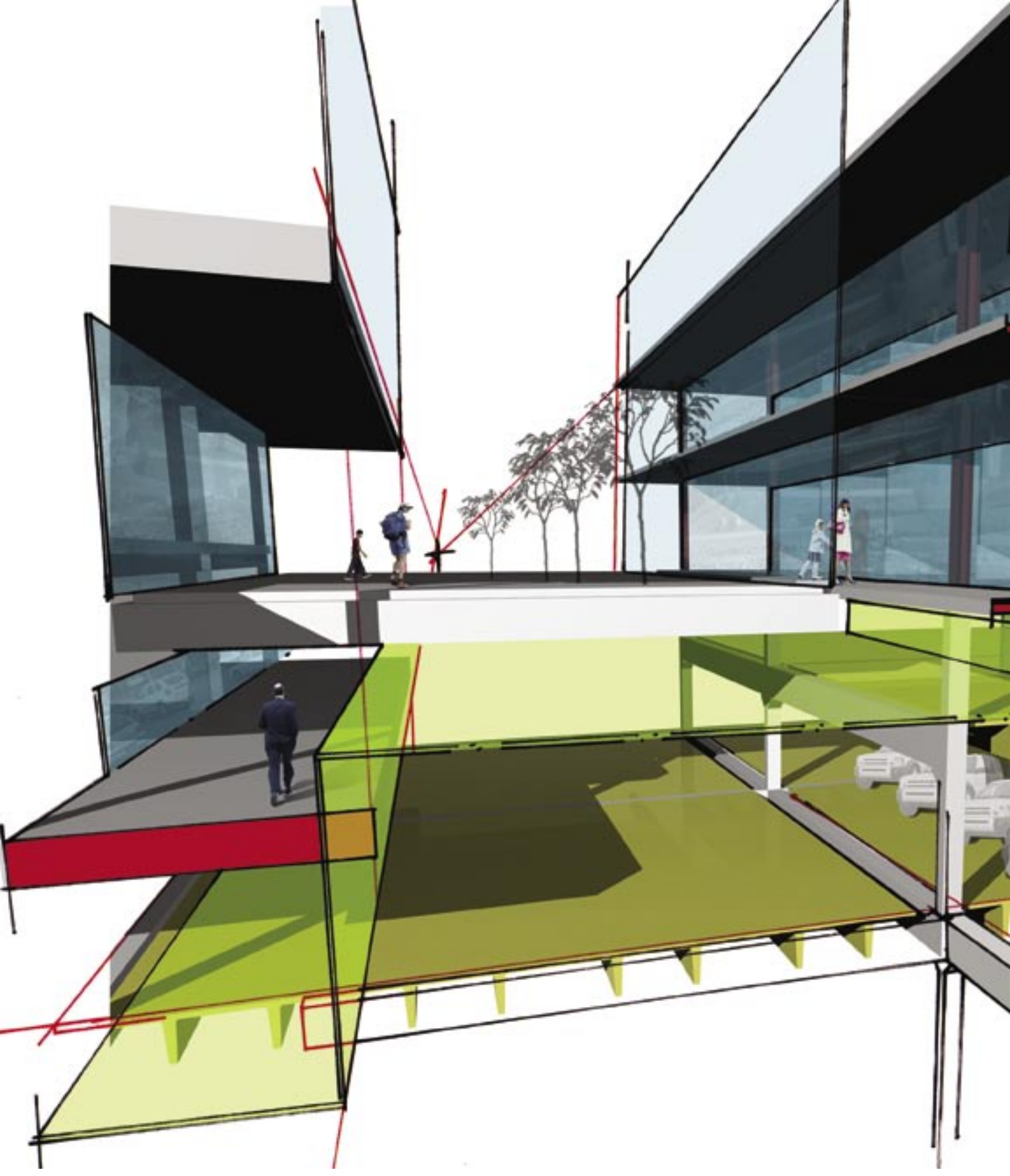


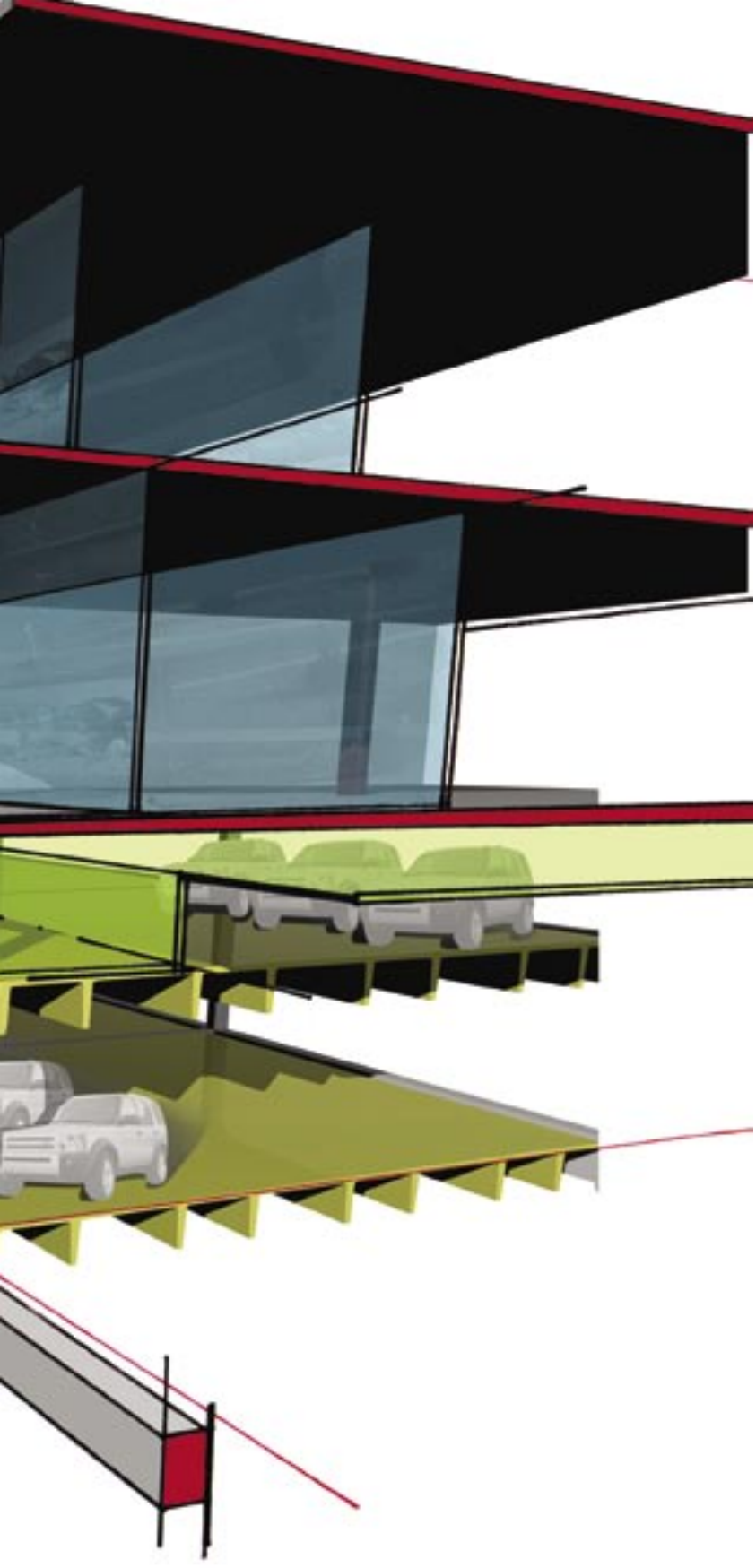


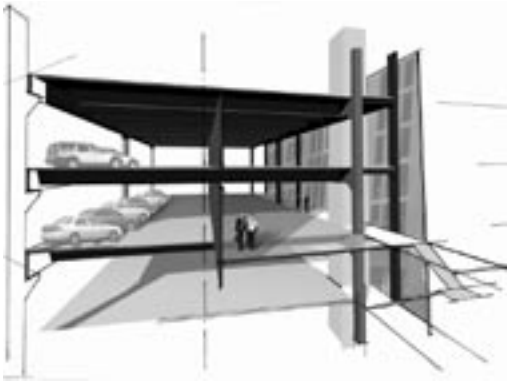
Slow trends with permanent affects were analyzed to identify what type of architecture, programs, and scale could accommodate the speed of the market near downtown Denver. A large expanse of rail yard within city, owned primarily by one private developer, is no longer in use, but is not just a barren landscape. Scenario planning unveiled the most probable future course to design for—a blurring between the large scale of private development and public transportation with distinctive, walkable and livable neighborhoods in the heart of downtown. This vision contrasted with the capabilities of larger transportation infrastructure and the capabilities of large private developers. Therefore, the scale and scope of the project strives to rest between public and private, large and small, homogenous and diverse.





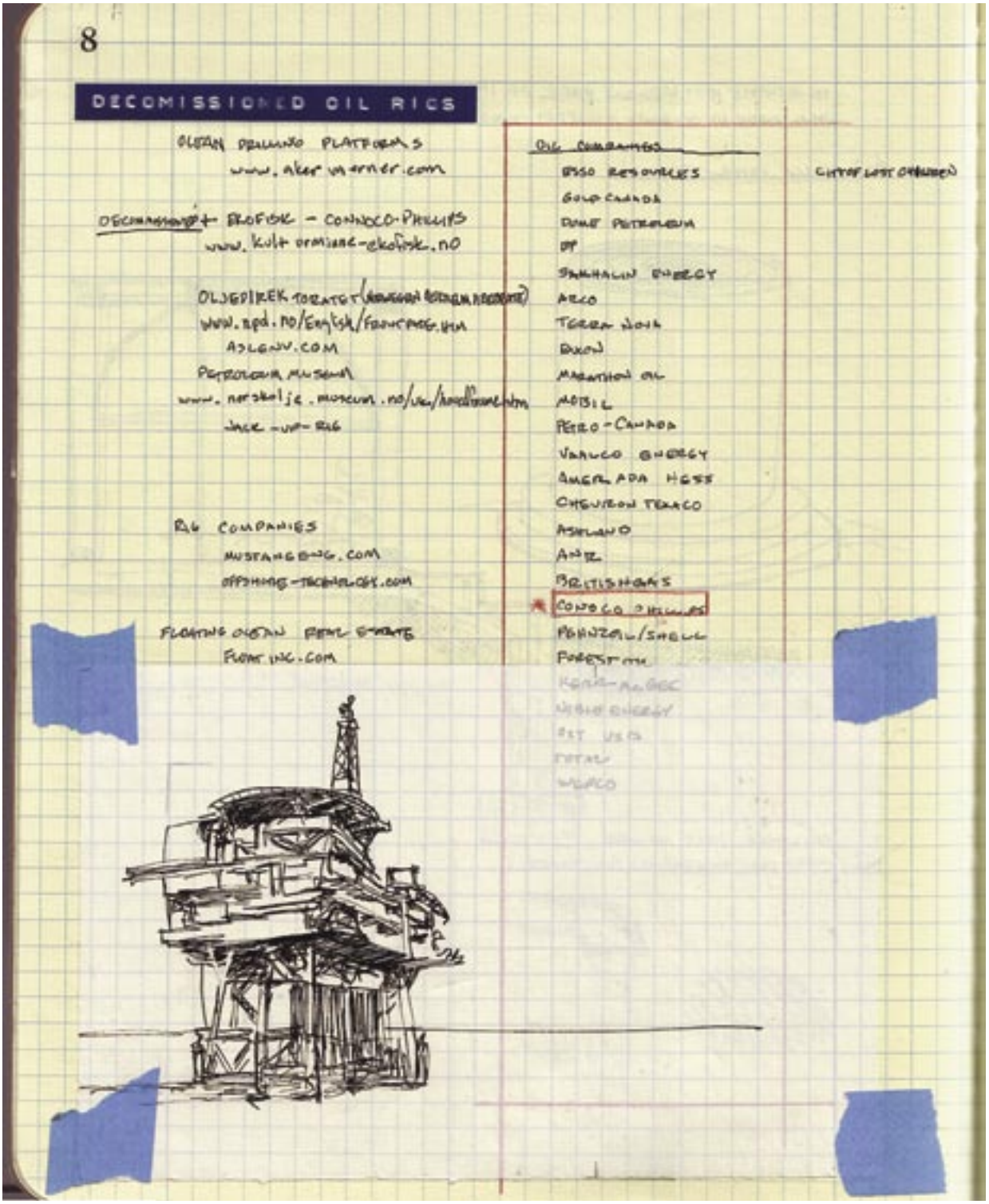






Typological programs are sited by their necessary adjacencies to infrastructure. Therefore, the city's infrastructure—rail lines, roads and other supporting structures—govern the location of programs with different tendencies toward change. For example, commercial units would assume a shape that maximizes the amount of program along the street front at street level. Residential units would sit higher up in the structure, allowing for more desirable living spaces and higher market value. Transportation, both pedestrian and automobile, would weave into the architecture as required by the different programs.

Consistencies in both use and duration on the site are necessary for the architecture to be successful over time. If residential units were to be torn out and vehicles stored in the bare structure left behind, both a program and users would still be present. The space would become purely infrastructural to accommodate the temporality of a parking program; no impermanent materials would be left for a user-based scale change. As the architecture created is firmly rooted in infrastructural systems, it has an inherent flexibility and longevity of form that can persist throughout many fluctuations in market trends. The regularity of units and the flexible infrastructure allows for constant albeit varied use, allowing the architecture to remain viable over time.



Retreat from Consciousness

Shore Complex, 56. 32' 56" N by 03. 12' 57" E

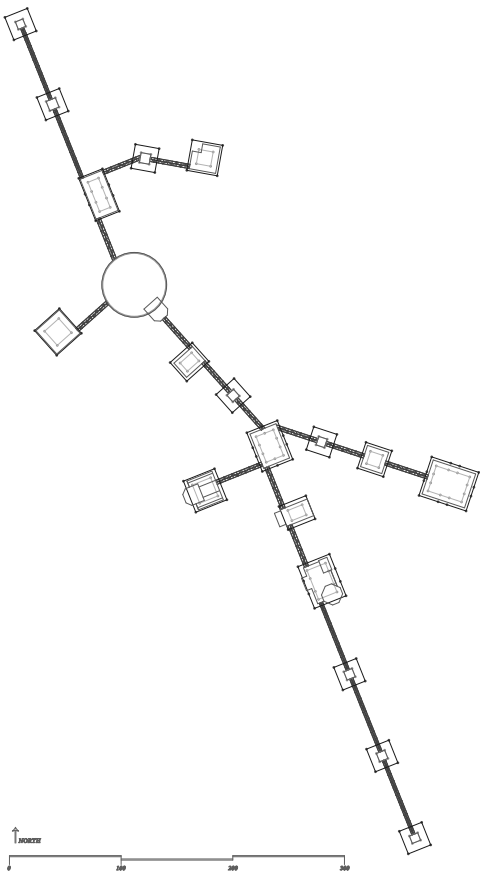
JENNIFER HARMON Graduate Thesis — Faculty Advisors: Craig Borum, Keith Mitnick, Neal Robinson

The North Sea is notorious for its unforgiving climate and intense storms. Water pushing through the English Channel and across the relatively shallow North Sea, with depths averaging only two hundred fifty feet, creates currents that spawn deadly weather and killer waves.

Located in the middle of the North Sea lies Ekofisk, a cluster of nineteen offshore oil-drilling rigs connected by a network of bridges and smaller supporting platform structures. This location is accessible only by a week-long oil tanker voyage or a two hour helicopter flight. With nothing in sight except water, sky and a horizon line as fickle as the weather, Ekofisk is undeniably remote.

The harsh environment of Ekofisk is a physical place that acts as a metaphor of consciousness and subconsciousness defined by the horizon. The currents that move beneath the surface of the sea are like our subconscious memories. They are the intangible forces that move our souls and affect our being, much as the weather is also affected by these deep, undersea currents. Our consciousness travels to the limits of the horizon: the perceptive boundary that defines our consciousness.

There are moments when storms cause great waves of energy that force subconscious memories to break into our consciousness. When our thoughts are foggy, the boundary between these states of mind floats, and the mind becomes quiet.

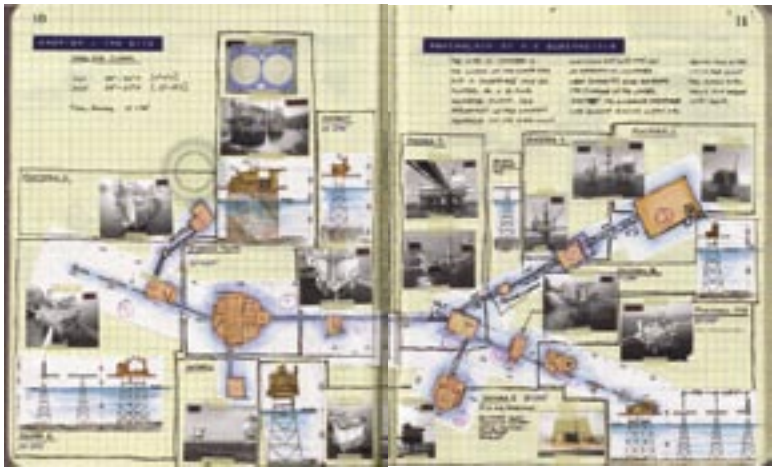


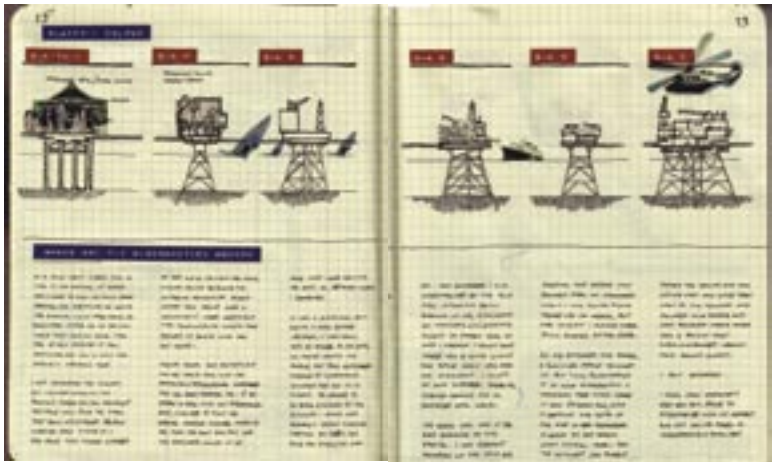
Ekofisk Horizon
0 seconds, 13 minutes east: Three platforms made of recycled aluminum, basswood and soldered brass are set within a wine box. The surface of the water slices through the moment trapped within the boundary of the box, revealing the permeability and reflection of our consciousness. Beneath the surface of the sea undercurrents reveal fantastic sea monsters and dreamscapes. A celestial map rendered in daytime hues clads the region of the box above sea level while colorized maps of the moon's surface clad the box's interior beneath the surface. The box support reaches to a bound spool of cable that represents the tangle of thoughts that exist within our memories. Subconscious dwells beneath the surface of the water and we exist with our consciousness above the water. Perched atop these perilous structures that wade amongst 200 feet of raging sea are a bath house and a lodge.

The remoteness of this site marks this location as an extreme place to dwell. The people who work on the platforms live a perilous existence, often requiring psychotherapy. Every operational platform or cluster of platforms employs psychologists to asses the mental health of the employees. The oil industry strives to make living on these platforms as normal as possible, simulating land life with amenities such as banquet halls, movie theaters, gyms and social gathering spaces.

Human perception of the environment is constantly met by visual boundaries. These visible boundaries clutter our consciousness, and our immediate response to this clutter, in turn, clouds and distorts our spatial perceptions. With such chaotic lives, simplicity of thought and simplicity of soul become increasingly difficult goals to obtain. Meditation strives to bring simplicity of thought and clarity of consciousness.

Our perception of space is limited by various senses, but focusing on the visual element provides a framework that will help contextualize this proposal. Our surroundings fill our consciousness—our immediate consciousness—while the subconscious is left at bay during our waking hours. Everything that is not within our consciousness is a memory, for it exists within the subconscious, waiting to be recalled in an instant. The subconscious operates as a psychological tool—a psychological immune system that operates and surfaces during our sleep. Subconscious thoughts arise during periods of solace or when events in our lives trigger the vivid recollection of memories. These memories that float within our subconscious are the sculptors of our being.

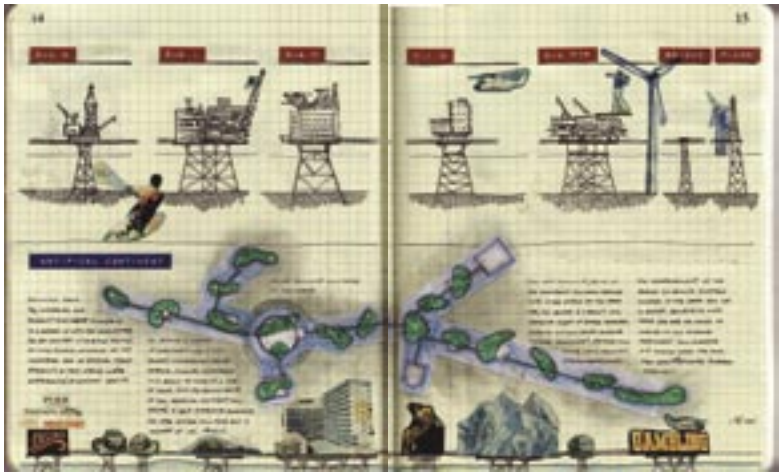


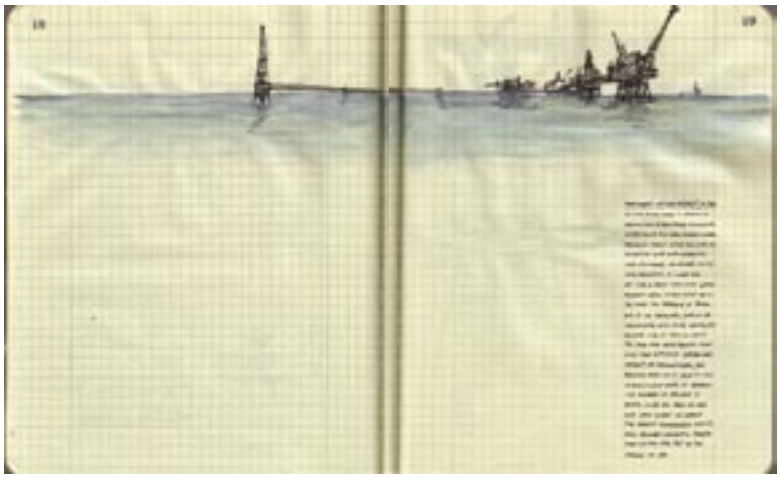


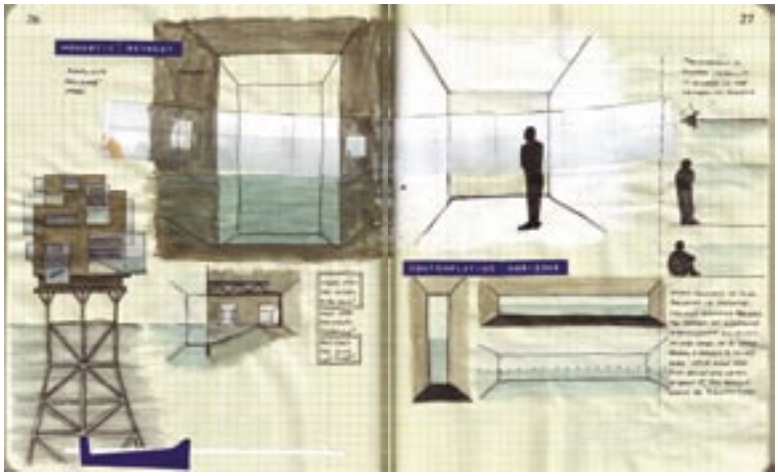
Diorama

We see a phenomenon occurring today in neighborhoods. Houses and apartment buildings provide an anonymous existence. These are places where people hide from public life. The interior spaces bleed to the exterior, revealing secret identities to public view, through the objects people own, the colors they choose to surround themselves with, their daily habits, their living preferences and so forth.

These dwellings are analogous to the box shrines in that they provide views into the lives of people and the events they live out. In a sense, they are dioramas. A residential building might accelerate this condition. Providing spaces that allow for inhabitants to create their own shrines to themselves could be achieved by creating a flexible and modular floor plan-elevation system. This system would provide flexibility for the inhabitants to choose living arrangements per their own preferences. These custom spatial arrangements would reveal themselves against the exterior, glazed surface of the living units. The living units would then attach like parasites to any skeletal structure desired.



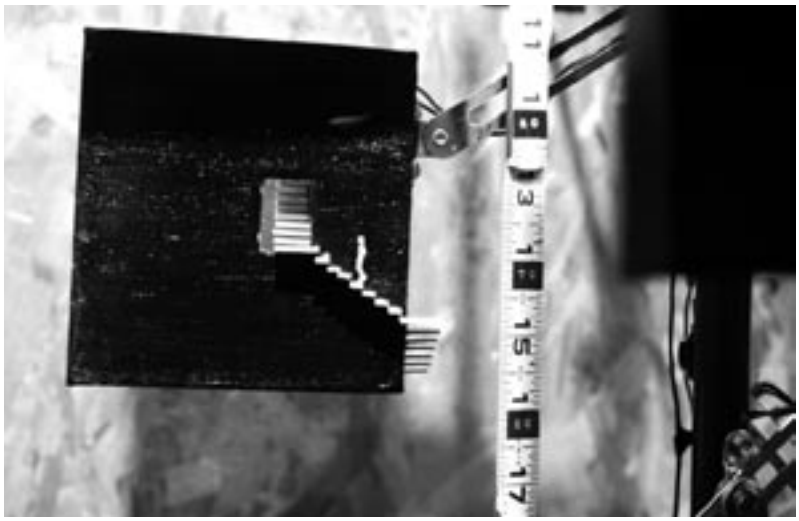


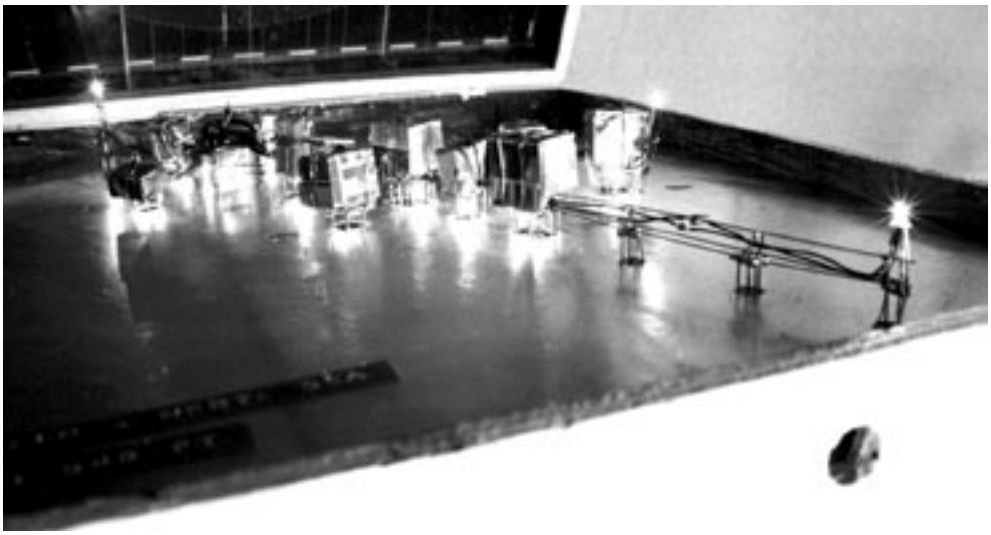


Retreat

Being isolated with very little distraction creates a state of mental purity. Yogis sequester themselves in caves, monks live at monasteries and people go on vacation to get away. What we strive to find is solace. Americans fall into hypnosis when they lock themselves in cars and drive for hours, commuting to work listening to the rhythmic hum of the tires against pavement. Religion allows people the time to get in touch with their inner beings. Sensory overload is a part of today's world. Silence and freedom from visual clutter are rare commodities.

Subconscious Waiting Rooms
Guests rest beneath the sea. Small rooms with glass ceilings invite guests to recline on the bedding and bathe in their subconscious. The journey to the room is long and traverses down winding, dark stairs. Inscribed on the door to dreams is a symbol to indicate which room is for which guest; one knows his or her room by the symbol because no one else may understand its meaning.

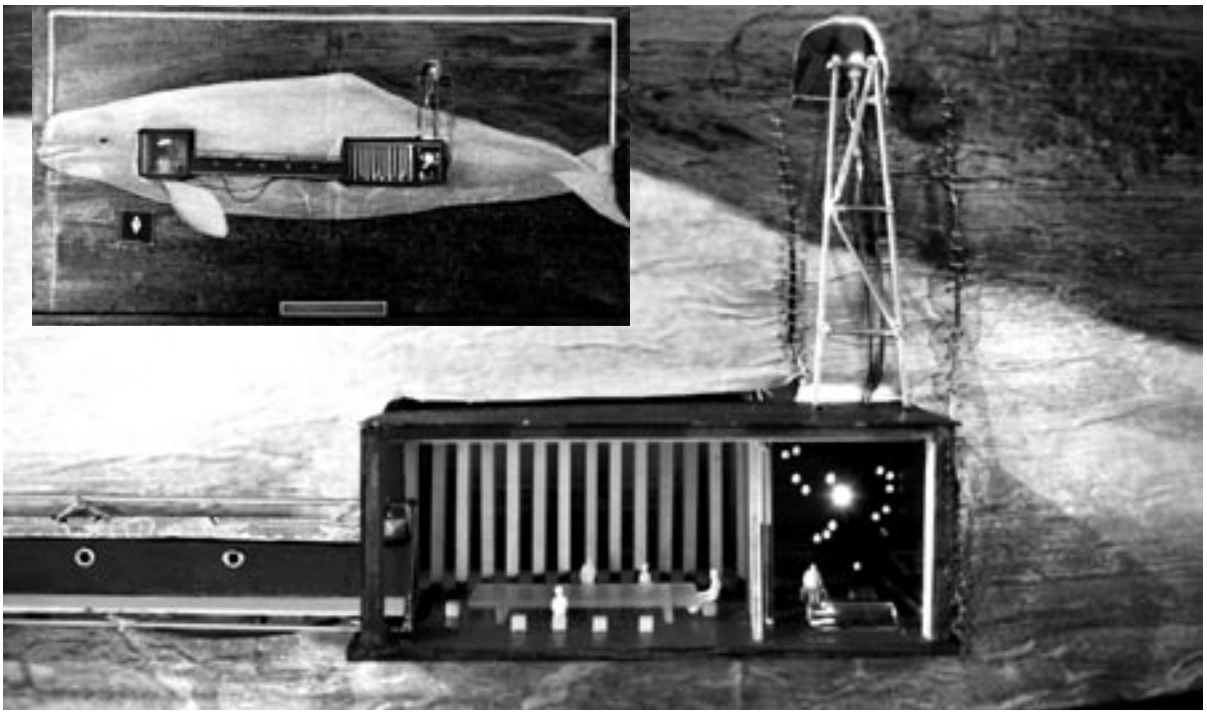




Ekofisk, North Sea Sector 2–4
The scale model of Ekofisk offshore oil drilling complex is set in a wine box with pipe support indicating global location on a twelve inch globe. The drilling complex is made of recycled aluminum cans and wire. Platforms are lit using grain of wheat lamps and 1.5 volt AA batteries. The sea bed is made of rough-cut cedar and the sea level is made of textured plexiglass. The interior of the lid is lined with a celestial map of the northern sky, with constellations visible to the specific latitude of Ekofisk. The image of the celestial sky is a reference to maritime navigation and the daily cycle of life at sea.

Jonas

The only space that is communal is in the belly of the whale. Entry occurs in the bar, where the walls are lined with baleen. Stools are white like whales' teeth and a wall that looks out to the horizon tells the story of Jonas and the Whale. The esophageal bridge delivers guests to the restaurant, where darkness engulfs everything, and guests feel as if they have been swallowed. Feasting commences between the ribs, which extend from the floor to the ceiling. Warm orange light bathes the diners while they wait for their meal. Have guests arrived to eat, or have they just been eaten?



Bath House of Contemplation

Bathing has never been more terrifying or relaxing. A personal bathtub is scaled to the size of an Olympic swimming pool that precariously cantilevers over the sea. Two horizons meet the swimmer. The steam room provides a cloud of contemplation. The horizon vanishes and one is enveloped in warmth of body and mind. The underwater tepidarium brings a chill to the body. If one swims too far, the ceiling of glass will capture him or her like ice on a pond.

Mapping Heterotopia: Accelerating Capitalist Space

The hegemony of capitalist space has uncertainty at its core. When urban spaces of possibility are mapped in terms of relationships, a new kind of generative, incessant and self-organizing system emerges. According to Kwinter, its logic does not try to evade the "flying bullet's onslaught," but rather "flies to meet it."

Capitalist space is mapped as Heterotopia—not in the traditional ways of Krier's Typologies or Lynch's Legibility, but rather as acceleration. Thus, a generative logic shifts the system forward, producing urban scenarios it never thought it could. The system itself is leaky and porous, but as Virilio and Benjamin suggest, there is opportunity amidst these gaps. In fact, it is from such absences and interruptions, an evasion of the systematic, that Foucault's Heterotopia begins to take shape at a multiplicity of speeds and scales.

This project generates a polluted, cloudlike texture of entities over the city—a drawing that is intelligent, but never completely rational. Its momentary unity is a reconfigurable space in transition. Its textures are constantly overlapping and intersecting, negotiating and competing. Urban space is not seamless; rather, its forces are porous and textured. Accidents are a part and parcel of the larger operating system. They become elements of chaos that generate order. Thus, as in the Deleuzian "machinic phylum" that operates behind every system, "order arises out of chaos."

Herein, capitalist space reflects a Deleuzian state of perpetual "becoming." Its logic is both flexible and ordered, groundless and rational—"striated," yet aspiring to "smoothness." The cloudy toponomy over the city generates architecture, as well as a reflexive manner of thinking, that magnifies the multiple layers of urbanism and, at once, becomes that urbanism. It shows the degree to which the strings are attached. The literal drawing of these strings can be understood as shifting negotiations which operate at the specificity of the building, yet remain evident at the urban scale. Two scales construct each other. Urban scenarios become techniques for generating architecture that occasionally lacks gravity.

St. Petersburg provides an example of a young, capitalist space where trade, tourism and culture can be seen as mobile and cross-connected textural forces. They accelerate the city's economic trend towards globalization. Instead of preserving the core of the city, however, the logic contaminates it with a polluted cloudlike toponomy of driving forces.

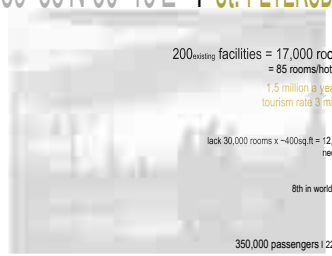
"Heterotopia [is] the coexistence in an 'impossible space' of a large number of fragmentary possible worlds or, more simply, incommensurable spaces that are juxtaposed or superimposed upon each other...."

—Michel Foucault

"A strange toponomy that is detached from the actual places and flies high over the city like a foggy geography of 'meanings' held in suspension, directing the physical deambulations below...."

—Michel de Certeau

59°55'N 30°15'E | st. PETERSBURG RUSSIA |



open air museum

200existing facilities = 17,000 rooms = 32,000 tourists a night
= 85 rooms/hotel = 2 tourists/room

1.5 million a year tourists existing accomodation
tourism rate 3 million foreign + 1 million domestic

@4mil = 45,333 rooms = 90,666 night
lack 30,000 rooms x ~400sq.ft = 12,000,000 sq.ft = .43sq.mi ~ 275 acrs
need 352 hotels if ~85rooms/hotel + 2t/rm

POPULATION 4 million
8th in world in tourism I 72% of European tourists
30million would like to visit annually

st.Petersburg PORT

350,000 passengers I 225,000 of which served by CARGO port
expected 1.5 million by 2010

CRITICAL UNCERTAINTIES: DRIVING FORCES:

*investment I tourism I Dachaland expanded I real estate prices I *communal housing

*trade I investment I Port exp. I Dachaland exp. I commodification of culture I *tourism

*tourism I investment I expansion of Terminal I communal housing I Dachaland exp. I *trade

*real estate prices I lower class to Dachaland I investment I tourism I communal hsg. *DACHALAND

*investment I tourism I Dachaland exp. I real estate prices *lack of hotels

"MINISCENARIOS ARE KEYS TO THE CREATION OF ORGANIZATIONAL FORM FOR DYNAMIC MODELS. LIKE SUCCESSIVE CONFIGURATIONS IN A GAME , THIS ORGANIZATIONAL FORM HAS THE CAPACITY TO UNFOLD SCENARIOS."
URBAN FLOTSAM

"...SCENARIOS ARE NARRATIONS OF URBAN POSSIBILITIES, ALTERNATIVE REALITIES, ALTERNATIVE PRACTICES."
URBAN FLOTSAM

THERE IS A PARTICULAR HEGEMONIC CAPITALIST SYTEM WHICH IS IN PLACE.
YET THE GOAL IS NOT TO OBLITERATE IT.
THE GOAL IS TO TAKE ADVANTAGE OF IT,
PROMOTE GLOBALIZATION AND COMMODIFICATION.
INITIALLY INTERVENTION WILL INVOLVE PLAYING, CHOICES + DISCOVERIES


exhibits + t. + m + g


cinema


hotels


stadiums

ST. PETERSBURG


travel agenicies


autoservices


museums


ticket offices


galeries


markets


theater


customs

existing FORCES IN THE CITY I entities

DACHALAND

dacha
a noun
1 dacha
I Russian summer country house or villa - soviet I now - cottage, permanent residence I

Category Tree:
entity
object; physical_object
artifact; artefact
structure; construction
housing; lodging; living_accommodations
dwelling; home; domicile; abode; habitation; dwelling_house
house
country_house
dacha

For Russians, the spacious apartments on the outskirts with underground parking garages – the true symbol of progress – and accessibility to nearby shopping centres are tantamount to the beatific suburban living of mid-century America. With a wry nod towards their bulky antecessors, they come closer to the apotheosis of the communal housing ideal initiated in the 1920s then their poorly rehashed counterparts of the 1960s and 1970s. These mega-neighbourhoods are chock-full of monotonous twelve-story blocks for as far as the eye can see, disappearing into the glassy-eyed sunset in a blanket of haze from the nearby oil refinery. And go figure: developers can't erect enough of them.

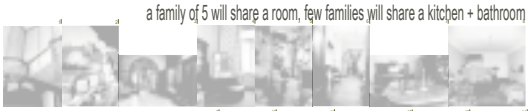
Petersburg DACHALAND

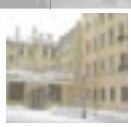
Ozerki
Sosnovka
Gorskaya
Konnaya Lahta
Kolpino
Ulyanovka
Gorelovo
Kupchino
Obyhovo

Repino
Strel'nea
Solnechnoe
Komarovo
Otradnow

COMMUNAL HOUSING

left over facet of Soviet life I large apartments built before the revolution, formally large houses belonging to the Czarist nobility
a family of 5 will share a room, few families will share a kitchen + bathroom

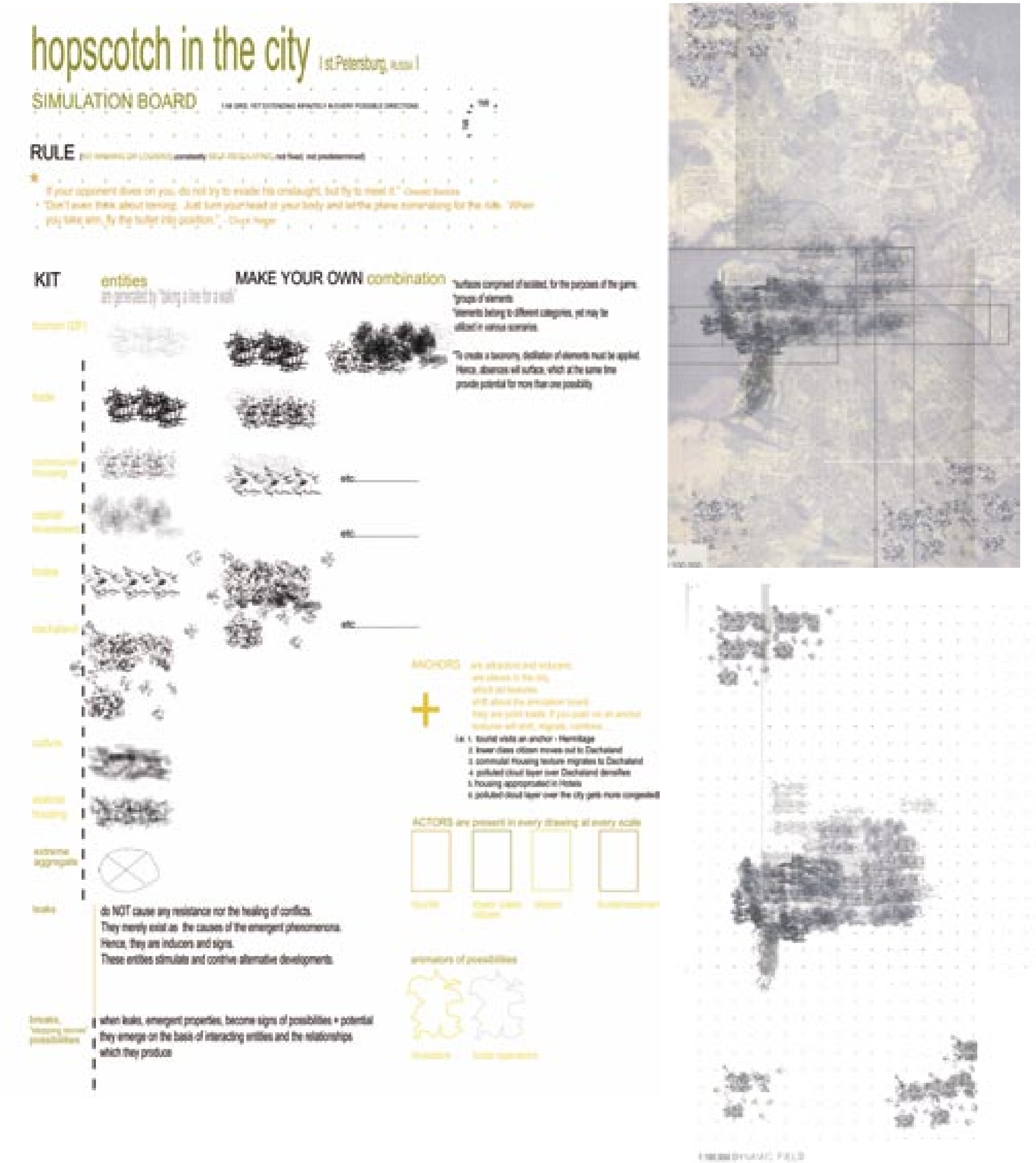


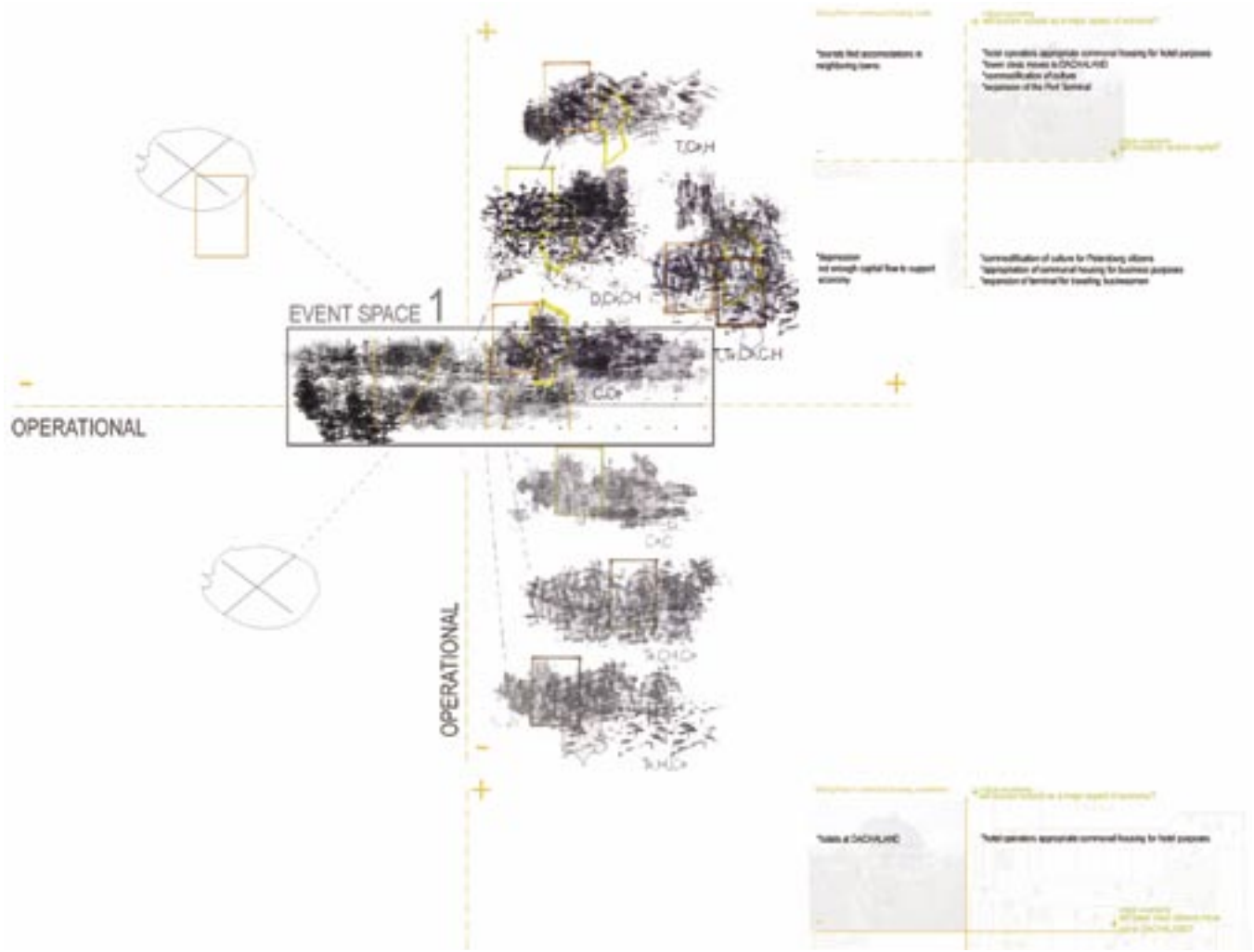


Biggest Transport hub in the North West of Russia.
location: South-Eastern tip of Vasilyevsky Island.
PORT for much of Russia,
including Caspian, Ural + Volga areas.
The navigable Neva river is connected by cannals and rivers
with Caspian and White Seas and Dnepr and Volga Rivers

TRADE + TOURISM

st.petersburg port
350,000 passengers I 225,000 of which
served by CARGO port
expected 1.5 million by 2010


hopscotch in the city
SIMULATION BOARD
RULE
KIT
entities
MAKE YOUR OWN combination
etc.
etc.
etc.
ANCHORS
do NOT cause any resistance nor the healing of conflicts.
They merely exist as the causes of the emergent phenomenons.
Hence, they are inducers and signs.
These entities stimulate and contrive alternative developments.
when leaks, emergent properties, become signs of possibilities + potential
they emerge on the basis of interacting entities and the relationships
which they produce



Hopscotch in the City

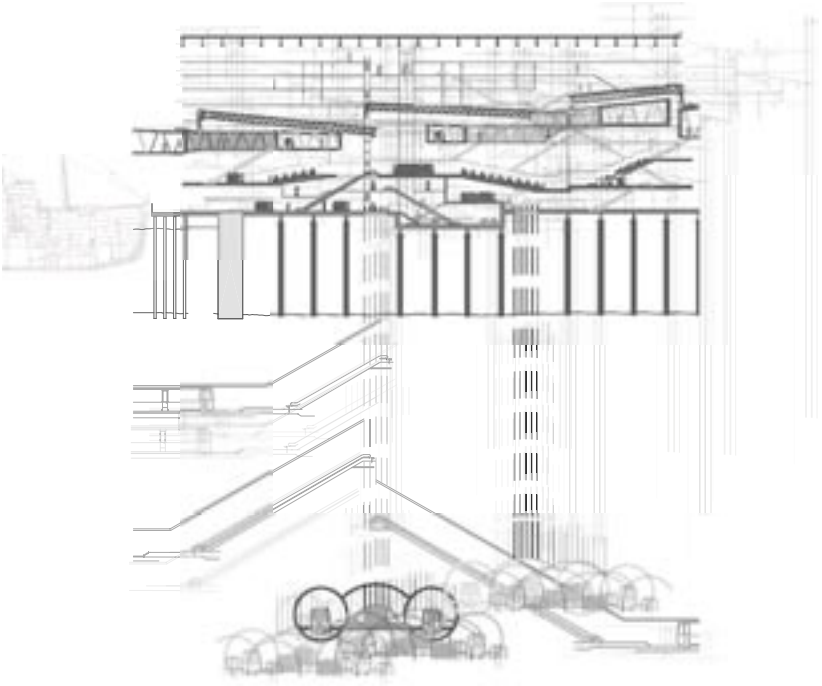
The goal of this project is to underscore urban relationships by taking samples of the city, zooming in and out, using a mile grid and a notation system. As drawings zoom in, the grid follows with a jump in scale. This is a game of constant remapping and repetition. Textures, anchors and actors are present at every scale of simulation. Anchors, which are actual places in the city, act as attractors, inducers and point loads, allowing textures to migrate and combine along the grid. Once textures are placed on the grid, their outcome is uncertain. It is their intra-negotiation that determines what happens next. If you push one of these anchors, for instance, the toponomy over the city changes. Thus, if a tourist visits Hermitage (an anchor), a lower class citizen automatically moves out to Dachaland. The hotels have appropriated housing. Correspondingly, the communal housing texture migrates to Dachaland and the cloud layer over this space densifies. Eventually, the cloud layer over the city becomes more congested. This is Hopscotch in the City.

The mapping of entities was disengaged from its geographic source in order to understand the drawing for what it is—a drawing. The lines and textures exist merely as drawings of relationships. This allows one to understand a particular set of relationships in another space and plane, other than its geographic source, without any preconceived baggage. Once enough samples are taken, the drawing of relationships is able to stand on its own. The drawing exposes the inherent leaks in the system as well as their potential as generative absences.

Now, an intelligent map of the city appears, composed of relations, negotiations and networks. The relations are completely cohesive, without any attachment to the original source. Hence, the drawing gains an intelligence of its own and allows new operations to emerge. Where the cloud is too light, an anchor may be added. The cloud over the city proliferates and expands, thus becoming a darker and denser cover that eventually contaminates the whole city. Yet, as a texture, its composition is not uniform. It creates white spots which can be erased from the urban map below. Once the cloud is lifted off the map, these erasures becomes possibilities, blind spots… perhaps something left to rot. These possibilities are essential to the simulation.

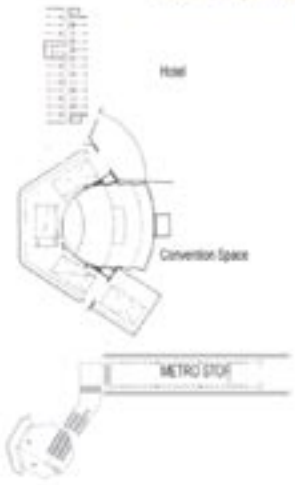
Program reproduces through the same operations as those of the cloud. It begins with several generic floor plans, such as the exhibit hall, conference hall, hotel and offices. The existing anchors instigate reproduction. Additionally, because the site is a port terminal, cruise ships act as additional mobile (or stationary) anchors. New clouds are mapped around the ships, which act as services of exchange. The movement of actors through these programs will inevitably vary. For example, a tourist disembarking from a ship behaves differently than a hotel maid who rides the metro to work. Through the movement of these actors, smaller clouds are produced which will either leave out or generate voids. Finally, while proliferation appears in the voids, it never completely fills them. There is always room for play. These voids, therefore, are similar to the erasures generated by the cloud. They are leaks, or blind spots, placement holders of future possibilities. They are sites of hope that might emerge in any part of the city.

By considering the generic qualities of these spaces against the marshy surface of St. Petersburg, sections are cut through the cloud of entities. The sections respond to the 288 foot deep metro, large cruise ships and deep piles that are specific to the city. Wherein the cloud is constantly remapped through zooming, the new scale operates through the process of cutting sections, which enables one to imagine what that capitalist space might look and feel like. Floor plates are generic, yet they may be concurrently occupied. Circulation within these spaces is dense in order to accelerate the exchange of commodities. A series of tubes run through the building and act as services of exchange. These services of exchange, such as postcard stands or tourist bureaus, are strong forces and intentionally excessive. They represent the most essential element in the section—commerce. As the direct descendents of trade, culture and tourism, these forces are stronger than gravity.



hopscotch in the city

GENERIC Program Toolbox



TOURISM

TOURISM

TRADE
CULTURE

TOURISM

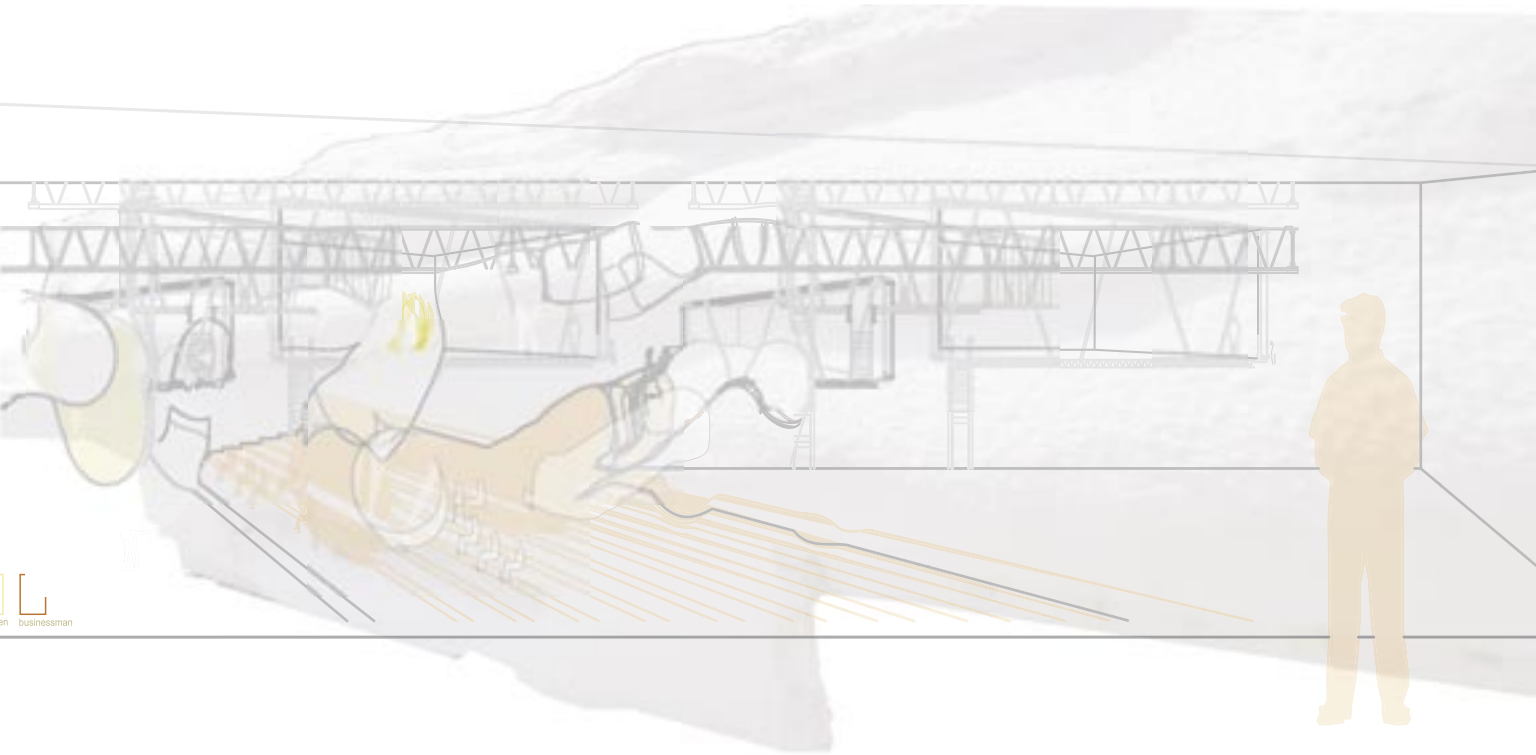
Trading Bussiness Offices

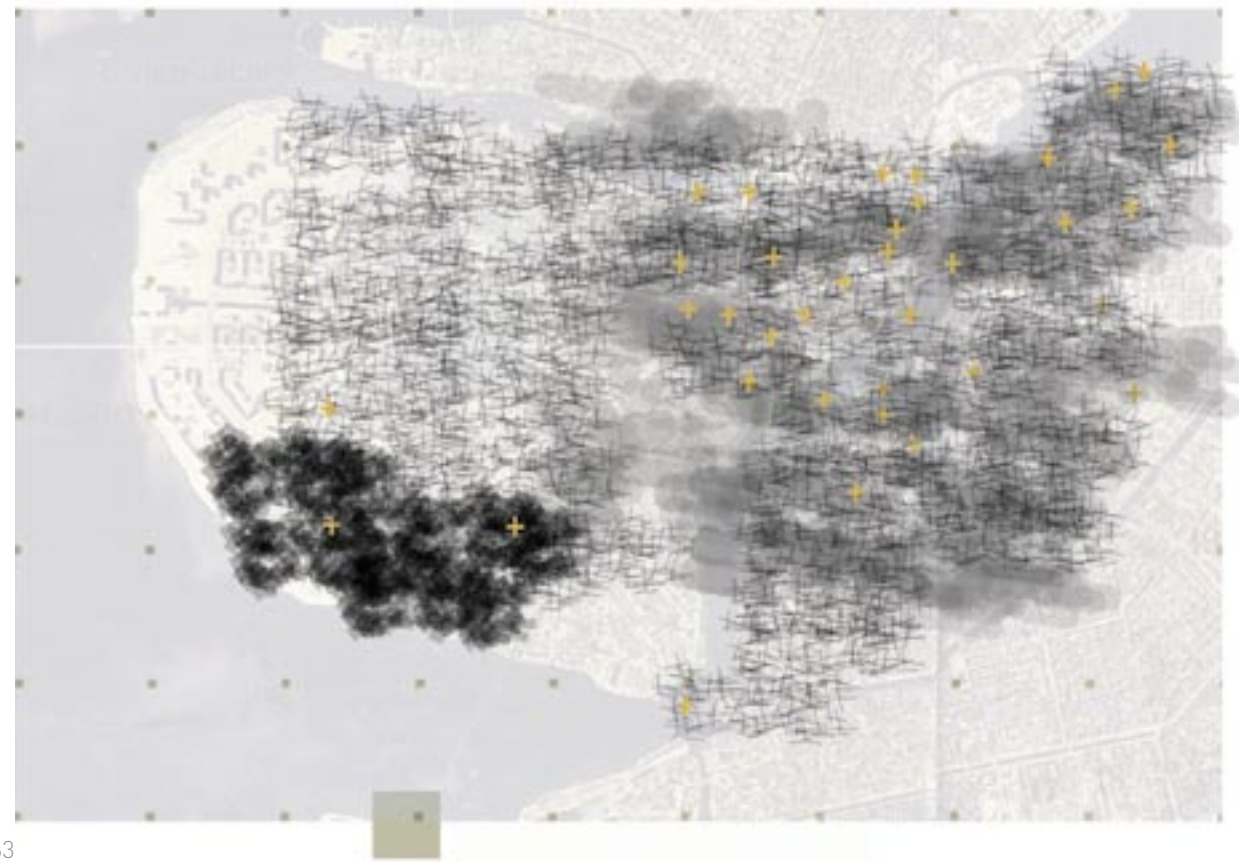
TRADE

Exhibition Space

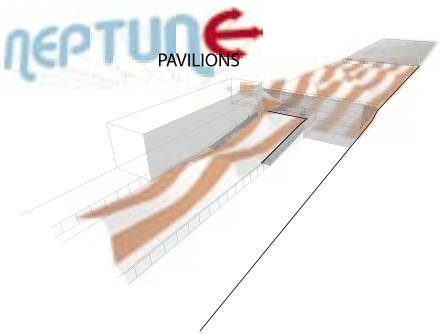
CULTURE

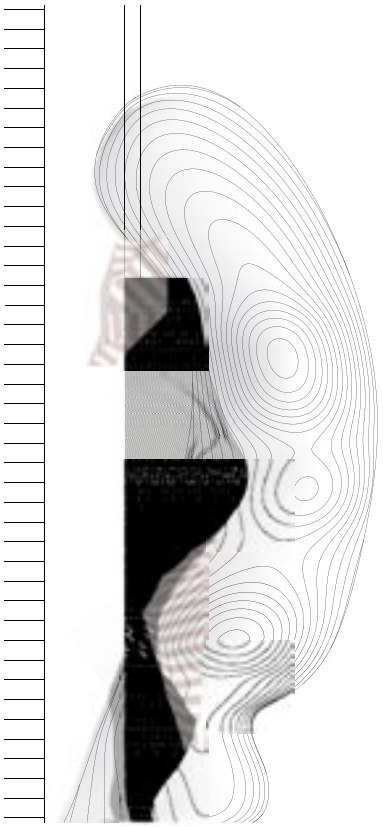
TOURISM


businessman




WONDER
WHEEL





The carnival is a device for sensory amplification. The function of a carnival ride is to amplify an experience of the senses. Architecture can also be seen as a sort of device—one that negotiates the distinction between specificity (of program) and indeterminacy (of landscape).

A.M.P. proposes an architectural device for Coney Island that emerges precisely where the specificity of a picnic meets the indeterminacy of a sand dune. If one can imagine the city as an indeterminate landscape of surfaces and events, then architecture might appropriate that landscape for amplification.

Coney Island

This proposal establishes its orientation along an urban section of Coney Island—starting at the Stillwell Avenue train station and ending at the water's edge. Along this section, a combination of surfaces, landforms, infrastructures and temporary shelters behave in sequence, effectively stretching the beachfront across the boardwalk and inland to the train station. The pavilion, therefore, can be understood as an urban line—a pedagogical device for mis-use of the landscape.

Coney Island, in context, manifests a site-specific idea. It embodies a "synthetic" technology of pleasure. A carnival ride is a very specific type of device which produces an amplification or inversion of native conditions; for instance, gravity, inertia, balance, proximity and visual orientation. Coney Island, therefore, represents the ad hoc union of artifice with motion. According to Koolhaas, such a coalition has larger ramifications wherein a similar "syndrome of the irresistible synthetic" engenders the urban condition in Manhattan:

> *"... the inordinate number of people assembling on the inadequate acreage, ostensibly seeking confrontation with the reality of the elements (sun, wind, sand, water) demands the synthetic conversion of nature into a technical service."*

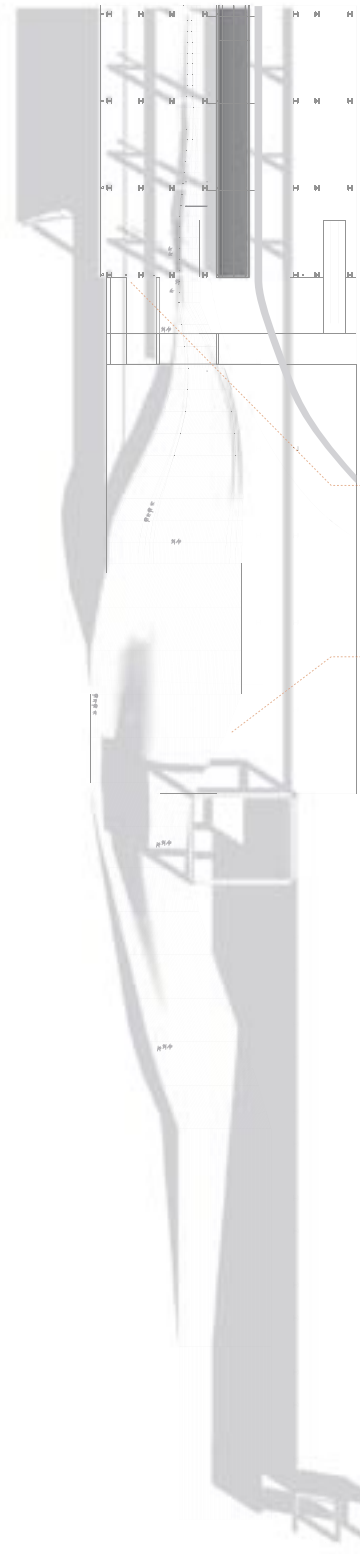
Thus, as between an amplified carnival/city upon a native dune/landscape, a synthetic relationship emerges between the programmatic specificity of a roller coaster and the indeterminacy of its site. Architecture might negotiate this relationship.

Moreover, the social (dis)order of Coney Island has always been an interface of impulse, celebration and exhibitionism. In fact, the rides at Steeplechase Park were initially billed as a destination for men and women to become a little closer:

> *"If life in the metropolis creates loneliness and alienation, Coney Island counteracts with the Barrels of Love. Two horizontal cylinders—mounted in a line—revolve slowly in opposite directions. At either end, a small staircase leads up to an entrance. One feeds men into the machine, the other women... The unrelenting rotation of the machine fabricates a synthetic intimacy between people who would have otherwise never met."*

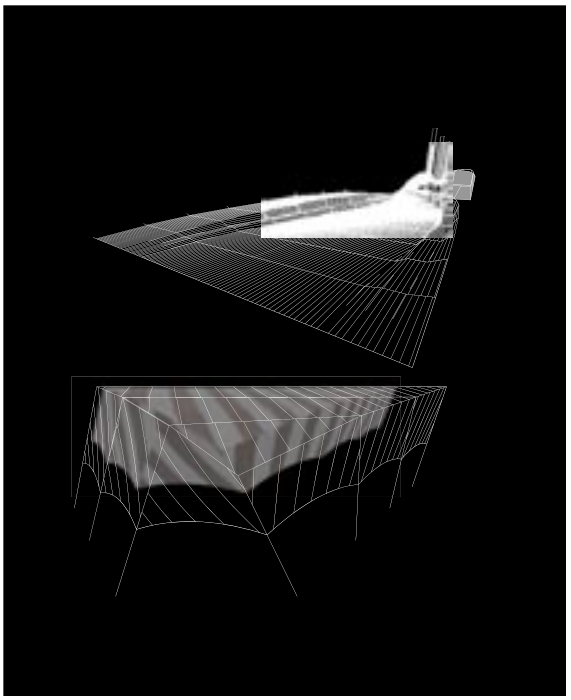
As such, the carnival has always been an act of opposition, a protest against the behavioral norms of everyday life. As an act of architecture, Coney Island represents a site of juxtaposition in need of a conduit.

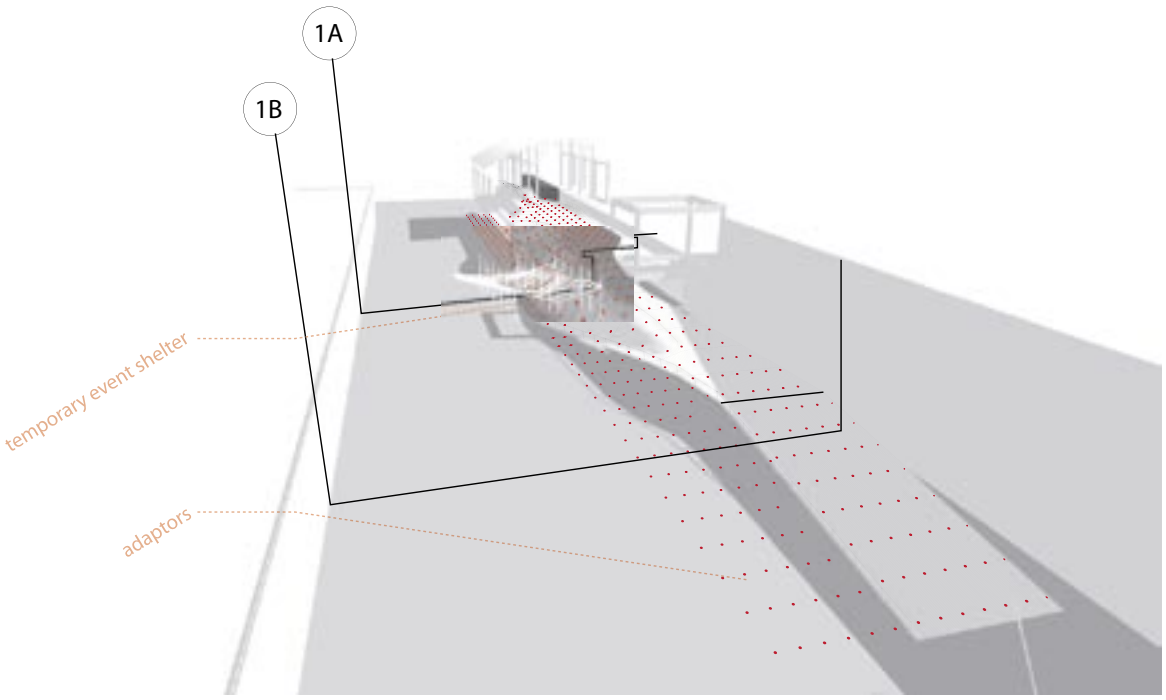
1A



Stillwell Train Station

boardwalk extension





Devices

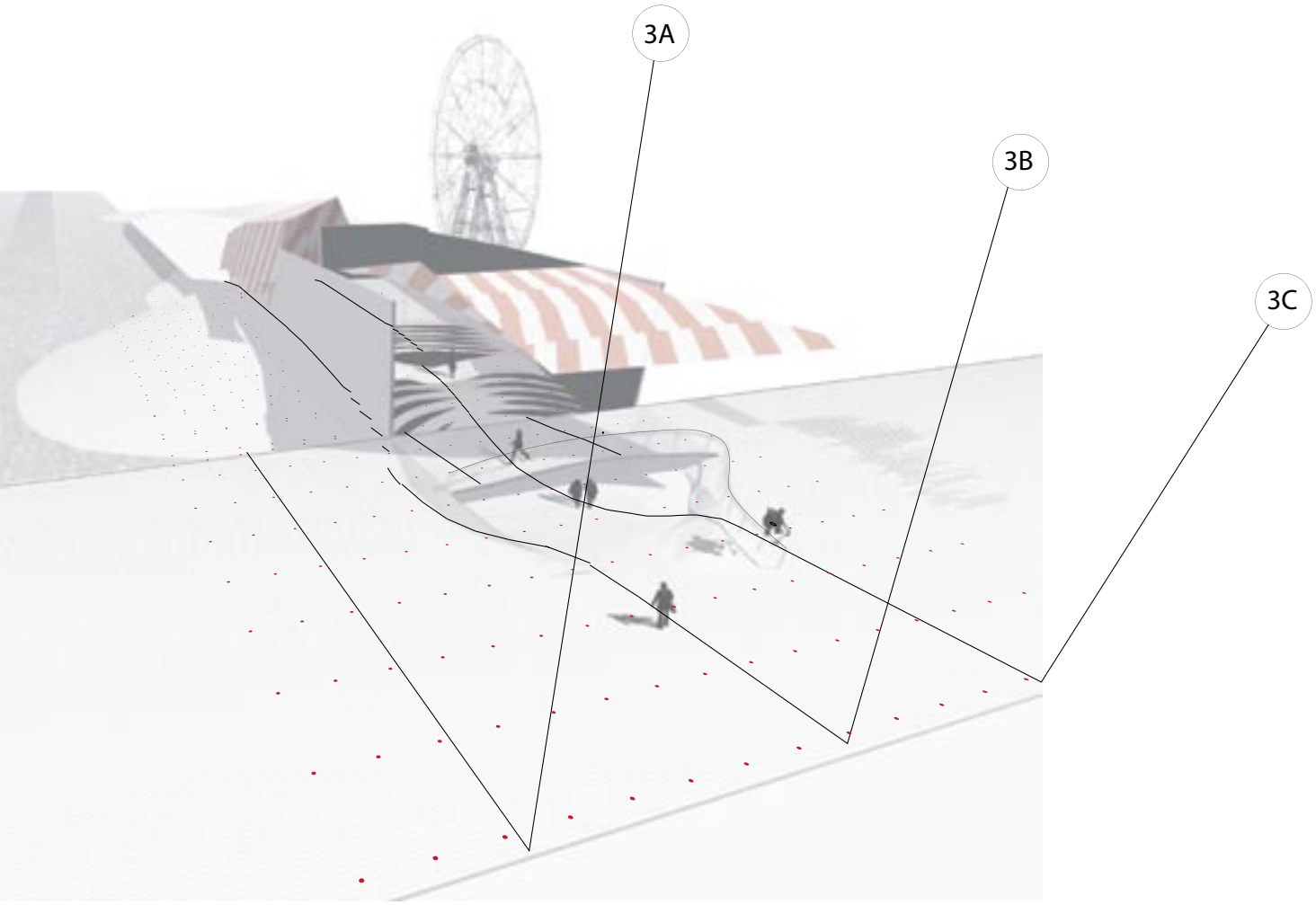
A device refers to a tool or technique that is implemented to achieve, herein, a particular effect. A mechanical device is effective to the extent that its energy is restricted to a specific vector. This proposal draws inspiration from three possible devices of architecture: skateboards, fireworks and snowstorms.

Architecture has shown an instinctive interest in skateboarding, perhaps a quiet predilection for the subversive implications of a deviant urban motion or perhaps a more adamant will to harness that motion under the reign of the computer-generated curve. Either way, beyond the architectural implications of half-pipes and skate-pools, the most remarkable story must be the graceful plot that unfolds between the body, the skateboard and the cityscape. The skateboarder rewrites the city with the device of a skateboard.

If the city is understood by how it is used, then most people have very similar experiences that are related, primarily, to the space of commerce. The skateboarder, on the other hand, understands the city as a series of surfaces, landforms and fixtures which respond to a program of impromptu acrobatics—a nimble city made visible through the skateboarding lens. According to Iain Borden, unlike the passive and "scopically focused" pedestrian, the skateboarder actively writes a script for the city. The implicit boundaries of a skateboarder's moves are drawn by the body, the skateboard and the surface of the city.

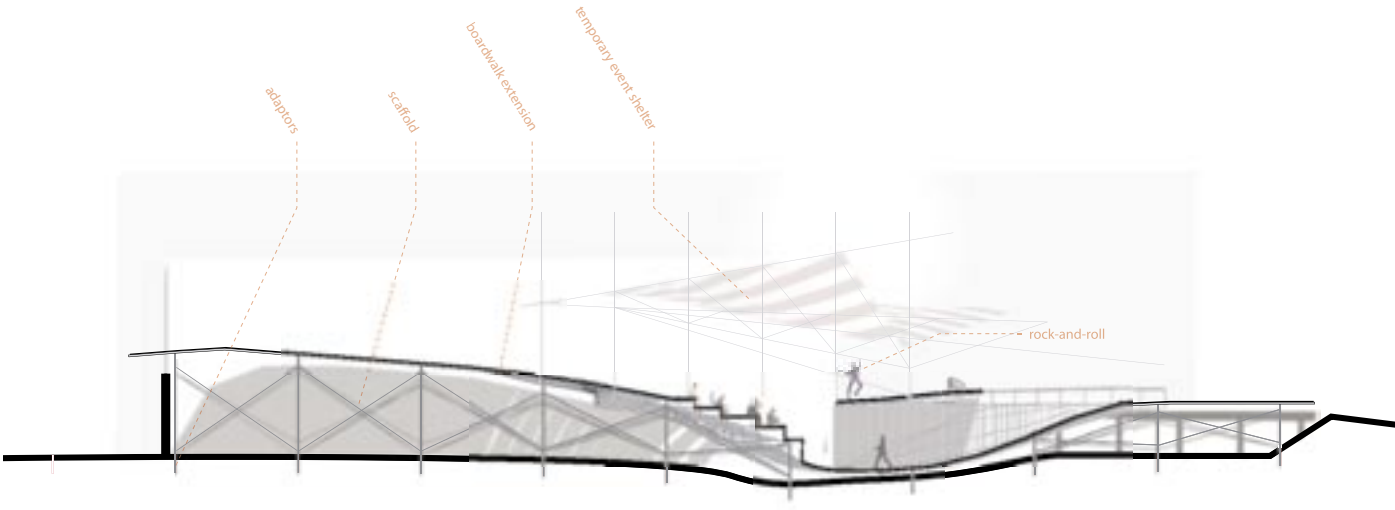
With good reason, parades, festivals, protests and marathons are all weathered subjects of the analytical maelstrom. They are simultaneously a product of, and yet remain ambivalent to, the surfaces and objects they occupy. Their agency is characterized by an inter-dependent, though not co-dependent, suite of actions upon a site … and for a moment, one might witness their transformation of the city. The "space between" program and landscape becomes a "space of" something new and entirely distinct. This transformation offers a useful model for the generation of an urban architecture. There is an implication, as suggested by Bernard Tschumi, that architecture can proactively script an event and that such an event might, in turn, re-script its architecture:

> *"Rather than an obscure 'artistic supplement' or a cultural justification for financial manipulation, architecture recalls the "fireworks" example. Fireworks produce a pleasure that cannot be sold or bought, that cannot be integrated into any production cycle. Such totally gratuitous consumption of architecture is ironically political in that it disturbs established structures. It is also pleasurable."*

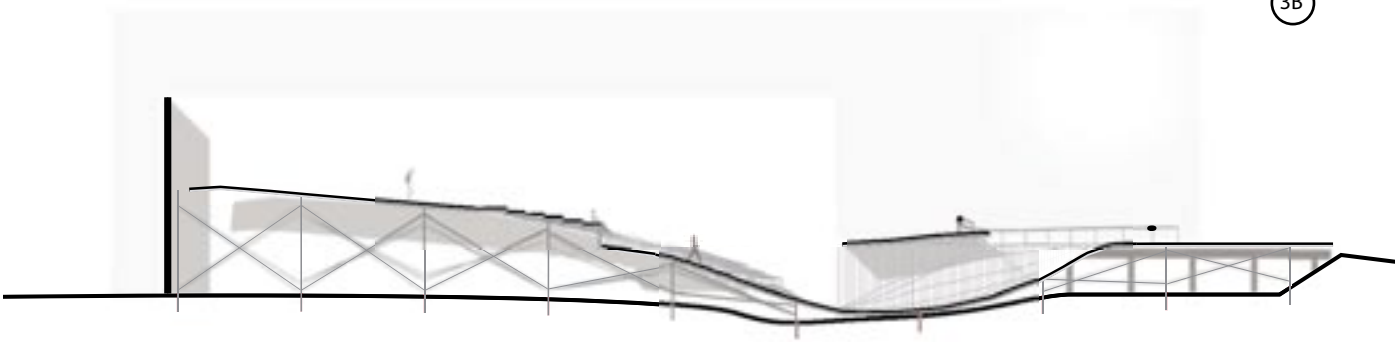


It was an initial priority for this project to imagine a particular device that might alter the manner of site documentation, something that would "shift the grain" of the site so that the relationship between the documentor and the documented, between the body and the site, would give way to an emergent architecture. Obviously, skateboarding might have been that ideal device, except the skateboard leaves no record. It is traceless but in memory. So another device was built—an awkward improvisation of the Steadicam—out of steel pipe sections, tees and elbows from the local hardware store. The Steadicam operation essentially identifies the activity of the body as much as the images it collects. It is a reflexive operation which, consequently, provides a means by which to parameterize a physical interaction with the site. The documentation process, therefore, began with a specific agenda provoked by specific operating parameters.

Arrival upon the site, however, actually coincided with New York's "blizzard of the century." So, while the specificity of the documentation process seemed in jeopardy, the blizzard proffered an auspicious case study. The snowstorm produced an inadvertent foil to the architectural proposal, a condition (or



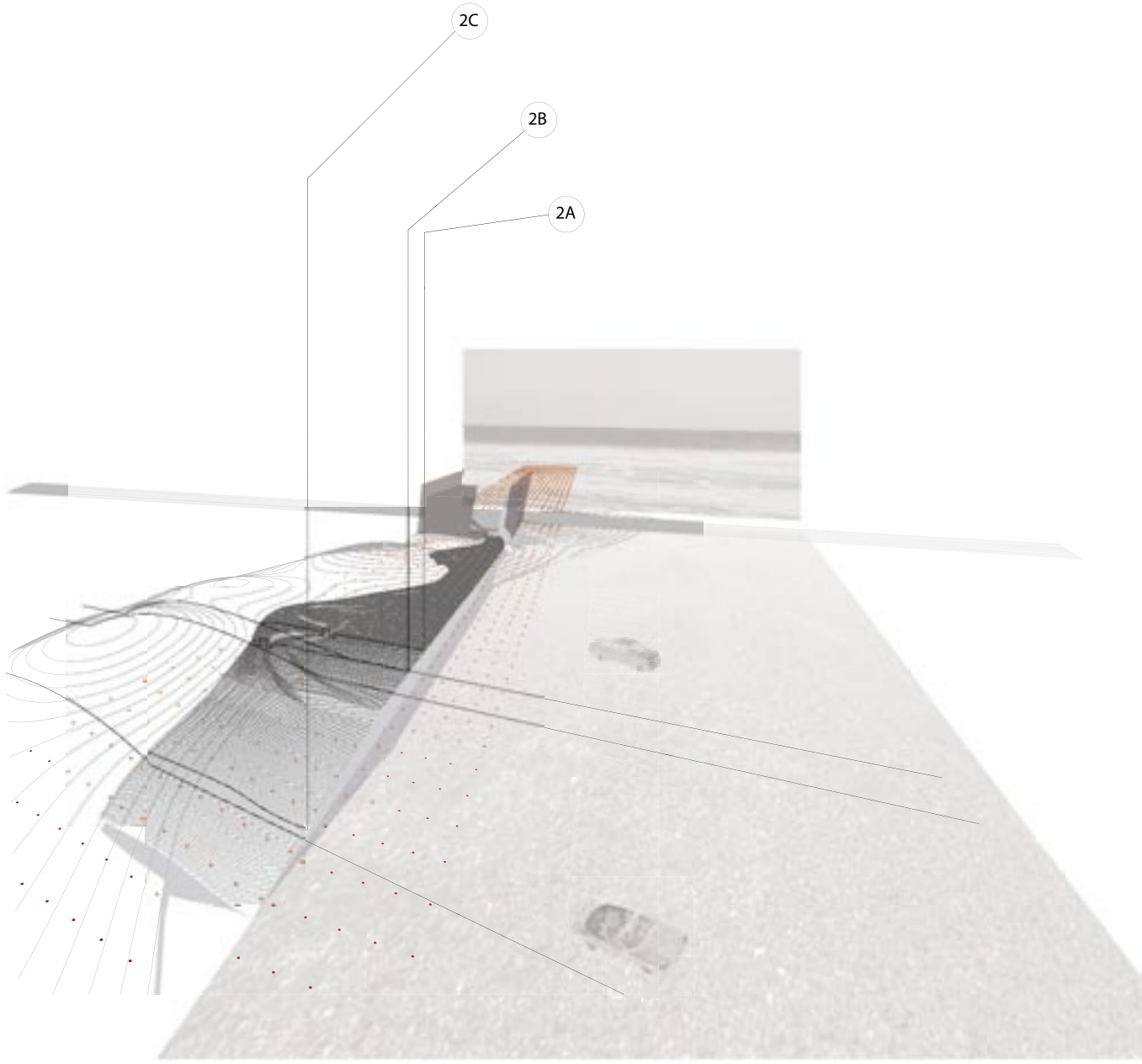
3B



3C

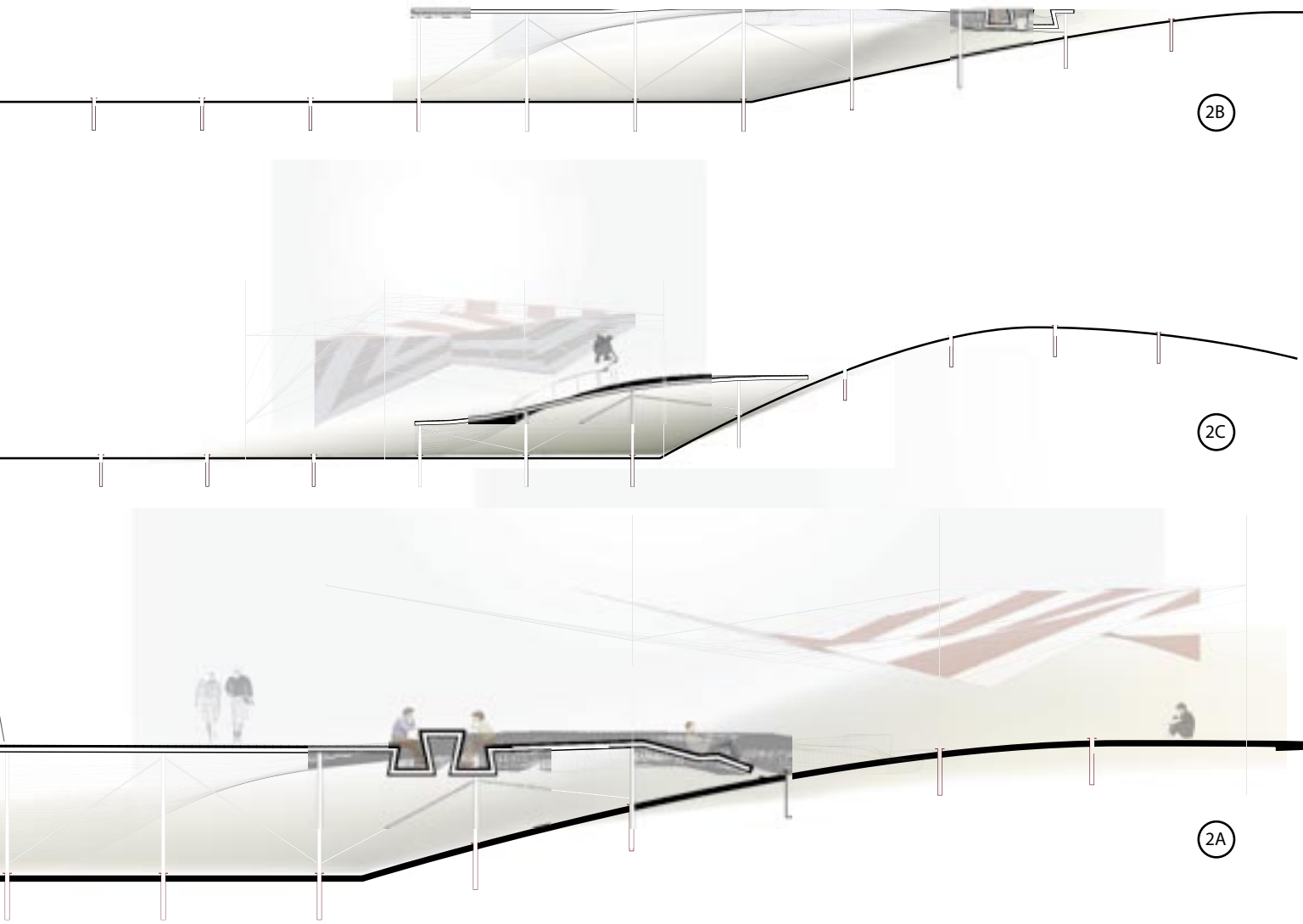
device) of intervention upon the site. A snowstorm re-scripts and amplifies the body's interaction with an urban landscape. It erases borderlines, renders materials neutral and even creates ramps, pitfalls, banks, dunes and drifts. Documentation, therefore, became less an investigation of an existing site condition and more an assessment of the emergent architectural implications of a snowstorm event.

3A



Drawing

Information architects and programmers liken themselves to artists. Algorithms can be melodic. Code becomes a medium for expression and clean HTML… a delicacy. It is evident that the digital world is an increasingly crafted world. Although the ultimate trajectory of generative digital practices remains to be seen, its current bearings locate its affinities squarely within the territory of craft practices. Architects at the forefront of this movement include SHoP Architects, MVRDV, Gregg Lynn, Frank Gehry and Bernard Cache, all of whom are deeply engaged in the exercise of a digital scripting process.



An important challenge for this project was to develop a script for drawing, to consider each mode of drawing as a sort of "button" in the script. For example, the postures of leisure (sitting, reclining, strolling, improvising) as well as measured site information are input into a scripted series of drawing devices (specifically, this series included Adobe Premier, Rhinoceros, Adobe Illustrator, Macromedia Flash and hand drawing). The measured data generates a terrain that changes and evolves as the drawing script is modified. The value of this type of work lies in the designer's ability to work with enormous amounts of information in a relatively intuitive manner, since the designer is dealing with a script as opposed to directly working with the data. It is parametric, in a sense, because the overall form can be quickly modified without changing the basic set of relationships determined by the script.

This thesis began with a wide-ranging investigation into the idea of scripting as it might apply to an architectural process and its implications for the city. As technologies for architectural drawing and fabrication become more powerful and pervasive, it is imperative that they are not adopted blindly. Rather, software can become an implement (or device) of critical inquiry into the drawing and fabrication process, reflexively investigating their role upon the built environment.

Adam Yarinsky

Principal, Architecture Research Office, New York City

"Paperwall" detail

Lattice Panels and a Pleated Dress:

Two Case Studies of the Vertical Surface

Materials and methods of construction are fundamental aspects of our conception of architecture. They are means of directly communicating ideas through the experience and use of a building. From the earliest stages of design, we propose material and constructional strategies not only for their technical and economic implications, but also for their potential to create physical and social relationships. Within the latter framework, we devote considerable effort to the design of the vertical surface. From the corten steel shingles of the Colorado House to the suspended fabric strips of the Qiora store and spa, we have completed many projects in which our intentions are expressed through form, material and construction of the vertical surface. Two current projects further develop and demonstrate our approach with respect to domestic and institutional scales.

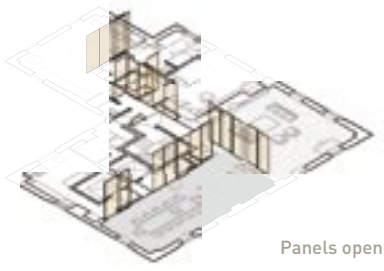
Fiberboard Lattice Panels

This project, a residential renovation, occupies an upper floor in a landmark prewar residential building on Central Park West in New York City. The design of this residential renovation unites space, daylight and view as elements of the daily experience of living in the apartment. Formerly divided into separate rooms, the interior is transformed through the selective demolition of walls and ceilings to maximize the flow of space and the perception of openness. Three new walls comprised of sliding and stationary panels provide continuity between the spaces in

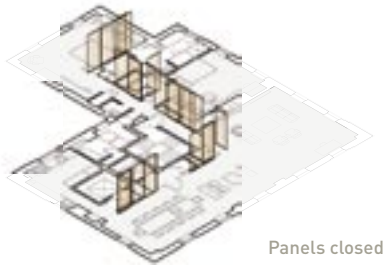
the apartment and are flexible means of separating spaces, when required. The design of the panels, or screens, is grounded in our prior research that employed a computer controlled laser cutter to transform ordinary materials, like paper and cardboard, into highly expressive elements with unexpected qualities of translucency and texture. The screens are objects that alter one's view, but also change with one's viewpoint.

The panels are made of sheets of medium density fiberboard (MDF) that are machined (with a computer controlled three-axis router) to create a pattern of apertures that filter light and view. MDF is a ubiquitous building material made of compressed wood dust, often used as a substrate in millwork and seldom exposed to view. Each screen is made from one MDF sheet, sealed with clear polyurethane and set within a minimal stainless steel frame. The large quantity of precisely machined openings transforms the thin, smooth fiberboard into a translucent textured lattice. Larger apertures allow for greater areas of transparency, corresponding to the standing or seated position of the viewer, changing the perception of enclosure according to the various activities within the space (e.g., standing at entry, seated at dining table, seated on sofa). The appearance of the screens also changes with the orientation of the viewer; appearing as a field of predominantly raised solids when seen obliquely or recessed openings when observed frontally. The final screen design, the result of many mock-ups and studies, has a textile-like surface with graduated openings overlaid by unequally spaced vertical slots of varying widths. Finally, each screen catches light in proportion to the variable depth of the slots and holes cut into it. Linear LED fixtures embedded in the ceiling graze the surface of each panel and accentuate this phenomenon.

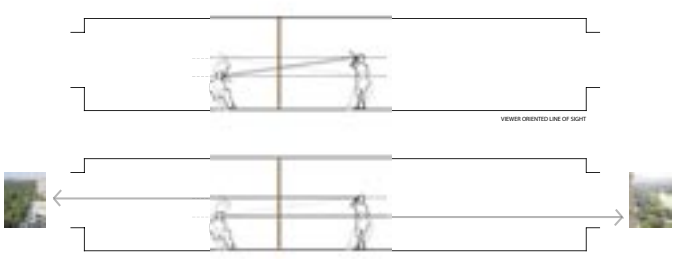
Laser Cutter Study, front-lit detail



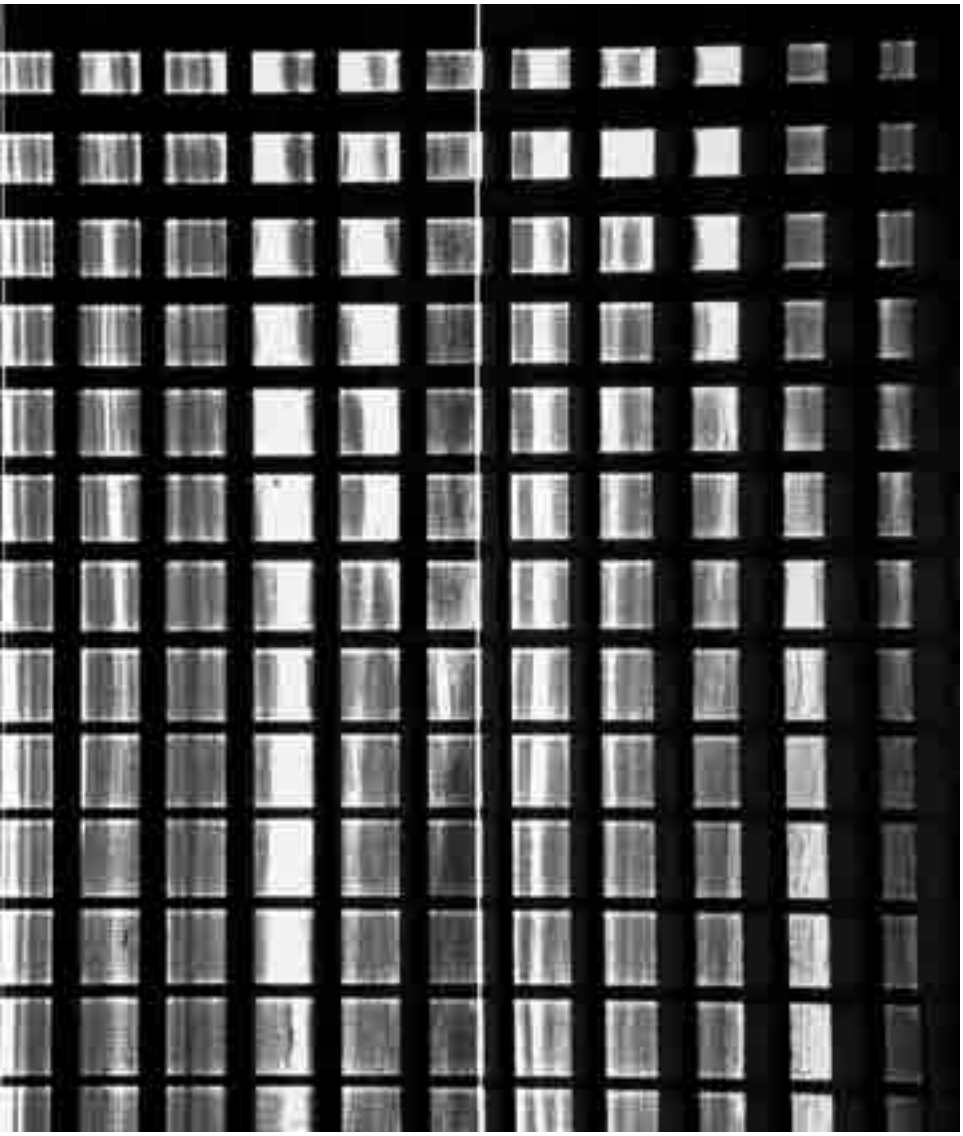
Panels open



Panels closed



Sitelines through Panel



Project Credits
Fiberboard Lattice Panels
New York, NY 2004- 2006

ARO Design Team
Principals: Stephen Cassell, Adam Yarinsky
Project Architect: Jeff Jordan
Project team: Allen Jones, Hee Jung Yoon, Nikoline Carlsen

Consultants: MEP

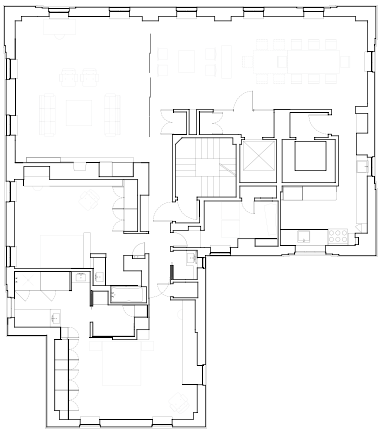
Engineer: John Ryan/Engineering Solutions

Lighting Designer: Richard J. Shaver

Code Consulting/Expediting: William Vitacco

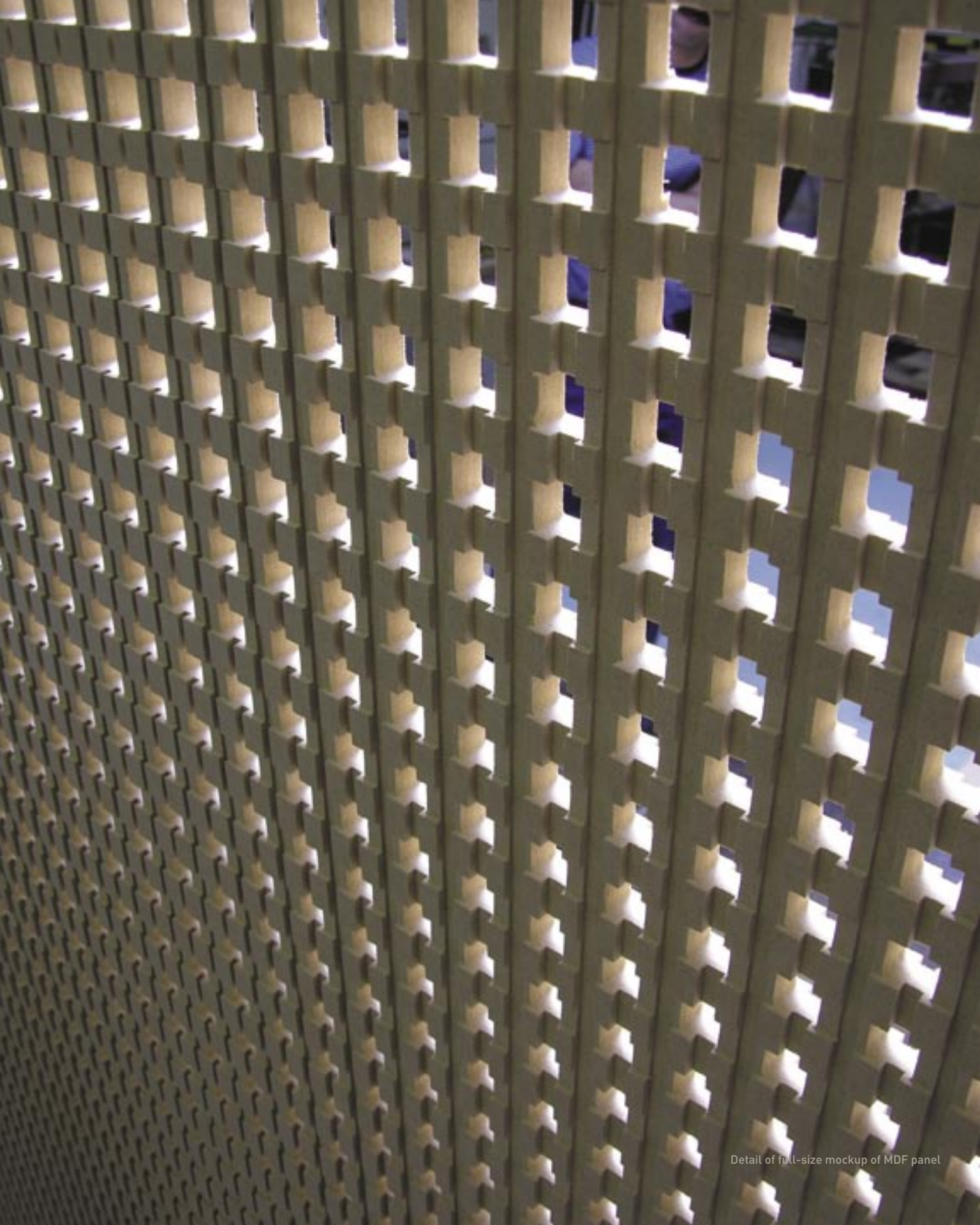
Construction Manager: Fountainhead Const.

Panel Fabrication: Conner/Pollack Productions (CNC Milling), SFA Leinhoff (finishing), Kern/Rockenfeld (metalwork)

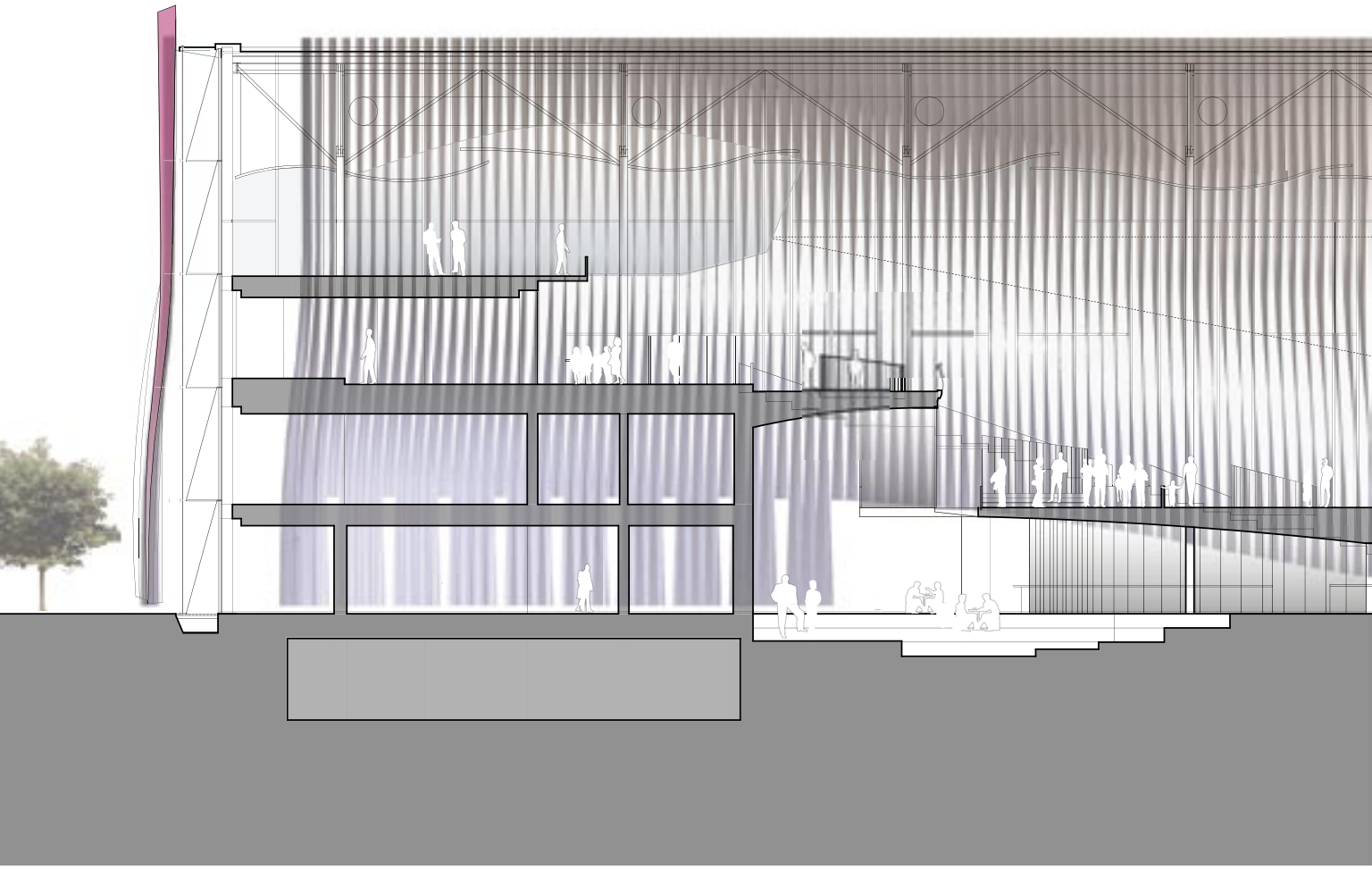


Apartment Floor plan

View of Central Park from Apartment



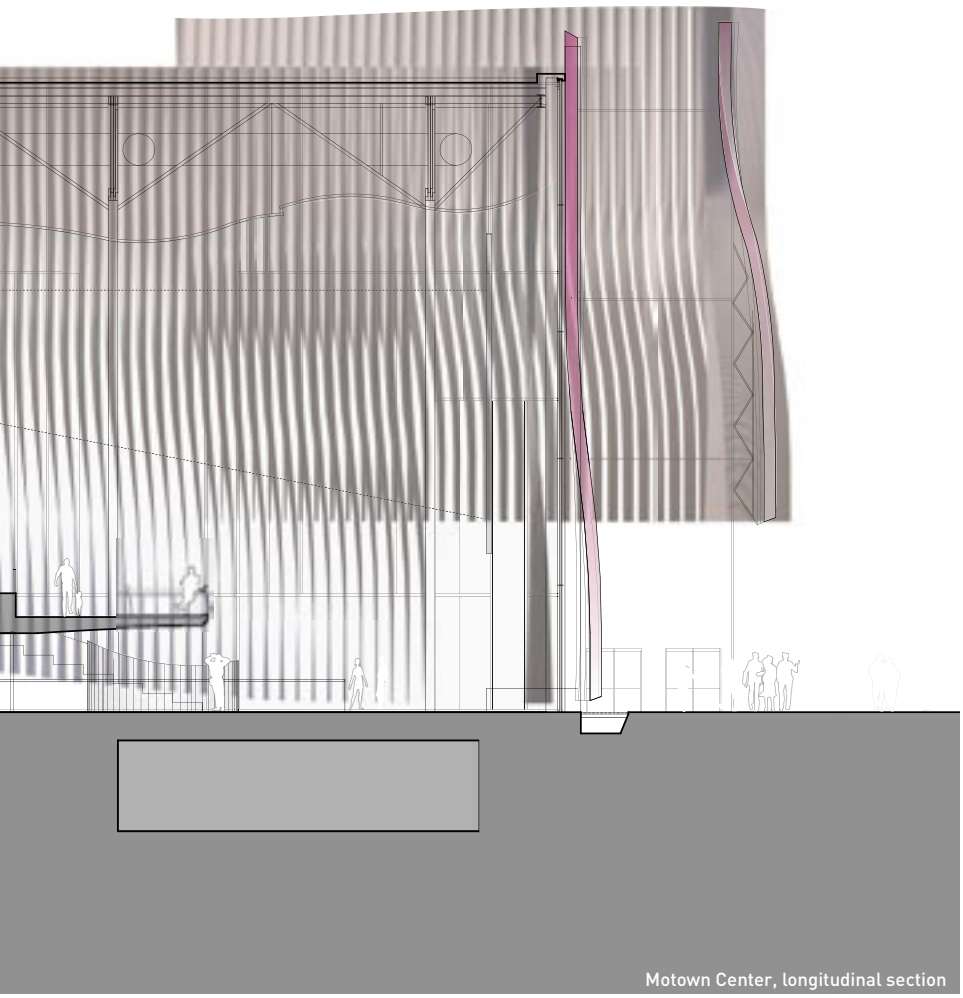
Detail of full-size mockup of MDF panel



Motown Center "Dress"

ARO won a national design competition for a 100,000 square foot museum and cultural center dedicated to the Motown music label. Located in downtown Detroit, the program consists of an unusual combination of exhibition, education and performance spaces, including interactive exhibits, retail, a digital media library, nightclub and restaurant, plus administrative offices and a large event hall. The new center, located on Woodward Avenue, is sited for maximum visibility from Woodward and the adjacent highway as a focal point within a developing downtown entertainment district. The exterior of the building is completely wrapped by a "dress" of vertical metal fins, or "pleats," which unifies the program elements with a singular expression that represents the identity of this new institution. Supported from behind by a metal framework, the curving surfaces of the pleats are independent from the curtain wall that encloses the interior.

The dress gives the Motown Center an iconic urban scale, while also connecting the institution to the city in a way that reinforces the program as a cultural center. From a distance, the building appears as large as possible, which is essential given its location



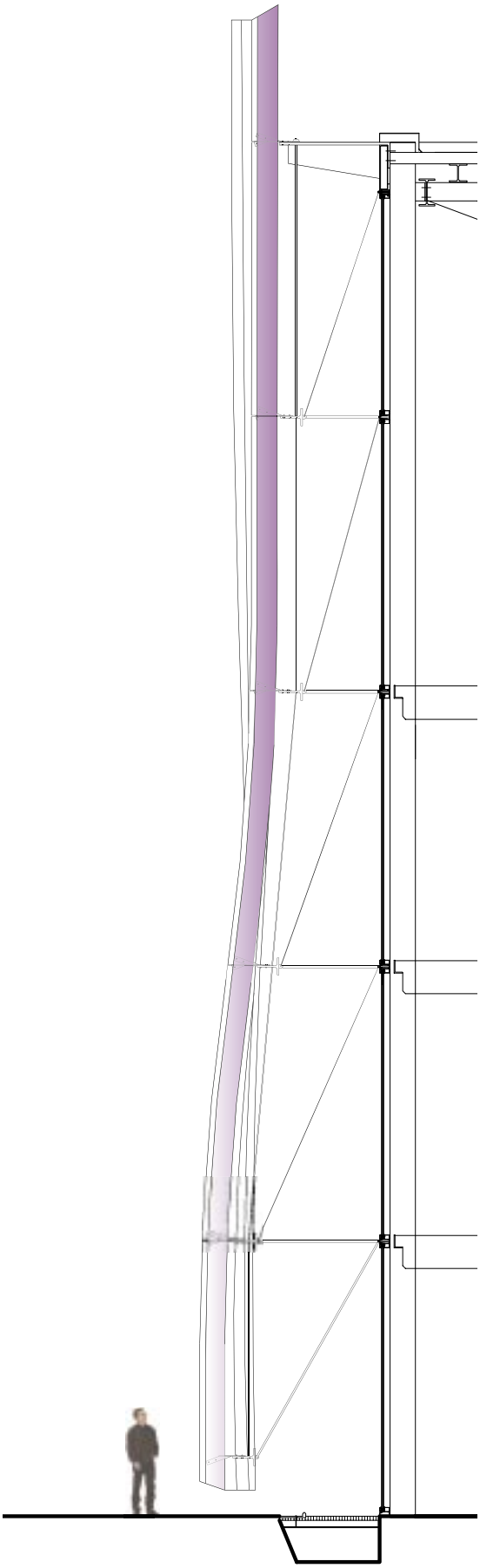
Motown Center, longitudinal section

near a major highway and baseball stadium. This is accentuated by the park, proposed as part of our design, which creates open space beside the site. When the building is experienced from nearby, smaller groups of similarly curved pleats and the openings between pleats decrease the apparent size and provide glimpses to the interior. The twisted shape of the pleats imparts a dynamic quality in response to the multiple orientations from which the building is seen. The views between interior and exterior, calibrated to occur from particular places outside the building and at specific moments within the exhibition, strengthen the program relationships between the Motown Center and the city.

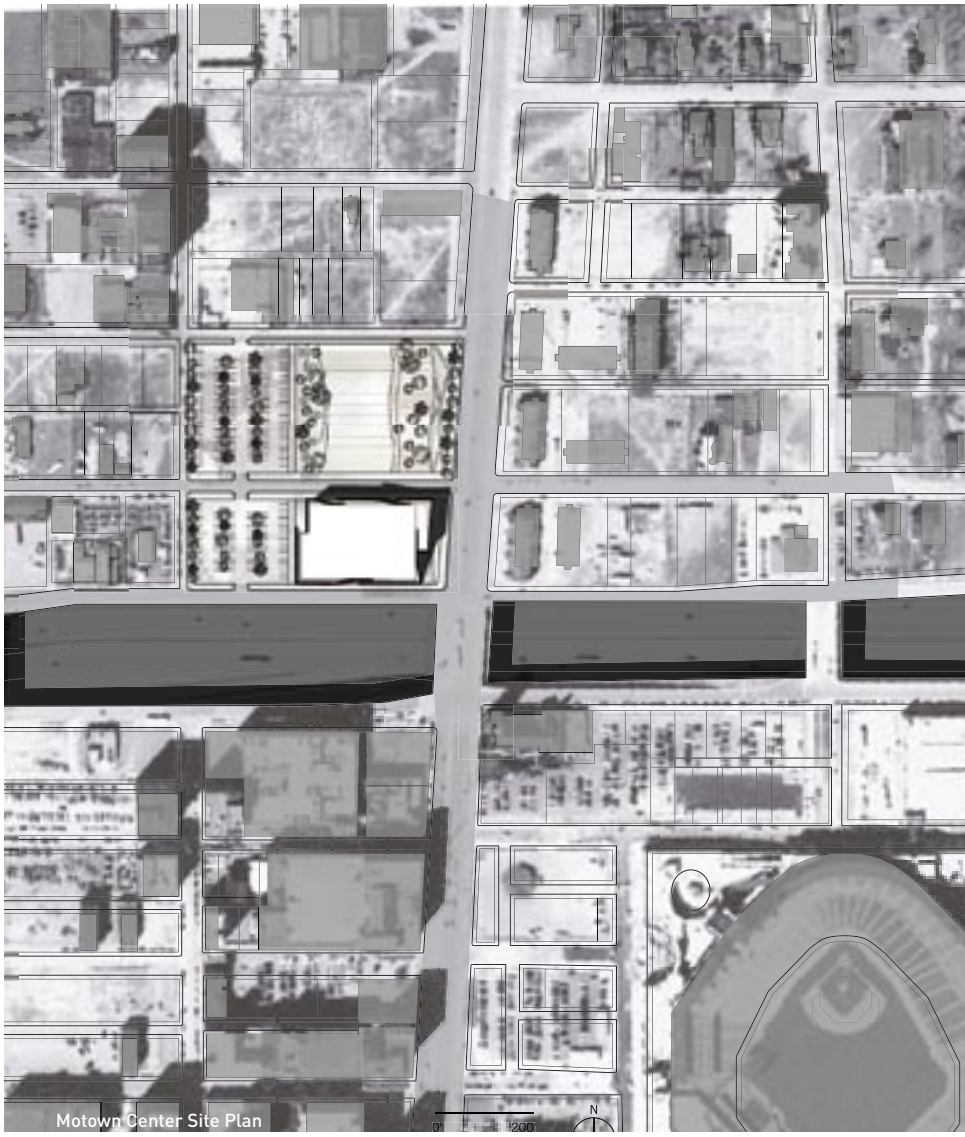
The pleats that comprise the dress have several attributes with respect to natural and artificial light. They control daylight entering the building and provide shade. Covered with interference paint (the same kind of paint used for automobile bodies), the pleats change color according to the angle of orientation of light striking their surface. The dress is also actively illuminated: a covered trench around the perimeter of the building contains upward-oriented LED's and other luminaries that wash the pleats with light. The lights can be choreographed with the same type of computer controls often used for theatrical performances. Changing the color, intensity and timing of the lights transforms the appearance of the building for special events or other occasions. Finally, flat areas of the surface of the pleats serve as screens for the film and information that is projected from outside the site.

Conclusion

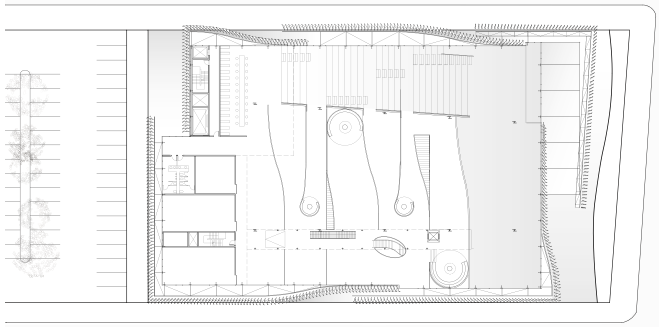
The form, scale and program of the fiberboard lattice panels and the Motown Center dress are very different. However, both function as critical space-defining elements that interact with light, view and movement to shape the experience of the architecture. The two vertical surfaces continuously allow for new phenomena to be observed, as subtle variations in transparency and delicate shadow patterns, making the architecture come to life.



Wall Section



Motown Center Site Plan



Street Level Floor plan

Detail of Exterior Elevation with Projected image

Motown Center Detroit, MI 2003-2004
ARO Design Team
Principals: Stephen Cassell, Adam Yarinsky
Senior Associate:Reid Freeman
Associate:Kim Yao
Project Team: Eunice Seng, Eva Hviid, Megan Kelly-Sweeney, Jake Nishimura, Josh Weiselberg, Hee Jung Yoon, Bryan Young, Arthur Chu
Collaborating Architect: Rockwell Group
Local Architect: Hamilton Anderson Associates
CONSULTANTS:
Exhibit Director: Ann Farrington;
Structural Engineer: Leslie E. Robertson Associates
Mech., Elec., Plumbing, Fire Protection Engineer: Arup
Landscape Architect: Ken Smith
Acoustics: Jaffe Holden Acoustics, Inc.
Graphic Designer: 2 X 4
COMPETITION CONSULTANTS:
Exhibition Design: ESI Design
Lighting Design: Fisher Marantz Stone, Inc
Graphic Design: Open
Cost Estimating: Nasco Construction Services Inc.

MiSo*
(The Michigan Solar House)

Nicole Allen
Hussain Alzoubi
Mark Ang
Jennifer Austin
Sharath Bachegowda
Matthew Battin
Michael Bauerly
John Beeson
Elizabeth Berenter
Rachel Betzen
Ryan Blanchard
Jake Boehm
Richard Bole
Jonathan Bos
Jonathan Bowerman
Christopher Bozzelli

Kurt Brandle
Lucas Branham
Michael Brehmer
Ryan Brouwer
Laura Brown
Tom Buresh
Sean Burley
Seokwoo Choi
Abir Chopra
Amanda Christiana
Peter Cornue
Jeana D'Agostino
Robert Davis
Olivier Destrebecq
Lee Devore
Austin Dingwall

Peter Diune
Jennifer Dowdell
Mary Anne Drew
Matthew Esper
John Everett
Fred Feinberg
Parker Finn
Emily Fischer
Katherine Foo
Jordon Gearhart
Harold Giles
Thomas Gladwin
Tony Goodman
Amanda Gore
Joanne Graney
Benjamin Grobe

Mustafa Mutlu Guner
Ronald Hall
Jeongwoo Han
Aaron Harris
Janice Harvey
Jonas Hauptman
Jennifer Hinesman
Mike Hommel
Thomas Horan
Helen Hoskins
Toby Hovi
Kevin Hoyt
Jack Hu
Roger Hubeli
Jae Heon Jeong
Megan Johnson

Molly Johnson
Kenneth Kalchik
Vineet Kamat
Douglas Kelbaugh
Michael Kennedy
Gregory Keoleian
Katherine Kerfoot
Gaberiel Keway
Shumaisa Khan
Jong-Jin Kim
Christopher Knapp
Mark Krecic
Jim Kumon
Christopher Landau
Julie Larsen
Larissa Larsen

Edward Lau
Hing Fung Lau
Alex Lee
Christopher Leinberger
Kevin Leung
Julianna Lieu
Ben Lipkin
Eric Mansuy
Melissa Marks
William Marquez
Megan Marsanico-Byrne
Emily Marshall
Dorcas Martin
Malcolm McCullough
Colin Mcdermott
Martin Mechtenberg

MiSo*, the Michigan Solar House, was a project that began in the summer of 2003 when the University was one of nineteen schools invited to participate in the 2005 Solar Decathlon. This competition, hosted in Washington D.C. every four years, is sponsored by the Department of Energy's National Renewable Energy Laboratory.

Although the project was predominantly housed and created within the architecture school, it was an interdisciplinary endeavor that also involved students, faculty and staff from the School of Art and Design, the School of Natural Resources and Environment, the Ross School of Business, and the College of Engineering. The design and construction of MiSo* was carried out over the course of six graduate-level design studios and was made possible by the generous donation of tools, materials, money and services from various corporations, foundations and individuals.

Over two hundred students, faculty and staff volunteered; their participation ranged from an afternoon helping to pack supplies for the trip to Washington to working an entire summer of eighteen-hour days, seven days a week.

Stephanie Metz
Lydia Miller
Linda Mills
Michael Mitchell
Elizabeth Moggio
Anne Mondro
Nihar Nabar
Mojtaba Navvab
Charu Negandhi
Jason Omara
Panos Papalambros
Rushali Parikh
Aakash Patel
Sandra Patton
Joel Perkovich
Kathryn Perrings

Randaul Peuler
Mike Piche
Erin Putalik
Ashraf Ragheb
Ann Reister
Adriane Riesser
Timothy Risk
Laura Robinson
Suzanne Robinson
Carl Rodemer
Peter Rogers
Elizabeth Rothwell
Maria Ruedinger
Jacob Ruszkoski
Evan Quasney
William St. Amant

David Sacks
Matthew Saurman
Kristi Schmidt
Gregory Schroeder
Kyle Schertzing
Randolph Seiss
Stacie Shephard
Jennifer Perlove Siegel
Stephen Signor
Amit Sinha
Brad Smith
Young Chul Song
David Spitzley
Jon Stevens
Ashley Stoner
Kristine Synnes

Juliana Sze
Danube Talant
Don Taylor
Neil Thelen
Chris Thibodeau
Kasey Vliet
Robert Vogt
Peter von Buelow
Maria Walker
Rachael Walker
Robert Walsh
Mary Walton
Gerald Weston
Audrey Werthan
Christopher Whaley
Vicki White

Yong Xue
Nah Jeong Yeh
Johanna Yoon
Jung Youl Yoon
Jeremy Zeigler
Krystyna Zelenay
Tao Zhang
Victoria Zhou

Students in the following fall 2005 classes:
Danelle Guthrie Studio
Michael Kennedy Studio
Julie Larsen Studio
Construction I
Design Fundamentals I
Structures I
Jack Hu's doctoral students

A Shining Black Sheep:

Rethinking Sustainability in the Michigan Solar House

Jonas Hauptman, faculty coordinator

The fundamental question that MiSo* asked was, how should we live? This is a question asked all the time in the design profession, but in the context of building speculative and sustainable architecture, the solutions proposed often lack the underpinning of good design.

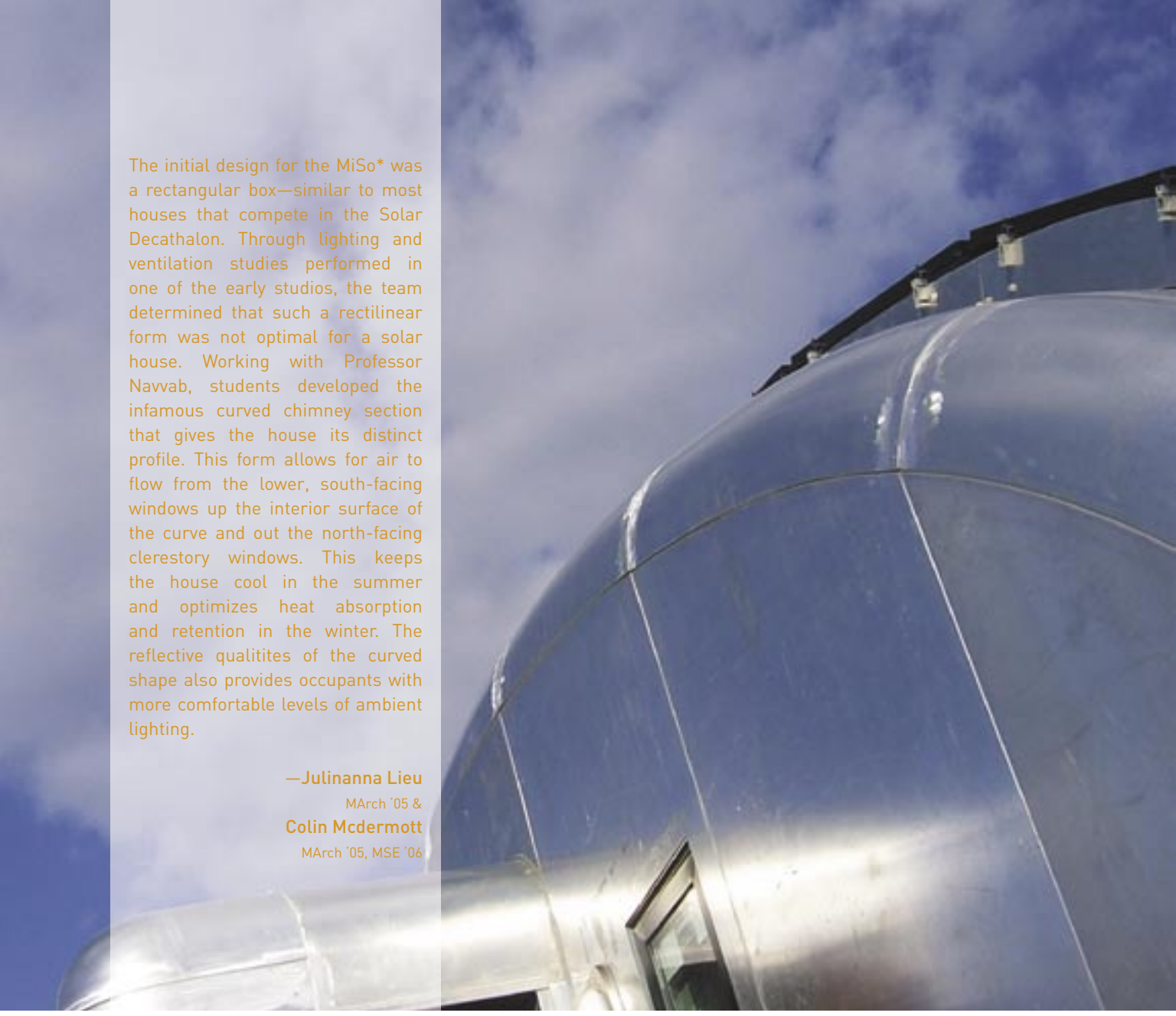
By most measures, our house was the shining black sheep of the Solar Decathlon, an assessment that we are proud of. Instead of simply trying to implement tried and supposedly true formulas in terms of aesthetics, program, construction methods, structural design, energy consumption, comfort, lighting and material palette, we decided that the house at large should be reconsidered. Furthermore, we felt that our design had potential to critically engage the competition itself through a reconsideration of competition criteria and its notions of what sustainability is and is not.

I was asked to take the reigns as MiSo* faculty coordinator and design studio instructor in January 2004. In the first few weeks of the Winter 2004 semester, some of the core concepts that distinguished the house's final design were born, or perhaps reborn. This occurred as we began to reexamine the design criteria in relationship to the college, our own personal ideologies, and the Solar Decathlon.

The aspiration to participate in a design-build project and a commitment to sustainability were the two primary motivations for student involvement in MiSo*. Those students who were more driven by sustainability tended to concentrate their efforts in MiSo* Enterprise, doing community outreach, education, fund-raising and preparation for the Solar Decathlon, while those motivated by a desire to design and build the project worked in MiSo* Production, having a hand in constructing the house. The tension between the two divisions of MiSo* highlighted the main questions facing the team. Was the product of MiSo* a prototype or a custom home? Was the MiSo* project about building a house that would perform well in the Solar Decathlon, or was it about exploring craft and unique methods of construction?

—**William St. Amant**
MArch '06

In the end, the vernacular of the house was in some part driven by performance, but we also decided it was important that we build a design meant to look timeless. We wanted to build a house that had a design aesthetically flexible enough to never quite be in or out of fashion. We went to great expense and time to develop a design strategy that was as interested in its aesthetic as it was in its environmental concerns. The house's shell was made in a manner akin to car manufacturing, using monocoque construction to seamlessly create structure and enclosure. We chose this strategy to streamline the amount of material necessary to build such a house if it were to be fabricated through means of mass production. By styling the MiSo* house more like a vehicle or consumer product than according to any particular housing vernacular, we hoped to chip away at the wasteful, often outmoded aesthetic that most American houses employ. This design process—architecture as product design—led to new ways of thinking about space, form and meaning in our built environment.



The initial design for the MiSo* was a rectangular box—similar to most houses that compete in the Solar Decathalon. Through lighting and ventilation studies performed in one of the early studios, the team determined that such a rectilinear form was not optimal for a solar house. Working with Professor Navvab, students developed the infamous curved chimney section that gives the house its distinct profile. This form allows for air to flow from the lower, south-facing windows up the interior surface of the curve and out the north-facing clerestory windows. This keeps the house cool in the summer and optimizes heat absorption and retention in the winter. The reflective qualitites of the curved shape also provides occupants with more comfortable levels of ambient lighting.

—**Julinanna Lieu**
MArch '05 &
Colin Mcdermott
MArch '05, MSE '06

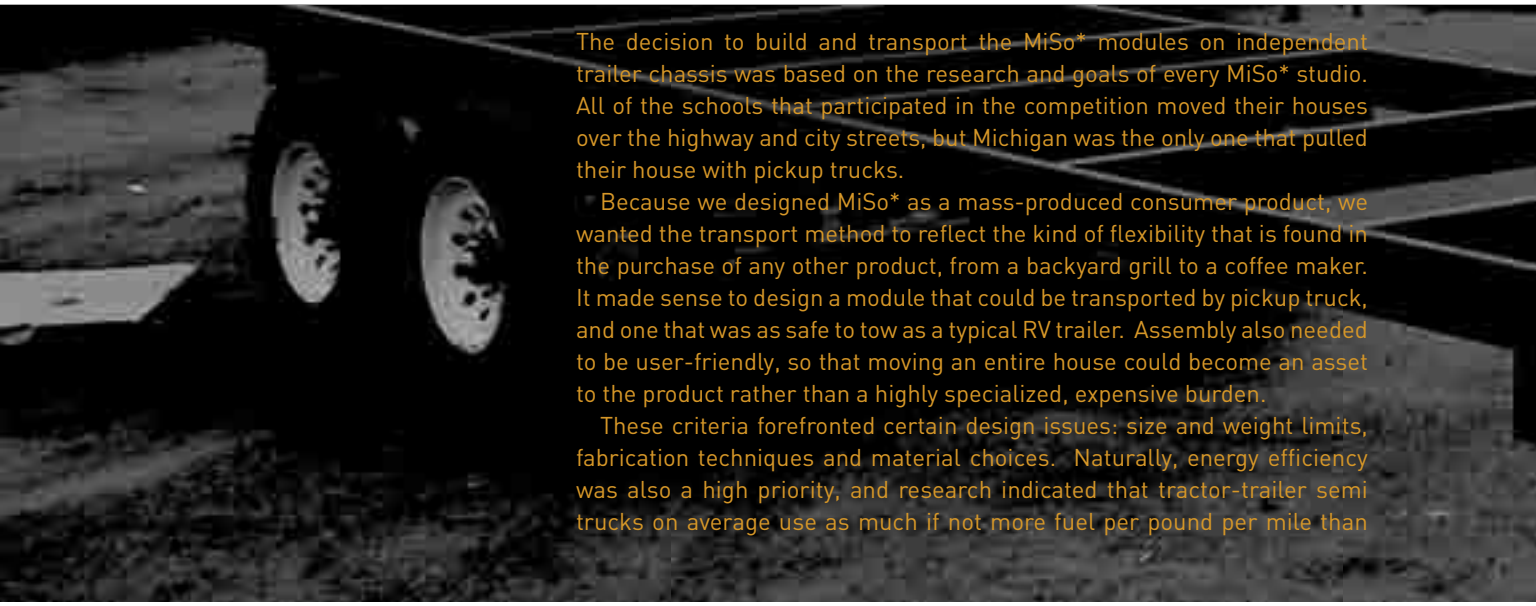
The program, as specified by the competition, required many things common to a suburban house, the glaring exception being its size. The house was to be a maximum of just eight hundred square feet and only a single story tall. In many respects, the mandated criteria seemed to be more reasonable for off the grid vacation housing or transient architecture than a model suburban home, so we decided to add two very important constraints to the program of our house in an effort to introduce responsible design into our competition entry: ease of mobility and adaptability. To accomplish this we had to think of the house in modules, each of which needed to be flexible and reconfigurable. Our solution was similar diagrammatically to a double-wide, except that ours cut opposite the long axis that mobile homes are typically assembled on, and each component section had a structurally integrated trailer that was light enough and small enough to accommodate international shipping specifications, and more importantly the size and weight limitations necessary for a private citizen in a non-commercial vehicle to be able to move the house inexpensively and with moderate ease.

Although MiSo* can fundamentally be called a manufactured house or trailer home, it differs from its predecessors in two substantial ways. First, it is made to a construction standard that exceeds the quality and durability of most stationary homes built today. Secondly, with the help of faculty member Harry Giles, we developed a house with a totally open span. This is atypical of the trailer home, which is commonly a claustrophobic feeling space.

We made our house from aluminum because of its lightness, durability against

water and sun damage, and the ease with which a prototype could be fabricated. Many experts would say aluminum is not sustainable because of the amount of embodied energy required to produce it and the emissions produced in its manufacture. We believe our choice of aluminum is justified because an emphasis on good environmental design should fall on trying to make things that will not need to be recycled in the near future. We are skeptical of cradle-to-cradle thinking as the accepted status quo, because this way of thinking seems to ignore the fact that many consumer products and building materials that are made from recyclable materials still end up in landfills. Instead we tried to envision a way to design, market, and responsibly manufacture a dwelling that can be revitalized over time instead of simply discarded.

Furthermore, we liked the aesthetic connotation of the material itself; aluminum is associated with great optimism within our culture. This has been the case since its earliest use nearly seventy years ago. Our intention was to make a house prototype that would appeal to forward-thinking people. These consumers are typically called early adopters by market strategists. It is our hope that we can engage these adopters with the MiSo* lifestyle, where energy, material and standard of living merge to form a more sustainable house and culture at large. For us it was important to question whether design can play a more important role in sustainable architecture than energy consumption does. We believe it can, should, and will prove to as we begin to see the way culture uses and misuses the latest attempts of design practitioners, environmental technologists and engineers to create sustainable solutions. We have faith that



The decision to build and transport the MiSo* modules on independent trailer chassis was based on the research and goals of every MiSo* studio. All of the schools that participated in the competition moved their houses over the highway and city streets, but Michigan was the only one that pulled their house with pickup trucks.

Because we designed MiSo* as a mass-produced consumer product, we wanted the transport method to reflect the kind of flexibility that is found in the purchase of any other product, from a backyard grill to a coffee maker. It made sense to design a module that could be transported by pickup truck, and one that was as safe to tow as a typical RV trailer. Assembly also needed to be user-friendly, so that moving an entire house could become an asset to the product rather than a highly specialized, expensive burden.

These criteria forefronted certain design issues: size and weight limits, fabrication techniques and material choices. Naturally, energy efficiency was also a high priority, and research indicated that tractor-trailer semi trucks on average use as much if not more fuel per pound per mile than

design can enable the public to adopt a more environmentally friendly lifestyle.

It is my hope that when the house is permanently installed in April of 2007 at the University's Matthai Botanical Gardens, it will offer the college and community a useful tool for understanding issues of environment, energy, and housing in new and different ways. Once the house is completed, both Harry Giles and Moji Navvab have considerable research plans for it. It is my hope that these endeavors continue to pursue an intersection between the aesthetics and technical issues of research and design within the college.

The MiSo* project is ongoing, and I believe will eventually yield the successful results in terms of performance that we had hoped to see in Washington D.C. Our entry to the Solar Decathlon was successful in many ways, however we eagerly await the spring, when the completion of the design and systems can be implemented and tested. We hope that our participation was a catalyst for pushing the boundaries of the Decathlon, and that all the future competitors might continue to expand the scope of the competition as a result of our unusual project.

heavy-duty pickup trucks. As a result, mobility became an important part of how we defined sustainability.

The chassis were designed with the help of an engineering firm that specializes in trailers for the RV industry. In addition, the students and Harry Giles used software to analyze the trailer frames as an integral part of the house structure and to ensure that the design would withstand the rigors of the road. The axles and suspension were designed for fragile cargo, integrating an air spring with a flexible rubber torsion arm. This not only ensured the safe transport of the sophisticated energy system and glazed house modules, but it also allowed us to adjust the height of the trailers using air pressure in order to ease the assembly process.

Ultimately there was still a great deal of time and energy involved in assembling the modules, causing many team members to re-evaluate their practicality. The potential for transport through mountain passes or narrow streets may not provide enough benefit to outweigh the cost of assembly.

—Timothy Risk

MArch '06

"The experience and knowledge I gained from constructing MiSo* was something altogether unique. Architects should know how to work with their hands at a one-to-one scale and get some dirt on that white collar."

—**Julianna Lieu**
MArch '05

FELLOWS

William Muschenheim

The William Muschenheim fellowship supports and encourages individuals who show promise as design instructors and are at or near the beginning of their professional or academic career.

Former Muschenheim Fellows:

Reto Geiser
Sandy Attia
Kristine Synnes
Michael Meredith
Glenn Wilcox
Elgin Cleckley
David Cabianca
Lisa Iwamoto
George Daskalakis
Marili Santos-Munné
Laura Briggsv
Kent Kleinmanv
Lise Ann Couture
Charles Warren
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Ian Taberne
Randall Ott

William A. Oberdick

The Willard A. Oberdick fellowship supports and encourages individuals who show promise in building science, information technologies and design. Candidates should be at or near the beginning of their professional or academic career.

Former Oberdick Fellows:

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Oliver Neumann
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Olivia Hyde
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Walter B. Sanders

The Walter B. Sanders fellowship supports and encourages experienced practitioners who are interested in architectural design and education and provides them the opportunity to pursue research or other creative activities.

Former Sanders Fellows:

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Mireille Roddier
Keith Mitnick
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Janet Fink
M. Craig Borum
Laura Auerbach
Roland Köb
Adam Yarinsky
Charles Waldheim
Dean J. Almy II
Yung Ho Chang
R. Thomas Hille

2004–05

Adrian Blackwell University of Toronto > UM TCAUP > University of Toronto

Adrian Blackwell has a master of urban design from University of Toronto and a bachelor of architecture from University of Waterloo. He taught at University of Toronto in the Urban Design Program and in the Architecture Program as an adjunct assistant professor. Last winter he taught two courses at Chonging University in China and conducted a traveling studio for University of Toronto students in China. Blackwell's efforts bring together art, architecture, urban design and activism, with an interest in developing infrastructural systems that facilitate the creative use of public space in the contemporary city.

Cousres Taught: Represention Seminar, UG4 Wallenberg Studio
2G3/3G6 Graduate Studio with Yung Ho-Chang

Jonas Hauptman HPI/SCI-Arc > UM TCAUP

As an artist, academic, design practitioner and entrepreneur, Jonas Hauptman's projects tend to engage issues of ethics, environment and design. Hauptman is Design Director of Hauptman Products Inc. (HPI), a design and manufacturing company founded in 2002, which focuses on applying material and ecological design research towards the built environment. HPI's projects and products have been exhibited, published and sold internationally. His academic training in the fine arts includes an master of fine arts in metalsmithing from Cranbrook Acadamy of Art (2000) and a bachelor of fine arts in sculpture from Rhode Island School of Design (1994). Before TCAUP, he served on the faculty of the Southern California Institute of Architecture.

Courses Taught: Faculty Advisor—MiSo, UG3 Design Studio

Michael Silver Yale > UM TCAUP > Pratt Institute

Michael Silver was a visiting professor in the Graduate School of Architecture at Yale University in 2003-04. He has also taught at the Harvard, Parsons, Rensselaer, Pratt, the New Jersey Institute of Technology and Ohio State University, where he held the LeFevre '29 Fellowship from 2000–2001. Silver's work has been exhibited and published widely. He is the author of Pamphlet Architecture #19 Reading/Drawing/Building, published in 1996, and the editor of Mapping in the Age of Digital Media: The Yale Symposium, published in 2003. He is currently working on a monograph entitled Matter in-Formation: New Directions in Computing for Architecture.

Courses Taught: Representation Seminar, UG3 Design Studio,
UG4 Wallenberg Studio, Scripting for Architects

Detroit's Underdevelopment

separation › divesture › erasure › encampment (work in progress–November 2005)

Adrian Blackwell 2004–05 Muschenheim Fellow

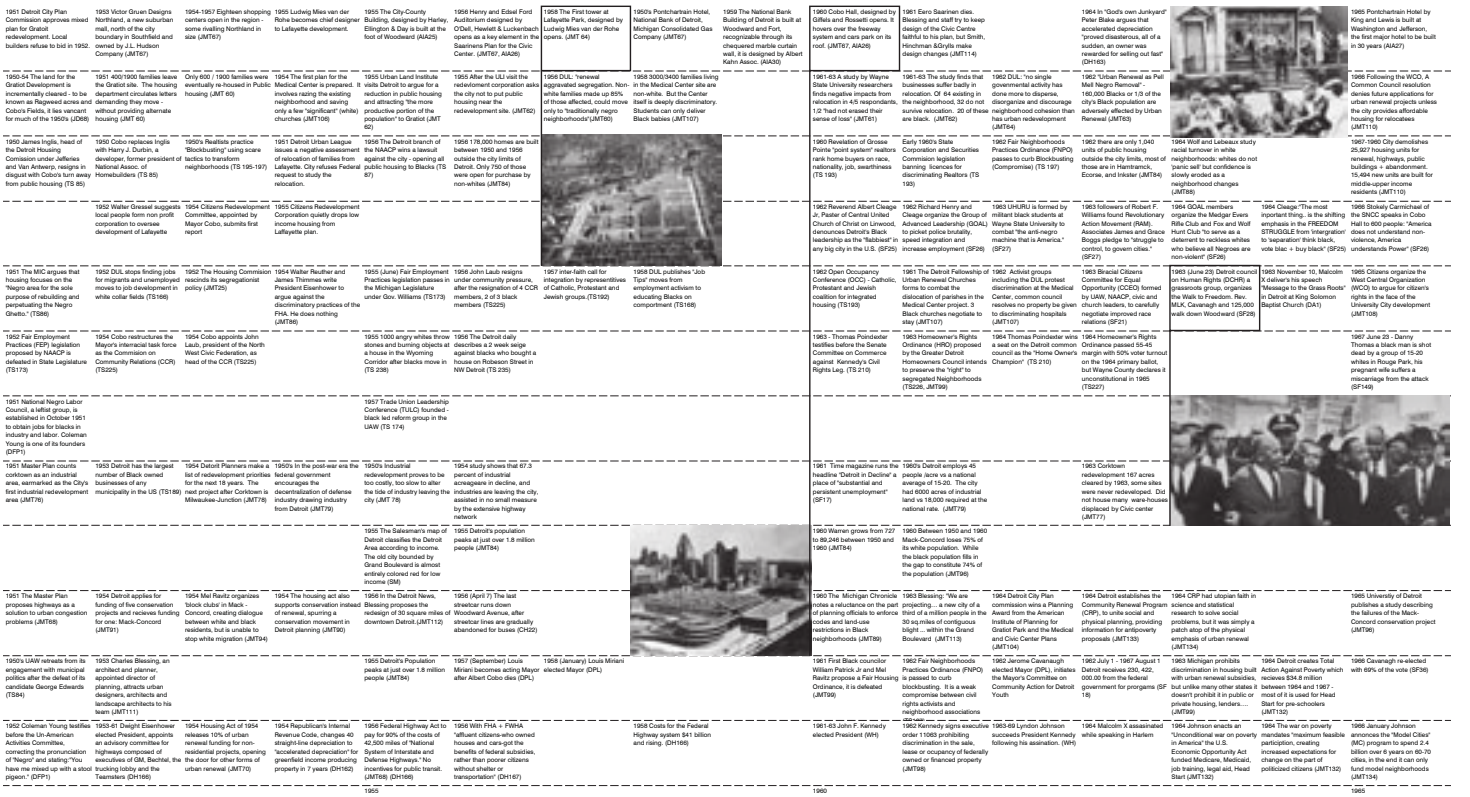
"It's not a bad city; it's a horribly designed city."[1]

—Derrick May, *Transmat Records*

This project is an attempt to map the relationships between social forces and physical spaces in the city of Detroit since the Second World War. It argues against two trends in recent thinking about the city. The first is a conservative position that imagines that liberal overspending in the 1960s raised unrealistic expectations in urban black populations, leading to self-destructive riots, black political power, white fear, the freefall of Detroit's economic base and finally deep poverty. This vision has a very short historical view, forgetting the violent racism of the post-war period and denying the symbiotic relation between the city and periphery. The second is a "dirty realist" position popular with architects. This argument sees the early de-industrialization of Detroit as the cause of all its problems, downplaying the powerful roles that social forces and political decisions played in the city's economic transformation.

In contrast to both, this project begins to spatialize recent work of Thomas Sugrue, author of "The Origins of the Urban Crisis" and June Manning Thomas, author of "Race and Redevelopment." Both argue that the powerful effects of racism shaped the city's underdevelopment as sharply as economic forces. The purpose of these maps is to gain a better purchase on the historical factors that lie beneath the situation of contemporary Detroit, as a means to consider the serious action required to transform the metropolitan area into a more equitable social space. Techno innovator Derrick May calls Detroit "a horribly designed city." Specific design decisions, many of them influenced by design professionals, have

Excerpt from 20th century timeline



contributed to the construction of a city that is deeply divided by affluence and poverty, whiteness and blackness. As a result, living in different locations means completely different access to education, healthcare, personal safety and employment. This tragic underdevelopment was accomplished through the use of an overlapping complex of paranoid strategies, each tied to explicit policies of development and often initiated and supported by both government and corporate lobby groups. Here I am trying to consider four strategies that are distinctly spatial: separation, divesture, erasure and encampment.

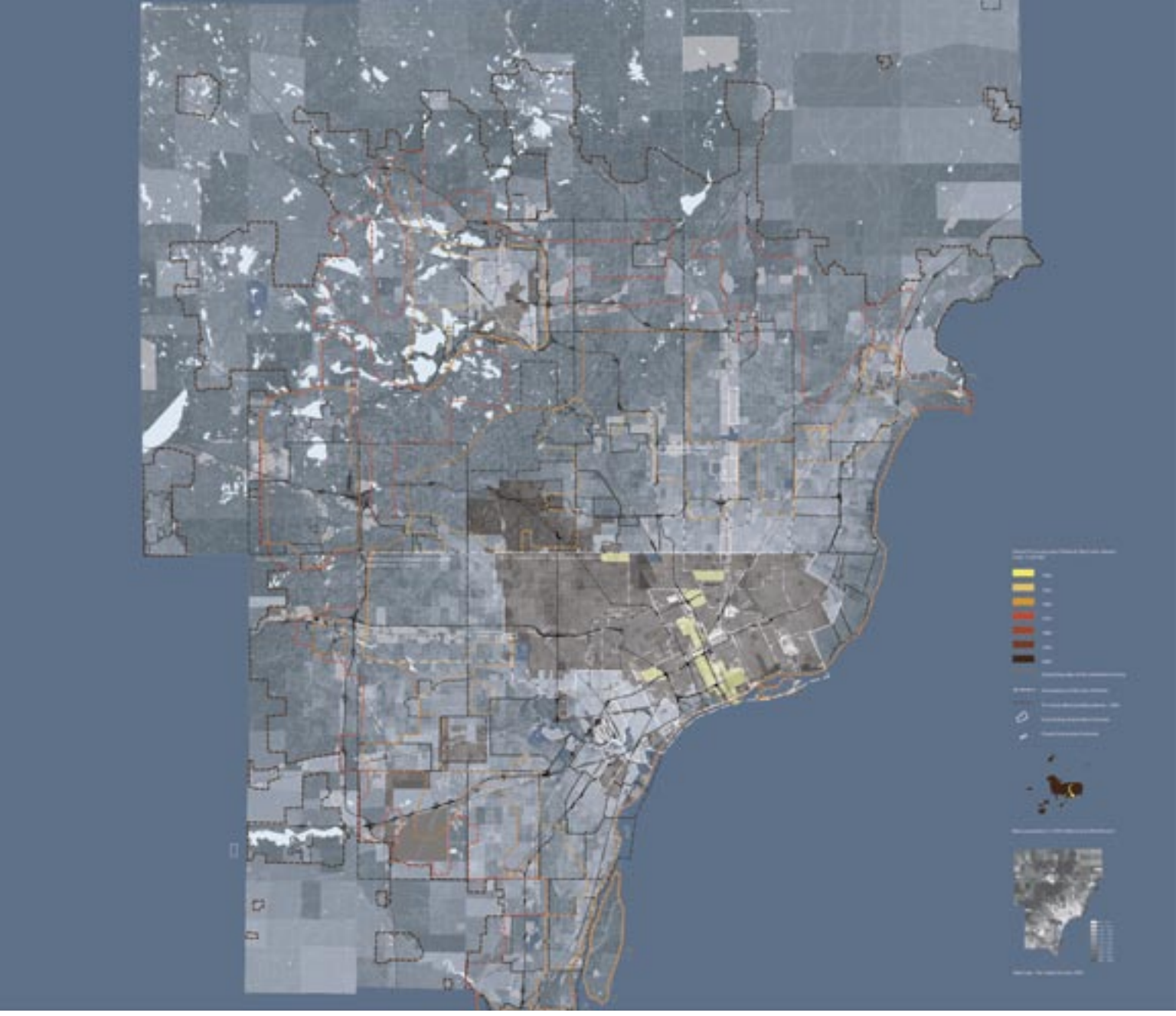
The project takes the form of three maps. Each map is accompanied by a text and one third of a timeline that stretches from 1900-2000. A history of urban development in 20th century Detroit is constructed between these three descriptive systems —timeline, narrative and mapping.

1:100,000 > beyond the fray

"While whites begrudgingly accepted 'integration' in principle, in practice they strove to maintain an unbridgeable social and symbolic gulf with their compatriots of African American descent. They abandoned public schools, shunned public space and fled to the suburbs in their millions to avoid mixing and to ward off the spectre of 'social equality' in the city. They turned against the welfare state and those programmes upon which the collective advancement of blacks most depended."[2]

—Loic Waquant,
Slavery to Mass Incarceration

According to data from the 2000 census report, the Detroit metropolitan area remains the most racially segregated city in the country.[3] This segregation was produced through a complex web of factors; it was not the result of autonomous economic processes. Rather, it has been socially constructed



through a set of strategic and tactical initiatives, implemented in relation to changing economic conditions and following distinct lines of desire over an uneven terrain of power relations. Automotive companies struggled to increase productivity and minimize costs; politicians worked hard to win votes, often reinforcing the status quo in the process; white residents fought tenaciously to improve their position and maintain the integrity of their neighborhoods; while black residents struggled against vicious racism to make a living and find homes for themselves in the city. Though both white and black workers shared common desires for improved material conditions and sense of self-worth, their respective demands were thrown into competition with one another.

black residents

This map illustrates the change in the location of African American residents of Detroit between 1940 and 2000. Despite their shifting edges, these boundaries were vigorously defended by white populations on one side against the encroachment of black residents on the other. Racial definitions were stark in the 1940s, but are more sharply defined today. Throughout the last century, black residents have struggled for freedom in determining where they live. This has been a protracted fight against a discriminatory federal government that implemented funding for housing in the 1930s based on Home Owner's Loan Corporation maps, which redlined black neighborhoods, rendering them ineligible for funding. This process was only made illegal in 1962 when President Kennedy passed Executive Order 11063 prohibiting discrimination in the sale, lease or occupancy of federally owned or financed property. The National Association for the Advancement of

Colored People (NAACP) finally won its case against the legitimacy of racially restrictive neighborhood covenants in 1948, but the fight against the racist practices of real estate brokers and lending institutions carried into the 1980s and persists today. Both the Detroit Urban League (DUL) and the NAACP fought the municipal government as it pursued radical urban renewal aimed primarily at African American neighborhoods, providing new housing for only a fraction of the residents that were displaced. Finally, throughout the 1950s, new black residents in a white neighborhood had to face neighborhood associations who would terrorize them until they were forced to move.[4] Since the 1970s and the rise of black political power, Detroit's city boundaries have been reified as the dividing line between black and white populations.

white residents

White residents struggled to improve their material conditions while defending the neighborhoods they felt they had only recently and precariously secured through high wages in the auto industry. They left the city very quickly after the Second World War, taking advantage of the GI bill and the Federal Housing Administration's guaranteed loans, fueling a residential building boom in farmland on the periphery of the city. This process intensified in the 1950s and 1960s as highways were constructed once federal money was made available to finance them. Suburbs were sold as white enclaves free from the problems of the city. The Salesman's map of 1955 indicates that by that date virtually the entire downtown was redlined as a low income area. This "blight" was the subject of planning director Charles Blessing's plan to remake the old city of Detroit within Grand Boulevard. Because black residents had no option but to live in this area, they were associated in the white imagination with this condition. "Blight" and blackness were seen as related problems and the solution for both was the demolition of "ghettos" and the production of middle and upper class spaces in their place. The destruction of the historic black neighborhoods of Black Bottom and Paradise Valley by the Gratiot development, Brewster Homes, and the Chrysler Freeway forced the accelerated migration of black residents into stable white neighborhoods. Detroit Mayors Jefferies and Cobo played to white fears, promising their allegiance to discriminatory neighborhood associations in order to get votes, thereby fanning the fears that led whites to leave the city for the "country". Whites left the city for the hills (Bloomfield Hills) and the lakes (Grosse Pointe, Lake Angelus). If you look at the relationship between topography and income in the tri-county area, a line of affluence cuts the map from Northville, in northwestern Wayne County, diagonally through Oakland County to the northwest corner of Macomb County, following the ridge of hills almost precisely. The urban, by contrast, was conceptualized as "black space," and it remains so today.

annexation

This map traces the history of the city's annexation. Detroit was continually expanding throughout the 19th century and into the early 20th century. In 1909, Michigan Public Act 279 was passed, making it easier to incorporate as a new municipality and more difficult for existing cities to simply annex suburban land in their quest for expansion. Henry Ford and the Dodge brothers took early advantage of this legislation in the late teens, pushing for the incorporation of Highland Park, where Ford's factory was located, and Hamtramck, where Dodge Main was located. In doing so, they were able to avoid Detroit's taxation and political leverage over their business activities and to run their respective municipalities as company towns. This pattern of urban divesture became the pattern that most industries located near the center city would follow. Amendments to the 1909 legislation made it impossible to expand beyond Detroit's 1926 boundaries. When the relation between the city's economic viability and room for suburban expansion became painfully clear in the late 1940s, Mayor Edward Jefferies asked planning staff to study possible annexations in Redford, Livonia and Warren. This proposal fell through in the 1948, with the election of Eugene Antwerp. In the 1960s, Mayor Jerome Cavanagh again attempted to expand by creating a satellite suburb near Northville and Plymouth where Detroit's correctional facility stands. This proposal required federal money that was not forthcoming. The problem of the city's boundaries resonates today, with the black city understandably still distrustful of the motivations of the white suburban ring and the suburban ring constantly fearing the economic burden of the center city.

1:30,000 › zone of contestation

"All the capitalist economy's technical forces should be understood as effecting separations, but in the case of urbanism we are dealing with the fitting out of the general basis of those forces, with the readying of the ground in preparation for their deployment—in a word with the technology of separation itself."[5]

—Guy Debord, *Society of the Spectacle*

urban and social separation

The industrialization of the 19th century cut Detroit with railways and industrial areas. While these rail lines were originally built at the city's perimeter, they came to divide the fabric as urbanized areas expanded to engulf them. In the early 20th century, with the growth of the auto industry and the influx of immigration from Europe, the city was fragmented into distinct ethnic areas, its physical seams reinforcing those social separations. Industrial spaces at the heart of the city allowed workers to live near their workplaces or conveniently ride streetcars for a short commute. However, as the industrial capacity of the city began to decline after the Second World War, this productive proximity was

gradually reversed and the factories that once connected communities came to divide them.

As the country's most intensive industrial center, Detroit was devastated by the Great Depression. The war years that followed reinvigorated the city's economy, but neglected its fabric, while the second wave of the Great Migration caused severe overcrowding as black migrants flooded the city from the south. By the end of the war, the municipal government reacted to these forces with its intent to erase "blight" from the center city. The two key tools in the struggle for revitalization were urban renewal and the urban highway system, both the recipients of substantial funding from the federal government: urban renewal in 1949 when Truman passed the Taft-Ellender-Wagner Housing Reform Act, and highway construction in 1956 when Eisenhower passed the Federal Highway Act to pay for ninety percent of the costs of a system of interstate and defense highways.

Detroit's system of urban highways was carefully designed to create a developable enclave in the center city. Tightly clinging to the downtown, it cut through poor neighborhoods to the east and west of the core, erasing slums in the lower east side where wave after wave of immigrants had lived, in an effort to separate spaces of poverty from a secure territory in the downtown. Mayor Jefferies and the planning department argued that highways would make the center viable once again for suburban inhabitants and that they were the key to its ongoing viability as a commercial area. However, the result was the opposite: it became much easier to leave the city, making suburban life more convenient and propelling rapid development at the periphery. At least as significant as this centrifugal force was the damage the highways caused in Detroit as they sliced the center city. Land next to the highways was devalued, demolished and never rebuilt so that today the thinned fabric of the core disappears as it reaches the expressways. In the instances when it was rebuilt for housing, stadiums or universities, these spaces were reconstructed as enclaves disconnected from the downtown. Through processes of development, like the highway system and urban renewal, Detroit's fabric has been decisively fractured into an archipelago of uncommunicative parcels.

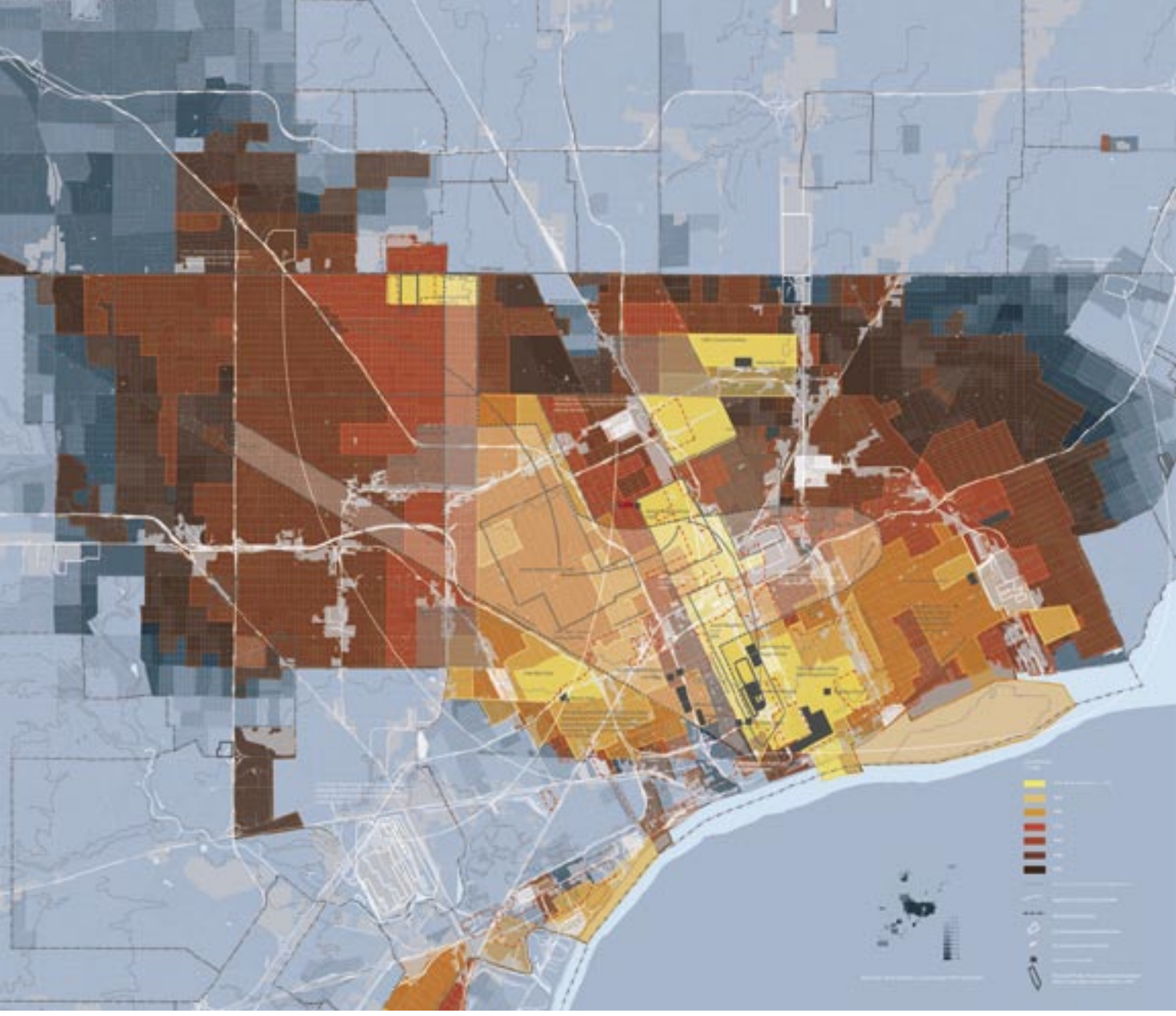
homegrown xenophobia

Ford's world view was fundamentally anti-urban, proposing that industry should be organized in villages and retreating from the city to Highland Park and, a few years later, to Dearborn. His devaluing of the productive potential of the city's complexity was profoundly nostalgic, creating a mythological hybrid based in mechanized labor and a pastoral aesthetic. The fabricated utopia of coherence that Ford imagined and was able to produce in the enclave of Dearborn was untenable except in its adjacency to the pool of ready labor that was Detroit.

It was not misunderstanding, but recognition, that led Adolf Hitler to revere Ford as a paternal figure for his mixture of Taylorist productivity and pastoral xenophobia that was Nazi fascism. Ford's ghost written anti-Semitic tracts, originally published in the Dearborn Independent and later in book form as "The International Jew," became one of Hitler's key inspirations and a life-size portrait of Ford hung in his office. The German consul of cleaveland presented Ford with the Grand Cross of the German Eagle on his seventy-fifth birthday in 1938. Ford was also involved in substantial business ventures in Germany. Throughout the "Second World War, the Ford Motor Company held majority shares in Ford A.G. Never confiscated, this subsidiary produced trucks for the German army, using camp labor. At the same time, back in the United States, Ford fought an illegal battle against unionization for four years, using his paramilitary "service men" to intimidate his work force.[6]

Ford's public proclamations had substantial local effects, adding weight to the racism and anti-Semitism and of the Ku Klux Klan, the Black Legion (a local white supremacist organization), radio personality and Catholic priest Charles Coughlin's xenophobic vitriol and Dearborn Mayor Orville Hubbard's claims that he would keep his town "lily white" for the duration of his term. Like blacks, Jews were also excluded by racial covenants. As a result they suffered from similar discrimination in the housing market, living in higher densities than their non-Jewish neighbors. By tracing Jewish and black neighborhoods through the century, it is clear that Jewish neighborhoods were undefended against encroachment by outsiders, in part because of a sense of solidarity in discrimination and in part because many lower income Jews were tenants and could move relatively easily. As a result, these were the first spaces that blacks moved into as they were forced from the confines of the lower east side. The first Jewish neighborhoods in the 20th century were on lower Hastings Avenue, moving north as far as the Highland Park border in the 1930s, crossing Woodward to 12th street in the 1940s, moving north to 8 mile by 1960 and finally leaving the city altogether for Oak Park and Southfield in the 1970s. This trajectory was closely followed by black residents after approximately a decade's delay.

The division of the working class into black and white has been an extremely effective tool of control. During the drive to unionize in the late 1930's, Harry Bennett, Ford's strongman, armed black workers with pipes and clubs and used them as scabs and strike breakers, preying on their insecurities in a white dominated work environment. The substantially immigrant, white working class fought brutally against the encroachment of black workers on their positions of seniority and skilled labor, leaving blacks to do what Thomas Sugrue has called the "meanest and dirtiest of jobs," work that white workers felt was beneath them. The idea that black workers were the lowest in the hierarchy gave white workers a sense of their own relative value. This social

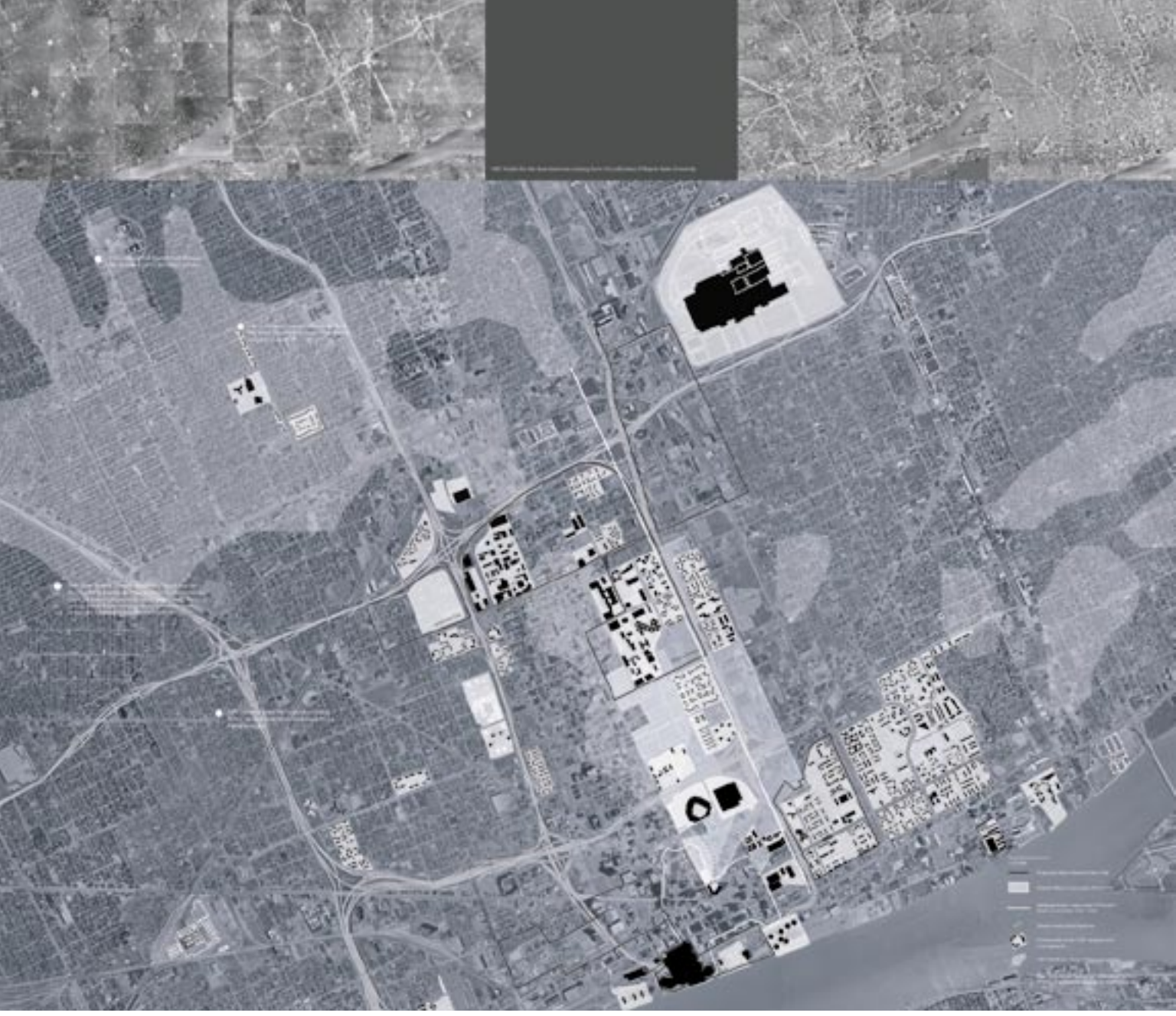


separation within the city was separate, but never equal, and it led to a similar physical division of urban spaces.

riot / rebellion

In the face of this aggression and with the confidence of growing political power, an active culture of radical politics developed within the black community in the early 1960s. Many groups active in anti-segregationist activism in the southern states, including the Student Non-Violent Coordinating Committee (SNCC) and the Black Panther Movement, advocated the arming of black communities in self-defense, arguing that peaceful activism was simply not effective and accepting the small concessions of a fundamentally racist power structure was futile. In Detroit, groups like Uhuru, GOAL, the Revolutionary Action Movement (RAM), the Adult Community Movement for Equality (ACME) and the West Central Organization (WCO) were formed. This rising militancy was one of the forces that provoked the rebellion of 1967, where thousands took to the street expressing their rage at being forced to live in a divided society.

Unfortunately the rebellion's destruction was never to function as a stimulus to rebuild Detroit in an integrated form. So when Mayor Coleman Young was elected in 1973, black residents inherited a devalued and fractured city. The freedom that black political power promised was deeply undercut by the physical infrastructure of the city it controlled. Many of the divisions that had scarred the streets of the city since the 1940s continued in the separation between the suburbs and the city, while its interior was shattered by rifts, strewn with sections of abandoned industry, railways, highways, urban renewal and physical deterioration.



1:10,000 > built (and unbuilt) form

"*The Nigger is going to be made a serf as sure as you live. It won't need any law for that. Planters will have an understanding among themselves, 'you won't hire my niggers, and I won't hire yours;' then what's left for them? They're attached to the soil, and we're as much their masters as ever. I'll stake my life; this is the way it will work.*"[7]

—Alabama planter (1865, after abolition)

"*The black man has the feeling he is about to take power in the City, but he is going to be left with an empty bag.*"[8]

—Joseph Hudson, New Detroit Inc. (early 1970s)

erasure

As a response to decay in the first half of the century, Detroit adopted an aggressive project of erasure to cleanse the city of "blight." Urban renewal was a systematic initiative, designed as a series of linked projects. The Civic Center on the waterfront attempted to clear industrial areas that blocked the waterfront. The medical center was to transform the residential fabric around Detroit's largest hospitals, while to the north of it the cultural center was to be redeveloped as a civilizing heart for the industrial metropolis. University City built up the Wayne State campus with new buildings inside the city's second ring. From the map to the left, it is clear that the bulk of urban renewal projects were aimed at the east side of Woodward which, in the 1940s, was Detroit's black ghetto. Commentators at the time claimed that "urban renewal is negro removal."

The first of the large downtown projects, the Gratiot redevelopment (now called Lafayette Park), was proposed in the late 1940s, but was not built until the late 1950s. For these ten years, it was known as "ragweed acres" and "Cobo's field." The project demolished the oldest part of Black Bottom. Directly adjacent,

the Chrysler Freeway was built to run straight up Hastings Avenue, demolishing the active center of Paradise Valley and erasing not only the jazz and blues music scenes, which at the time rivaled those of Chicago, but more importantly the social and commercial fabric that bound the community together. The owner of a pool hall in Black Bottom, relocated for a later development adjacent to Lafayette Park, makes this clear: "I was not paid enough to start over into anything. If you wish to pass any information on you may say I feel very bitter over the way people in general were treated. It will not help to say anymore. I tried for many years and many meetings with people that lived in the area to get better consideration. We did not get it."[9]

In her book, "Root Shock," Mindy Fullilove argues that the erasure of black urban neighborhoods across the United States in the 1950s and 1960s was a trauma that many people and communities never recovered from. Though the black population was recentered on 12th street, it not able to construct the same kind of cultural center it had on Hastings Avenue. By contrast, 12th street developed quickly into a red light and nightlife district. A much less heterogeneous street than Hastings Avenue had been, it was unable to serve the whole community. Even today there is no commercial street in Detroit that serves the breadth of functions that Hastings Avenue once did.

divesture

Urban renewal did, however, have the function of inspiring militant black activism in the 1960s, which was fed up with the accommodating and the polite advocacy of the NAACP and the Detroit Urban League. The new activism argued that only a much more forceful approach could confront the violence of an army of white police and the displacement of urban renewal. The white response to Black Power was spatial segregation through suburban flight, an offensive that pulled all the hard won economic strength of the black community out from under it at the very moment it had gained legal rights against discrimination. This divesture created an enclave of poverty. Examination of the relative opportunities of white and black Detroiters during the downturn of the 1970s and 1980s demonstrates that the economic empowerment of black males plummeted in comparison to white males.

The trauma of the economic evacuation of black space and the severe disempowerment that followed created a sense of nihilism that Cornel West argues is one of the most damaging aspects of contemporary black life. Beset by violent discrimination and lack of productive employment opportunities, while seeing little example of productive solidarity, dangerous youth cultures propelled by myths of hedonism and personal power developed after the dissolution of the progressive militancy of the Black Power movements. Much of the ongoing erasure of the city's residential fabric is a product of this nihilism and despair.

encampment

The spatial response to this nihilism has been a strategy of encampment. As the city produces its new internal frontier, strategies are imagined to re-conquer it. Urban renewal was the first of these techniques. More recent attempts have been private initiatives often built in partnership with public tax abatements and other subsidies. These projects share the distinctive trait of internalization. Unlike the urban renewal projects which loudly proclaimed their public and inclusive character, even as they destroyed poor neighborhoods and cut themselves off from city streets, contemporary developments display a sense of wagon circle urbanism, proclaiming their definitively private characters. Examining the plan typologies of new developments in the downtown area, it is clear that they show a disregard for the existing street patterns and are developed as defensible spaces in what is perceived as a hostile territory.

The strategy of encampment focuses on the downtown, which is imagined as a possible enclave in itself. The highway structure reinforces this idea as it encircles the center, protecting it from the "wilds" of the city beyond. The People Mover is a failed attempt to construct the core as an island within the city, by stringing encampments together like beads on a chain. Its structure created a very distinct boundary, dividing the abandoned historic core from the mostly demolished fabric between it and the expressways. The encampment strategy has had high costs, ignoring the rest of the city, which so desperately desires the development of viable commercial and employment areas. Detroit is in desperate need of development that plugs into the fabric and connects outward rather than architecture that closes ranks and rejects the existing city surrounding it.

Notes

1 *High Tech Soul: The Creation of Techno Music*, film, directed by Gary Bredow and Jason Simon (2005).

2 Loic Waquant, "From Slavery to Mass Incarceration," *New Left Review* 13 (Jan, Feb 2002) p.41-60

3 Gordon Trowbridge, "Locale Links Segregated Cities," *The Detroit News*, January 14, 2002.

4 Thomas Sugrue, "'United Communities are Impregnable': Violence and the Colour Line," T*he Origins of the Urban Crisis* (Princeton New Jersy: Princeton University Press, 1996) p.230-258

5 Guy Debord, *The Society of the Spectacle,* (New York: Zone Books, 1994), p.121.

6 Neil Baldwin, *Henry Ford and the Jews: The Mass Production of Hate,* (New York: Public Affairs, 2001) p.268-280

7 Bobby M. Wilson, *America's Johannesburg* (Lanham: Rowman & Littlefield, 2000).

8 June Manning Thomas, *Race and Redevelopment* (New York: John Hopkins, 1997), p.149.

9 Ibid., p.62.

Project Credits. GIS mapping: KeirstenDeegan; Tracing: Alex Acemyan, Adrian Blackwell, Megan Johnson, Scotty Keck, Amy Morgan, Jason Rostar, Jeff Saunders; Research: Eno Rebecca Udoh-Orok; Thanks to: Abir Ali, Yung Ho Chang, Eric Dueweke, Robert Fishman, Carleton Gholz, Roger Huebli, Jane Hutton, Marcin Kedzior, Martha Jones, Rahul Mehrotra, Vibeke Schroeder, Andre Sandifer, Kika Thorne, Greg Vendena and the students in my classes at the University of Michigan: Urban Rescaling, Seams of the City and Intermodal Byproducts.

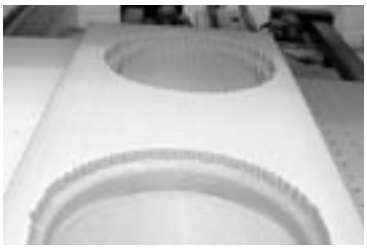


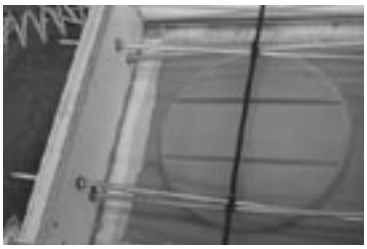

Palm Press Stool

Jonas Hauptman 2004–05 Oberdick Fellow

As an Oberdick fellow, the academic year 2004–05 marked the first time for me that the delicate balance between practitioner and teacher leaned more towards the academy and further from the commercial world of furniture design and fabrication. The fruits of this journey were first exhibited in the TCAUP gallery, followed by a group showing at Cranbrook Academy. The production of the work represented the goals, attitudes and working interests I have developed as a designer, educator and entrepreneur through my professional practice, Hauptman Products Inc. (HPI). I developed a material exploration in order to explore, evaluate and exhibit ideas about sustainable practice. These interests were expressed in the development and production of a stool seat, with the help of four students, Bill St. Amant, Kevin Hoyt, Ben Grobe and Austin Dingwall. The product of this material exploration was a hollow-molded stool from salvaged palm foliage.

The story of this stool begins in California where over the past decade the state legislature has attempted to stem the flow of solid waste production. The Integrated Waste Management Act of 1989 required that every city and county in the state






divert from landfill at least fifty percent of the waste generated within their jurisdiction by 2000 and sustain their waste diversion efforts thereafter. Los Angeles County annually disposes approximately ten million tons of solid waste. Of this total, organic waste makes up ten percent, or one million tons. Los Angles County's most visible response to the Integrated Waste Management Act has been reduction by diversion, wherein organic waste is diverted to mulch. However, palm foliage, which makes up twenty percent of this organic waste, is unsuitable for mulching because of its dense fibers and structural integrity. Thus, from Los Angeles County alone, roughly 200,000 tons of palm waste end up in the landfill annually, estimated by Sanitation District of Los Angeles County in 2003 to be a cost of ten million dollars. The incomplete diversion of waste is symptomatic of a consumer culture which does not address the causes of consumer waste. My question became how to use craft to divert the waste stream and create products with value. Early explorations tried to understand the market value such a product might have. This interest led to the development, manufacturing and retail launch of my reSeat product line, from a similar but less sustainable process.






My first research effort was a speculative project proposal that was entered into Metropolis' "Next Generation Design Competition" and submitted simultaneously for the Oberdick Fellowship application process, in which reSeat Municipal Seating Product (MSP) was first proposed. MSP, a design concept for the city of New York, is a product to replace rain forest hard wood with seating designs made from the palm foliage composite we were developing. Through this initial material investigation we made some physical composite samples, but no real control methods were applied and the investigation lacked the complexities





that were the deeper interests of the work. This portion of the work was produced at HPI in Los Angeles with the help of my former assistant, Dave Iannuzzi, who is now a TCAUP student.

These material explorations were refined during the academic year 2004–2005. What follows is a description of our process and some of my own musings on issues of sustainability, craft and design.

To explore what might be made from this waste stream we decided to make something useful. This developed effort was more ambitious and pragmatic than previous explorations, which yielded only material splotches. We felt that, in the spirit of both design and sustainability, we should put our efforts into developing an object of utility that investigates material formability. This concern ultimately took the form of a stool, an object that is fittingly prosaic, but also responds to the design/fabrication goal of creating a composite—adhesive plus palm foliage—into a hollow-formed object. The resulting stool was created digitally with several software tools for modeling both NURB surfaces and solid forms.

After establishing a form that met our technical and aesthetic criteria, the CAD data was used to create CAM data. This data, in turn, ran into a



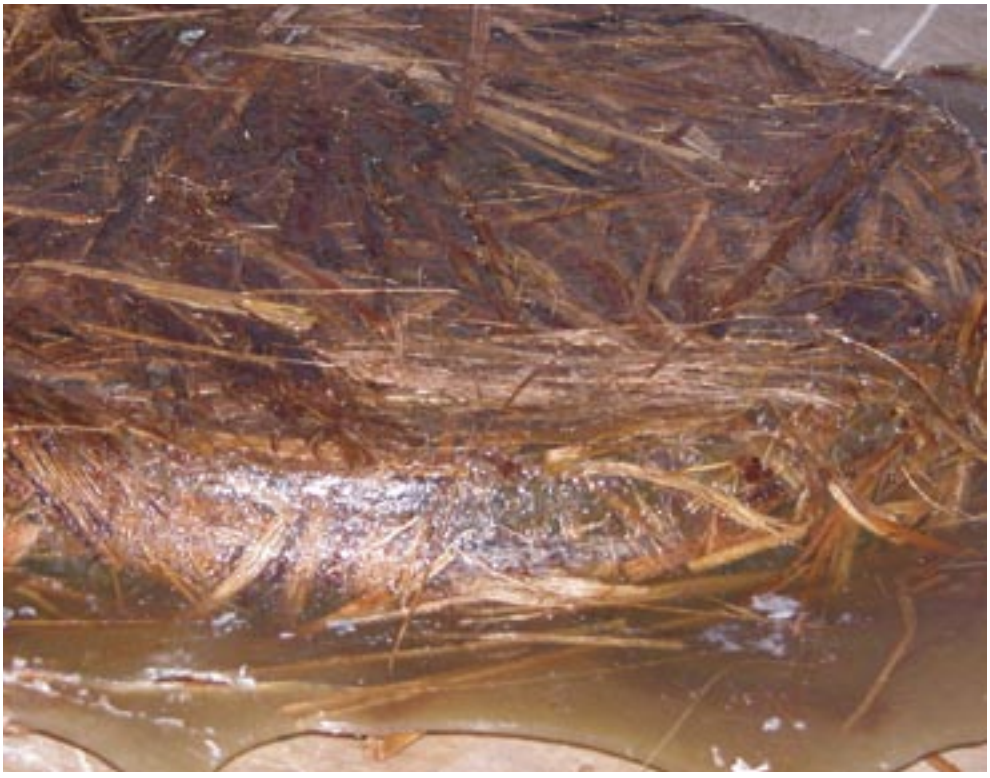

three-axis computer with a numerically controlled router to produce a foam prototype and pattern. At this time we also produced a female form that would later be used to fixture the composite part for a final flashing trim.

A concrete mold was pulled off of the resulting foam pattern. This process required several concrete pours and the making of both a male and female form. The concrete casting was a makeshift hybrid in process: a mold, but also a set of forming dies. Unlike conventional forming dies made from polymers or large-run tools made of cast metals, we used concrete because of its low cost, relative ease to work with and mild environmental impact. The experimental process produced a pressing die which successfully produced a few parts before it catastrophically failed. These male and female concrete parts where eventually used to squeeze particles of palm foliage and polyester resin together under a great deal of pressure, approximately sixty tons per square foot of surface.

To achieve the sixty degrees Fahrenheit necessary for adhesive curing, working outside in a Michigan winter, we purchased four ad hoc electric skillets and placed these heaters under the pressing molds until the adhesives cured. Thus,





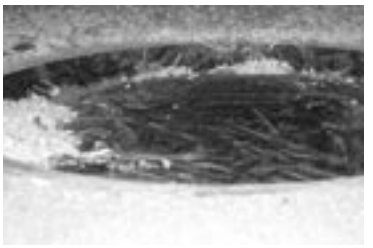


in the hands of experimental craftsmen, very common means can often produce surprising solutions. In fact, everything but the foliage and the steel we used in our clamping fixture was purchased at one of three local big box stores. The palm fronds were quickly hacked up atop my anvil with an axe. The particles were eventually mixed with resin and pressed between our die parts in a simple four-armed press that we constructed. The pressing fixture was constructed from a single length of common structural steel channel. Typical twenty ton car jacks were used to apply the necessary force for forming the composite parts.





Being in Ann Arbor, away from the supplies and industry of Los Angeles, I needed to simplify the processes, which turned out to be a surprisingly refreshing way to work. Immersion in this design culture highlighted the relevance of craft as a necessary arm of architectural design. As I try to focus my designer's lens on issues of ethics, materiality and sustainability, ideas that were formed about craft seem to offer the most promise to sustainable design practices. The act of making rewards the efforts of our eyes, hearts, hands and minds. I encourage the design conversation to look toward the tangible for clues about how to address the ethics of design and the designed environment.




PRESTO

From Computation to Production

Michael Silver, 2004–05 Sanders Fellow

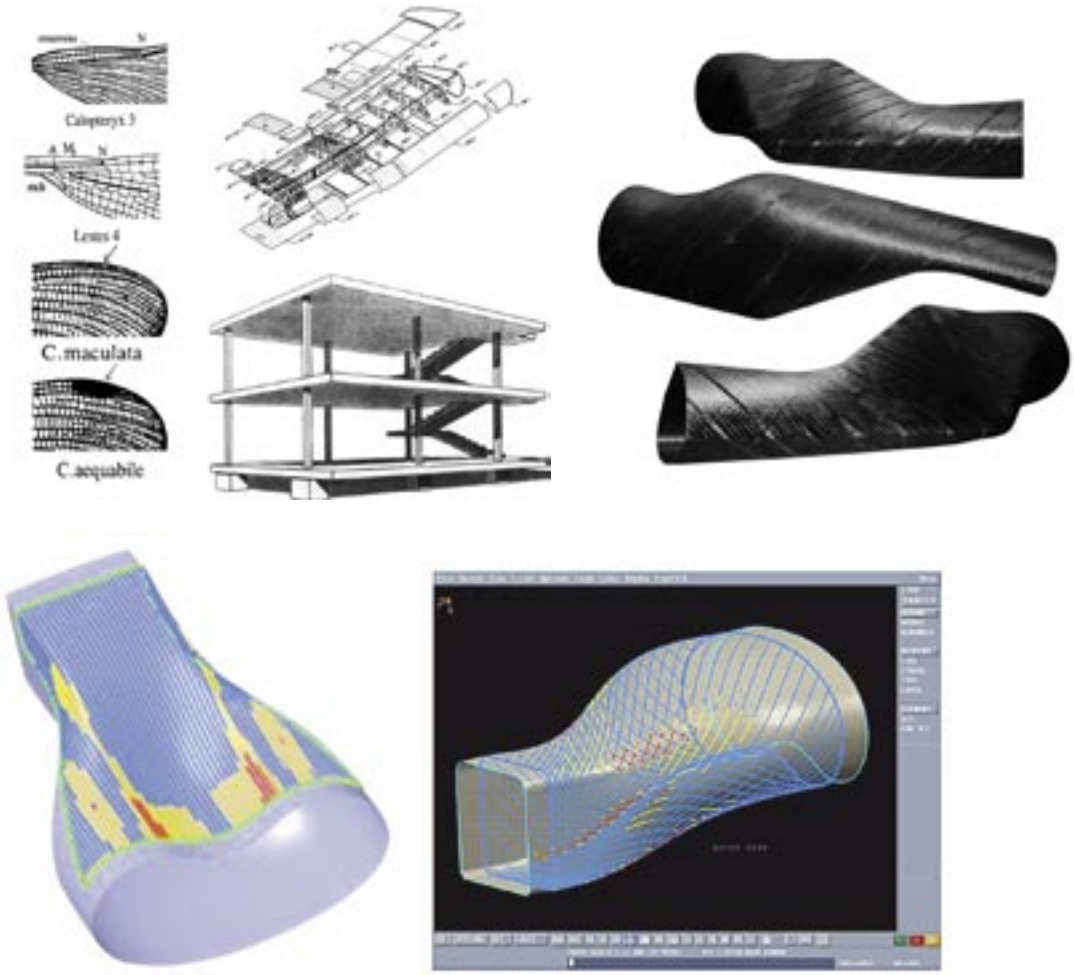
Framelessness: Constructing a Strong, Rigid and Ultra-light Membrane Using Computer Data

"CM's Viper FPS is an advanced composite fiber placement system that manufactures highly contoured aerospace components such as fuselage sections, pressure tanks and nose cones. The system, measuring almost five thousand square feet places layers of one-eighth inch composite fiber tape onto a giant mold machined to the shape of the finished part. Each layer is put down in a different direction to increase the components' overall stiffness and durability."[1]

—From "Open Control Drives PC-Based CNC at Cincinnati Machines"

Carbon composite materials have been around since the late 1950s and their potential applications for architecture have been widely discussed. Yet, while the aspiration to construct thin, multi-functional and load-bearing membranes continues to capture the architectural imagination, productive research has been scant. Contemporary discourse lacks a serious understanding of the tectonic possibilities offered by composite fabrication technologies and remains uninformed about their modes

Unlike insect wings, an airfoil traditionally consists of evenly distributed spars, covered by a stressed skin membrane. For the wings of a moth or a fly, structural stiffness is provided by a hyper-fine network of tiny fibers. The network's configuration and density is adjusted on a micro scale by following local forces spread across a flat surface that is subject to complex aerodynamic loads. The lightness produced by Le Corbusier's Maison Domino type is obviously not a direct translation of stressed skin construction since its walls and facades do not bear any real loads.In most airplanes, the fuselage surface holds the frame together. If it were removed, the entire form would be weakened. With the elimination of the frame, the strength and stiffness of a composite shell is acquired through the precise control of its fiber's direction and density. Like the wings of an insect, this precision and control permits a non-standardized approach to form and geometry. Here, structural elements have been atomized into much smaller components, transforming what remains into an irregular and densely configured lattice. Its openings are not simply covered up by an applied veneer but are instead specific to the underlying fibrous organization.

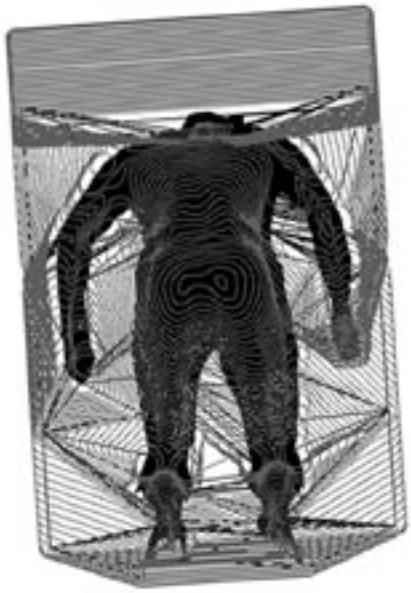


of operation. By failing to examine specific systems, designers often fail to propose realistic applications or, moreover, fail to explore their most ground-breaking potential.

Computer Automated Fiber Placement Technology is a relatively new fabrication process that demands fundamental changes in the way we think about materials, space, structure and program. The system itself deploys carbon fabric, Kevlar or transparent glass threads in a composite matrix held together by high strength epoxy resin. Using a computer to lay down strands of fiber on a preformed mandrel, non-standard forms can be produced with a high degree of precision. These tapped surfaces are extremely corrosion resistant and a panel made from these materials is typically one and one-half times lighter and seven times stronger than the same panel made of aluminum. Moreover, the entire fuselage of Raytheon's Premier I business jet is a tapped composite shell that contains no separate internal armature. In this way, different materials normally used for columns, beams, walls and floors can be replaced by a highly responsive monocoque shell.

Where a CNC mill or a laser cutter produces variable components using conventional materials like wood, metal or plastic, fiber placement technology builds innovative composites that possess unprecedented lightness and strength. With these new techniques of digital fabrication, one can transcend the limits of conventional construction methods and the conceptual assumptions that often determine architectural forms.

With new techniques of digital mapping and fabrication, the benefits of custom tailoring can be mechanized, allowing for the efficient production of a large differential series. For the Portrait Chair project, a 3-D optical scanner was used to design furniture that precisely fits the contours of an individual user. From the scanner, the data was fed into a large CNC mill that produced the final chair. In this way, we were able to demonstrate an efficient method for the mass customization of marketable products from digitally acquired and site-specific spatial data.



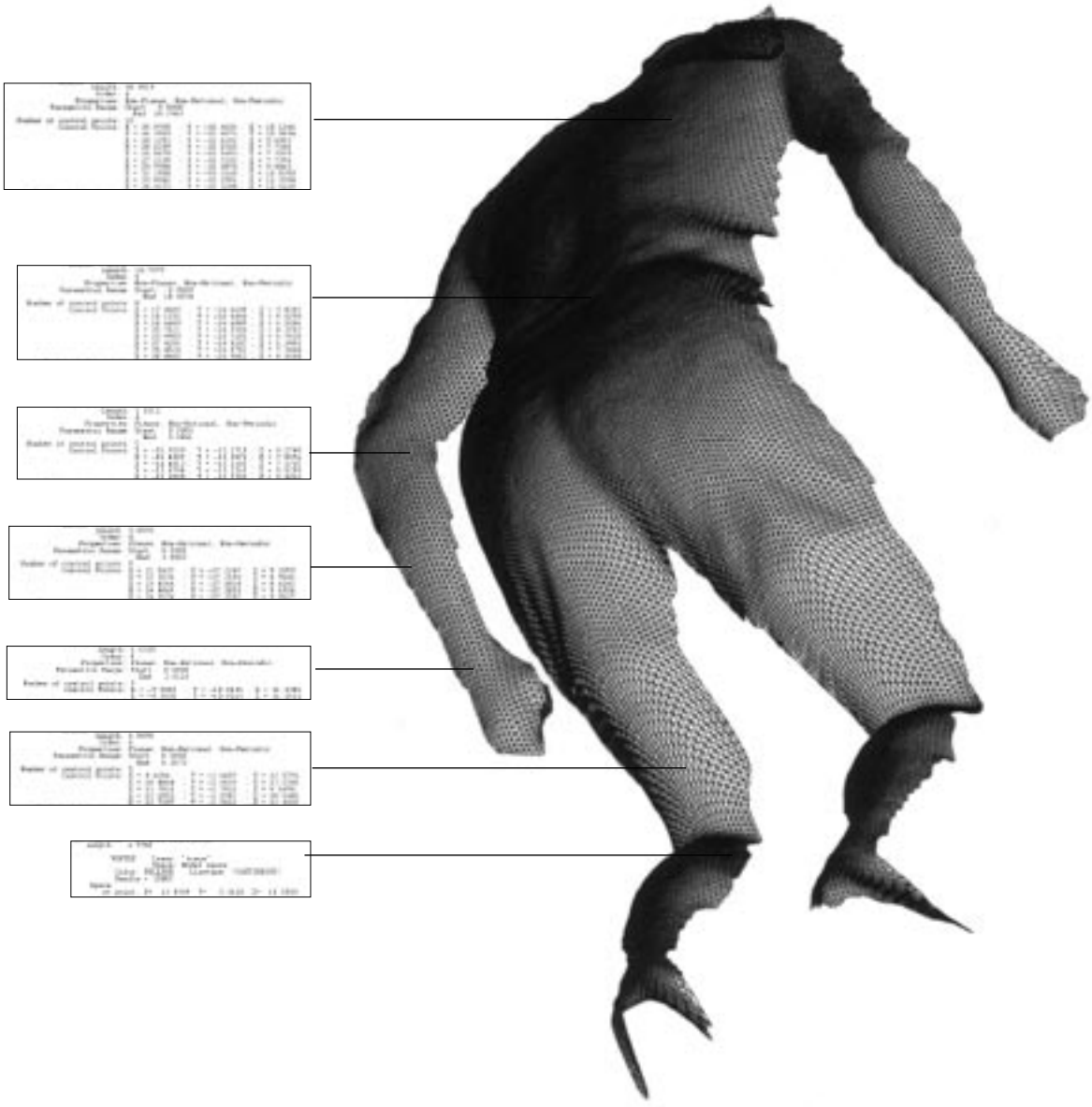
Measured Bodies: Data Base vs. Diagram

If our ideas about the body are indeed reflected in and produced by the images we make, then certainly new techniques of space mapping deserve more attention. With the introduction of digital computers, new ways of recording space have affected disciplines as diverse as film, medicine and industrial design. As a result, anthropometry, a trusted source of objective notions about scale and fitness, is undergoing a radical transformation. Not since the Monaco Agreement of 1906, one of the first international meetings on standardized body measurement, has there been such a dramatic change in the way we produce, deploy and evaluate dimensional information.

3-D scanners typically consist of a manually operated sensor or haptic probe. These Coordinate Measuring Machines (CMMs) create low resolution maps that take hours to produce. Increasingly, CMMs are being replaced by more efficient techniques. Faster, high-resolution optical scanners record space with lasers or by mathematically interpreting the distortion of flat lines that have been projected onto a three-dimensional surface, a process known as Moiré Phase Shifting. Because these machines apply the instantaneous, noninvasive properties of light, they are specifically employed by game designers to bring live bodies into virtual space.

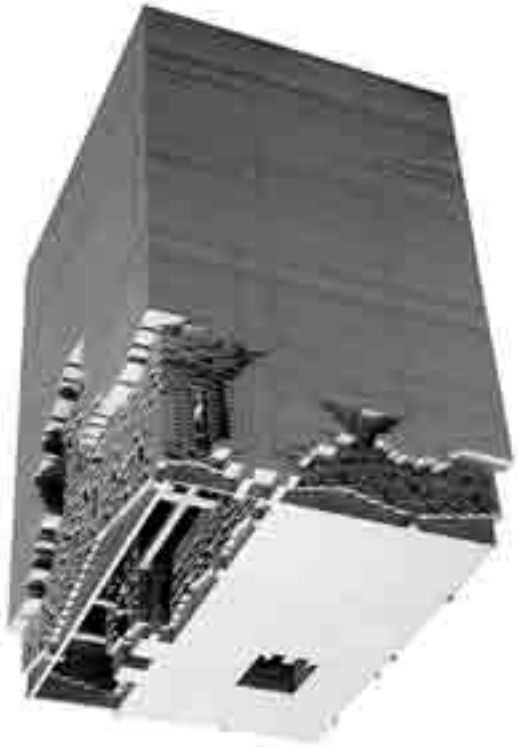
Given the capacity and speed of modern computing, an extremely dense collection of measurements can be stored, manipulated and displayed. Digital scanners can be used to register complex shapes in a multi-perspectival data space that exceeds the functional constraints of conventional drawings and photographs. Moreover, the collected information can be robotically materialized in a mass customized series of multiple scans taken from different individuals at different times. Through the use of digital mapping, data architectural components, furnishings and household products assume an unprecedented degree of dimensional specificity.

By challenging the assumption that proportional systems must reflect standardized dimensions taken from surveys of a limited population, new mapping techniques undermine the role that conventional ergonomic surveys play in the measurement and accommodation of organic bodies. While the work of late humanist writers, like Rudolf Wittkower and Colin Rowe, were used as a wedge against Modernism's ban on anthropomorphic projection, both encouraged a return to the same static, proportional harmonies that governed Renaissance design. In classical architecture, the "well shaped man" was



less a product of statistical analysis and more the representation of an ideal type, subdivided and contained within a rigid geometrical framework. Le Corbusier's attempt to establish the Modulor as the basis for measurement and proportion maintained a similar relationship between geometry and form by linking mathematical harmonies like the Golden Section with the archetypal human height. The Modulor was therefore based on the assumption that a "normal" body, merely conformed to an abstract mathematical diagram, must form the basis of architectural proportions. Thus, the prevailing concept of physical rectitude imposed on western bodies since Vitruvius is preserved.

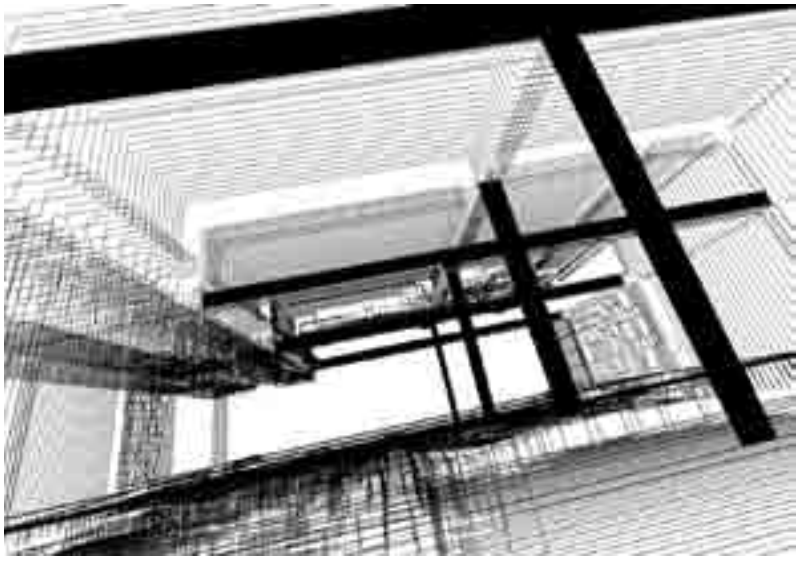
Surprisingly, the pervasive use of computers has not lead to a decline in the popularity of diagrams. Instead, contemporary architects maintain a loyalty to conventional systems of design and representation that actually underestimate the potential of these new tools. The tendency of the diagram to reduce whole populations to a fixed set of abstract relationships is precisely that which the database avoids. Digital maps are infinitely expandable, easy to access and information rich. High resolution scanning technologies can record the subtle (and not so subtle) differences between individual bodies, sites and objects while accounting for their detailed transformation over time. Diagrams like the Modular, on the other hand, downplay these variations while promoting standards that are more expressly tied to the limitations of paper media. Once freed from the space of the page, information in an electronic database can be endlessly reconfigured with fresh input. The communication protocols that once necessitated the production of abstract diagrams have now been replaced by a much more flexible data management infrastructure.



Building Without Drawings: Cell Phones and Cellular Automata

The idea of using simple programs in the construction of brick and mortar structures comes from the observation that masons work much like Cellular Automaton (CA) programs. By following local procedures based on laws of adjacency and iteration, the mason builds by stacking one brick at a time. This process is dependent on the relationship of each masonry unit to its immediate neighbor and is capable of producing complexity from such very simple rules.

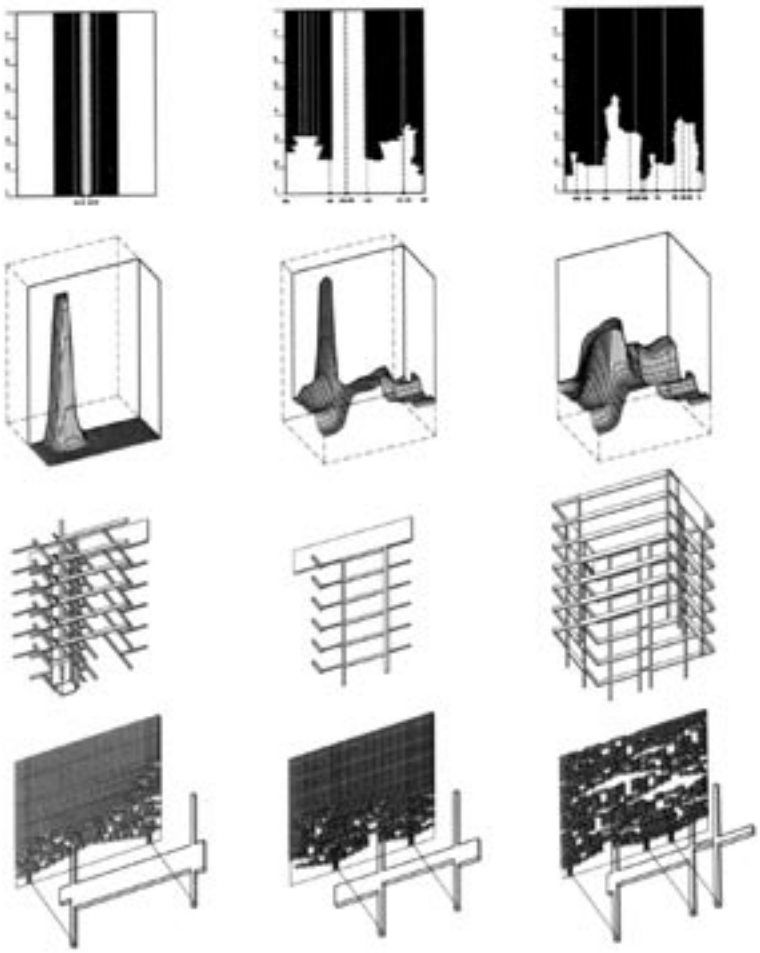
In an automasonry wall, form emerges from the direct expression of its materials and its assembly. Although this follows one of the guiding principles of Modernism, there is one significant difference: structures driven by simple programs can be constructed without recourse to a limited inventory of Platonic forms. The patterns created in the process are entirely natural to both the craftsman and the mathematics. With simple programs, building details obtain their complexity without recourse to any external agent, author or superfluous system. This sort of complexity, moreover, is not dependent on the incessant differentiation of parts, but rather upon the application of fixed rules in a discrete system that requires only two components.



In a wall built with simple programs, anything that interferes with the accurate performance of a code ends up undermining the intended function of the whole. Because an automasory structure expresses function and material use, it must be computed with great accuracy. An effective system of error correction is therefore needed to insure the correct placement of parts in a network of details that are extremely sensitive to small changes.

Using a specially programmed PDA cell phone, nonstandard brick patterns can be accurately constructed without reference to an external image of the whole. The process remains entirely local. Complex masonry work can be achieved without the need for an equally complicated index of parts (i.e., unwieldy templates, shop drawings or construction documents).

For the proposed San Jose State University Museum of Art in Silicon Valley, we used a "class two" CA code to produce both complex and simple patterns from binary strings of brick and glass block. The location of rooms with windows as well as exhibition spaces requiring large, blank display walls were laid out in accordance with the competition brief. Once these parameters were in place, a search began for a rule that could grow the most appropriate form. For the museum's



exterior, internal subdivisions and fire stairs, we used a five cell outer totalistic cellular automaton that damped out the complexity of the lower floors to create a partly windowless tower with intricate openings at the base.

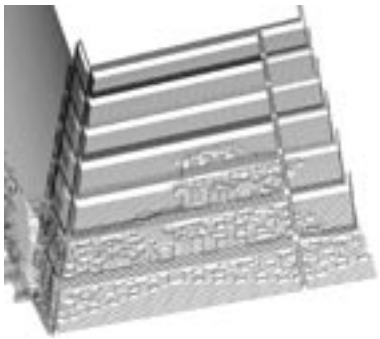
Vertical supports sandwiched between the building's enclosing walls were aligned with the initial conditions of the CA code. A non-regular grid of columns produced different spans with beams of varying depths, setting up an exchange between light, gravity and computation.

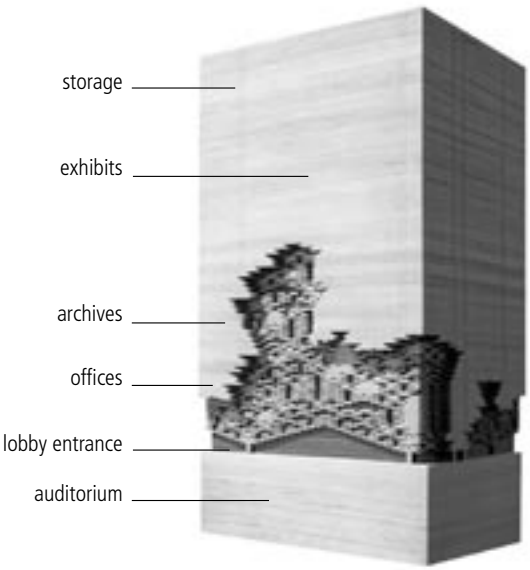
Both the design and organization of the museum express the ability of code to efficiently produce asymmetrical patterns that are organically linked to blank, homogeneous space. These relationships are produced using local rules that are not based on the recursion of simple motifs, faithfully rendered at different scales. No image of the whole can be found in the details. Neither scale invariance nor the repetition of a standard module can be used to guide the mason's work. While the code for a completed wall can be ascertained through direct observation, the rules themselves give little indication of the kinds of forms that will be produced during construction. Order and randomness, like consistency and inconsistency, are therefore binaries that accentuate the morphological potential of simple programs. More importantly, they follow a material logic that organizes structure and space by avoiding the capriciousness of applied decoration.

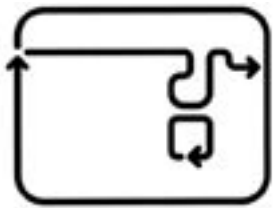
These computational strategies open up architecture to new ways of thinking and are useful as an alternative to the already exhausted tropes of contemporary practice. The ability to integrate different functions and internal space requirements, without resorting to antagonistic compositional strategies, have traditionally been the motive behind folding in architecture. The work of Rene Thom is often used in this context to connect opposing forces on a single, deformed surface.

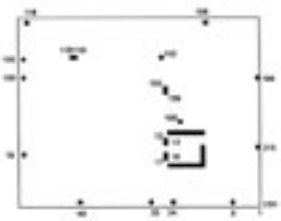
While Thom's catastrophe diagrams are used mostly as a formal device to exceed the operative limits of collage, abrupt changes in the composition of a system are not necessarily restricted to mathematical descriptions based on an infinitely divisible space. Discrete operations can be equally effective in generating networked relationships between distinct elements. The fold, as a leitmotif for contemporary practice (e.g., Eisenmann or Gehry), requires "a continuous variation of matter" that "articulates possible new relationships

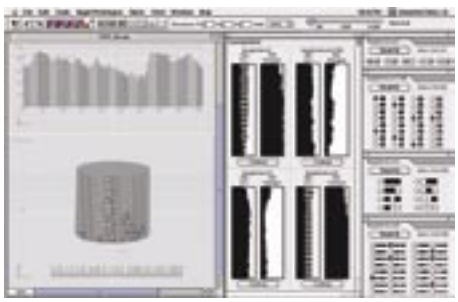
For the San Jose Project we worked in C++ to develop new software from the ground up. Rather than borrowing "out-of-the-box" code designed for general purpose tasks we created a homemade, task specific tool intended to solve problems specific to the building design process. It is only a question of time before programming becomes an indispensable part of the design process.











between vertical and horizontal, figure and ground..."[2] The architectural effects of the fold can be replaced by the iterative extrusion of simple programs, like cellular automata, where binary codes drive the production of spaces: complex and simple, random and ordered, homogeneous and heterogeneous. The following categories, linked to their current formal expression, give way to a new set of procedures:

1.Bifurcation	Folding/Deformation	Simple Programs
2.Affiliation	Smoothness/Continuity	Discrete Space
3.Differentiation	Mass Customization	Complexity for Free
4.Variation	Self-Similarity	A periodicity
5.Fabrication	Robotics (CAD/CAM)	Augmented Craft

Notes

1 Cincinnati Machines, From "Open Control Drives PC-Based CNC at CincinnatiMachines." www.nematron.com/Success/success_cincinnati.html

2 Peter Eisenmann, Sanford Kwinter and Jonathan Crary, ed., "Visions Unfolding", Zone Books, 1992, p. 234.

Special thanks to TCAUP faculty member Neil Meredith for his contribution to the Portrait Chair, Leland Johnson of Raytheon Aircraft's Wichita Plant for the fiber placement research and especially Eric Maslowsky and Yee Peng Chia for their programming work on the Automason Software.

Monica Ponce de Leon

Principal, Office dA, Boston

Figuring Configurations

Historically the practice of architecture has been charged with negotiating the relationship between construction (technique) and the particular image of the building (aesthetics).[1] The works collected in Intricacy explore aggregation and assembly as distinct techniques deployed in this negotiation. The exhibition's pairing of artists and architects intentionally focuses attention on cross-disciplinary interests about material arrangements as the subject of intricate procedures—whether units of construction on a building, lines on paper, low density polyethylene or packing peanuts. While this curatorial emphasis was useful in the organization of ideas for a presentation to a general audience, it might be more pertinent in the context of this discussion to expand this analysis to include the organization of spaces as another form of intricate organization. In this way, we may reconcile historical debates that have kept in separate categories the aggregation and assembly techniques associated with the tectonic makeup of a building and the compositional techniques related to the configuration of its spaces. Also, I would like to elaborate upon a category of aesthetics that in architecture is little discussed, rarely understood and today may even be considered taboo: the realm of figuration.

Figuration is the act of shaping something around a figure. It is an operation that has been linked to certain symbolic aims and ideas about the representation of a subject. While in the visual arts discussions about the subject have focused on the relationship between a particular medium and the world outside it (photography is a clear example of these debates), in architecture the

subject is more complex. In architecture, as in music, the object of figuration has historically been architecture itself.[2] It is only with the advent of the modern movement that architecture looked outside of its own history for a subject [although enlightenment architects such as Boulle, Ledoux and certainly Lequeu serve as early examples].

Thus, in architecture, figuration could be discussed under two guises: At the small scale (its classic definition), figuration points at the substance of architecture, its DNA, as the subject of the architect's figurative enterprise. This tendency entails working with the material constitution of a building and, in particular, with the articulation and arrangement of its details.[3] At the large scale, figuration refers to the overall image of a building, its general appearance and ultimate identity. Under this guise, figuration is concerned more with overall effects and less with construction technique per se.[4]

Configuration, on the other hand, is the arrangement of parts in a particular ensemble. In architecture, the configurative has more to do with the organization of a building in its components. Systems, arrangements and discrete logics emerge from the analysis of programs, materials or structure. As a result, configuration is usually understood to have no specific semantic aims and, instead, to be concerned with an understanding of the nature of assembly and aggregation and their requisite composition.

With this in mind, our work has focused on design strategies that erase the assumed oppositions between these two methodologies by drawing out the figure within configuration,

exposing it and showing the possibilities in forging latent alliances between fabricational logics and potential representational tropes.[5]

At the center of these investigations, we have used techniques of patterning to elaborate upon problems of organization (configuration) and its limits (figure) in the design of buildings. And, whereas patterning is conventionally associated with graphics and things two-dimensional, we have attempted to translate these techniques into the third dimension in order to define its potential for invention.

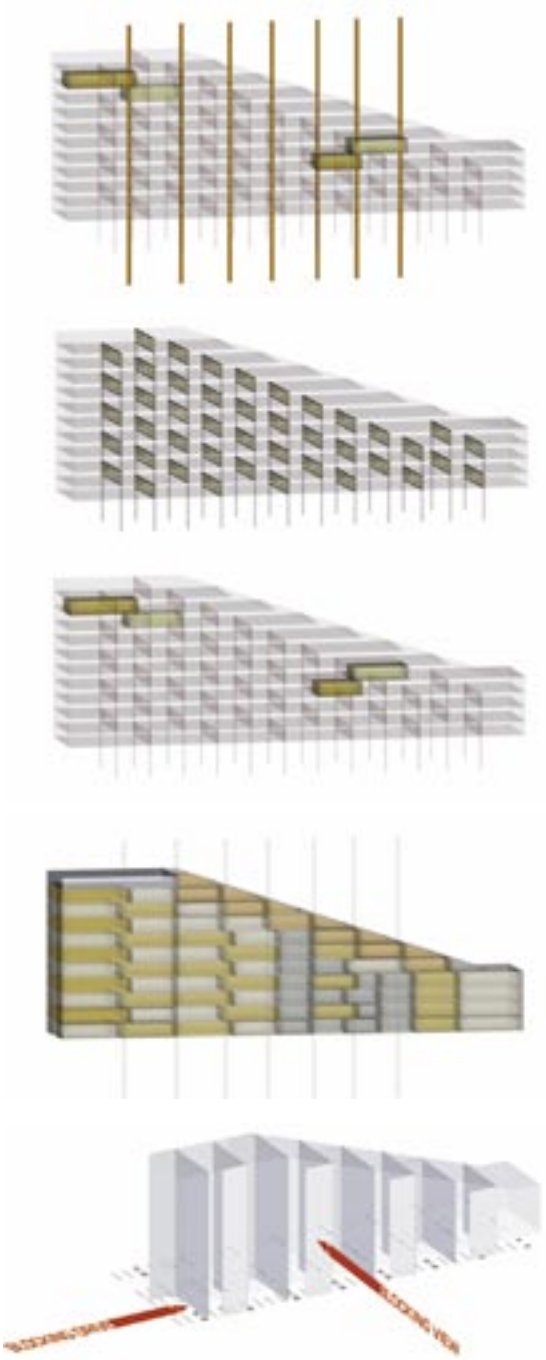
In the practice of architecture, patterning techniques of aggregation and assembly have been associated with the material constitution of a building, and, in particular, with the articulation and arrangement of its details (the small scale). As such, notions of patterning have tended to be relegated to the articulation of the skin of the building, and in some rare instances we see pattern used to discuss structural systems. But never is pattern used to describe the formal aggregation of spaces (rooms) that construct the bodily reality of a building. As in urban design, where pattern (urban pattern) is used to describe a two-dimensional representation of buildings' footprints (figure-ground), in the context of architecture the word *pattern* conjures up associations as a two-dimensional system of repetition lacking a third dimension. It is peculiar that this notion of *pattern* corresponds to a definition of the term used by the decorative arts where it is understood as a repeated figure, to be applied as decoration on a variety of objects such as on wallpaper, fabric or china. While the term was used in this way as far back as the 16th century, it is with the advent of mass production and industrialization that *pattern* becomes synonymous with design and it acquirs its most extreme two-dimensionality. Designers sold *pattern* independently of the objects to which they might be ultimately applied.

This rather flattened meaning of *pattern* is, in fact, relatively recent, and I would argue that the term retains a multiplicity of earlier, additional meanings and associations, which might be more useful in the production of a three-dimensional system such as architecture. The word *pattern* actually emerged in the English language in the 14th century, distinguishing itself from the word *patron,* from which it evolved. At its earliest, *pattern* retained the hierarchical significance of its root—as an "archetype, which is to be copied; an exemplar." Still today it can refer to "an example, a typical, model or representative instance," though we rarely use it in such a way.[6]

This earlier meaning of pattern appears in a more familiar guise as the dress pattern, a model cut out of paper for the shaping of an article of clothing. The shape of a flat dress pattern creates a three-dimensional figure when it is traced on to fabric and this is shaped into something which wraps around the human body. French dress patterns, or *patrons,* are described in 1694 by the Académie Française as being cut from the shape of a man or a woman and then used by tailors to make a suit. At this early date, the shape is not traced onto the paper but rather the paper is shaped in three dimensions, following the curves of the human body, then laid down to cut fabric (in two dimensions), only to be stitched back together into three.

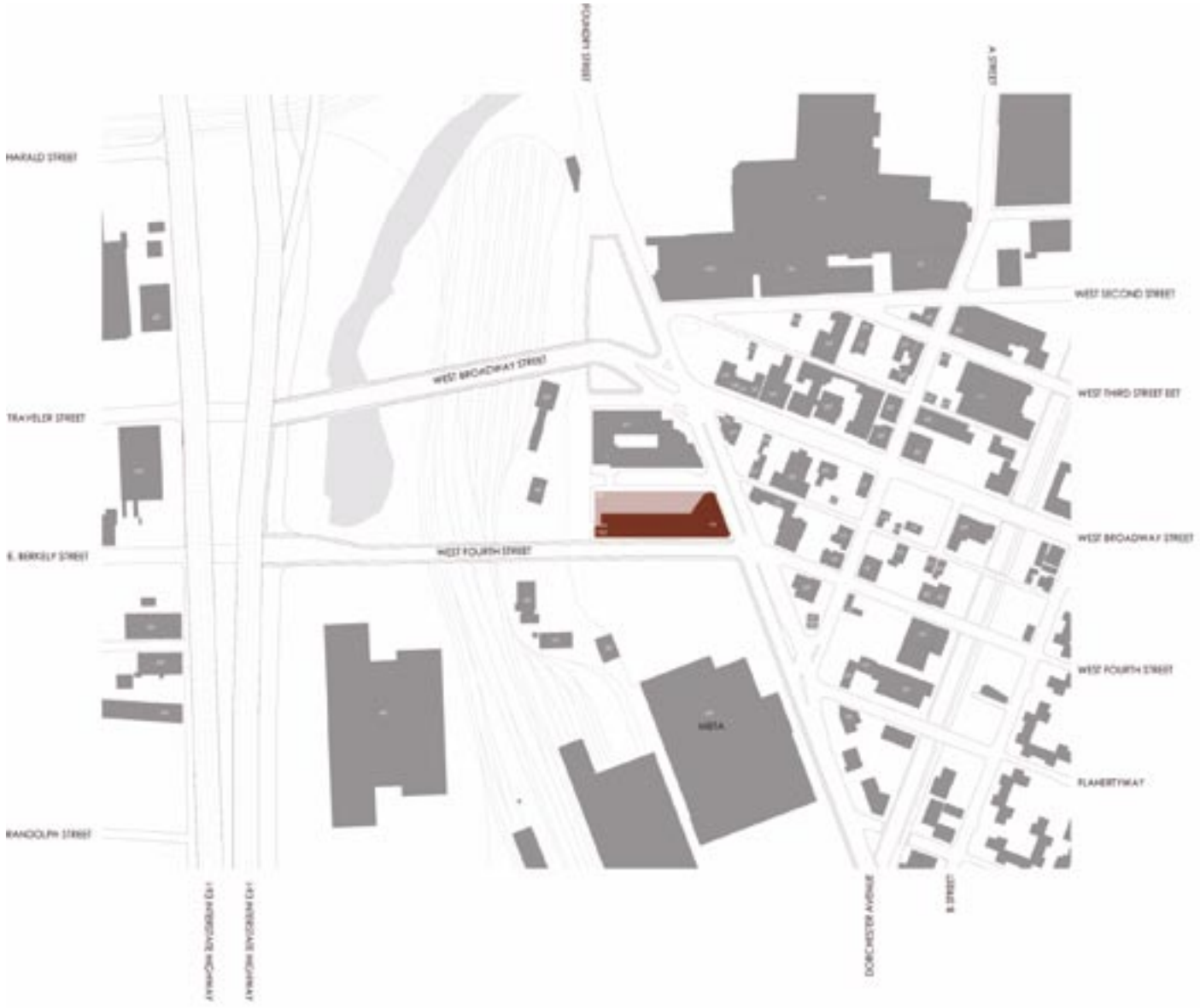
Embedded within pattern, thus, is a third dimension.

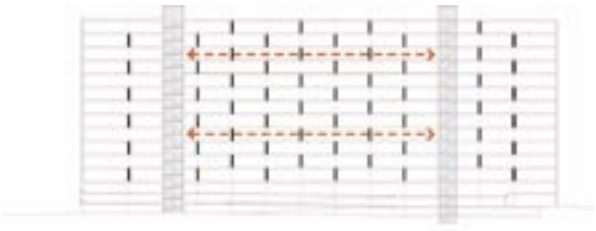
In architectural debates of the last twenty years, categories of surface and space (the two-dimensional and three-dimensional) have conventionally been treated in opposition, quite evident if we compare the work of architects like Herzog + de Meuron and Frank Gehry.[7] In H+dM, particularly in their early works, we witness an impeccable development of skins, details and materials innovation, and yet these are often allied with off-the-shelf planimetric and sectional relationships borrowed from modern architecture. Their later works take on the challenge of spatial complexity, but their authors have subsequently abandoned the search for a

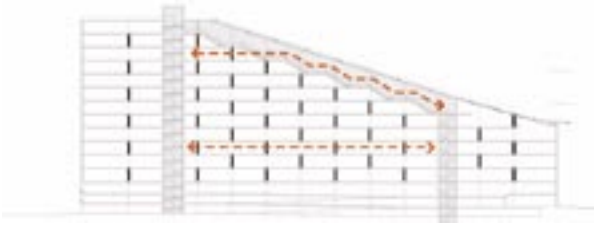


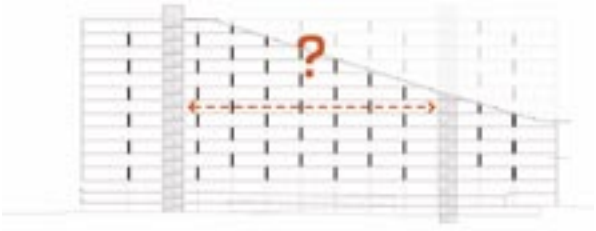
The staggered truss, in profile, produces a running bond pattern along the length of the building, giving more freedom in the layout of the building and informing a certain eccentricity. Given the program of the building—provide for the maximum diversity of lifestyles and living arrangements—the traditional stacking of units is made impossible. As such, we stagger unit types on top of each other, metaphorically as colossal masonry units, entangling the units within the logic of the staggered truss. More importantly, we make sure to vertically skewer each unit with plumbing and mechanical shafts (forgoing armovers) to secure the maximum efficiency for a building of this type, without which a building of this scale would not be possible.

The logic of shish kebab is such that a single skewer is able to pierce heterogeneous sets of elements and bind them into a singular logic, a function that the combination of the mechanical shafts and the varied units faithfully provides.









The form of the Macallen responds to its urbanistic circumstances in specific ways. We propose a single building of ascending height. To the east, the height of the building matches that of other buildings on Dorchester Avenue, while to the west, the building rises to the maximum allowable height, responding to the scale of Boston's skyline: a single figure, sphinx-like, the form reconciles the relationship between its parts and the whole. The building meets the street on Dorchester Avenue with storefront units, which are designed as either commercial spaces or artist lofts. To the south, the building operates primarily at an iconic level. To the west, the building reads as a tower. Viewed from the highway, Downtown and the South End, the building participates in the regional scale as it forms a gate to South Boston.

Second Floor Plan

Seventh Floor Plan

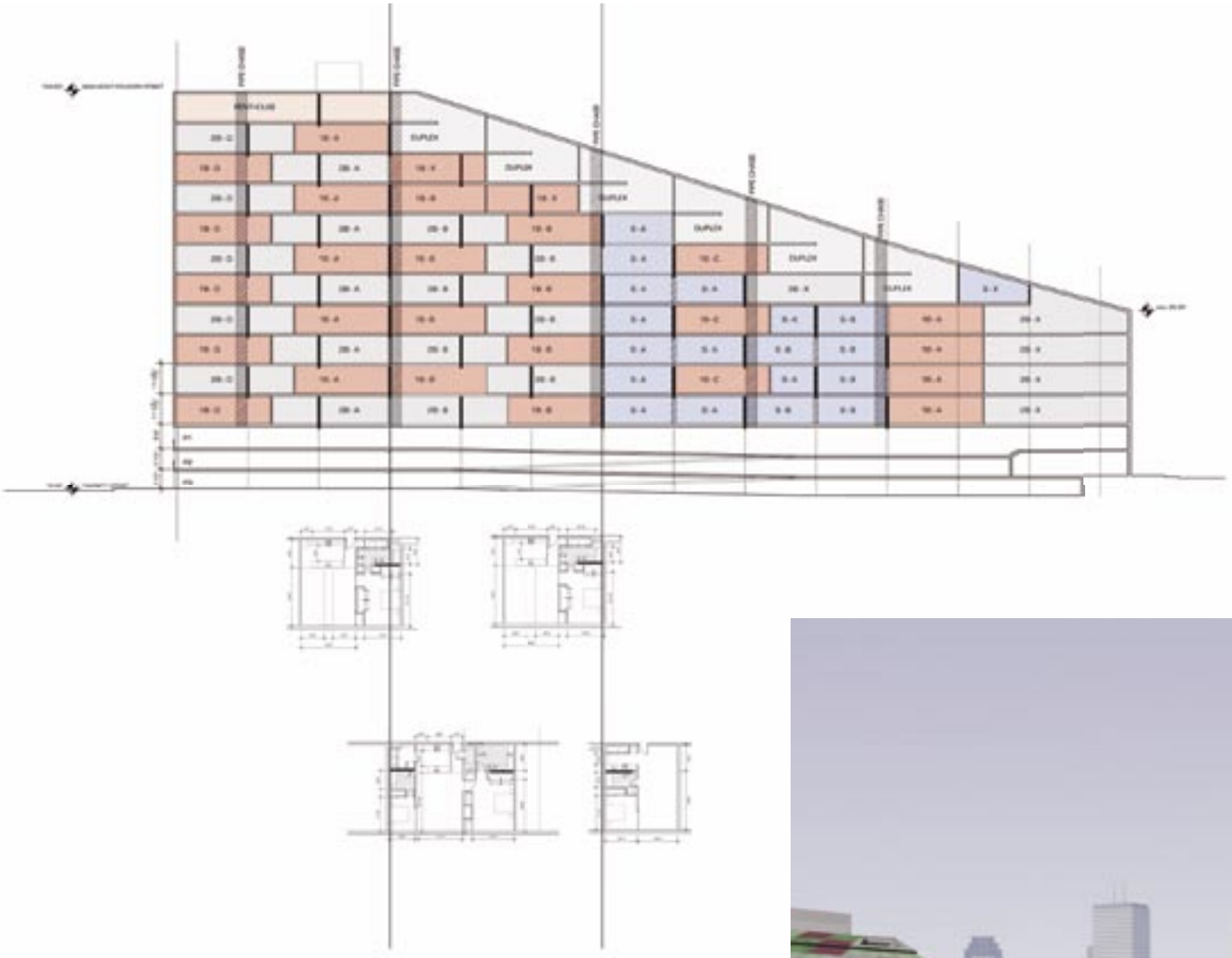
Tenth Floor Plan

resolved and calculated syntax in the surfaces that articulate and cover the forms. On the other hand, in Gehry, we witness extraordinary spatial and formal manipulations clad in metal panels that are rendered indifferent to the very geometries and spatial constructs to which they are meant to correspond.

Our projects attempt to overturn this dichotomy and to create a condition organically linking surface to space, using geometry and patterning as the means to their precise resolution, as well as establishing a new relationship between constructional systems, program and the surfaces they produce. This is particularly evident in projects such as Upper Crust, Fabricating Coincidences and Mantra. The pattern of the skin responds to specific structural, mechanical or functional needs (like ease of assembly) and in turn these were deployed to a particular spatial effect, which gives each project its unique image.

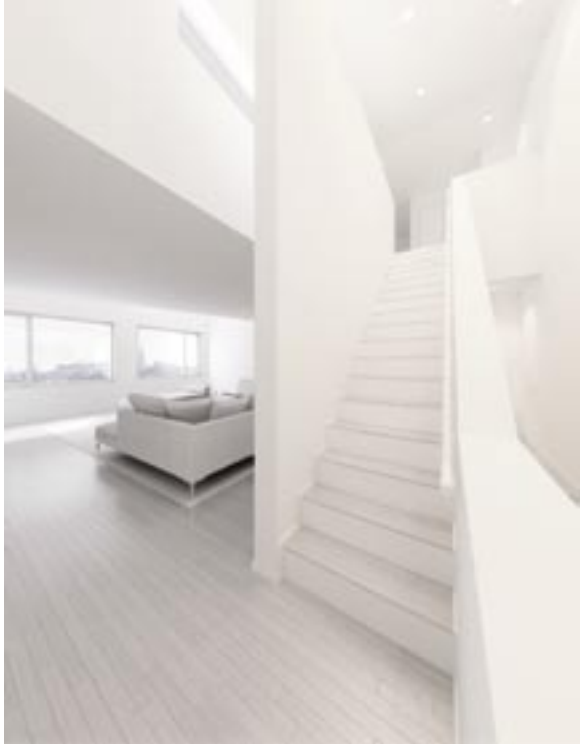
However, these small scale examples limit the discussion to one of deformed surfaces, leaving out of the debate the complex configurations of program that make up most buildings. It has been important in our work to understand space itself as a "matter" to be composed, aggregated and assembled through patterning.

To that end, several of our projects have explored how patterns of movement within a building can generate a formal system. In our project for the Intergenerational Center in Chicago, the requirement of the program, to house two institutions simultaneously under one roof (a head start and a senior center), led to the arrangement of the building as a double helix system. This programmatic pattern had specific formal consequences that impacted not only the effect of the circulation in the interior, but also the development of the elevation and the building's overall identity.



We have taken this idea further in our housing projects where the domestic unit becomes akin to a tectonic unit to be aggregated. In our dormitories for Rhode Island School of Design and our Macallen apartment building, each unit type, be it one bedroom, two bedroom, studios and the like, is aggregated according to structural and mechanical exigencies and always mediated by site strategies. The pattern, thus developed, is more than "skin deep." It is "building deep."

Most importantly in all of these examples there is a desire to reconcile the aggregation of spaces (the large scale) with the assembly of a building's details (the small scale). Our Arts Center for China (our contribution to the Intricacy exhibition) illustrates this point most clearly. The configuration of courtyards, studios, apartments, passages and gallery spaces produces the overall arrangement on the site and a peculiar pattern of organization that is at once an assembly of spaces and a broken monolith. At the same time, this configuration was mediated by the material aggregation of the building, uncut brick, and its requisite pattern, Flemish bond. It is the manipulation of the material pattern that allows for the deformation of spaces, and



this deformation is key in their assembly on the site.

Aggregation and assembly techniques are used at the small and large scale, materially and spatially, to give each project its particular identity. Configurative devices are deployed as a means of negotiating between the large scale figure of a building and the small scale details that constitute it.

Notes

1 Throughout history, debates about tectonics have centered on the degree of correspondence between technique and aesthetics, demonstrating that this relationship is, of course, not a one-to-one correspondence. Although integral to each other, technique and aesthetics struggle with different sets of problems and criteria that often set them at odds.

2 See Jorge Silvetti's essay, "On Realism" Harvard Architecture Review v. 1 for a very clear discussion on the subject of figuration in architecture, in comparison to other fields.

3 In his seminal work on tectonics, Kenneth Frampton uses the example of the deformation of a shaft of a classical column to illustrate this point. Frampton shows that a Greek or Roman stone column does not need to technically rely on the entasis for its structural performance. And that this deformation of the technical figure of a column (entasis) is motivated by a desire to represent gravity, the load that the column is technically charged with carrying. In this case, technique is the primary subject of aesthetics.

4 Venturi, Scott-Brown and Izenour, in "Learning from Las Vegas," refer to these buildings as "ducks." I would argue that the work of Frank Gehry—although not a duck per se—is a clear example of this position, where the building is developed around the need to materialize the overall forms that the architect produces by hand. In this case, technique is not the subject of aesthetics, although it is still implicated by it.

5 We are greatly indebted to Hashim Sarkis for this observation on our work after a lecture I gave at Harvard's Graduate School of Design.

6 All definitions from the Oxford English Dictionary, unless otherwise noted. I am grateful to Marianna Moglievich in the PhD program at Harvard's Graduate School of Design for her assistance in researching the history of the term *pattern*.

7 In an earlier essay with Nader Tehrani, "Versioning: Conubial reciprocities of Surface and Space," this point is discussed extensively.

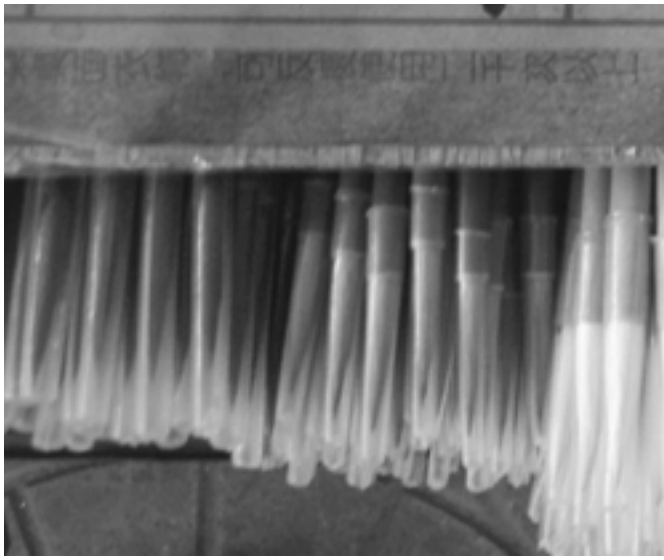
International Travel Studios

Faculty: **Robert Adams**
CHINA

Faculty: **Lars Gräbner**
GERMANY

Faculty: **James Chaffers**
GHANA








It is estimated that over the next five years half of all global building construction will take place in China. In collaboration with Peking University's Graduate Center of Architecture, this seven week study abroad program in Beijing looked at numerous issues and conditions developing in this rapidly transforming city. Beijing International Airport is populated with forty-eight construction cranes preparing the ground to welcome the 2008 Olympic Games. For some, the "city of construction cranes" cast many dark shadows that make it difficult to see through the anthropogenic haze, but for the China Studio they provide the necessary cover to seek out, corroborate with and work in this loaded city.

Ghana is a whirlwind of experiences: a new culture, unfamiliar food, the heat, a strange architecture and a foreign people. This studio moves agilely from the burgeoning global metropolis of Accra, on the Gulf of Guinea, to the traditional farmsteads in the north which seem, to a modern sensibility, like an anachronism. The Ghanaians, as a group of people, are some of the most uniformly generous, polite and caring individuals that one could hope to meet and their impression resonates as strongly as the distinctive architecture and stunning landscapes which define the total experience in Ghana. This studio affords the opportunity to learn from a wide array of passionate characters – teachers, students, artists, farmers, chiefs and priests.

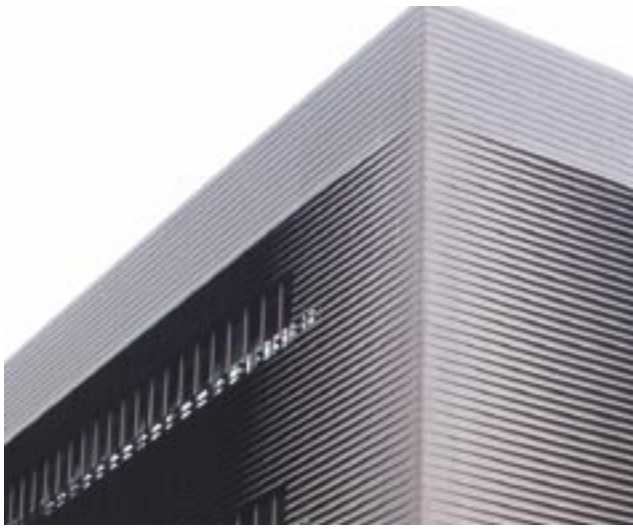
During this two month studio, which is based in Berlin, the students study architecture in Germany. Through forty-seven site visits, interviews with eleven architects and several guided tours, the students gain insight into the culture of building in Germany as well as knowledge about general concerns in architecture, urban design and construction today.

Over time, Germany has developed a high cultural appreciation for architecture. This has been primarily fostered by the ethics of the trades—the Bauhaus in Dessau and the Weißenhof-Siedlung in Stuttgart, for example. Also, a rapid increase in population has generated inventiveness and a need for good housing alternatives. Today, with ever increasing energy costs, developers need to produce buildings with increasing value, higher performance and longer durability than ever before.

Students
Average age of students
Architects visited
Cities visited
Buildings visited as architectural study
Total miles travelled
Total nights in a hotel
Hotels
Hours spent in a cab/bus/train
Photographs taken
Train transfers
Missed transportation connections
Luggage weight difference upon return (lbs.)
People who visited a doctor
Bottles of water per day

CHINA	GERMANY	GHANA	INDIA	ITALY	SWITZERLAND
10	15	10	9	8	**16**
25.8	23.5	23	**27.5**	25.5	23.2
3	11	5	3	1	**25**
3	10	11	1	13	**20**
6	47	35.7	10	**165**	50
18,853	13,653	7,096	17,269	8,762	10,522
44	42	21	39	**112**	21
4	7	5	**10**	9	0
46.7	11	12.5	10	6	12
2,965	2,168	1,986	383	**5037**	866
0	16	0	0	30	**60**
0	1	0	0	1	**3**
62	30	6.3	12	37	15
0	1	1	0	**2**	0
3.2	1.3	2.6	3	**4**	3

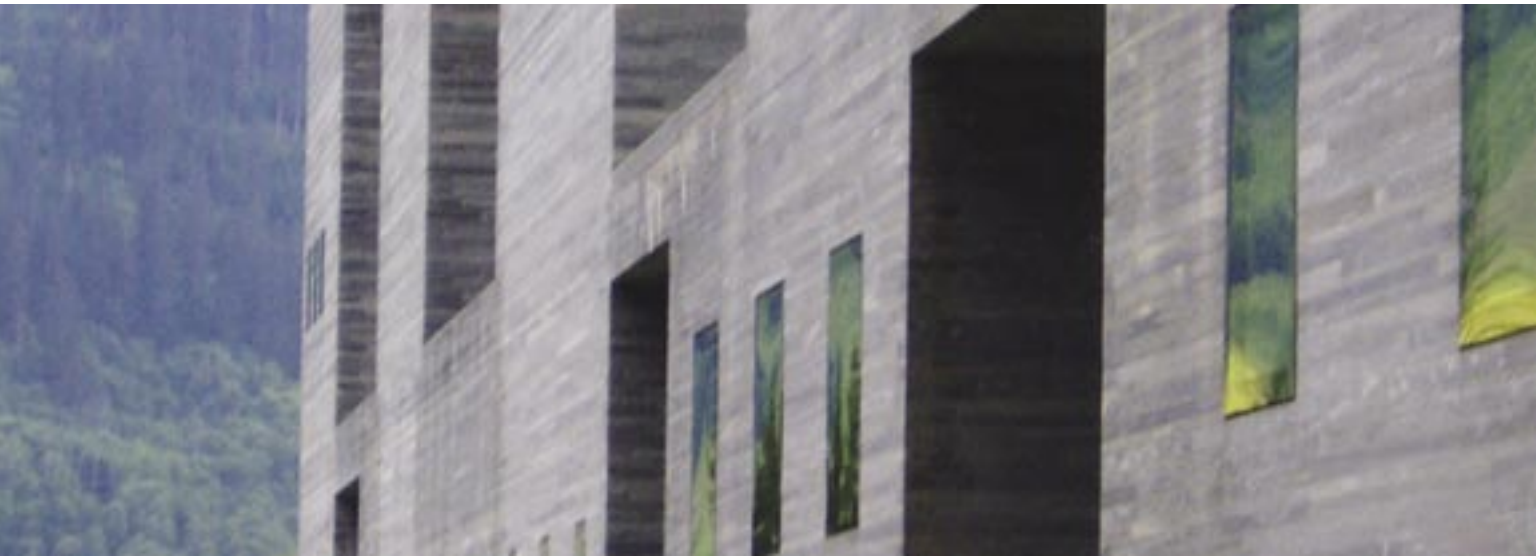
all figures are averages for each travel studio



Faculty: **Rahul Mehrotra**
INDIA

Faculty: **Steven Mankouche**
ITALY

Faculty: **Julie Larsen**
SWITZERLAND



Modern national identities are constructed ideas. They are not discrete, therefore, like the geographical boundaries which enclose them. National identity might rather be thought of as a fabrication, an act of fundamental discrimination between this and that, us and them, or here and there. National identity helps to control the flow of people, goods and ideas across borders. It is an import(ant) tool that is used to defend (and construct) the similarities between a group of constituents—the citizens. As a political instrument, the basic operation of a national identity is to both describe and prescribe the collective ideas of a group of individuals.

The city of Mumbai (formerly Bombay) contains over thirteen million residents, provides India with one-third of its total tax revenue and supports the most prolific film industry in the world. It is India's richest city, but also home to Asia's largest slum. In May 2005, the University of Michigan's department of architecture took a vertically integrated, multidisciplinary group of students to Bombay for a five week intensive studio focused on Mapping Bombay. In particular we addressed and explored modes of mapping and representation that encapsulate the city in its present form.

The Switzerland Studio was a one month investigation of Switzerland and its surrounding regions. The intention of the course was to activate the mind through travel and productive drawing, which enhances awareness and shifts students from a state of observation to engagement in the built environment. With a focus on drawing, their growth was exponential and their capability to "see" through the act of drawing sharpened with their immersion in the new surroundings.

Material Resistance

Lines Rule MICHAEL SILVER

SILVER STUDIO **pathmatch.rvb**

Thinking Buildings as Desiring-Machines ADRIAN BLACKWELL

KEVIN RICE **[Mod]ular Home**

Recombinants of Surveillance: Blurring Boundaries at 600 Meters DAWN GILPIN

HELEN **Urban Confessional 24/7**

MICHAEL SPIEGEL **FOLLIE PARKs + *strip*MALLS**

Mobilizing Architecture JOHN COMMAZI

JASON ROBERTS **Architecture (In)Between**

Guerilla Architecture MIREILLE RODDIER

LINDSAY COOPER **No Business as Usual**

Acts of Fiction CHRISTIAN UNVERZAGT

ELIZABETH BATTISON **Shadow Zones**

Decoys, Dummies, Prosthetics and Other Forms of Material Deception STEVEN MANKOUCHE

KATIE WIRTZ **ErASING DETROIT**

The Raoul Wallenberg Scholarship is awarded through a competition studio which is held annually for undergraduates in their final year of study in the Architecture Program. Invited critics address topics related to the studio topic and an end-of-year jury reviews the work and awards prizes totalling more than $20,000 for students to use for travel.

First Prize
Katie Wirtz
Advisor: Steven Mankouche

Second Prize
Sheena Garcia
Advisor: Steven Mankouche

Third Prize
Sarah Kausek
Advisor: John Comazzi
Helen
Advisor: Dawn Gilpin

Honorable Mention
Silver Studio
Advisor: Michael Silver

Finalists
Elizabeth Battison
Stephanie Bien
Lindsay Cooper
Sheena Garcia
Laine Hardy
Sarah Kausek
Scott Keck
Hyung-Il Kim
Kevin Rice
Jason Roberts
Katie Wirtz
Silver Studio

2005 Raoul Wallenberg Studio

Raoul Wallenberg exploited a number of discrepancies in cultural and material production to, in effect, legitimize his own fictions for the benefit of others. He was at once precise, improvisational, careful and selfless. What then are the agencies of material legitimacy? What is the authority of the artifact? How might his actions serve as a model for young architects on the eve of practice today? The Wallenberg studios are organized around the intelligent and inventive interrogation and development of material processes, not as an end in themselves, but as a means to examine and intervene within the social, cultural, economic and environmental issues to which they are linked. Inspired by Raoul Wallenberg, and a careful examination of his profound acts of fiction, each of the seven studios take up issues related to the material world and its various forms of resistance.

Wallenberg Studio History

2005 **Material Resistance**, Frank Fantauzzi, Sophie Handler/muf, Eyal Weizman
2004 **Feedback**, Keller Easterling, Hella Jongerius, John Maeda
2003 **Instructions for Construction,** Jim Glymph, Joep van Leishout, Michael Steinberg
2002 **(Sustainability)**, Manuel DeLanda, Louisa Hutton, Michelle Addington
2001 **Re-entertaining Detroit,** Robert Somol, Sarah Whiting, Preston Scott Cohen
2000 **(Pittsburgh)**, Mark Linder, Monica Ponce de Leon, R. Martin
1999 **Wheel Estates,** G. Wagner, Stanley Saitowitz
1998 **(Woodward Avenue)** Lars Lerup, Stan Allen, W. Whittimore
1997 **Face/Landscape,** Peter Waldman, Leslie Gill, Michael Speaks

pathmatch.rvb

The field of digital fabrication ultimately seeks to develop methodologies that are cheap, fast and precise. Laser cutters and starch printers begin to make this possible at a small scale. This proposal seeks to deploy the mechanisms of digital fabrication at a larger scale.

Use of a digitally-controlled heated-wire foam cutter simplified the fabrication of concrete formwork. This formwork, as a result, became a much more useful and versatile apparatus for the generation of curvilinear objects, (i.e., in the XY plane), of practically infinite thickness.

Although the foam cutter blade is straight, which restricts the cut to a single axis, the mechanism has the capability to simultaneously cut and rotate a material. Thus, by controlling the relative cut and rotation speeds, a differential spatial geometry became possible. This project explores the family of three-dimensional ruled surfaces.

Where previous exploration relied heavily upon ad hoc experimentation, Rhinoceros 3-D's scripting language allowed for the development of several tools

SILVER STUDIO: JAPHY BARTLETT, ABIR CHOPRA, ALEX LIBBRECHT, ROGER LAMP, ISSAC MARWI, PAUL SCHRAM and MITCHELL STREICHHIRSCH
Studio Critic: Michael Silver

to enable a faster and more precise means of visualizing the surfaces that might be digitally available. As a result of this digital advancement, the final project attempts to construct a full sized, inhabitable installation through the assembly of large pieces of foam into the formwork for a single, monolithic pour.

Additionally, another piece of software was created in order to calculate the parameters required for cutting specific pieces that would fit together in a seamless manner. The program needed to break down a three dimensional surface into a sort of jigsaw configuration of pieces that could be understood by the relatively basic mechanism of the foam cutter.

The formal design, the size of a full scale wall, is essentially a ribbon of concrete bending back upon itself to create a space topped by an oculus. Formally, it represents the surface of a single cut that is simultaneously curving and rotating through a block. Structurally, it is made possible by the addition of experimental polymer fiber additives to the concrete, an addition which eliminates the need for rebar. These additives were developed by Victor C. Li, a professor of both materials science and civil and environmental engineering at the University of Michigan.

```
'To work, we input the following
information:

strProfile = Rhino.GetObject("Curve to
match surface to")
If Isnull(strProfile) Then Exit Sub

Rhino.Print("The next two edges should
be in XY plane.")
Rhino.Print("Make sure they're in the
right directions.")

strStartedge = Rhino.GetObject("Line of
starting edge")
If Isnull(strStartedge) Then Exit Sub

strEndedge = Rhino.Getobject("Line of
ending edge")
If Isnull(strEndedge) Then Exit Sub

arrCenter = Rhino.GetPoint("Center of
Rotation")
If Isnull(arrCenter) Then Exit Sub

'Our surface is made up of parallel
lines.
'We need to find a set of lines which
pass through the
'profile curve, AND rotate around our
center point.

'The distance between the closest point
on
'the starting line and the center of
rotation is the X coordinate of our path.
'(Or, the distance of a line passing
through the center, perpendicular to the
start line)

'This loop creates the ruled lines
through the profile curve, and then
'calculates the distance of a line
perpendicular through the center point.

strTempDistance = 0
arrPrevpt = arrSegpoints(0)

For x = 1 to (strDetail)

        strTemppt = ""
        arrCurrentpt = arrSegpoints(x)
        strSegDistance = Rhino.
Distance(arrCurrentpt, arrPrevpt)
        strTempDistance =
strTempDistance + strSegDistance

        strRotseg = strTempDistance /
strTotalDistance * strAngle
        strTheta = (arrThetastart(0) +
strRotseg) * PI / 180.0
        strRise = sin(strTheta) *
(strWidth)
        strRun = cos(strTheta) *
(strWidth)

        strSegpoint = Rhino.
```

```
Pt2Str(arrCurrentpt)

        arrXStartPt = Split(strSegpoint,
",",-1)
        arrXStartpt(0) = arrXStartpt(0)
+ strRun
        arrXStartpt(1) = arrXstartpt(1)
+ strRise

        strRun = strRun * 2
        strRise = strRise * 2
        ReDim arrXEndpt(2)
        arrXEndpt(0) = arrXStartpt(0)
- strRun
        arrXEndpt(1) = arrXStartpt(1)
- strRise
        arrXEndpt(2) = arrXstartpt(2)

        strXLine = Rhino.Addline
(arrXEndpt, arrXStartpt)
        arrXPt =
ClosePt2Line(strXLine, arrCenter)

        arrDeltas = Rhino.
Angle(arrCenter, arrXpt)
        strTemppt = arrcenter(0) & ","
'X

        AA = (arrXStartpt(1)
- arrXEndpt(1))/(arrXStartpt(0) -
arrXEndpt(0)) 'Y
        BB = arrCenter(1) - AA *
arrCenter(0)
        If ( cos (strTheta)) → 0 then
                If arrXpt(1) → (AA *
arrXpt(0) + BB) Then
                strTemppt =
strTemppt & ( (arrDeltas(2)^2)+(arrDelta
s(3)^2) )^(1/2) + arrcenter(1) & ","
                Else
                strTemppt =
strTemppt & (-1)*( ( (arrDeltas(2)^2)+(a
rrDeltas(3)^2) )^(1/2) ) + arrcenter(1) &
","
                End If
        Else
                If arrXpt(1) ← (AA *
arrXpt(0) + BB) Then
                strTemppt =
strTemppt & ( (arrDeltas(2)^2)+(arrDelta
s(3)^2) )^(1/2) + arrcenter(1) & ","
                Else
                strTemppt =
strTemppt & (-1)*(( (arrDeltas(2)^2)+(arr
Deltas(3)^2) )^(1/2)) + arrcenter(1) & ","
                End If
        End If

        arrXpt = Split(Rhino.
Pt2Str(arrCurrentpt), ",",-1)
        strTemppt = strTemppt &
arrXpt(2) 'Z

        strTemppath = strTemppath &
" " & strTemppt
        arrPrevpt = arrSegpoints(x)
```

Sophie Handler

Urban Theorist muf architecture/art, London

Material Resistance Lecture #1

a brief inventory of some willful digressions

(or an accounting for the significance of incidentals)

When muf set up as a collaborative practice of artists and architects it was with an explicit commitment to work in the public realm at a time when the public realm ostensibly did not exist. Margaret Thatcher had declared, on British society's behalf, that there was no such thing as society, ergo there was no such thing as a public realm… only the foreground to investment (public space as a formulation of the markets).

To make room to make work in this declared 'non-place' meant operating through small moves: working in detail, in an altered scale of practice, magnifying the incidental, to reveal the embedded conditions of that denied 'non-place'.

This wilful refusal not to let the incidental detail go unnoticed takes on the form of strategic digression: a method knowingly drawn in by the revealing distraction of incidentals (a horse-out-of-place, an inhabited skip, an unplanted fence). Incidentals that often reveal themselves to be repositories of local fantasies, anxieties and desires.

The small moves of an open-ended process are as important here as its 'material' end-product (the solidifying fantasy of all architectural projection).

Strategy, according to this formulation, is already material.

A Horses Tale [2003–4]

1. a horse out of place

A clump of horse droppings in the estate's fenced-off playground becomes the pretext for an open-ended investigation into local land use (exposing the informal and semi-legal use of the site that had gone unmentioned in the brief). The horse represents a desire for a particular kind of relationship to the local landscape that exists outside of the conventional organisation of social order: laying emotional claims that test regulated, prescribed definitions of land use. Can you belong to a place that you only ever move through? Can you lay claim to a place that isn't even yours? In the summer of 2004, a group of schoolchildren dressed in horse costume follow the line of a real horse as it makes its way through the town from marshland to the tower block estate to inaugurate a new dressage arena making room literally for the presence within a landscape of what is otherwise strategically suppressed.

Open Spaces that are not Parks [2004]

2. the inhabited skip

"To identify small open spaces suitable for investment and devising programmes for them with an emphasis on youth." The expectation of the brief carried its own preconception of open space as identifiably green space (patches of open land, corner ends of housing estates, neglected pockets of browning lawn). But ground-level study revealed something else altogether: an articulate spatial language of the streets (youth use of a strip of pavement outside a chip shop, an underpass, the 'inhabited' skip). Sitting on the steps of a pedestrian bridge, coming across a group of young girls, it turns out this is an ideal place to sit and talk "because it's sheltered," "because it's social" and "because your parents can't watch you. Sitting here you can honestly say you are on your way home, because in a way, technically speaking, you are." muf translates this street-based expertise into a brief, a challenge and a proposal.

Borrowed Pleasures [1996]

3. the unplanted fence

In 1996 the political fantasy of inward-investment through the figure of the intrepid tourist is reinterpreted as investment internal to the borough. Money is borrowed from one budget and spent in another territory (borrowing money and re-naming it). From a walkway of sculpted flagstones, ornamental posts and banners (the projecting ambitions of a limiting brief) muf draws a diagram of the pavement as a description of the specificity of local desires instead (scented planting as much-needed roadside screening for a nursery school fence, a choice of planting for what residents want to see out of their window on the other side of the street). This diagram of the pavement becomes a lever for opening budgets in negotiations with the council. And the original brief for a touristic walkway becomes a diagrammatic brokerage tool in the articulation of local desires instead.

Thinking buildings as desiring-machines

Adrian Blackwell

Desiring-Production. It is at work everywhere, functioning smoothly at times, at other times in fits and starts. It breathes, it heats, it eats. It shits and fucks.... Everywhere it is machines—real ones, not figurative ones: machines driving other machines, machines being driven by other machines, with all the necessary couplings and connections. An organ machine is plugged into an energy source machine: the one produces a flow that the other interrupts... Hence we are all handymen: each with his little machines. For every organ-machine, an energy-machine: all the time, flows and interruptions.

Capitalism is a scary thing. Everywhere within the spaces it produces there are voracious machines, real ones: computers, cars, trucks, televisions, rockets and robots. But capital also remakes people as machines; gestures are analyzed, timed and localized, interfacing with both others and objects. It produces nation-states as political and economic war machines, either subjected to or ruling over other territories. Even the earth does not escape such a characterization: solar energy manufactures life, oxygen and matter become a standing reserve for industrial production. Deluze and Guattari's startling vision of the early 1970s has a dual function. On the one hand, it describes a radical dystopia of the capitalist world that we cannot escape.[1] On the other hand, it offers us an unsentimental image of our radical intra-subjectivity. We are not solitary individuals, but rather assemblages of thoughts and organs, members of collectives and hierarchies, always thinking together. This illustration of "machinic" production shatters the autonomy and the formal primacy of specific scales—individual, family, city, party, nation—imagining instead that each is both a collection of smaller elements and a component within larger systems. Desiring-production is a dialectical concept highlighting the appearance of desire as the insatiable hunger of capital, with its inexorable will to maximize profit, which yet still harbors another form of collaborative and communicative desire within it, a craving born of the social relations between people, not things.

Desiring-production offers architecture the following two conceptual tools:

1. A critical mirror—Every piece of architecture is an assemblage lodged within economic, political and cultural processes of capitalist production. Each building is made of pieces manufactured through exploitive processes. Each piece of architecture is a building block for ideological and repressive structures of society, both symbolically and physically bounding real space. Today's architects have a political and ethical obligation to read buildings as texts through which to understand this imbrication from a critical perspective.

2. An operative instrument—Far from solitary things, buildings are always incomplete objects that are plugged into other buildings and landscapes within both urban and natural assemblages. Each building is an instance of the complex confederation of private and public spaces and programs. By thinking of the building itself at multiple scales, both smaller and larger than the property line and zoning envelope, the building is de-territorialized, opened to people's desires for social community and sustainable engagement with natural spaces.

Consider the architecture you are proposing as a desiring machine. What does it plug into? What plugs into it? What systems of desiring-production is it implicated by?

1 Gilles Deluze and Felix Guattari, *Anti-Oedipus* (Minneapolis: Minnesota University, Press, 1983)

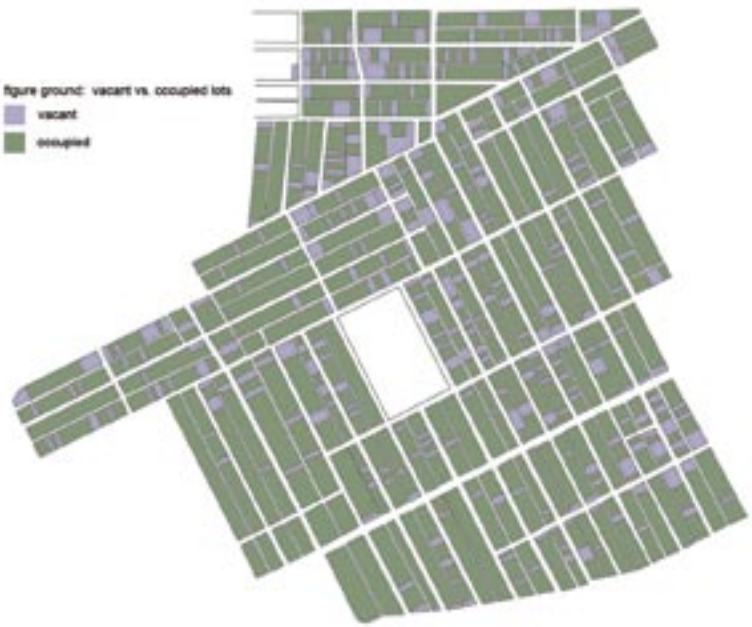
Mobilizing Architecture

John Comazzi

"When you think disability, think zeitgeist. I'm serious... Humanity's specs are back on the drawing board and the disabled have a serious advantage in this conversation... Making the body work regardless of physical deficit is not a challenge I would wish on anyone, but getting good at being disabled is like discovering an alternative platform... I should know: I've been at it for 25 years. I have lots of moving parts. Two of them are not my legs. When you think John Hockenberry, think wheelchair. Think alternative platform. Think puppet. From my perspective as a wheelchair puppet, life is a question of optimizing the brain-machine interface... I've become convinced that the process of fine-tuning one's mobility through practice and the use of tools is as old as humanity itself."
—John Hockenberry, "The Next Brainiacs," *Wired*, August 2001

The optimistic pragmatism communicated by John Hockenberry's assessment of his own disability (or alternative mobility) is quite different from most architectural responses to the Americans with Disability Act (ADA) of 1990. While the ADA was admirably enacted as a "national mandate for the elimination of discrimination against individuals with disabilities," one consequence of the act has been the regulatory design guidelines that tend to render (cognitively and physically) an individual's body as divided and abstracted through the precision of geometry and measure. While granting liberties and equality to individuals, the ADA also tends to treat collective bodies more as legal entities to be managed and supervised, leaving little potential to mobilize architecture (or people through architecture) beyond a remedial arrangement of circulatory routes. As such, the architecture that often contains this body—and thereby all bodies—is often conceived of and implemented as merely a corrective prosthetic, paying little attention to the sensorial, social and psychological drama of inhabitation. If the body—any body—is understood only as 'dis-abled' or as a 'problem to be managed and corrected,' then so too will be the architecture designed for it. If, however, what is assumed to be a disabled body in one respect privileges alternative platforms of being in another, then the architecture designed in response to that body will accelerate and optimize the capacities of any and all bodies ('disabled' or not).

In this studio, we approached the work of Material Resistance as an opportunity to rethink and reprioritize what is typically valued (or undervalued) when designing for multiple bodies with a range of abilities. Through the program of Mediatheque, multiple forms of media were assembled and choreographed along with space and material to deliver a rich palate of experiences through diverse modes of interface. In so doing, conventional organizational structures used to define the physical boundaries of space—such as edge, threshold, wall and perimeter—were transformed by alternative organizations of space designed through dynamic combinations of sensory feedback. By privileging alternative platforms of being over divisible and quantifiable space, material became performance, resistance became opportunity and disabled became more-abled.



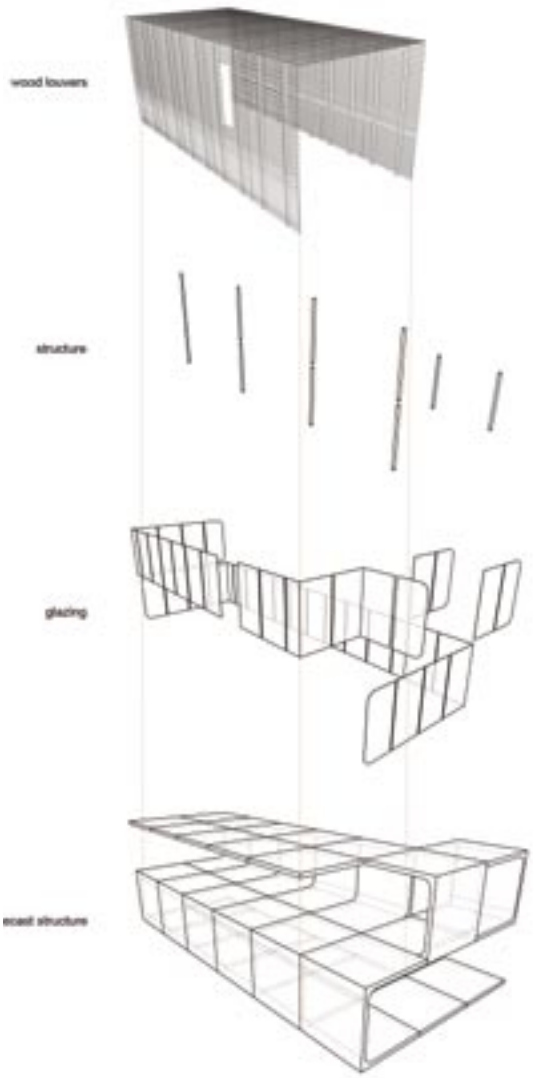
[Mod]ular House

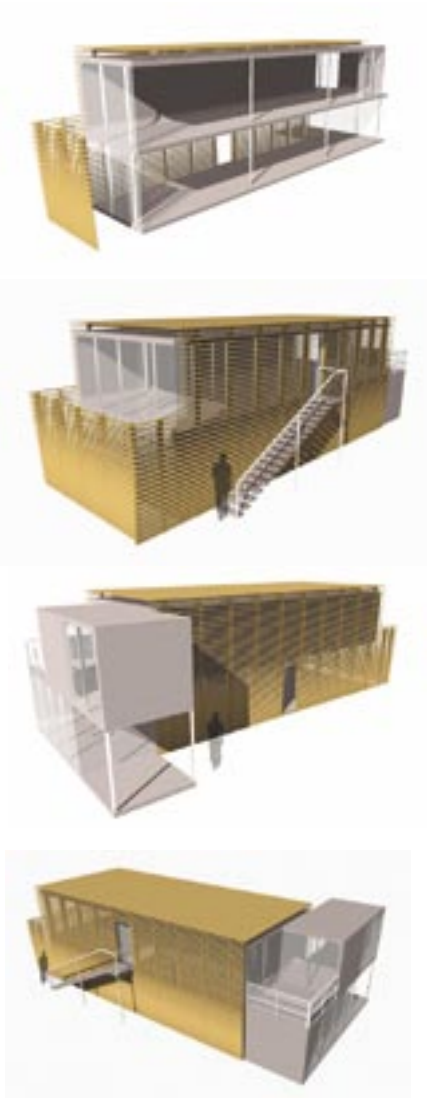
Current population studies reveal that portions of western Detroit, commonly known as Mexican Town, are growing—the only portion of Detroit that can say that. With the increasing population in that specific area, there exists a market to promote affordable housing that rejuvenates the fabric enmeshed with vacant lots.

With the common trend of developers turning vacant/unused areas into enclosed and private structures based on the idea of economy, the [Mod]House acts as an infill system that reestablishes the fabric, while maintaining the importance of economy and production. Large scale developments do not help the fabric, nor do they promote the health of the city. Rather, they internalize themselves as private establishments and do not provide anything to the city in return. The [Mod]House is an approach to affordable housing using techniques of production and economy that infill the voids of these vacant lots which might, in return, improve the fabric of the site. The system uses the nearby Intermodal Site as a transfer point between offsite production and local assemblage.

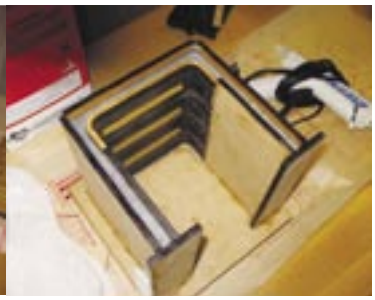
The housing unit is comprised of precast concrete C's and slabs that, when assembled on site, form a two level structure. The dimensions of the precast parts are predetermined, based on the maximum size of a truck. The nine foot cubed size is small enough to be shipped and manufactured offsite, but large enough to provide suitable space for living when multiples are assembled onsite. The architecture of the modular system is constrained by the precast "pieces". The housing unit is very standardized, yet it adapts to different lifestyles by offering different floor plans and arrangements within the unit. The unit caters to the individual as well as the family.

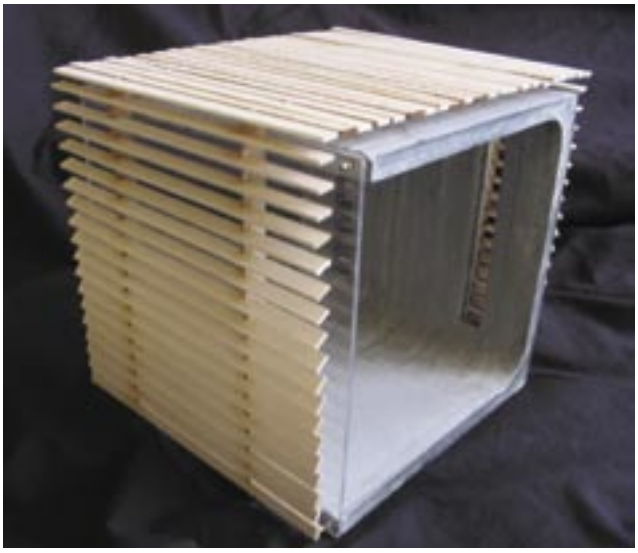
KEVIN RICE — Studio Critic: Adrian Blackwell

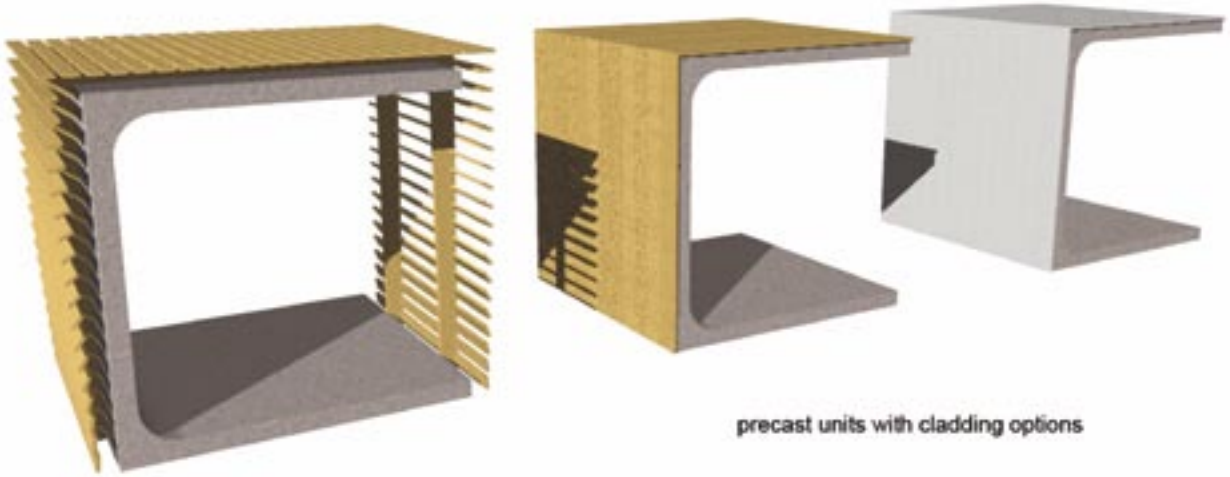




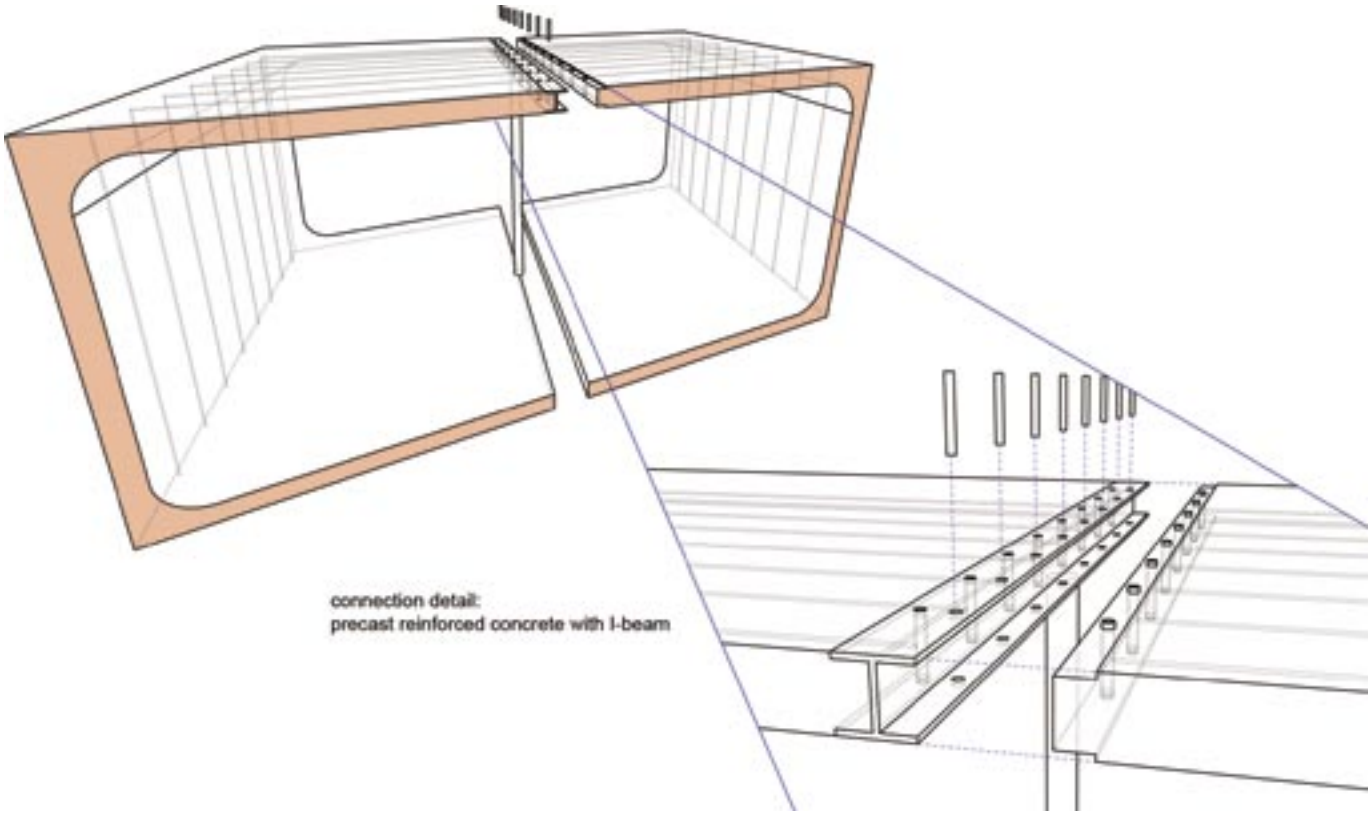


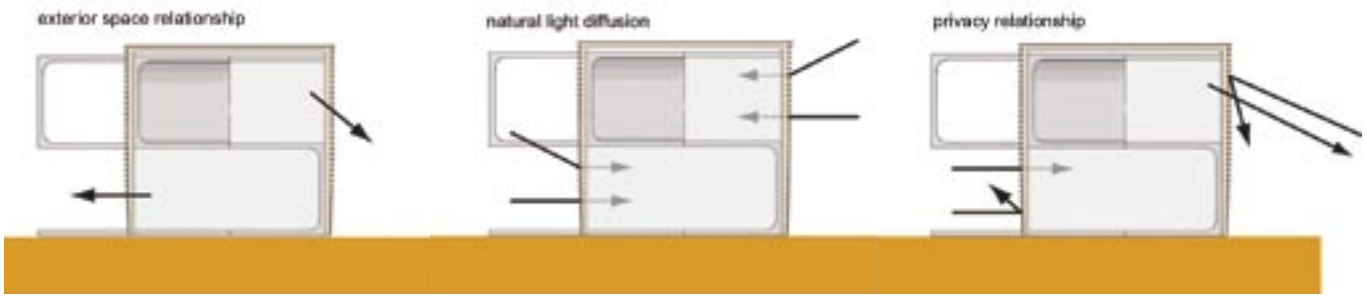


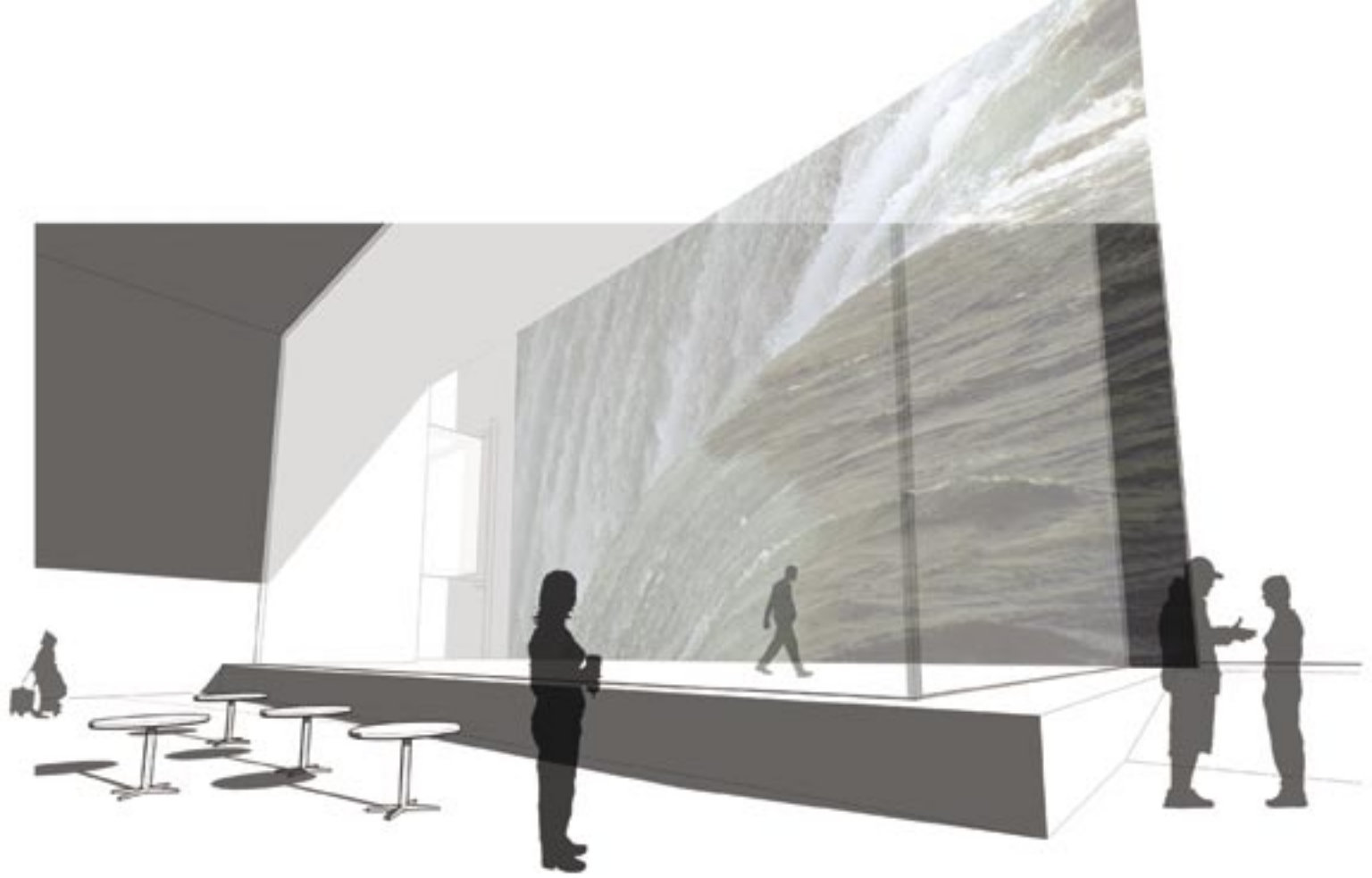



precast units with cladding options



connection detail:
precast reinforced concrete with I-beam





Architecture (In)Between

Architecture is a medium that operates in and between two global scales: the individual and the city. The threshold that exists between these two elements and the proper manipulation of that threshold is where architecture has the most potential to contribute. Although it is rare for any one structure to affect the panorama of an entire city, this project imagines the role of architecture as a necessary response to the broader city-scale.

The figure-ground studies in the 2001 compilation, "Stalking Detroit," are a telling representation of the urban erasure that marks the current state of Detroit. A century after the industrial boom, Detroit has quickly become a ghost of its former identity, an ever whitening field of more ground and less figure. On the one hand, this evacuation of the city is often seen as a detriment, wherein population density becomes the benchmark of a city's vitality. Yet, this judgment overlooks the potential opportunities that urban erasure imparts upon the social, cultural and political aspirations of the people within the city.

One approach is to understand the ground (rendered in white) as shared public space, as space belonging to the city. It could therefore be manipulated, altered and/or employed by any or all of the adjoining structures. As these structures spill into the unused spaces, a novel sort of vibrancy might develop—improvisational realms of public interaction and experience. Whether through architectural intervention or urban improvisation, these spaces would become as much a part of the urban fabric as any structure in and of itself.

To privilege public space recalls the spirit of Roman map maker Giambattista Nolli, working at a time when such public space was as much a figure as any piece of architecture. Whereas urban planners in Detroit understand the growing domain of

JASON ROBERTS — Studio Critic: John Comazzi

white ground as an embarrassment that needs to be replaced with a black architectural footprint, this project imagines all of the piazzas, streets, courtyards and vacant lots in white, as figure.

The project begins to activate the empty or underused sectors of the city. By obscuring the boundaries between the public and private realm and activating the edge that separates them, architecture might intervene to initiate new urban conditions. The proposed project is a case study. It explores how such an intervention might use digital media as a way to collapse the distinction between figures and fields.

Edges are both material and immaterial. These edges, which Manual Delanda calls extensive and intensive borderlines, help define conditions of everyday life: "All the extensive borderlines which define our space and time, from the membranes of soap bubbles to the skin of our bodies, are generated through the interplay of intensive borderlines, critical points of intensity defining the virtual forms available to a material and energetic system within a particular intensive zone."

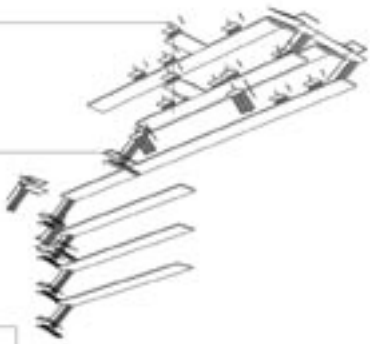
Detroit has an opportunity that does not exist in cities as dense as Chicago or New York. It has the opportunity to imagine a new dynamic space by simply questioning the priority of the figure-ground map. It can understand the city as a set of intensive borderlines that are defined by human interaction and experience.

Architecture (In)Between explores this potential territory by abstracting the site beyond its artificial boundaries. Through projection and various digital media devices, the structure more or less "inhabits" the fields that were formed by the erasure of the actual buildings. As a result, low density areas are activated through the rethinking of their prospective use and value.

catwalks

CIRCULATION SYSTEM

stair / ramp structure



administration space

(INFRA)STRUCTURE

steel structure

recording studio

production studio

libraries and digital archives

entrance airlock

lcd wall

projection screen

CONCRETE ENVELOPE

concrete structure

lcd screen

concrete wrap w/ photo-sensitive material

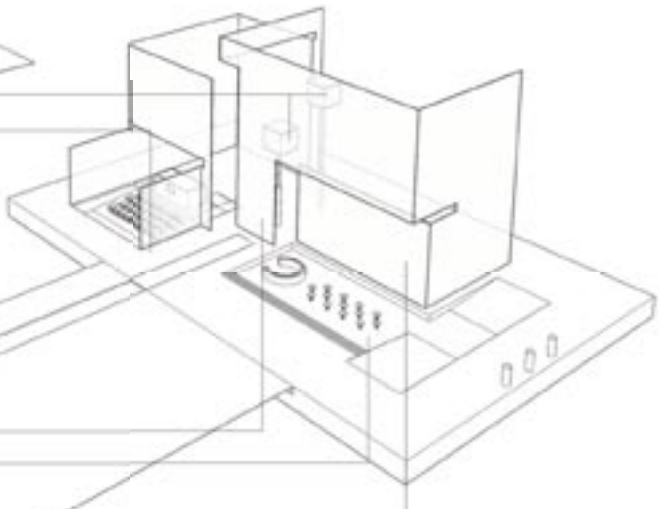
steel structure

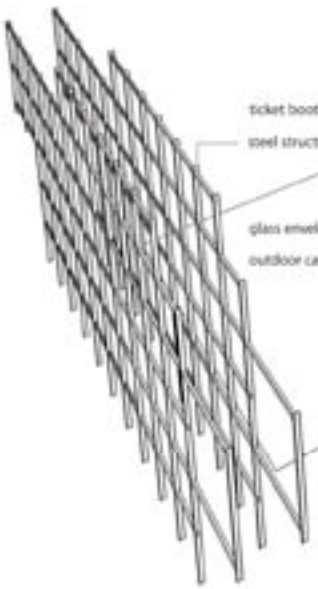
projection screen

lifts

screening room

GLASS ENVELOPE





ticket booth

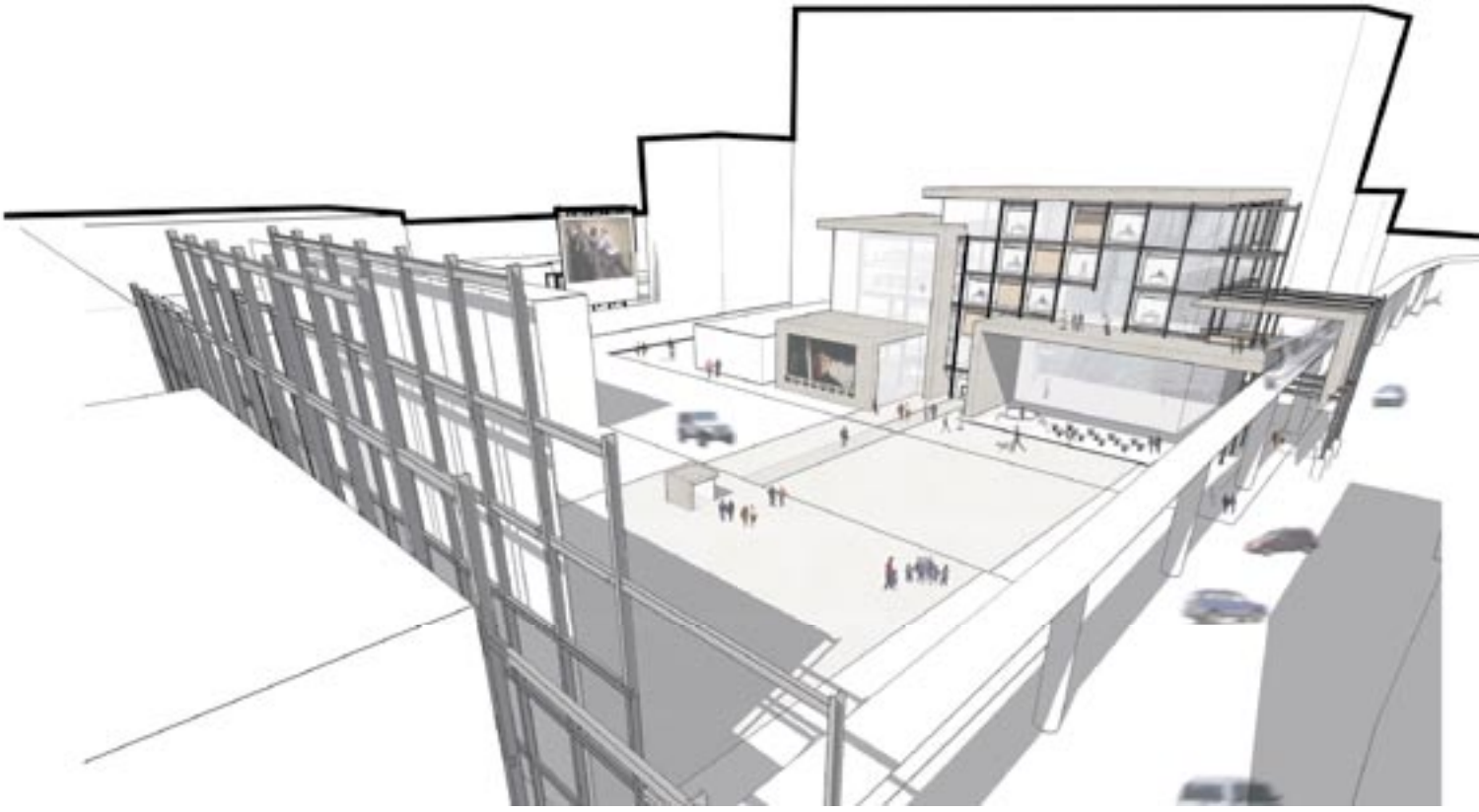
steel structure

glass envelope

outdoor cafe

parking lot

fold-out glass curtain wall (to provide for theater beyond)



Eyal Weizman

Director, Centre for Research Architecture
Goldsmiths College, University of London
Material Resistance Lecture #2

The Politics of Verticality

Rather than go through the history of the conflict and the history in which architecture and planning was manifesting itself throughout the conflict, I would like to look at the concepts of temporariness and flexibility and the history of these concepts. There are several issues at stake. The first issue pertains to urban warfare and the way in which the Israeli military, and increasingly other militaries, are seeing and understanding the urban environment. It's a reading of cities. A second issue pertains to settlements as a matrix of civilianized architecture—architecture that originated with a military principle but is actually civilianized in that it includes very mundane suburban communities in a role which is partly security and partly political; that is, performing military acts through and with a civilian population. The last issue refers directly to a new conception of war. These are all concepts that arrive from military planning and the way that the military understands space, how it acts and spatializes itself and manages to move into certain aspects of civilian planning.

Flexibility is the ability of matter to undergo transformation in response to forces; so, the ability of borders to undergo transformation in response to forces. In a sense, what you see here is a diagram of a map I've done for the human rights organization in b'tselem. The spectrum of blues are the Jewish settlements. The fabric in dark blue represents built areas and the lighter blue represents areas of planned expansion. The spectrum of browns are the Palestinians. These are forms that are under constant transformation, very flexible forms which embody the momentary balance of political, social, military and economical forces on them. If our cities are relatively stable because their transformation is slow, the frontier environment is not essentially different except that the intense territorial conflict accelerates these processes. So, we can see how space and action are actually morphed into a single category. Action does not happen within space. All action within the frontier of the West Bank happens in order to transform the borders of territory and control. The borders, therefore, of these different and complex territories, embody the momentary balance of political forces on them. Thus, if we accept the category of flexibility, we can see those forces diagrammatically, as the political and military forces that are operating on the form.

Temporariness, on the other hand, is actually a legal category that allows the suspension of a variety of rights based on the excuse of a temporary state of emergency. So, the temporary state of emergency (or temporary state of war)

allows planning in the West Bank that is ad hoc. It allows Israel to always argue each part of its transformation as response to an immediate security situation. In that respect, then, the situation of temporariness is very different than a master planning situation. It emerges as a sequence of responses that coalesce to create a single strategic reality.

At the moment, a debate within the Israeli political and security elite has begun and a paradigm shift has occurred. Previously, there was a two parlay system of fortification, one that Sharon was building and one that the labor general was doing. Let me go back to explain this. The first time Sharon becomes a political figure is when he gets released from the army as a war hero. In many ways, he's the architect of a new type of space. A geo-political arrangement is now replacing the old concept of borders, as a matrix of solid lines, with a much more flexible dynamic. When Sharon took over as the minister of agriculture, in effect the master planner of the West Bank, his role was as the head of the settlement committee in the Israeli government —essentially the one who is in charge of settlement activity in the occupied areas. He wanted to complete the same strategy of fortification in the West Bank, but now with civilian communities. So, the early days of the settlement project were actually conceived as a continuation of the Israeli fortification strategy, with the idea that the border is permeable to attack from the east.

One thing that it's important to mention here is that the whole imagination of this planning project was as a continuation of war by other means—by architecture. The continuation of war by other means was also, actually, a way to bypass international law and Israel's own national legal system. A settlement project at this large scale was dependent on acquiring private Palestinian land because most land was owned or cultivated by the Palestinians. The only way for Israel, legally, to have access to this land Is to declare a seizure based on a temporary and military need. And, indeed, the 1907 Hague regulation (which is the basis of the laws of war) allows a military, during states of war, to occupy and seize private property—and that is based on an idea of temporariness. Wars between states have clear beginnings and clear ends and within that abnormal state you are allowed certain kinds of violations of human and property rights. So, here, the whole concept of the continuation of the war allowed Israel's project to continue.

So, devoid of its ability to seize land for security purposes, the Israeli government actually had to rely on another legal framework in order to seize control of land. Even up until this present day, every cultivated field belongs to the person who cultivates it but the area that is uncultivated belongs to the state. Essentially what happened was that

Israel was able to seize all the mountain tops, leaving the valleys under Palestinian control. So, what you see here are the boundaries of that seized land, the land that Israel has managed to seize in the West Bank.

All those thousands of islands and pockets of land belong to a single regional authority, what is in between them does not belong to it. Effectively, on those bits of territory, the laws of the state of Israel apply. In between them, the law of occupation applies. Each one of those is no larger than a few hundred meters. They are just patchwork, islands of Israeli territory surrounded by marshal law. If you imagine how it operates in a topographical model, cut at 600 meters, everything over it is Israel, everything under it is occupied territory. Thus, you begin to understand the way that verticality operates here. You have to understand the conflict in three dimensions.

Israel did not have experience in building on the mountains prior to the occupation. The whole idea of the mountain as a cultural entity became very important only after the occupation. Poets began writing songs about the mountains. Military strategy had to adapt its thinking to mountain formations and architects had to learn how to build in the mountains. A 1984 guidebook actually regulated this type of construction.

Additionally, another aesthetic transformation happened after 1967. Prior to 1967, typical Israeli architecture might have been a brutalist concrete housing project, very modernist. Post 1967, there is an immediate transition to what is called postmodernism. Israeli architects started digging. Archeology became almost a national hobby because the areas that we occupied were historically important areas. So, these images show how archeology informs architecture. Architecture also tries to build its own foundational justification by building upon features of Arab architecture at the local level. Again, we see a paradox within this ecosystem of architecture and aesthetics in the West Bank.

It was the ubiquitous red roof that the Israeli army required for every building in a settlement. This was in order to identify Israeli villages from the air. But then, on the other side of that wall, not the main wall in the West Bank but one of the many there, you see Palestinian homes with a perfectly usable flat roof now adorned with a painted asbestos triangle that tries to mimic the settlements' architecture. Actually, one doesn't know if this is an attempt at colonial mimicry. For the Palestinians, the settlements represent a luxury environment, something to aspire towards. So, there is again another layer of the complexity of vision—or the act of camouflage, if we were speaking about bombing before.

Looking at the entire map, on the left is the map of the West Bank before. This map was based on a political critique of the settlement project, in the sense that it didn't look at planning and architecture, it didn't look at forms, it didn't look at the way the environment operates to violate human rights and international law, but just marks settlement points. So, you see how little blue points, which are Jewish settlements, exist on the left-hand

side whereas, on the right, the discourse of resistance and protest in Israel brought about a transformation, a formal analysis –almost for the first time within the conflict–so that we could tie the way that the environment is operating to the way that the work of planners and architects have been appropriated to violate human rights and international law.

Architecture, in the way that it is designed, embodies attention to material damage to the Palestinian economy. It's not only that you put people there, you put them there in a way that disturbs Palestinian economy, that makes people move from the area. This is what Israel calls a "silent transfer." So, there is an intention to create physical, material harm that is performed on the drawing boards of architects.

I was discussing with the Palestinian Minister of Planning what to do with those settlements and I realized that the one thing that both Israelis and Palestinians could agree on is that the settlements should be erased. And, I thought, that's a terrible idea. Obviously for Israel it's a way to minimize the trauma of evacuation, whereas for Palestinians it's a gesture of erasure, but also an attempt to return to the ideal landscape of dunes. However, this seems completely out of the question when you think of how much rubble and pollution it takes to destroy so many buildings—thousands of them.

I was suggesting, in my naivety, that perhaps a single family house is a single family house and one could use those to house Palestinian refugees, in the process transforming those buildings to suit their needs. They might use them as seeds and this spontaneous momentary transformation would therefore embody the political, cultural and national change of territory—but I still think there's a lot of work to be done on that. Another problem is that colonial architecture, when evacuated, tends to replicate the same patterns in the same spatiality of power and injustice.

Thus, paradoxically, solidarity can be thought of in terms of temporariness and flexibility. The wall, fence, barrier or whatever you want to call it, is the very embodiment of the notion of flexibility. Each one of its twists, turns and loops embodies a momentary political balance. That its path was not master planned is important. Rather, its generation was snaking, being built on the site from north to south, lending itself to accommodate all the political pressures along the way, entrances forming its route and being rerouted as those entrance forces operated upon it. In a way, it is an optimistic idea, that there is an effect for a cause. There is effect for demonstration and effect for political action, both on the level of the international court of justice and on the level of Israel Enggos and Palestinian Enggos. Activists can

actually transform and move parts of that wall. Sometimes it is by settlements or by lobbying. Here, it is a rerouting, which is perhaps a little bit minor, but if you think about the way it was initially conceived, everything in darker gray was actually supposed to be surrounded by the wall, leaving a complete archipelago of Palestinian spaces which are neither continuous nor contiguous to each other. International pressure has managed to push the wall very much toward the green line so that is what is on the right hand side—constantly transforming—is being imagined as being on the other side of the wall, still with islands of Israeli space in it.

Initially, as the project was being built, settlements started applying political pressure on the government to be included on the Israeli side of the wall. So, the wall was actually being rerouted to gather all those points within it and, again, the other one that was coming from the east was trying to separate between everything blue and everything brown. It was speculated land, land that was appropriated. After the Supreme Court action, after the International Court of Justice, after international opinion was mobilized in such an effective way to put pressure on the Israeli government, they managed to push the barrier closer to the green line—not on the green line, but closer to the green line.

Yet, paradoxically, what was happening was that these Israeli settlements, which were previously applying all this pressure to be in or connected to Israel, were left outside of the wall. And now, the government is not able to accommodate all the political pressure. The wall is a flexible entity, but it reaches its points of shear. It begins to draw on itself, curling around Israeli strategic interests.

So, we cannot think of the wall as a continuous line. It is fragmented, a condition of separation rather than a border. And here you see those extra-territorial Israeli spaces which are surrounded by a similar fortification —a wall of fences to the main wall. And, obviously, these are different types of fortification. International public opinion was so concentrated on that linear part of the wall that they ignored everything that was happening in depth of the territory—all the earth dikes and check points and barbed wires and those other types of flexible barriers that are put up and removed. These flexible barriers shrink and expand the territory continuously.

But the biggest question was how to weave together a non-contiguous, non-continuous territory—it is fragmented into extra-territorial islands —into a single thing while allowing it to operate. How can we conceive of two states, effectively super-imposed on the same territory? The settlements' state, those islands of hilltops, and the Palestinian valleys must connect without crossing each other.

Obviously, one of the most famous infrastructures in the politics of separation, the tunnel wall, tries to bridge that paradox of contiguity. The road to an effective Israeli sovereignty, the valley, is under limited Palestinian control which essentially fragments geopolitical space from two dimensions into three dimensions. Thus, we can start understanding the volume according to the medium in which those territorial paradoxes are addressed and resolved. Here, the area is marked where the wall is gong to be constructed. But it's not only that tunnel wall. There are about 50 of those now, much smaller moments in which sovereignty is fragmented along the vertical dimension.

The image by which you understand a really large region is thought of as an architectural problem that you can resolve like an airport, with different layers and security corridors, including the air and the sub-terrain, all operating as a complex system. Yet, that image embodies the contradiction in the politics of separation, imagining that there is this magical line that puts all Israelis on one side and all Palestinians on the other side. In this image, one could resolve the conflict formally.

I want to finish with an urban warfare analysis of the way that the Israeli military think-tanks see the Palestinian refugee camp, which is essentially the embodiment of temporariness. A form of destruction was seeking to create a city that essentially enables the military to go back and operate within it. So, to flex the city, you cut a route through it, though it's not always such a brutal 19th century Haussmanian approach, carving a boulevard for strategic purposes, but something that is more subtle. One way that the military is trying to think about cities is to understand them in this complex environment and to try to become as complex as that environment is.

For example, in the first image of that refugee camp, the imagination of that place was as a solid, through which you could cut three dimensional paths as you would travel through the city, without ever stepping on the street. You would be always moving through the wall and through the ceiling. The Israeli military is really way off, completely rejecting the Palestinian segregation system and replacing it with its own segregation system.

Here again is a military map of a way that those paths are carving or eating their way through the urban fabric. This movement develops another tactic: swarm intelligence. You know of it because it exists in cybernetic discussion. The idea is that the bee is of rather limited intelligence whereas a swarm, as a totality, is an intelligent and reactive organization. Or a termite swarm, for another example, that can build incredible structures not based on the single intelligence of each of its components but on the overall synergy between each part. In order to do that, you have to complete what Sharon began with the fortification system, to fragment the military into semi-independent units, each operating without orders and without a master plan, but with a specific toolbox—similar to the way in which architects are currently rethinking the master plan.

We deal with each area as having a toolbox and deal with emergency situations as they come. That is the parallel between those two worlds.

Another system that is being developed now for the IDF involves the ability to actually render architecture itself transparent—essentially an ultrasound that can spot and see behind walls and deploy the kind of ammunition that can pierce walls precisely without reflecting its trajectory. The intention is to destroy the last barrier of privacy. The solid wall of the room becomes now completely transparent.

Guerilla Architecture

Mireille Roddier

How does one approach an architecture project as an act of fiction?

What would non-fictional architecture consist of?

How do we explore the meaning of "resistance" in the context of architectural education?

Is the main purpose of a resistance to annihilate the occupation, or, in this society of spectacles, does it begin with making it visible?

Can architecture play a role in unmasking current ideologies?

Are these ideologies embedded in programming architecture and zoning the city, or are they equally present in forms?

Can the incongruous juxtaposition of familiar programs lead to something entirely new?

When the meaning of forms is continuously being hijacked, where does the margin for subversion exist?

Hijacking sounds better in French: *détournement.* Can the technique of hijacking be used so that the détournement of forms follows an act of fiction, one that relies on the novel—not the novelty of the form itself, but of its re-contextualization?

Détournement, in the hands of the Situationists, served as a means of resistance against the entrapment of life on the stage of the spectacle. By hijacking aesthetic artifacts from their contexts, they were assigned a new meaning, one that had not been scripted. "Any sign", Guy Debord said in 1956, "is susceptible to conversion into something else, even its opposite." And it is precisely this opposite that could silence the empowered, or inversely allow the empowerment of the disenfranchised.
The first short project asked students to use the tactic of détournement to address a specific dysfunction and to diagnose within our immediate-extended environment the art and architecture building and the community it houses. A few guidelines were set:

1. The dysfunction could emerge from either the physical environment or from the community, but in either case, the relationship between the spatial and the social should be understood.

2. The most obvious dysfunctions were not as interesting to unveil as those that had been embedded in the everyday routine of the school to the point of invisibility.

3. At best, the projects would challenge the dysfunctions identified to the point of generating a change. At worst, they would cause a heightened awareness of the issue tackled, for a moment… maybe longer.

The feedback from this exercise led to a new series of questions:

Do we need disruption to provoke social aggregation?

Does this disruption need to be an inconvenience?

How do we create the possibility for an interruption of the routines that automate us, within the margins of tolerance for "the other?"

How long before the interruption itself disappears into the invisibility of routine?

In their final projects, the students tried to address these questions at the urban scale. Their sites were limited to the public realm, in its broadest definition. The impulse to use retail or commercial programs as a means for social aggregation was discouraged. Siting, programming and designing were understood to be of equal strategic importance.

The bibliography for this semester ranged from "The Surrealist Manifesto," to the "Everyday Life Reader," via the Situationist's texts. Documentaries, such as *We're Not Blocking Traffic*, *We Are Traffic* on the critical mass movement and Christo and Jeanne-Claude's *Running Fence* were viewed, to understand means through which communities come together. Final projects ranged in scale and temporality from the design of a one day festival to permanent transformations of the landscape.

Recombinants of Surveillance: at 600 Meters Blurring Boundaries

Dawn Gilpin

"Urban sprawl as human rights abuse." —**Eyal Weizman**

In 1961, *The Death and Life of Great American Cities* was published, which gave presence to the perception of fear in cities versus situations that are in reality fearful. Jane Jacobs argues for the necessity of strangers in cities and describes the responsibilities of architects in designing our cities in support of or in reaction to this condition. In the 21st century we find ourselves in another political/media generated psychology that produces a perception of fear to such a degree that many describe this particular condition as a "culture of fear." The culture of fear speaks to the widespread manipulation of information media affecting psychologies of everyday practice. As Raoul Wallenberg was able to recognize and act on these discrepancies in society, this studio attempted to firmly ground itself in the reality of our current state and work against this culture of fear by designing for "spaces of madness."

Madness has negative and positive connotations, bringing forth the genius or the mad character that is the primary actor in, if not the author of, the production of fear. In this society we recognize that in most spaces of occupation the madness has taken on a new form, that of banality, that of the familiar. Even in spaces of dense occupations, The Great American Cities as Jane Jacobs has described, have become pressurized by homogeneity, gentrification and the comfort (discomfort) of the known.

The culture of fear has infiltrated the spaces of leisure and entertainment. Spatial questions hover above this fear factor; our responsibility as architects to recognize the difference and necessity for different types of existence is crucial, but this is a boundary that needs more clarification and absolute definition. As we have learned through the writings and work of Eyal Weizman and Jane Jacobs, architecture plays a primary role in defining our presence in reality. "Human rights organizations normally deal with fast processes—military incursions, illegal arrests, assassinations, and torture." Weizman says. "We are looking into slow processes and saying that the concept manifests itself most clearly in the processes of encroachment, growth, and sprawl, both in the design and approval and in the way matter is organized—the very orientation of the house and the windows with the landscape. There was a careful process of strategic design that pushed the civilian population into the occupied territories to achieve geopolitical objectives."

Recombinants of Surveillance: Blurring Boundaries at 600 Meters asked one to hover somewhere between the fantastic (or cultural narratives experienced anew) and the reality of the power of architecture as a political tool. The architectures investigated were extreme, calculated and powerful. They ranged from cultural products designed to contribute to the quality of everyday life to military surveillance spaces that fully participate in the violation of human rights. These constructs are realized in the Gaza Strip as The Wall (or the Green Line) that separates, refusing acknowledgement of particular populations while simultaneously using domestic spaces to survey or oversee. They also surface in older neighborhoods of Boston where facades that once maintained visible access to the street, allowing orientation to the community, were re-developed as fortified walls to protect residents from strangers, reversing the orientation to the interior—the media-generated space of madness.

The pedagogical intent of the studio was to stage conversations that question architecture critically and provocatively. The studio developed ideas that pressurized the separation of the first and third worlds, asking architecture to shift from a naïve and destructive force to an instrument which gives permission to propose and project into the future. This studio did not pursue nostalgic or utopian constructs derived from a limited agenda, but rather it aimed to recognize and be critical of inherent pitfalls and limitations. One objective of the studio was to consider architectures that directly influence and are defining for the coexistence of difference. The students were asked to pick and choose their challenges, assured that their curiosities were pushing the discourse of architecture responsibly, with great care and consideration to political, social, cultural, environmental and economic situations.

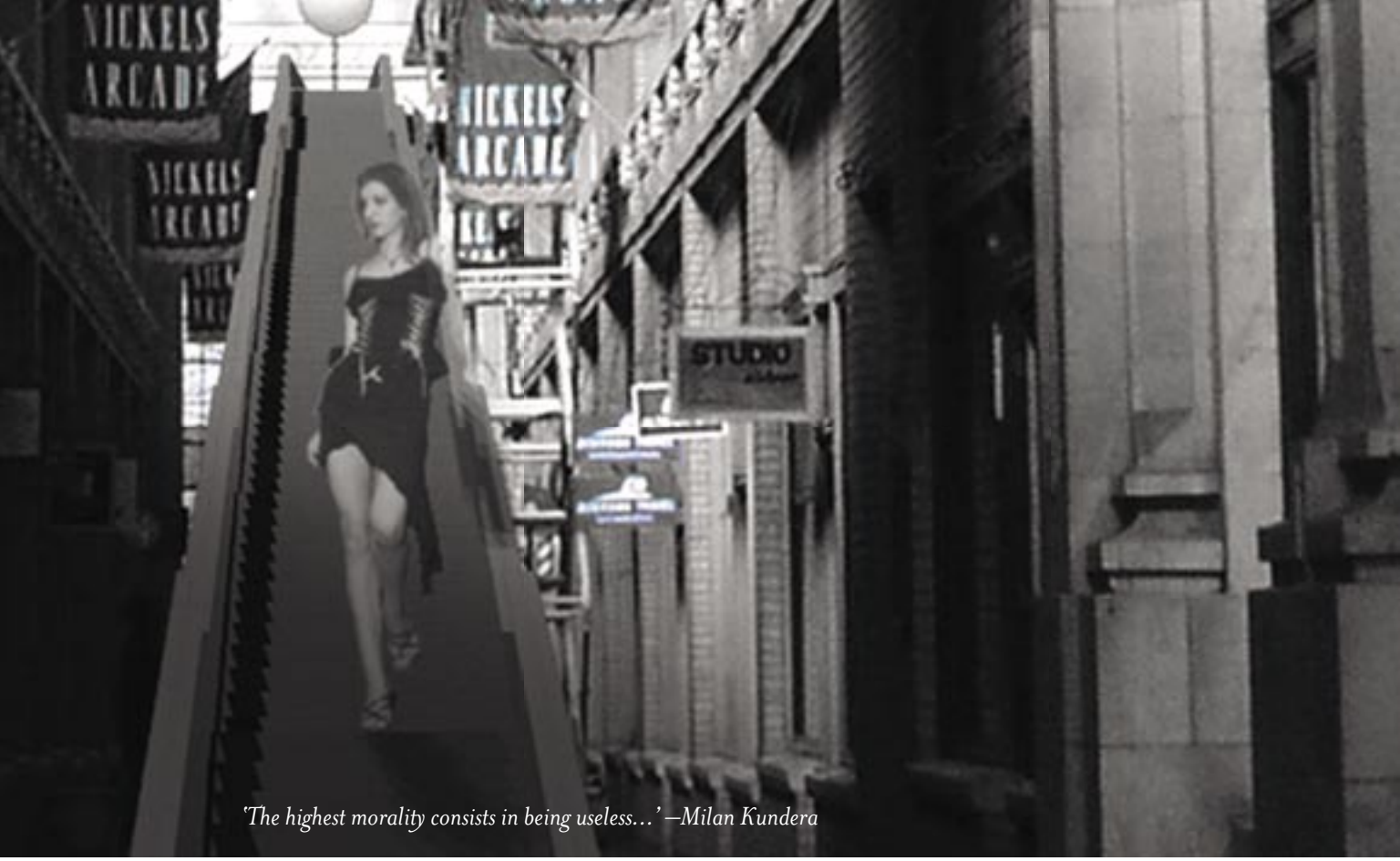
No Business as Usual

The milieu of the site is one of small scale local commerce. Set within this environment, the built structures embody and signify their agendas: business, commodity and commercialism. Additionally, the built landscape and the emanation of goods and services affect how we see and value the actual landscape. Our physical and psychological boundaries are dictated largely by the strictures of planning. Through the use of measure and order, land is altered into sizeable plots and allocated according to desirability and acreage. These parcels are then punctuated by built forms and by networked streets and paths. Through this structuring, the site—the land itself—becomes nothing more than an ancillary accessory to the agenda of the program. This project attempts to elevate the current view of the land-space, allowing it to be valued and desired through juxtaposition with the commercial enterprises of the area.

Land-spaces have assumed an increasingly narrow role in suburban and urban areas. Land set aside for communal activity, such as neighborhood parks or plazas, seems less inhabited than land set aside for commercial purposes. These parks and plazas become stages of inactivity; neither restful nor restorative to communal or individual peace, they breed surveillance. No shelter is given where there is only an appearance of universal ownership. These places become for no one.

How can land-space operate in another manner and, in so doing, relate directly to bustling commercial areas? The earth must be recovered, un-trenched and re-birthed—transplanted from its natural home on the ground to occupy a place in the sky. As a site for this project, the roof and air space above the buildings along State Street is reconfigured as land-space. The value and view of this added space

LINDSAY COOPER — Studio Critic: Mireille Roddier

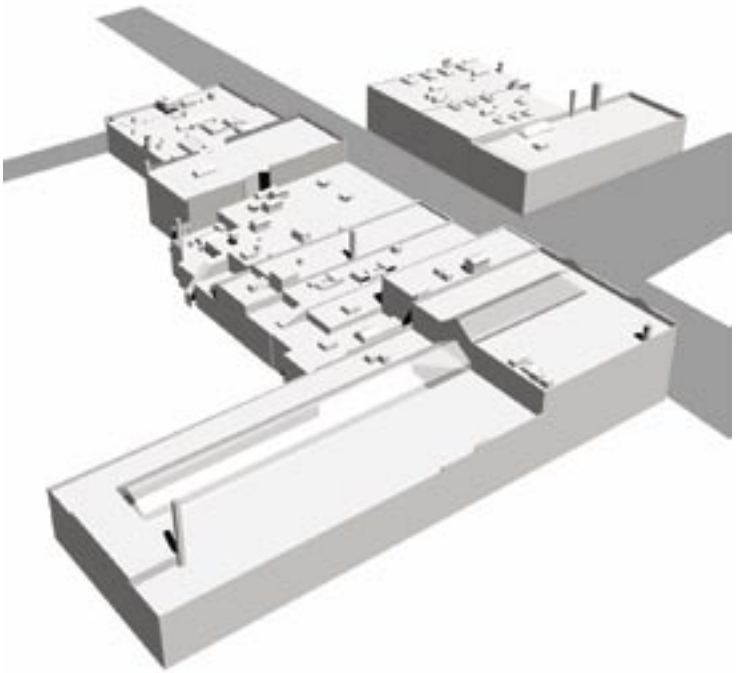


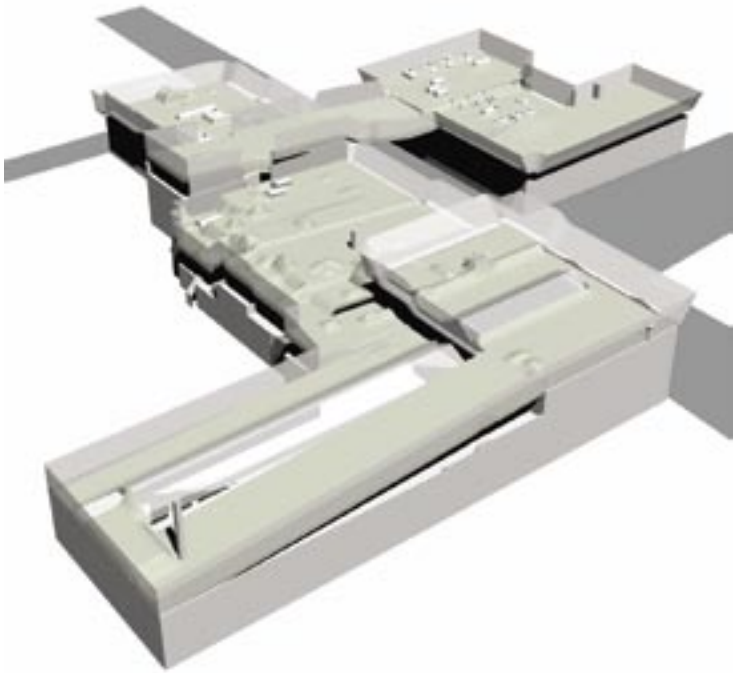
'The highest morality consists in being useless…' —Milan Kundera

results from its position above the extant environment of exchange at street level. As the existing built structures reify the desire to possess, so would the land-space. Yet, this desire would be an abstraction, manifest as space, in the tangible experience of nature.

The configuration of the storefronts to the street and their relation to the pedestrian is integral to retail success. The storefront allows for the display of goods, visually enticing the pedestrian while also disallowing immediate physical contact. Emulating this system, the land-space above becomes displayed. Viewed from below through a glass front, it is an extension of the storefront windows. By tilting the land-space's windows, new views are created for the pedestrian, where reflection and distortion grab attention and invite a glance upward. In contrast to the culture of immediate gratification—see it and buy it—a method of access to the elevated landscape would not be readily obvious. Knowledge of this area's accessibility would come through investigation, through word of mouth or through the chance decision to climb the stairs located in Nickel's Arcade.

The transplanted earth, framed in its new position, becomes an opportunity to grasp that which was once overlooked. It is the claiming of a space with no other purpose than the pursuit of the useless. It remains free to the imagination and will pass through people's hands as they pass through it. It will be a space for one and all to gather publicly, though not fully exposed or displayed as in a park or on the street. The land-space could support discussion, relaxation, gardening, music, nothing or everything. The composition of the land-space hinges upon the transient habitation of the everyday, its sporadic, ephemeral, physical and psychological retention and the invitation to take momentary possession of the space. It is the provocative intangibility of the partially concealed which incites intrigue and perhaps even desire. An effect of this land-space is an emotive imposition, imbuing one's senses with the desire to hold the thing possessed as one's own.





Urban Confessional 24/7

Trash, like it or not, is part of our life. The system for collecting and removing trash within the city is inherently an infrastructural one, yet infrastructure has been under a state of neglect in the city, largely ignored and improperly maintained to the point that it cannot perform its duties anymore. People have begun to abandon infrastructure because it is failing to do its job. This is leading to the ruin of the city, thus it is time to resist this neglect. Urban Confessional 24/7 proposes a system that explores the potential for reformation of both the collection of waste and the staging of public interaction within the city.

Urban Confessional 24/7 takes on the restructuring and rethinking of the way refuse is collected within the city, reviving the city's maintenance infrastructure by organizing it within the same space as the city's social infrastructure. There is a space in the city—the streets and alleyways—in which public conversation occurs. During conversation, problems are exposed; conversation holds the potential to turn exploitation and neglect into action. Urban Confessional 24/7 acts upon this same space of the city—side streets and back alleys—simultaneously proposing a system to organize and collect containers of refuse and shaping a space that fosters informal public dialogue.

The city is a living organism constructed from smaller entities. We are part of it. We live our life without considering the other parts of the city. In order to try to understand how a single individual could affect his or her surroundings (and vice versa), Urban Confessional works on the macro-scale of the city, as an autonomous system for organizing waste collection and public conversation, and on the micro-scale, by encouraging people to converse and interact while playing out such everyday duties as taking out the trash.

Architecture has often been seen as a container, always relative to what is inside: politics, economics, religion, culture or social interaction. Yet, it could be something else. Urban Confessional 24/7 suggests that architecture is not merely a container, but rather an independent entity with the power to influence its surroundings.

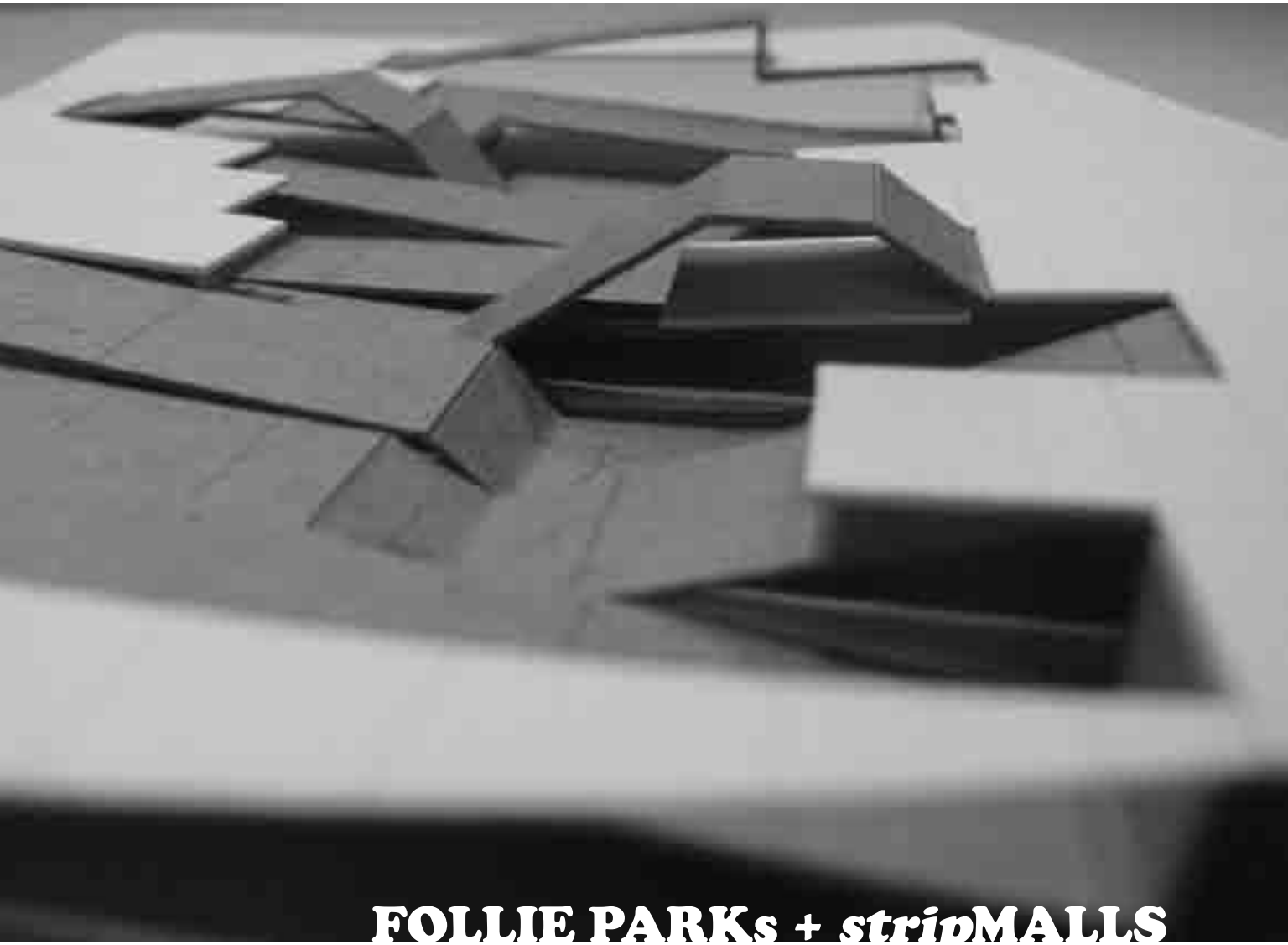
HELEN — Studio Critic: Dawn Gilpin







Holland
Bakery



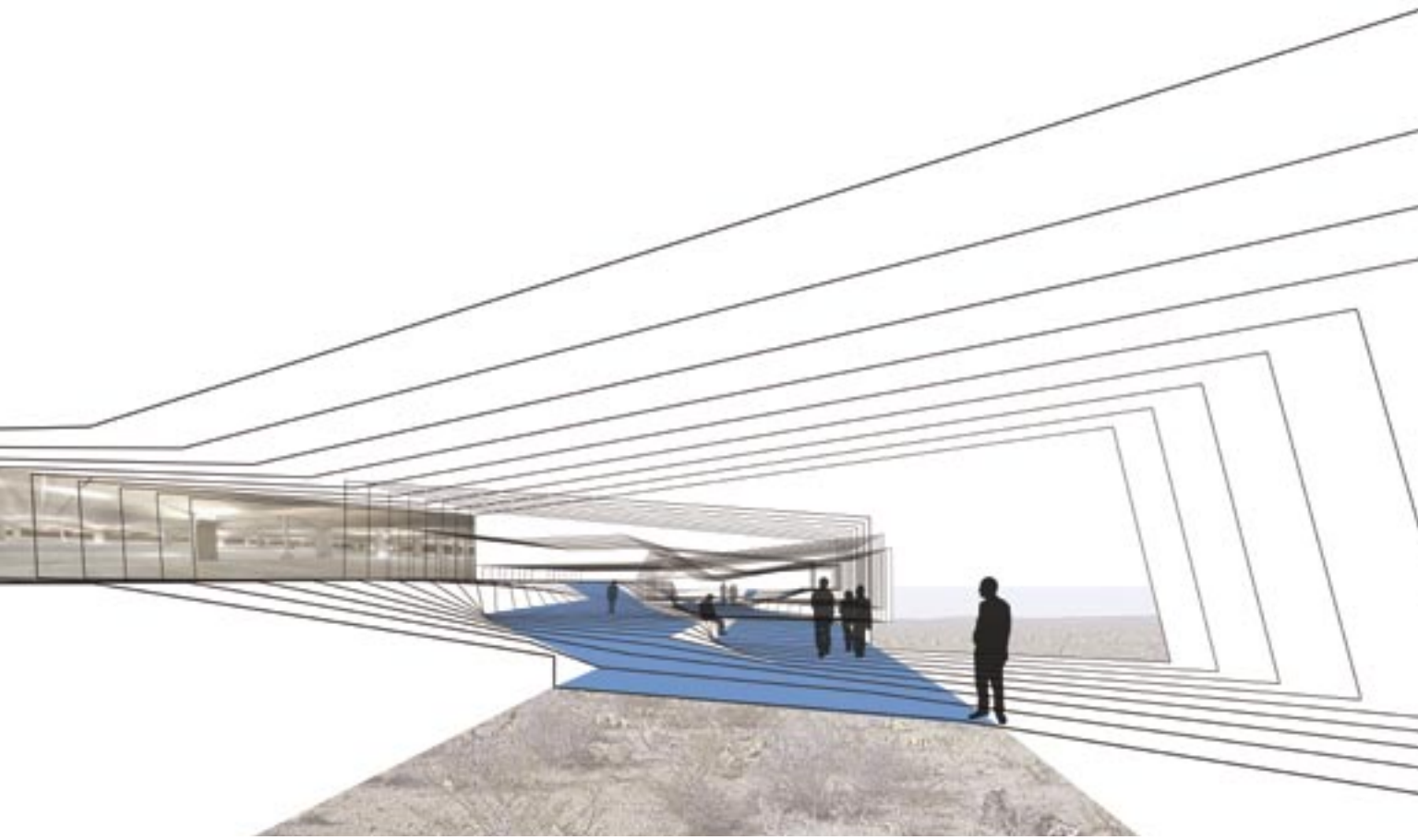
FOLLIE PARKs + *strip*MALLS

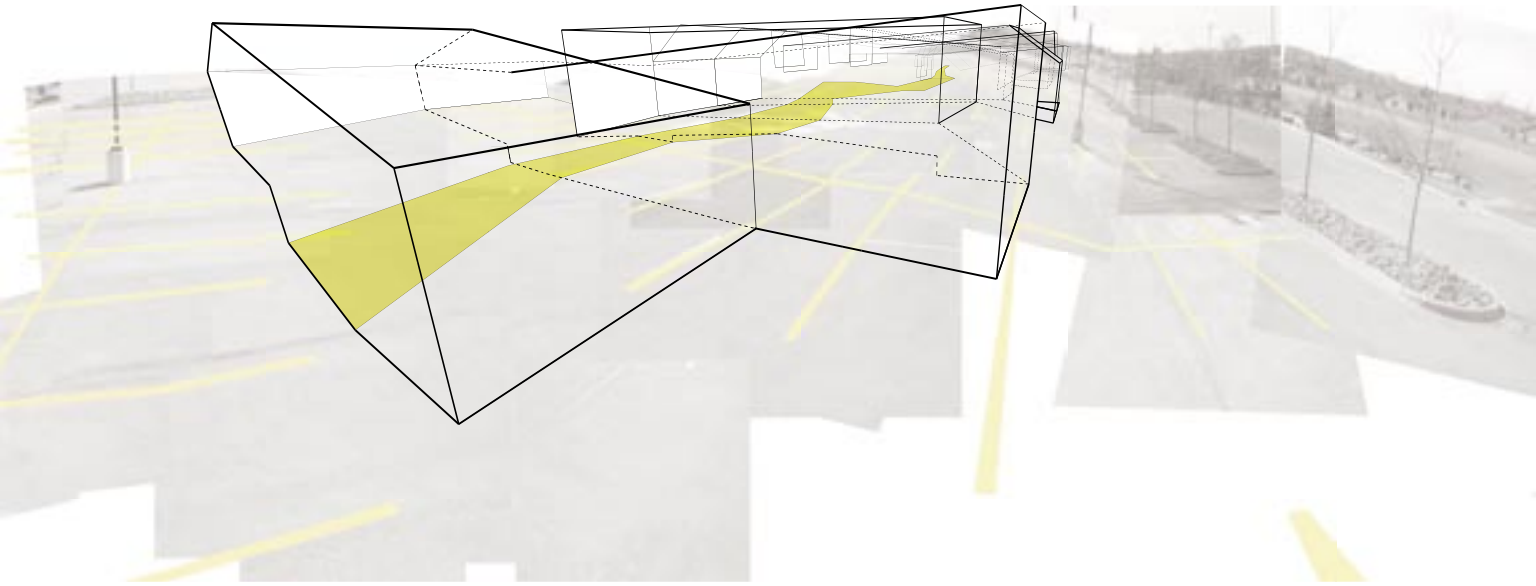
An individual's exposure to the strip mall acts on a datum of convenience. It lacks experience. It lacks community. It lacks presence. The strip, although not entirely responsible for its own banal temperament, offers only a surface aesthetic. The surface condition relates to our society's magnetism towards mass production and consumption. What happens when a strip mall and parking lot merge to formulate a means to design? What happens when the linear progression we so commonly associate with the strip is broken or resisted?

The combination lies in the passive relationship of the hackneyed mall to the ubiquitous reality of parking. In a flash of time an occupant will come and go. Does that individual ever leave a mark? In a matter of hours, the texture of a parking lot changes considerably, but is it ever really occupied?

This project combines the English definition of a follie—under-development—with one from France—a mistake or accident—to reconsider the typology of the strip mall as it exists today. In *Follie Park*, a new definition emerges: the inadequacy or crudeness of experiences and rationale. Follies may conjure a meaning, but have no efficacy. Strip malls have utility, but no meaning.

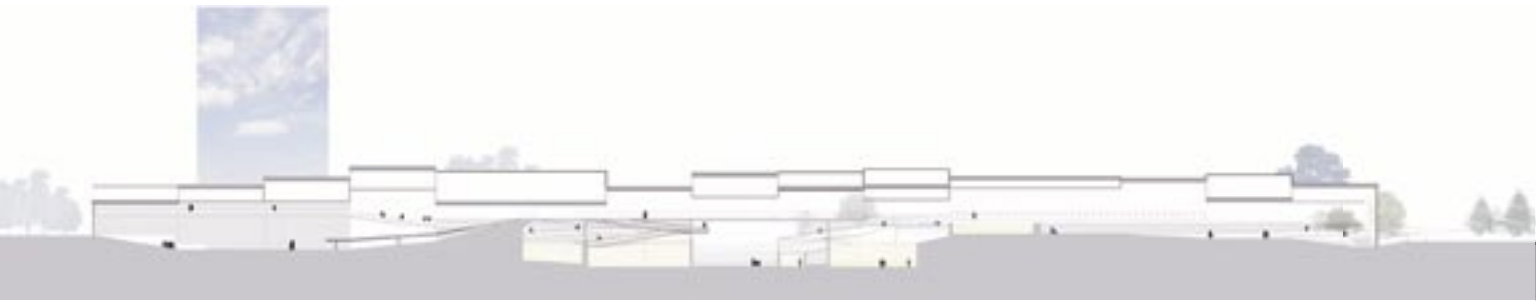
MICHAEL SPIEGEL — Studio Critic: Dawn Gilpin

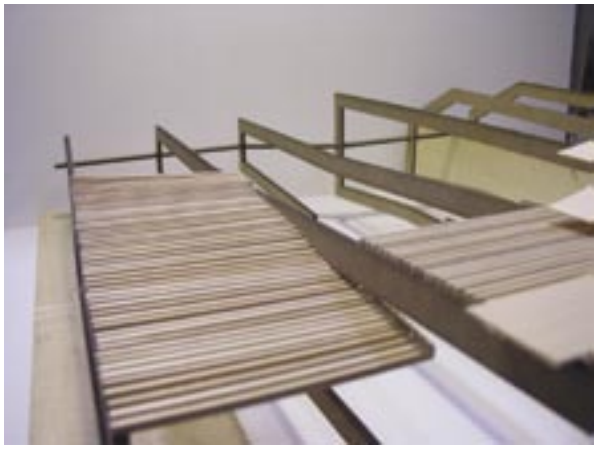


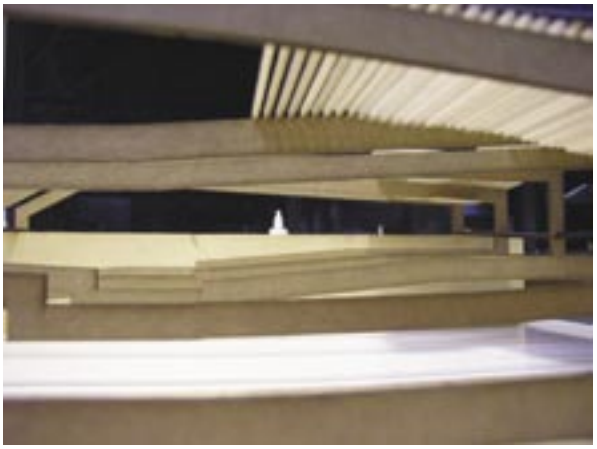


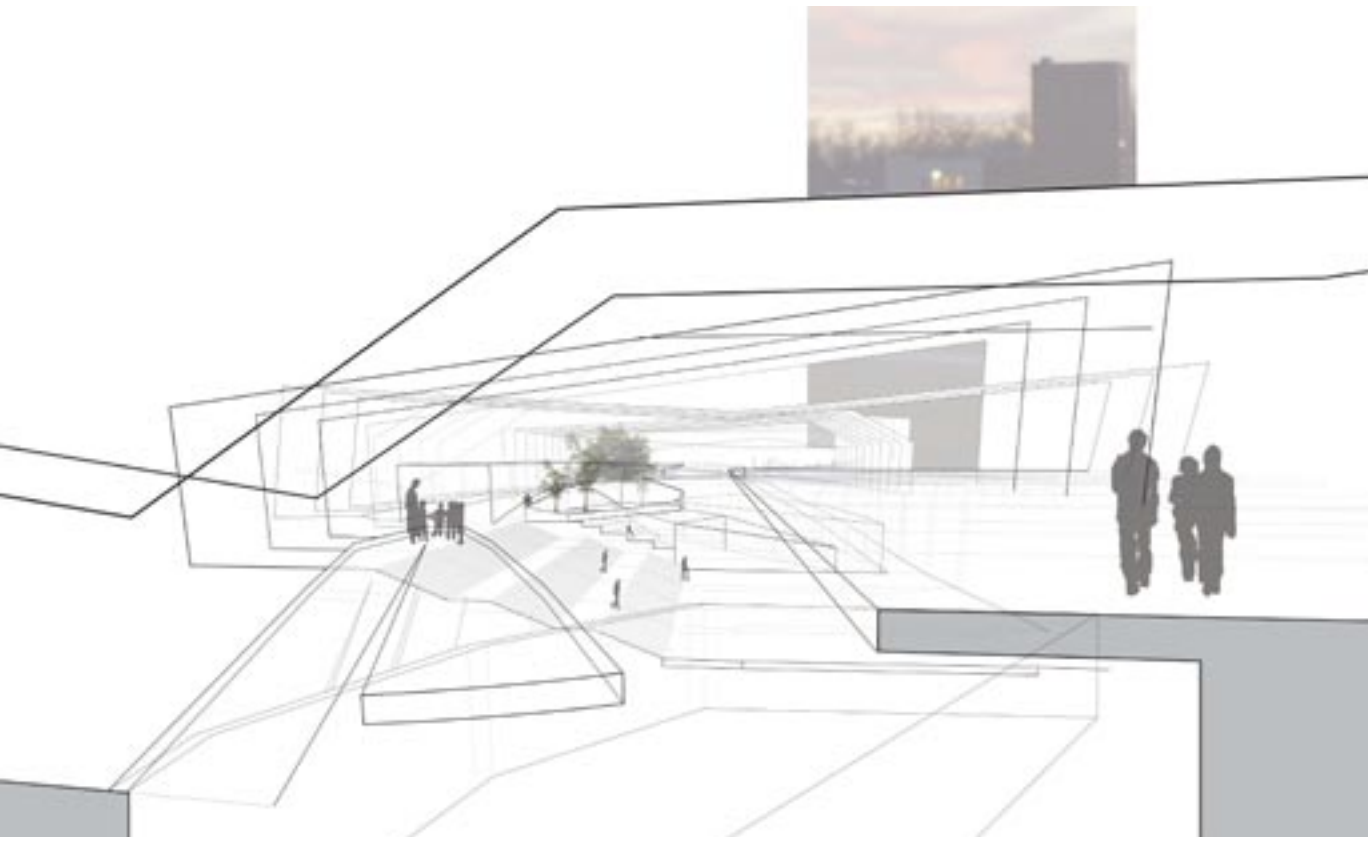
Follie Park drives at the understanding of the follie as having the potential to inspire form and material resistance. Asphalt becomes the object of material resistance as topography. It reinvents the landscape through which a strip mall exists and generates a new architecture.

The landscape establishes itself as a critical influence on the form and structure of the building. On a strictly physical level, follies transform the site (asphalt). Yet, on a social, economical and environmental level, the entire landscape changes with every strip of excavation. Consequently, with every piece of asphalt removed and landscape altered, the future of what lays ahead changes as well. Since *Follie Park* serves as a temporary structure, its ruin has the ability to drive the design. What remains when this structure is gone? What kind of mark does it leave? Where does it go? *Follie Park* gets exported from one asphalt parking lot to another. Not limited to the same form each time, the strips that construct *Follie Park* give it a flexibility to be implemented elsewhere, perhaps more thoughtfully and successfully with each new iteration.









Frank Fantauzzi

Professor, State University of New York, Buffalo
Material Resistance Lecture #3

Michael Cross and Chris Sclafi

Stump and Body Bag:

Academic and Practical Explorations

Stump [2005]

Stump is a freshmen studio design project constructed in a wooded area of the Griffis Sculpture Park in Ashford Hollow, New York during the winter of 2005. It involves forty-six permanent and site-specific interventions in tree stumps which architecturally index the natural process of decay. As the tree stumps decay, the interventions become more visible and complete. This rural studio focused on nature's cycle of life and death. The projects will change over time and thus continue to teach students about the role of entropy in the constructed world. A seed is planted, a worldly wound is dressed.

Dan Mannino and Chris Schere

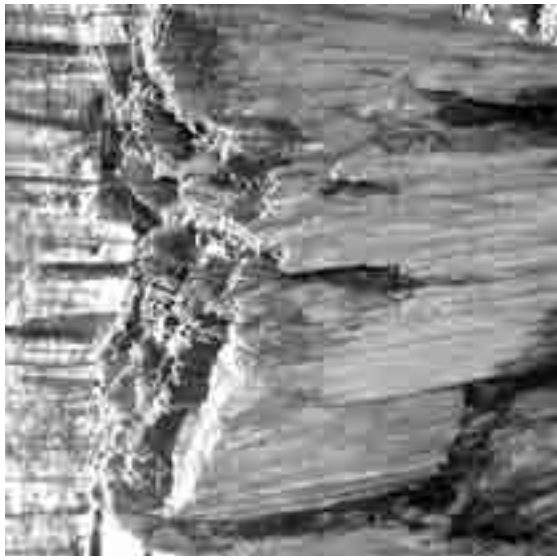
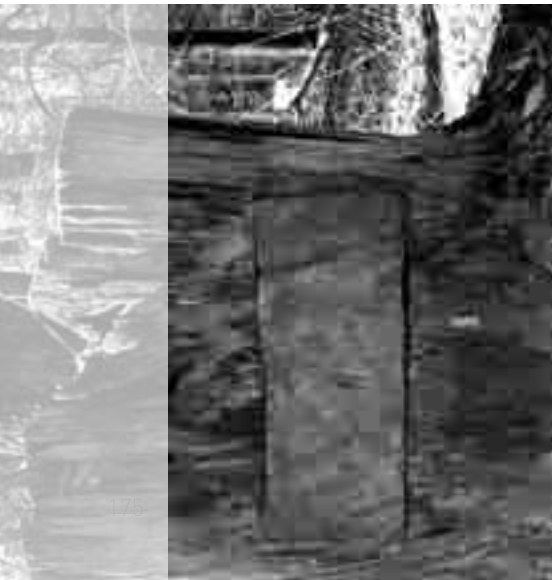
Joe Diperma and Keith Short
Nicole Lamie and Matt Zych
Brian Podleski and Saki Yoshimura

Shannon Brennan and Rob Przybysz
Matt Bull and Bob Rossi
Dan Chorley and Stewart Goehringer

Amy Sekol and Joe Shand
David Johnson and Emily Oare
Dan Setnikar





March 20, 2003 America launches first series of air strikes on Baghdad, described by the military as the "Decapitation Attack"

March 21, 2003 Beginning of operation "Shock and Awe"

May 1, 2003 President Bush addresses the nation from aboard the USS Abraham Lincoln, with a banner in the background that says "Mission Accomplished"

October 22, 2003 The Washington Post reports that the Bush administration had ordered the Pentagon to prevent any news coverage of the bodies of US troops being sent home from Iraq.

October 26, 2005 American military casualties reach 2000.

January 26, 2006 the number of American military fatalities surpasses 2200 and the number of wounded is well over 16,000. The civilian Iraqi casualties range from 20,000 to over 100,000, depending on the source of information.

March 21, 2006 Third anniversary of ongoing war in Iraq

Body Bag [2006]
James Cathcart
with Frank Fantauzzi and Dan Gallagher

The project's mission was to visualize the volume occupied by 2000 bodies with an average volume of 2.80 ft^3 per body.

The volume is contained by a rubber membrane (EPDM), typically used in the roofing industry. Two sheets of this rubber were seamed at the edges and inflated to the required volume using compressed air.

Acts of Fiction

Christian Unverzagt

Perhaps the most celebrated of 20th century counterfeiters, Raoul Wallenberg exploited discrepancies of translation and the artful fabrication of printed matter in order to save the lives of thousands of Jews in Hungary. His practice—at once precise, improvisational, careful and selfless—legitimized its own fictions for the benefit of others. Wallenberg's actions, often attributed to him individually, involved the coordination of a much larger network of contributors, which perhaps best illustrates the deployment of his training as an architect in the broadest sense.

While people are the main players in this story, it is the things themselves that tipped the scales and allowed Wallenberg to hack the system. What then, are the agencies of a material's legitimacy? And what is the authority of the artifact?

Fast-forward: Post-Cold War, a new world order, an era where the Gulf War conflict lasts one hundred hours…

While in college I held a part-time job working at the corporate headquarters for a company that sold tickets to concerts and sporting events through a proprietary network accessed by in-store ticket outlets and a call-in phone center. My time was spent mostly helping outlet employees decipher computer codes for an event, locating a suitable seating chart and logging the errant or mis-printed tickets which occasionally resulted from the rush of a Saturday morning "on-sale" event. Occasionally I would find myself on the receiving end of the phone with an irate customer, having to defend the company's "convenience" charge tacked on to each ticket price. Using an inane set of justifications about the expense of operating and maintaining our network and the ease of being able to purchase tickets at a local retailer rather than driving to the box office, I would do my best to tow the company line. My talking and listening—part jab, part weave—forming a circular dance which would usually end as a draw, offering only an address and the suggestion that the now-tired ticket holder put his or her exasperated words in print.

As someone never good at writing code, but skilled with my hands at making things, on one occasion a co-worker and I attempted to produce some "extra" tickets for a sold out summer event so friends who failed to secure legitimate tickets could attend. We knew what the codes printed in the ticket margins actually meant, so unlike the badly produced fakes which could often be traced back to a purchaser, our tickets would contain information which was convincing, yet meaningless. Using end-of-roll stock carefully taped to sheets of paper, we carefully fed them through a photocopier. And while our tools were admittedly low-tech (i.e., correction fluid, scotch tape and masking tape), it was mainly our corporate boredom and curiosity which sustained our attempts to print the damn things, as it was only the expensive, high-performance photocopier (within the company headquarters itself) which turned out to be capable of leaving a consistent imprint on the stock and not jamming on the parasite tickets as they passed through the machine.

War is hell. (As is a Michigan summer.)

Decoys, Dummies, Prosthetics and Other Forms of Material Deception

Steven Mankouche

The studio engaged Raoul Wallenberg's methodology of questioning what is real or authentic, investigating the technical and material aspects of deception. Considering the likelihood that invention entails artifice, the studio focused on the relationship between the synthetic, the artificial, the imitative and the counterfeit and the opportunities for invention and originality therein.

Each student investigated a specific device, measuring its use and translating it through various material applications. This process of translation was understood as a way of counterfeiting an original product in order to invent a new one.

J. L. Hudson's department store became a case study for material resistance, regionally marking the relation between consumerism, deception, idealism, ownership, reproduction, transmission and urban expansion or contraction. In 1953, Hudson's expanded its enterprise to the Northland Center, America's first suburban mall. The original downtown store, occupying an entire city block, was supplanted in 1998 by an underground parking garage with a grid of exposed steel columns. It now occupies the site in a state of transience, like an eerie memorial that awaits development… and yet resists it.

Serendipity also played a role in the development of the studio's program. The discovery of a small recording booth in the middle of the mall led to the realization that the Northland Center is owned by media conglomerate Clear Channel. Thus, as a complement to the act of shopping, the studio took on the act and form of recording, archiving, registering and broadcasting.

* When the Italian Government decided to pass a mandatory seat belt law to conform with recently issued EU regulations, some citizens of Naples decided to deceive local law enforcement by printing tee-shirts with the emblazoned image of a seat belt across the front. An Italian popular legend.

Shadow Zones

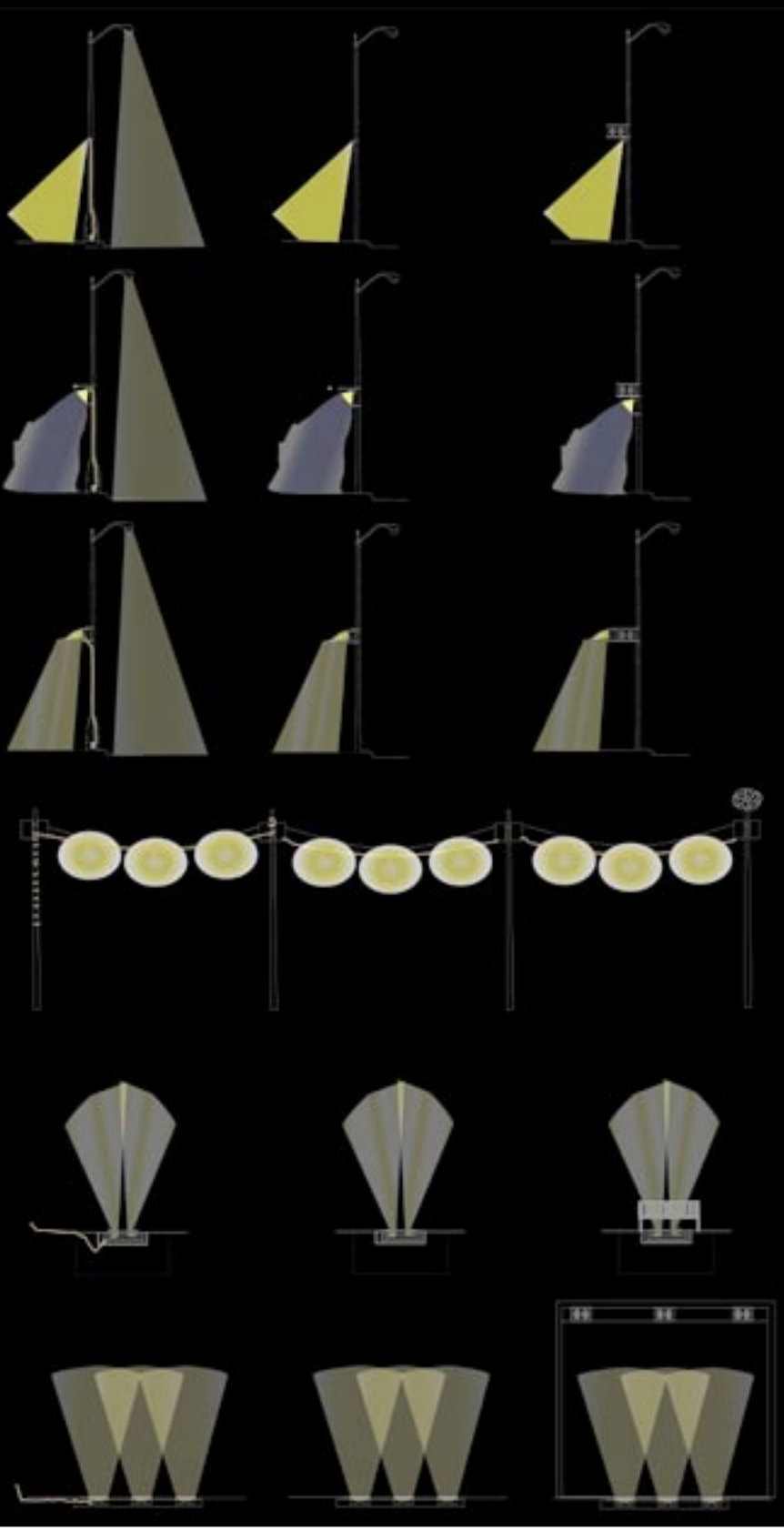
In preparation for Super Bowl XL in February of 2006, Detroit has recently spent over 1.2 million dollars in an effort to hide the exposed wiring of the "cobra head" light posts that line the main streets of the downtown area. Over half of these covers, called shrouds, have already been cracked or destroyed by snowplows. A second plan is currently in progress to replace these light posts with a new model that recalls the lights posts of the 1920s.

Under this current plan, however, lighting renovations are underway for the main streets only. The side streets, where the need is most dire, will remain neglected and flickering reminders of a city darkened by economic shadow. Seen in juxtaposition, the brighter the city center, perhaps the blacker the outskirts. This sort of disparity underscores the imprudence of a merely cosmetic motivation.

Shadow Zones

By deploying light upon the city in an economically and socially strategic manner, this project calls attention to the disparity that exists between the bright main

ELIZABETH BATTISON — Studio Critic: Christian Unverzagt



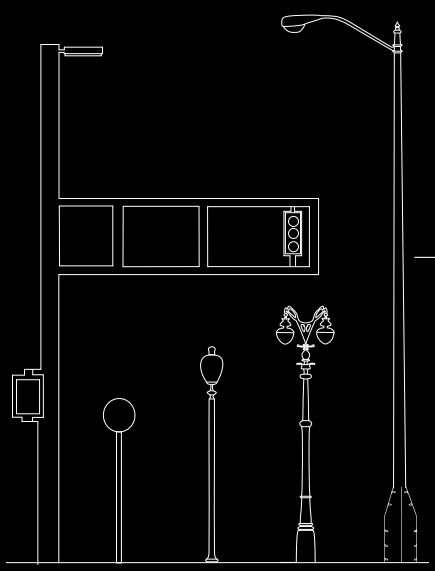
streets of Detroit's downtown and the dark side streets of the surrounding neighborhoods.

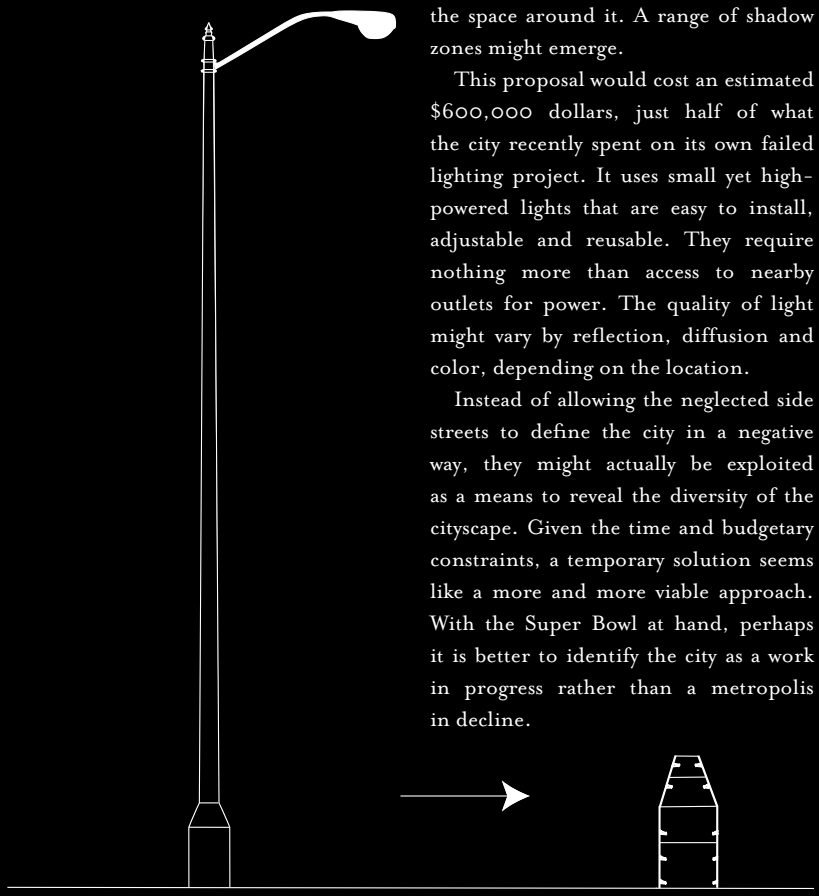
It assumes that lighting has the potential to impact the social infrastructure of a city and that it should not, therefore, be considered merely decorative. Rather, city lighting constitutes a more holistic design imperative.

Personal lighting, or light that is directed onto the sidewalks, might provide a sort of temporary solution to the darkness, a solution that not only addresses immediate safety concerns but also provides an opportunity to proactively reimagine the treatment of light. In many ways, light can be thought of as a material, with certain properties which enable it to shape and transform the space around it. A range of shadow zones might emerge.

This proposal would cost an estimated $600,000 dollars, just half of what the city recently spent on its own failed lighting project. It uses small yet high-powered lights that are easy to install, adjustable and reusable. They require nothing more than access to nearby outlets for power. The quality of light might vary by reflection, diffusion and color, depending on the location.

Instead of allowing the neglected side streets to define the city in a negative way, they might actually be exploited as a means to reveal the diversity of the cityscape. Given the time and budgetary constraints, a temporary solution seems like a more and more viable approach. With the Super Bowl at hand, perhaps it is better to identify the city as a work in progress rather than a metropolis in decline.





Basic Public Street Light for The City of Detroit

21,000.00
Need Repair

$ 4,000.00
Dollars Each

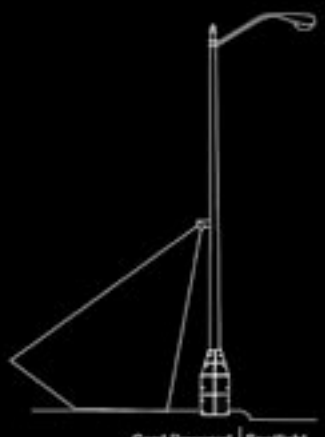
$ 8,400,000.00
Million Dollars to Buy New Street Lights

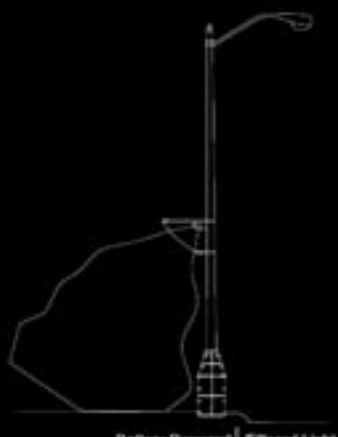
2004 Public Lighting Project Lighting Shroud

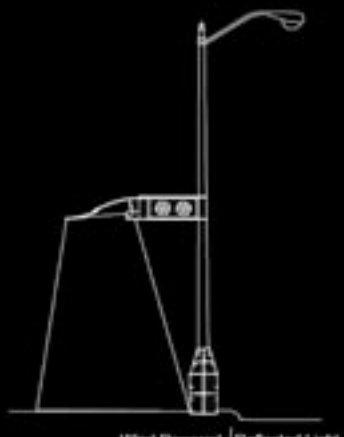
21,000.00
Shrouds Produced

$ 57.00
Dollars Each

$ 1,200,000.00
Million Dollars to Buy the Covers







Call #1
Detroit Public Lighting Department
Phone 313 267 7202

Elizabeth Battison: Hello, I am a student from the University of Michigan and am doing a project on the public lighting in Detroit. Is there anyone available that I might be able to direct a few questions at?
Receptionist: Um, yes, let me transfer you to Stan Tropilinski. He is the head engineer for the Department of Public Lighting.
Stan Tropilinski: This is Stan Tropilinski, Head Engineer...
EB: Hello, I am a student from the University of Michigan and am doing a project on the public lighting in Detroit and I was wondering if I could ask you a few questions?
ST: Yes, of course, what would you like to know?
EB: First of all, I was wondering who supplies the power to the city?
ST: The city has its own power plant, and some is directed to Detroit Edison.
EB: What type of street lamps are used in the city?
ST: Three types: mercury vapor, metal halide, and sodium vapor.
EB: What happens when a light goes out in the city? Is there some sort of system in place to fix it?
ST: No, basically, we rely on the people to call and inform us that a light is out. Occasionally, we have a truck drive around the streets looking for burnt out bulbs.
EB: How many lights are in the city currently?
ST: 87,000.
EB: Are there any plans for adding new lights?
ST: Yes, we are currently working on a project that is using the light poles from Comerica Park. They are replacing the old street lights on many of the main streets.
EB: Can you tell me about the plastic covers that were put on the metal poles?
ST: Yes. The covers were put on the poles to protect the hand hole opening in the base of the pole. It has become exposed in many lamps—either stolen or rusted...
EB: So, the plastic covers are a safety issue?
ST: Yes, we don't want anyone to get electrocuted! Also, since the price of steel has gone up, more of the covers have been stolen and sold as scrap metal. So the plastic covers were also an attempt to keep the poles intact.
EB: Can you tell me how much it costs the city to run the lights for a year?
ST: Well, I'd have to get back to you on that one.
EB: How about, do you know how many of the street lights in Detroit are currently burned out or broken?
ST: We have a list of people who have called in and reported broken lights.
EB: Ok. Well, thank you for your time. If I call back in a week, will you have the information on how much it costs to run a light for a year?
ST: Yes, just give me a week to figure it out.
Called back one week later. Mr. Tropilinski was unavailable and did not return my call.

Call #2
Illuminating Concepts
Phone: 248 478 2525

Elizabeth Battison: Hello, I'm a student from the University of Michigan and am doing a project on the public lighting in Detroit. I understand that your company designed the Comerica Park lights, is there anyone available that I might be able to direct a few questions at?
Kenneth Klemmer: Hi, yes, I worked on the project for designing a light for Comerica Park.
KK: The light was modeled after the 1920s style Detroit street light that used to exist up and down Woodward. We basically replicated it, but made it out of aluminum instead of wood. It is supposed to remind people of the strong past Detroit once had as a vibrant city.
EB: Are these lights being installed all over the city?
KK: Ummm, well, I am not really supposed to say. I can tell you that they are replacing some of the street lights on some of the streets. I can give you the names of those streets if you want. Woodward, parts of Jefferson, parts of Michigan Avenue, Gratiot and parts of Burns Street.
EB: Ok, thanks. So they are being slowly introduced into the city?
KK: Yes.
EB: Can you tell me how much one of these lights costs?
KK: Well, I don't really think I can tell you that. It's a private treaty between the city and the company.
EB: Can you tell me how much the budget is for the project?
KK: No. I don't really know.
EB: Ok.
KK: If you want, I have some information in PDF format that I can email to you.
EB: Okay, thanks.
KK: If you have any other questions, feel free to call back or write.
Called back to say thank you, but the receptionist said Mr. Klemmer was not available.
Emailed him with follow up questions about cost and location but never received a response.

Call #3
Detroit Public Lighting Department
Phone 313 267 7202

Elizabeth Battison: Hello, I am a student from the University of Michigan and am doing a project on the public lighting in Detroit. I was trying to find out how much money the city has to spend on lights, do you know where I can find that?
Receptionist: I'll transfer you.
Person #1: Hello, City Planning.
EB: Hello, I am a student from the University of Michigan and am doing a project on the public lighting in Detroit. I was trying to find out how much money the city has to spend on lights, do you know where I can find that?
Person #1: Yes, call the Budget Department.
EB: Oh, okay, do you think you can transfer me?
Person #1: Well, I actually can't remember the number, I know it's 267-something...you'll have to call information.
EB: Okay, thank you.

Call #4
City Budget Department
Phone 313 224 6260

Elizabeth Battison: Hello, I am a student from the University of Michigan and am doing a project on the public lighting in Detroit. I was trying to find out how much money the city has to spend on lights, do you know where I can find that?
Person #2: Yes, call this number: 313 224 6265. That's the main line to the personal secretary of so and so, so they should be able to help you.
EB: Okay, thank you.

Call #5
City Budget Department, Call #2
Phone 313 224 6265

Elizabeth Battison: Hello, I am a student from the University of Michigan and am doing a project on the public lighting in Detroit. I was trying to find out how much money the city has to spend on lights, do you know where I can find that?
Person #3: Yes, let me see if someone is available to ask. Just a second.
Person #3: Ok, yes, Jan Anderson would be the right person to ask about that. She handles all that stuff and would probably know.
EB: Okay, thanks.
Person #3: Just a moment, please.
Person #3: Oh, I'm sorry. Jan has already left for the day. [it's 1pm.] If you call back tomorrow, though, you can call this number and get right through to her.
EB: Thank you, goodbye.

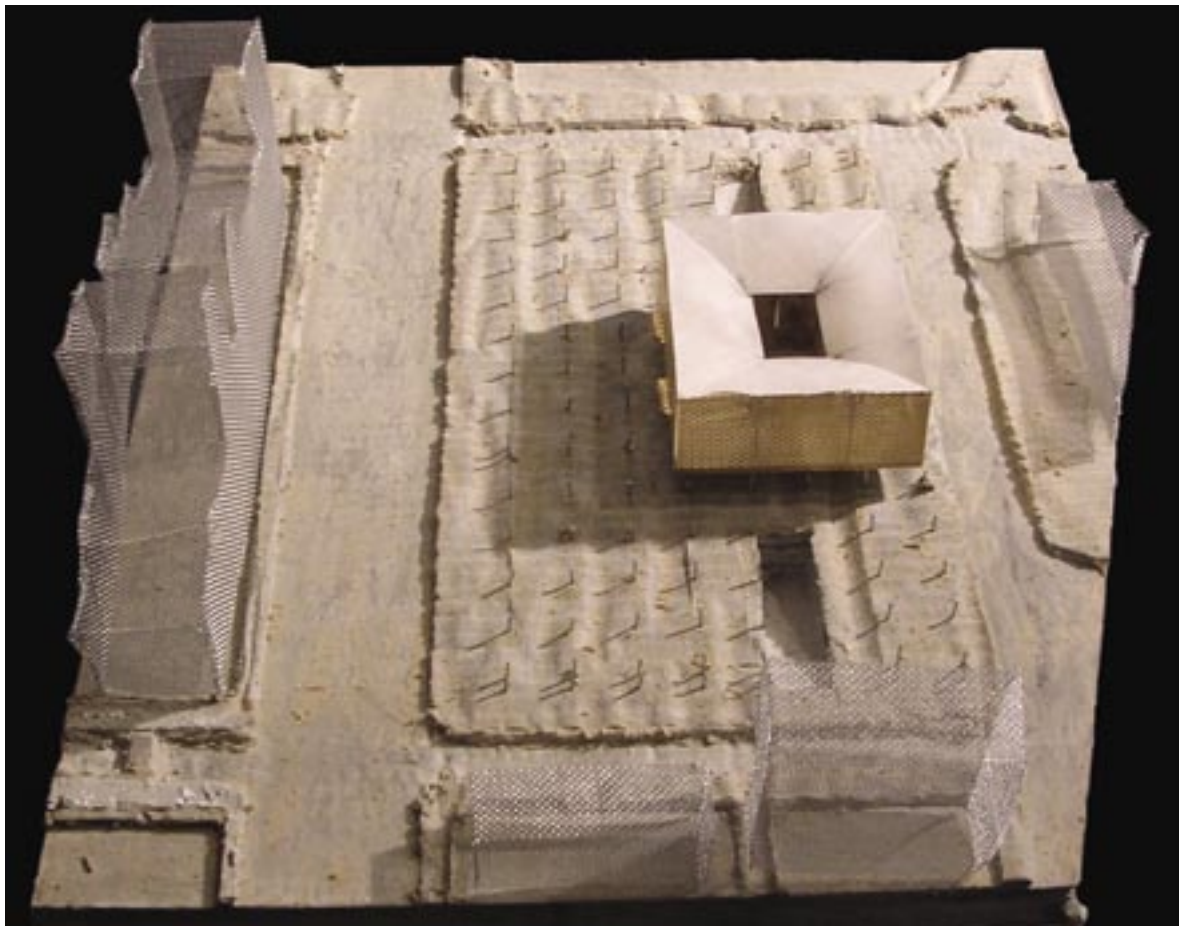
The deeply ingrained cityscapes of our past are rapidly disappearing beneath the heights of so many skyscrapers. A combination of cultural and industrial factors has catalyzed an alarming process of destruction which continues to gain momentum, especially with the onset of the digital millennium. Efforts at preservation have been no match for the bullish rate of demolition and rebuilding. Although the roots of our past are in a state of decomposition, perhaps they are not quite atrophied.

Materials endure. Like an archeological record, the remnants of fallen buildings remind us of what once was. They resist forgetfulness. Long after memory fades, the material record stands; perhaps buried, perhaps disseminated, certainly not intact, but veritable nevertheless. Architecture participates in this culture of materiality as both alpha and omega. It grounds the march of time upon a city by manifesting in something new, something old. The Material Archive of Detroit verifies this material record. It preserves a cultural landscape by arresting a single piece of it.

The Material Archive of Detroit embodies two formal typologies: the inverted home and the lumberyard shed. The courtyard is isolated from the city much

ErASING DETROIT

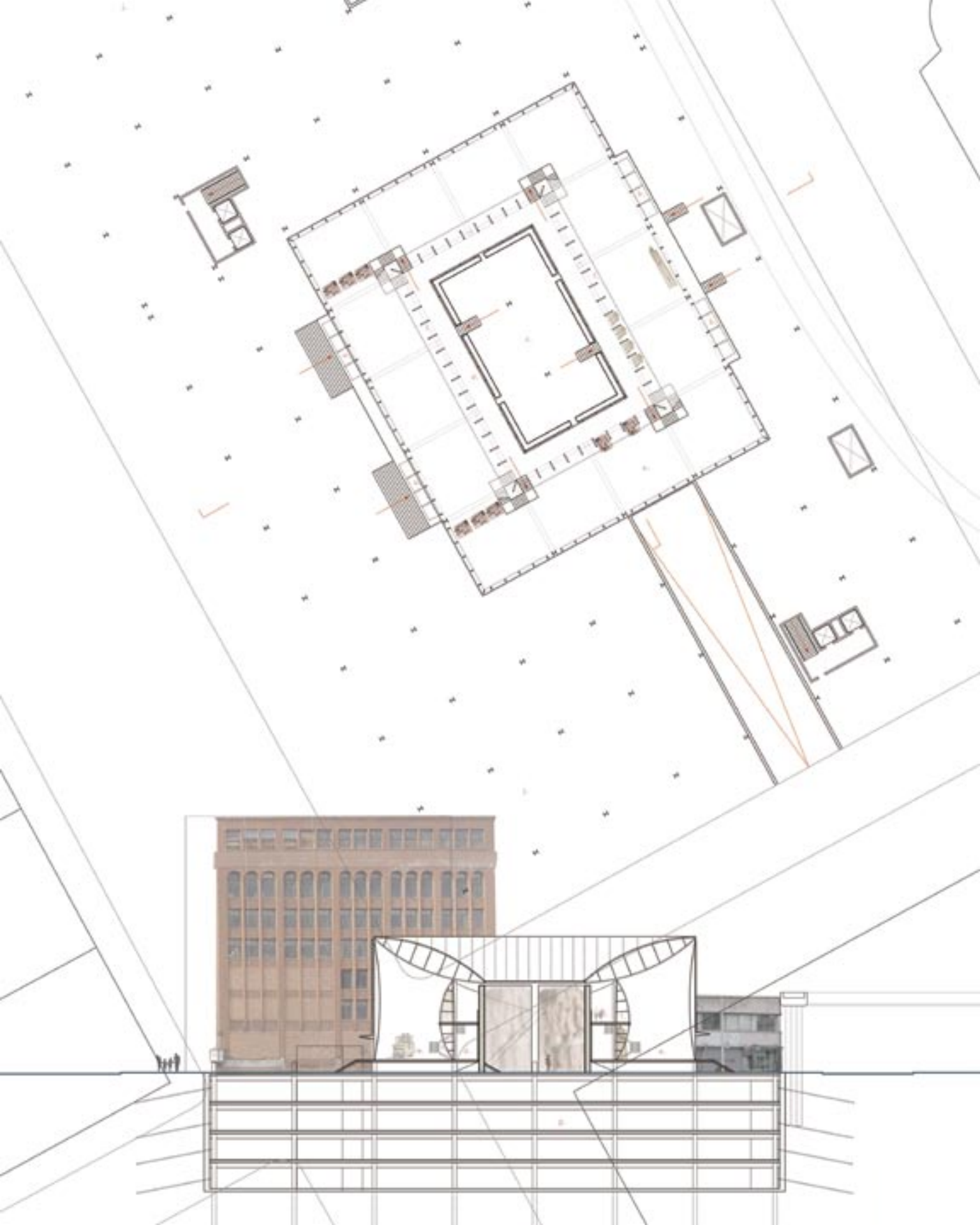
KATIE WIRTZ — Studio Critic: Steven Mankouche



like the city has become isolated from the metropolis. Materials cast shadows along the massive concrete enclosure. As if projecting their bygone forms upon a cave wall, they suggest themselves. Once inside, the space invites reflection upon the history of Detroit through a beguiling material memory.

Fittingly, the structure of the building evokes the transitory cycle of the modern city. Perched on columns, perhaps waiting for something better to come along, the structure emulates the behavior of scaffolding. It looks mobile, as though ready for its inevitable disassembly or modification—an eager participant in the material culture that it houses.

The act of material salvage is inextricable from the act of remembrance. It examines the thing itself to know from whence it came. The study of materials, therefore, is as close to history as a city might hope to come. The Material Archive of Detroit enriches this interface.



Postscript

On February 2, 2006, faculty advisor Christian Unverzagt (CU) sat down with editors Erin Crowe (EC), Charles Garcia (CG) and David Karle (DK) whom he has worked with through the past two volumes of Dimensions. The conversation, which from the beginning was conceived of as the postscript to the current volume [craftily, as a method to get it faster from said advisor], was digitally recorded with an Apple iPod, outsourced to a transcriber and lightly edited for clarity. What follows is an impromptu discussion of lessons learned from Dimensions, for our readers, fellow staff members and future editors. Enjoy. We have.

CU: I would like to begin with a question for the three of you: *Dimensions*, as an annual journal, has not adhered to a consistent format in terms of its content or its visual appearance. Looking back at the last two volumes, do you consider this an asset or a liability? In other words, what makes *Dimensions* what it is and, as editors, where is there room to maneuver or operate? And how might this help those editors who take this activity up next year?

CG: I'd like to see it as the difference between 'strategies and tactics,' or top-down versus bottom-up. *Dimensions* is much more agile, compared to a journal such as *Perspecta*, with its bias of work by faculty and practitioners, which is then passed on to a group of architecture students who work with graphic design students to produce the journal. The student work in *Dimensions* is certainly much closer to the ground. The three of us, over the past two years, have seen a significant shift in the interests embedded within the work. Even though the staff is working within certain parameters that we either established or honored from previous volumes, I think we are really focusing on two things: one is how we gauge the energy of the student body, and the other is how we react to the outside sources of stimulus which pass through the school. *Dimensions* is really about student activity. And while it will indirectly cite the conversations and influences at this point in time, it is principally a student-produced book from the students' point of view.

CU: But to go a bit further into the question, *Dimensions* has always taken the form of a publication; that has always been the result. However, I wonder if it has more to do with process or the act of compiling this work, making sense of it and giving it form that is "*Dimensions*." Perhaps the book is actually a by-product. Do you think it is possible that *Dimensions* could ever take another form?

CG: Perhaps we should look at it like this: we're all being educated to be architects and the end-product does often vary; the process of development and reiteration helps us establish a methodology for our work. The interesting thing about *Dimensions* is the way in which it has both evolved and remained consistent—especially given that an entirely new staff passes through every year or two. But since the specific process of making a book is always a new thing, it is the product itself that we have to reverse-engineer in order to figure out what the previous editors were up to. So yes, process. And practice.

EC: It is 'process and practice' but also in the back of my mind I'm always thinking that there is this large dollar figure attached to the final output. Ten thousand dollars is no small chunk of change, so in a financial sense we are still tied to the school and are not guerillas in the sense that the product is both funded by and used by the school. So I feel that there are responsibilities inherent in that implicit agreement. We can't just say whatever we want, or just make some wild layouts, because I think we tie ourselves down because we are producing this book.

CU: Do you think that would change if *Dimensions* were a web site and not a book, and indirectly, removed any issues of funding from the equation?

EC: Yes, I think it would change the dynamics. It could still remain a periodical however. For instance, a cheaply produced periodical in place of a more precious book could also change the dynamics.

CU: Can you follow up on this question about the responsibility of *Dimensions* and its staff? I'm curious about this because it's not something that is, from my point of view, very explicit. I don't think I have ever brought up the issue of support or even suggested that the budget could be held ransom against some decision about

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the content or the layout or some other editorial decision. So I'm curious what produces that sense of responsibility?

EC: That's the thing, it's not explicit at all. But we get this work from people who have invested a lot of time and effort in making it, and suddenly we're placed in the care of that work. We also know that it represents the school, so chances are we wouldn't print the book in purple because we are trusted to accurately and adequately represent those projects.

CU: What I am hearing is that it has more to do with a respect for the work of your peers than a concern for the institution. They put up the cost of printing, but your concern is to present the work in a really compelling manner, right? Granted, I think the institution benefits indirectly from your work.

EC: Right. To be *true* to the work. And we don't editorialize the work or the book or the school a whole lot—I don't know if that's tied up somewhere in that larger issue of 'responsibility' or not.

CG: In a way it kind of feels like we're designing a flag—or a coat of arms—for the school. Essentially what we're doing is trying to distill a number of histories and trajectories about what is going on *inside* the building for display to someone on the *outside*. Essentially we have the name of the school that we're trying to represent in a concise, visual manner. In terms of being an editor, there is a responsibility to be true to what is going on here. The challenge is to produce something which captures that character in two hundred pages. Inside, it's nice to have something tangible that you can look at and say to yourself, "this is my school," and at the same time show it to outsiders and still say the same thing, but have it mean even more. I suppose in the same way that a flag could be considered a form of propaganda if you understood what it means (i.e., blood, land, wheat, etc.) and an indication of the ground from which it emerged.

CU: Unlike the flag however, the coat of arms idea which was discussed earlier seems more compelling as an accumulative device rather than a reductive device like most flags, which seem to also embody the top down which is what you were rallying against earlier. To say it another way, a coat of arms seems to say more about it's own making over time as opposed to this one thing which symbolizes or distills. I'm thinking of most contemporary flags which are mostly just stripes of color organized in some sequence or another.

EC: And it has been an *additive* process—not a *distilling* process like the flag. Although we are creating this coat of arms, we are not necessarily out to critique the institution. Maybe we ought to be, but we aren't.

CU: I think there are always times in the life of an institution to be critical of it and its actions. And while the College is supportive of this endeavor, I would never place it outside the domain of criticism. Nonetheless, I would say *Dimensions* is participating in a critical conversation with the discipline. Look at the professional work you sought to include in this volume. I would argue including muf, Eyal Weizman, and Office dA is a form of critique. I've been thinking about ARO's work since the recent demolition of the Motown building in Detroit. Particularly all of the apparent outcry from people who were against the demolition. It struck me that so many people were claiming it held such a vital role in the city's history, even though it was only used by Motown Records as an administrative building for three years back in the 1960s. Personally, knowing about the Motown Museum competition many years ago, having seen ARO's project presented at their lecture,

and then seeing it again in these pages as the drafts took shape, I was hoping that the demolition might spark a conversation about this project within the greater public. There has been so little action on this site from my perspective. I suppose I was optimistic that the controversy about destroying the building might spur a response and finally leverage some serious discussion, or even put Barry Gordy in a position which would force him to publicly declare his own commitment to the project.

Furthermore, I'm interested in how all of these decisions produce an undercurrent for *Dimensions* which can be read even as it matures.

CG: It's sometimes difficult to take a stance as students. We often can't take an objective look at anything—being this close to the work works both ways. A lot of those undercurrents could be read as a curatorial process in terms of what makes it to the final publication. In the end I think it's an outlet for us—an outlet from inside to outside.

DK: I think as students and editors we are in a unique position to gauge those currents within the school. There's definitely an energy around certain lectures and thesis projects. We see those influences rub off in different ways which effect the student produced work throughout the school. As a result we are in a unique position both as students of the college and editors of this publication to capture the streams of the school and see where they go. Being both inside and outside of that flow is a pretty interesting position to be in, to capture, to put down.

CU: Do you see a danger with *Dimensions* codifying a set of interests or techniques? The reason we have the programs that we do is to bring in interesting people to present their work and expose the students to a wider range of topics and ways of working. I'd like to hear about how these things influence the school. Is it changing the way the students think or is it only influential at another level?

DK: That's a tough question because *a lot* of it depends on the students. Certain students take those studios and they take on the qualities of the visiting faculty which often translates into their next studio. But it is also a touchy question because some of it could be a surface treatment which is visually interesting. And while many projects are more sophisticated visually, you have to check it against the qualities that were brought to the studio by the faculty. I still think the true passion lay in the lineage between the students who are in the studio and the relationships they have with their peers. That lineage is where it's stronger. But are we documenting it because everyone is doing a representational technique? I would say no, probably not. I would like to think that we are documenting it because what came out of the studio is representationally *[sic]*, methodologically and conceptually strong. The lectures are certainly being published for that reason.

CG: I also think something that we are trying to do with *Dimensions* deals with the inherent quality of any book—that you read it. All of our effort allows someone to pick it up and spent as much—or as little—time as they would like. It's the same thing as architecture school—there is more to it than what is pinned up at any given moment. We all know that and I think by putting a publication together we're conveying that message to anybody who isn't familiar with how the rest of this plays out. Going back to the mental game of imagining *Dimensions* through another medium such as a website which could be dedicated more fully to moving images, animations, etc. On the other hand we engage in hour-long critiques which are more layered than spending that time only looking at those images. There is a lot of content in there. And I think the projects that we have included here are getting

at that greater discussion—including all of that [non-physical, non-visual] stuff in the air. You know that if we weren't recording this conversation it would evaporate. That really speaks to the kind of process of architecture school.

CU: By the way, how long can this thing [the iPod] continue?

CG: As long as the battery is good, maybe five hours.

CU: What else would you like to talk about?

CG: How do you feel about **Cooper Black**?

CU: The typeface? Let me ask you this: Is it being used in an ironic sense or do you see it as iconic? Ironic or iconic?

CG: I think it's a counter balance with Mrs. Eaves, which is a very proper serif typeface, so I would say it is pretty ironic. Cooper reminds me of Payless [ShoeSource]—how good things could be right now. 'I want a nice pair of shoes but I can't afford them. But wait, I can get a nice pair of shoes for only ten dollars.' It's that image right away.

CU: I actually have to say I no longer see Cooper for the irony it certainly carried for a long time. Maybe for me it's a revival which has paid its dues and now has a timelessness to it. For me I appreciate it for its weight and its unapologetic shape. Of course what you are describing is how it can be kitschy, so maybe there is still a slight bit of tongue and cheek character. This is the larger question about Cooper Black for you: will you look back on it in ten or fifteen years and say, "what were we thinking?" I don't think you will—which is good. But who knows. Ask me in ten years!

EC: We're font hipsters. That's what we are.

CU: So you're going with Mrs. Eaves, **Cooper Black** and DIN, which haven't been used on any previous volumes of *Dimensions*. There are a few font licenses we have to purchase this year.

CG: That's right.

CU: Maybe it's worth noting that *Emigre,* a magazine put out by the same designers who crafted Mrs. Eaves, ceased publication last year after sixty-nine issues, published over more than twenty years. It's done. And while it was made by the same people, that indirectly brings us back to this larger question about the legacy of *Dimensions*. To look back at the original collection of *Dimension* which were sent in out of the blue by an editor from the fifties—they were a window into the conversations of that time. And it's pretty interesting to see some of that work from the late fifties seems just as relevant today, maybe more relevant than some of the work from the late eighties or early nineties. That is what is so interesting for me in that it shows you what is going on right now—and that alone has value. You're not making a time capsule, but it has that value.

Someone hit pause. You've got a book to send to press.

September 2005—Ann Arbor, Michigan

Design Studios

Winter 2005

UG2 Undergraduate — Urban vs. Rural Elementary

Nondita Correa-Mehrotra
Lars Gräbner
Melissa Harris
Roger Hubeli
Mick Kennedy — Walk Through, Drive Through
Julie Larsen —Students in Motion
Betsy Willams

UG4 Undergraduate

Michael Silver — Lines Rule
Adrian Blackwell — Thinking Buildings as Desiring-machines
Dawn Gilpin — Recombinants of Surveillance: Blurring Boundaries At 600 meters
John Commazi — Mobilizing Architecture
Mireille Roddier — Guerilla Architecture
Christian Unverzagt — The Tower of Learning
Steven Mankouche — Profound Acts of Fiction

3G3 Graduate

Robert Adams, Karl Daubmann — subMethod

2G2/3G5 — Option

James Chaffers — Two Nationl Competitions: One, Hot; One, Cold
Coleman Jordan — Eastern Market, Detroit
Danelle Guthrie — About Looking
Jonas Hauptman — MiSo* (The Michigan Solar House)
Sophia Psarra — Italo Calvino: Institute Studies and Gallery
Roy Strickland — City of Learning: Flint, Michigan
Keith Vandersys, Sheila Kennedy, Frano Violich
—Nomads & Nano Materials: Sustainable Textile Building Technologies In Architecture

2G4/3G7 Thesis — Faculty

Craig Borum, Caroline Constant, Karen M'Closkey,
Malcolm McCullough, Keith Mitnick, Neal Robinson,
Gretchen Wilkins and Jason Young.

Fall 2005

UG1 Undergraduate — Space and Form

Nondita Correa-Mehrotra
Melissa Harris — Post Card Gallery
Roger Hubeli — Comic Book Gallery & Archive
Fernando Luis Lara
Julie Larsen — Comic Book Gallery & Archive
Jen Maigret — Gallery Of Cinema
Stacey Murphy

UG3 Undergraduate

James Bassett — Earth Observatory
John Disbrow — Hotel And Museum: for Abstract Expressionist Art
Lars Gräbner — Trans Ville
Mick Kennedy — Big Top
Keith Mitnick — Warhol Studio
Anca Trandafirescu — Cinematheque+
Keith Vandersys — Buoyant Form

3G2 Graduate

Craig Borum, Karen M'Closkey, Neal Robinson
— Claiming Site: Community/Recreation Center

2G1 / 3G4 Graduate — Perimeter Projects

Robert Adams — Perimeter Pleasures
Danelle Guthrie — Entanglement
Malcolm Mccullough — Aqua
Mireille Roddier — Baseline
Christian Unverzagt — Negotiated Horizons
Gretchen Wilkins — Oroshi-machi, Warehouse Town
Glenn Wilcox — Rethinking The Sub-urban Cineplex

2G3/3G6 Graduate — Option

James Chaffers — Two Projects
John Comazzi, Charlie Lazor — Mobile Learning Lab
Rahul Mehrotra — Bombay Backbay: Articulating The Static And Kinetic City
Steven Mankouche (Florence Studio) — Foreign Bodies: Discovering An Architecture For Diplomacy
Robert Mangurian, Mary-ann Ray — Stand Tall, and Sometimes Wiggle, Slide, Squirm And Hide—Prime Huts
Juan Manuel Rois, Alan Berger — Reclaiming Detroit: De-industrialized Urban Wastelands
Jason Young — i.w.s. (Ideas Work Society)

Dimensions

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Christian Unverzagt

A wise man once said, "same manufacturer, same batch." And he changed the way we thought about books, fonts, graphics, printing and 11x17 binders. But n ot necessarily in that order.
Thank you, Christian.

D19 Editors

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