Useable Space

Culture Versus Technique in the Pursuit of Design

by B. Scott Francisco

Submitted to the Department of Architecture
August 5, 2005
in partial fulfillment of the requirements for the degree of
Master of Science in Architecture Studies
at the
Massachusetts Institute of Technology

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Bachelor of Architecture, 1996
University of Toronto

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ABSTRACT

A study was carried out to explore methods for improving the understanding and practice of design as a means of self-discovery, dialogue and cultural development. Using the Massachusetts Institute of Technology as a laboratory and case study, a series of interventions and observations were conducted and recorded. Key concerns were the dialectical relationships between individuals and organization, freedom and language, play and structure, community, culture and technological systems.

The hypothesis was that pervasive post-structural thinking in architectural theory and design education have created an environment that does not prepare students to explore, engage and communicate personal values in their work, particularly in relation to their local context. It also posited that the pervasive emphasis on *technique* and technological systems rather than social and tectonic skill-building is becoming a significant obstacle to dialogical self-expression and cultural development through design.

The indeterminacy of this hypothesis led to a series of design proposals with the intent to significantly impact the local community context of the Institute. One of these proposals, a small café was built by a number of students under my direction and became a reference point for observation and theoretical analysis - as well as a place to eat.

The research concluded that architectural studies would be invigorated by specifically embracing the multiple structures of communication that architecture offers – embodied in the concept of *symbolic action*. These studies should include the practice of dialogue: personal, rhetorical and poetic self-expression as means of transforming context and even its transcendence. Design is thus a play of actors simultaneously engaging contextual structure, personal values, conflict and a core belief in human communality.

Thesis Supervisor: *Mark Jarzombek*
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a personal thanks to the many who shaped this work,
poets, leaders and friends.

to my advisor, Mark Jarzombek,
and my readers: Bill Porter, Bob Cowherd and Rienhard Goethert:
sages, guides and models of thoughtful action.

to Isaac Colbert, Stephen Immerman, Manuel Castells, Edgar Schein, The MIT School of Architecture and Planning, The SMArchS class of 2005 and 2006, MIT Community Dining, James Gubata, The University of Kentucky College of Architecture, The Eres Family, Tony Brown, Tali Hatuka, and Amanda Potter.

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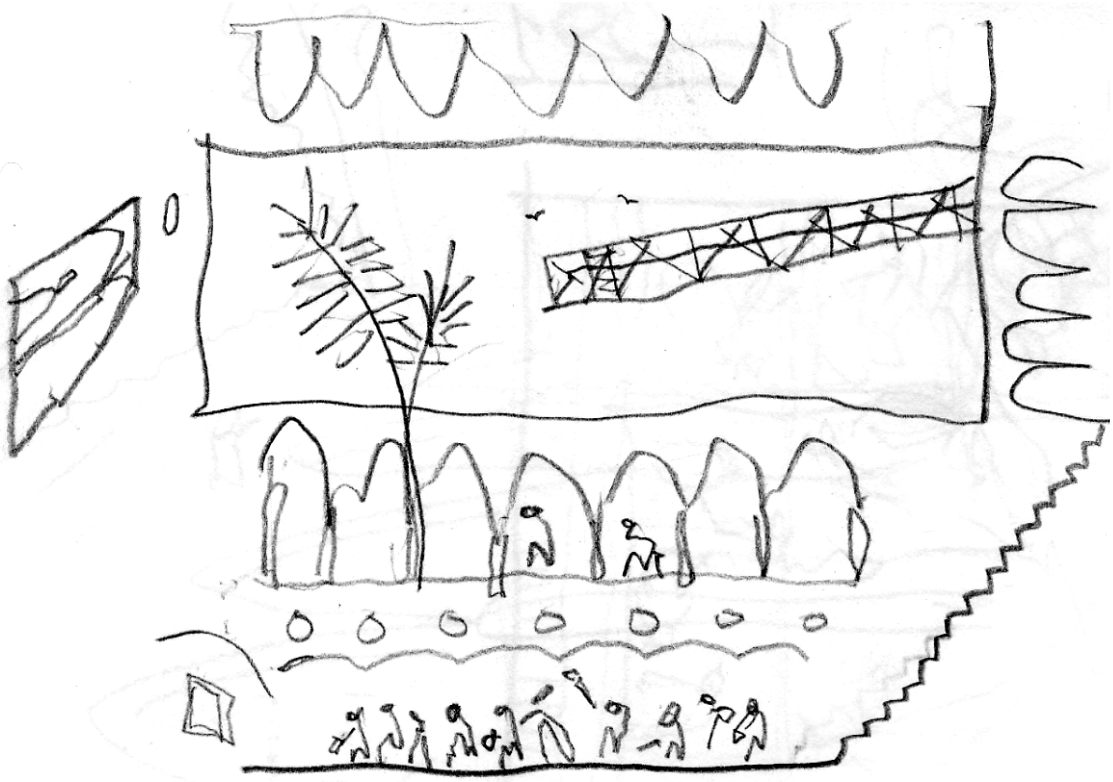
and Michael Landgraff,
on his way up,
as these words went down.

For my parents, Liz and Bruce,
who taught me to speak,

And for my sisters, Jane and Julia,
who sometimes wished
they had not…



…First of all, he said to himself: "That buzzing-noise means something. You don't get a buzzing-noise like that, just buzzing and buzzing, without its' meaning something. If there's a buzzing-noise, somebody's making a buzzing-noise, and the only reason for making a buzzing-noise that I know of is because you're a bee."

Then he thought another long time, and said: "And the only reason for a being a bee that I know of is making honey."

And then he got up, and said: "And the only reason for making honey is so as I can it eat it." So he began to climb the tree.

—A. A. Milne

Preface

There are many mysteries of human existence, and it is not the purpose of this thesis to address most of them. But to the extent that we (humans) mysteriously believe life has meaning and purpose – and that this purpose involves us voluntarily *acting it out* – we can hardly avoid searching for a better grasp of it.

How can we do this? One way is to speak out and listen for a response. Dialogue is like a kind of breathing, a transformative exchange that cycles from inside to out. Our bodies, then, are perhaps the best place to start; and the recognition of our body's relation to space beyond itself may be the locus of all metaphor and language, and even thought itself.

Along with this awareness of otherness, comes the discovery of *relationships*. People everywhere the same are captivated by each other. But what can these compelling, loving, tortured and incidental connections tell us about who we are; and why should we care so much? Science and theory, in which we have invested and entrusted so much of our lives, seems increasingly devoid of answers. The laws and principles, so useful in controlling our environment, remain limited to providing a framework for our choices, leaving *intent* as the defining characteristic of human interaction and accomplishment.

These are clearly big issues, and they continue to expand. So, does an architect have any business in this philosophical territory? Or should we stick to the more concrete business of making buildings, shelter and even perhaps, 'space'?

Here is the dilemma: as soon as we begin to discuss space, we enter the abstract. The idea of *useable* space is to link the abstract with the utilitarian – answering the difficulty we have defining space 'rationally' by engaging the experiential and intentional. In useable space, utility is relative to intention, intention a function of freedom, and freedom dependent on structure. Useable space is a question confronting our deepest human condition and origins.

My intention, here, is to grapple with *experiences*, *generalities* and *abstractions* – a personal, rhetorical effort to place architecture in the context of human meaning and purpose.

This has been prompted by observation and belief that architectural discourse today is becoming increasingly adept at finding ways to excuse itself from some of the most challenging human issues: focusing instead on details, systems, theories and the advancement of technique.

Though architects are fond of thinking that 'god is in the details', we generally don't believe in god and tend to put our faith instead in mullionless-glazing, flush-reveals, rapid-prototyping, sustainable-building-systems and critical theory. Details are fascinating to be sure, and almost always useful at some level—many architects have made a career of them, and the rest of us have at least a minor obsession. But if we would look up for a minute from the 'well-crafted' rigging of our boat—tear our eyes from the satellite navigation system and our hands from the brushed stainless-steel and burnished teak—we could shift our attention to the horizon, and in so doing, look for *something beyond*.

Only in this intentional act can we begin to truly sail: *use* the tools of navigation and seamanship: charts, canvas, sextant, winches and pulleys; *use* our bodies to climb and steer, hoist sails and scrub decks. This thesis is a call to thoughtful action: tacking and deck-scrubbing not simply for the pure pleasure or inherent necessity (both of which can and must be celebrated) but in order to move in a chosen direction. All too often today's architectural discourse feels like a navy of enthusiastic sailors who have never seen land. We sail because it's all we know: sophisticated, systematic actions and process with no purpose or need for orientation; a bizarre 'water-world' made possible only by an academy that provides a constant source of provisions from a shore that must never be mentioned. It doesn't take an admiral, however, to understand that the motivation to 'trim sails' and 'hold a course' runs thin when there is no hope of reaching port, and no land waiting with fresh pineapples, new loves, unread books or the grit of furrows and city streets.

Of course, with the knowledge of land(s) also comes the risk of mutiny, which may explain our choice of *ignor*ance over the inevitable conflict of destination.

There's something about this place...
and in the hundreds of times I've walked,
cycled, bussed and driven across it, I've
reflected on this; thoughts brushing past the
crushed remains of aluminum cans, scraps of
plywood, drinking straws, plastic bottles and
expired Lotto tickets - all mashed into the left-
over road salt and up against the impossibly
ancient granite curbs and out of reach of the
mechanically regimented street-sweeping
machines that can never quite keep up with
cars parked out of sync with their schedules,
or the city-dwellers who walk past as if
nothing happened.

But something did happen,
I can assure you of that;
and somehow it meant something.

Useable Space: Culture versus Technique in the Pursuit of Design.

(thirteen contestable lines on architecture, supported by notes)

strangers

Who *are* these people? Sidewalks and hallways
full of bodies, voices, faces, and eyes;
looking for clues and giving out signs.
One of these strangers shares almost perfect
geographic symmetry with me. Every
morning we pass each other on the sidewalk
going opposite directions, intersections that
seem to happen at random points anywhere
along my route—or I should say, along our
route. Somehow we are partners, even though I
have never talked to him; but it's as if he lives at
my school and works in my basement. He
carries a cup of coffee in his hand. Does he
notice me? I want to think so, although I don't
know why—what could possibly come of the
contact? But the connection is there,
nonetheless: it's in my question: what is he
trying to say? It's something like the one between
me and the car full of guys who rev their engine

1. Design

> *…those who imagine and express this indestructible order, are not only the authors of language and of music, of the dance, and architecture, and statuary, and painting; they are the institutors of laws, and the founders of civil society, and the inventors of the arts of life…*[1]
>
> -Percy Bysshe Shelley

Let us start with two paradoxical ideas about Architecture and build from there: Architecture has been around a long time, yet it is comparatively young as an autonomous field of study[2]. During the shorter of these histories, architecture's identity has been asserted and defended by some, critiqued and dismantled by others: interests and ideologies in play and conflict in a field of their own making. Given the resulting (and seemingly impenetrable) web of relativity, density and opacity, any attempt at defining architecture appears futile. As we face this somewhat randomly constructed bramble, then, we can be thankful that these obstructions are not a sufficient bulwark against the force of human desire. Like water, desire has a long history of seeking out, penetrating and solving even the most confounding problems and elaborate defenses.

So we use our desire as our guide—leading us not to the definition of architecture, but rather to understand what draws us to it. The answer is surprisingly simple: Like other forms of art, we are drawn to architecture because someone else made it—someone that, like us, had both choices and intentions. Our ability to decipher the intent is not necessary in order to recognize they exist. Intentions, and the signs that externalize them, depend on the existence of a specific context that may be entirely unfamiliar—codes potentially impenetrable without a strong compulsion to crack them, or maybe even the chance discovery of a Rosetta stone. The messages themselves, meanwhile, are likely to be more predictable: pragmatic, political, exploratory, exploitive, admonishing, seductive, self-aggrandizing, rebellious, religious, aesthetic; or some combination ad infinitum. Nevertheless, any and all *content* in these messages is radically subservient to one underlying fact: that regardless of their particular circumstances, context or culture, we understand people as free intelligent, communicating agents—and we want to know what they have to *say*.

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1 Percy Bysshe Shelley, *Defense of Poetry: Part the First*, Originally published 1822, p. 25.

2 Mark Jarzombek, "Architecture / Architecture: Some Post Heideggerian Reflections," M.I.T. 2005 (Unpublished).

as they pass, chrome spinners flashing in the streetlights, the girl who decisively exposes a plump midriff above skin-tight jeans, the kid limping along with pants half pulled-down, somehow hovering just below his butt (revealing boxers presumably picked for their symbolic value) or the woman projecting a graceful staccato down our long corridor: body arched by the structure of her shoes. I'm sure these people are trying to tell me something.

Meanwhile, I flash back any number of signs myself, using proximity, posture, hairstyle, gait, shaven-ness, clothing, footwear, and an assortment of other more 'technical' equipment (sunglasses, briefcase, backpack, watch, phone). With all of these tools at my disposal I can express various combinations of interest, affirmation, distaste, preoccupation, elitism, conformity, curiosity, brotherhood, compassion, aggression, aloofness, sexuality, strength, humility, withdrawal, resignation, sympathy. So maybe we are not really strangers after all, seeing as we seem to have so much to say to each other, all without even losing a step.

One morning I decide to smile and say "hello" to a strange man passing by who has very dark skin. Do I interpret this as a sign? If so, what does it mean? Our eyes meet, he smiles and says hello back to me—a beginning, a small victory. When visiting Bermuda I was warned to say

Embedded in any work of architecture, in the 'technical' artifact itself, is the fact that someone made it, and that someone *meant* something. The application of human agency within a framework of collective meaning and values (see craft or culture[3]) to a problem of material circumstance, both results in, and is the result of 'design'. Design is inescapable. Everything humans make or do can and will be interpreted; invested with meaning and intentionality from both sides. Design automatically becomes the theme, and architecture merely a vessel for its embodiment and exploration: Architecture is building, empowered to speak.

From the limits of this definition, a new freedom quickly emerges: The relentless material necessity of "making" and the inevitability of "context" offer opportunities to build on the orders of the 'day' and 'place', presenting new means for expression that both engage and transcend the particular. But more limits to making are immediately encountered: gravity, materiality, economy, functionality, climate, tradition, regulation and social pressure—all seeming to conspire against truly 'free' expression. Unlike other arts, which are constrained only by their basic formal taxonomy, this vast network of competing constraints in architecture demands a different kind of engagement if expression is to prevail.

Design is born in this crucible, where paradoxes of necessity and excess[4], body and consciousness, natural law and human will are mixed and compounded. Design is the application of 'intention' to a specific problem; and architecture presents a particular set of problems, replete with contextual ways of dealing with them[5]. In order to communicate, design must assert itself against the particularities of context, even as it contributes to it. As soon as unique values and responses are externalized, however, they potentially become contextualized or *traditionalized*—

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3 Scott Francisco. "The Way We Do Things Around Here: Specification Versus Craft Culture in the History of Building," MIT, 2005. Presented at the 2nd Annual "Conference on Communities and Technologies", Milan 2005

4 For a thorough consideration of "excess," see Marcel Mauss' *The Gift,* and George Bataille's *The Accursed Share*. Excess as it relates to design has yet much room for exploration in architectural discourse.

5 Alberti's *Ten Books of Architecture* may be the best canonical reference to architecture's historic attachment between 'craft,' 'tradition' responsibility and the imperatives of design creativity. (See Book IX chapter X.)

"good morning" to everyone up until the lunch hour, lest I be considered rude and foreign. Here in Cambridge (an inherited/colonial/foreign name adopted for 'our' city), I felt foreign saying hello to the stranger, but also wondered how long it might take to transform this city into a place where everyone looked each other in the eye and acknowledged the presence of their fellow man. And my imagination gets right to work: spaces of relation, places to connect. What kind of frameworks would help bring people together? But I guess, that's just not "the way we do things around here". This is a place of 'freedom,' and freedom must mean we are free from obligations to such 'repressive norms.' What was I thinking, wanting everybody to conform like this? I feel like a tyrant just imagining it. (My apologies to the stranger for exploiting him thus.)

So, my life is full of strangers and yet I feel there are no strangers at all. We all have too much to say, and from my daily walks, meetings, classes (lectures) and constructions, it seems that we are saying them whether we know it or not; and the way we are saying these things is also a form of building. On Sunday morning when I walk by the Pentecostal Tabernacle Church, everyone is dressed up. *What are these people trying to tell me*? The best part about this is: I might even understand. I begin to see this as building continuity, building community. We all construct ways of understanding each other

individual agency receding into the contextual landscape[6]. Here lies the architectural cycle: incrementally constructed context, like a field nourished with the de-composed remains of previous generations,[7] is again ripe for intervention and fertile for design.

This paradoxical dependency highlights the oft-disregarded fact that architecture is by definition a communal activity, engaging multiple voices: clients, builders, officials, inhabitants and crafts-people of different sorts. Because of this multiplicity, architecture involves dialogue in its process as well as its use or inhabitation. Communication permeates all of its formative practices: Language and other types of "symbolic action" constitute the very fabric of architecture before it can "make it out the door." The tower of Babel is the most blunt case in point: *No common language, no architecture*. Thus design in architecture performs a double duty: while it must internally express intentions between those who make it, design must also externalize its expression. As architecture enters cultural and public space, design both challenges and reaffirms context.[8]

Architecture is brought to life from the dead tissue of mere buildings by the life-filled exchange of expressive human agents. Design is the purpose imbedded in construction that allows the expression of motivations and values—expressions of human intent. This is the vital core and overwhelming attraction of architecture.

Architecture exists only through design.

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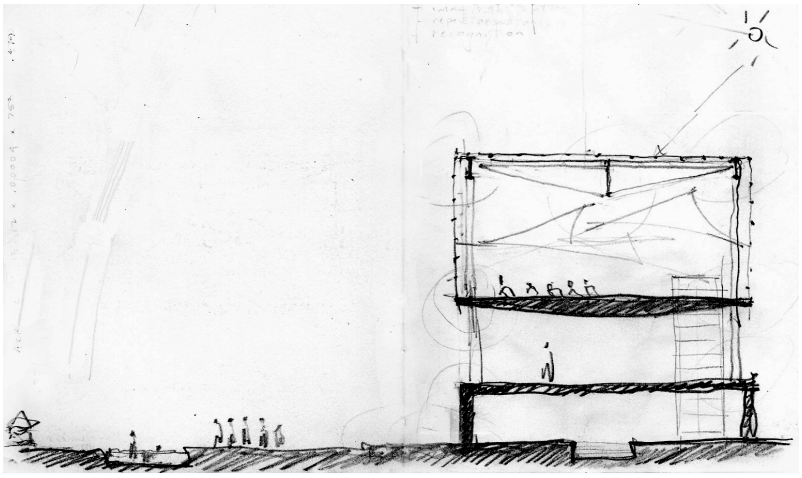
6 Bruno LaTour challenges individual agency in *The Pasteurization of France* and his notion of "The Parliament of Things:" in *We Have Never Been Modern*. This theme: the agency of human and non-human actors, is picked up by Richard White, *The Organic Machine;* 1995.

7 G.K. Chesterton calls this deferral to tradition "the democracy of the dead" in *Orthodoxy*, first published in 1908. Pp. 62-64 in the 2003 edition.

8 Malcolm McCullough, *Abstracting Craft: The Practiced Digital Hand*, MIT Press, 1996.

across borders of culture that we have also 'built'–borders that are themselves a form of communication, as in "I don't want to hear what you have to say," which ironically must be spoken, and re-spoken constantly.

Now, with all of this in mind, I can't help wondering what people think about me—i.e., how they are reading my signs. Did I send the wrong message? Did you? I hope the fact that I don't comb my hair and sometimes wear clothes from "Goodwill" [Gadamer, 1998] is not interpreted as a sign of not caring, because believe me, I care that I don't care. If I wear a suit instead of jeans, what would this say about me? Of course it all depends on the context, and the context is partly dependant on "us all" wearing suits, or having the means to wear suits, or some of us *not* having the means to wear suits. If it means something to wear suits, we must have decided that wearing a suit means something. So, should I/we wear a suit? The church-goers do. And so do some people at the Institute.



2. Intent

> *It is intentionality that characterizes consciousness…*[9]
>
> - Edmund Husserl

The word design today is everywhere, growing in popularity at a pace equal to the ambiguity that surrounds it. Meanwhile, this ambiguity is protected from interrogation—insulated by the surge in its popularity and commodification. The increasingly pervasive belief that 'design is good' has lead to a sense that anything "designed" is elevated, in many cases above reproach. As this 'exchange-value' of design increases, design no longer needs to be justified by virtue of its *intent*; it becomes a value based on its currency, with no need to refer beyond itself.

Digging into its history, this autonomy of design will turn out to be both ironically impossible, and paradoxically essential to the concept—a concept that is fundamental to both architecture and humanity. Engineer and theorist William Addis opens his treatise: *Structural Engineering, the Nature of Theory and Design*, by grappling with design's complexity. Using a pattern similar to Raymond Williams' iconic *Keywords*, Addis unfolds a chronology of design's meaning through its usage over the last 500 years:

> *To plan out (1548); To trace the outline of, delineate (1579); Purpose aim direction (1588); A plan or scheme…the preliminary conception of an idea that is to be carried into effect by action (1593); A preliminary sketch for a work of art (1638); To purpose or intend (1655); The thing aimed at (1657); To draw, sketch (1662); To mark out, to indicate (1666); To make preliminary sketch of; to make the plans and drawings necessary for the construction of…(1697)*[10]

Addis follows this history by reminding us that in contemporary usage, design has come to mean "almost any part of the act of creation" or an "abstract quality of an artefact; its image, its style" before he laments that none of these definitions adequately "describe what [engineers] are doing when they design a bridge, building, aeroplane or car."[11] What is it that these engineers, or any other designers, are actually doing?

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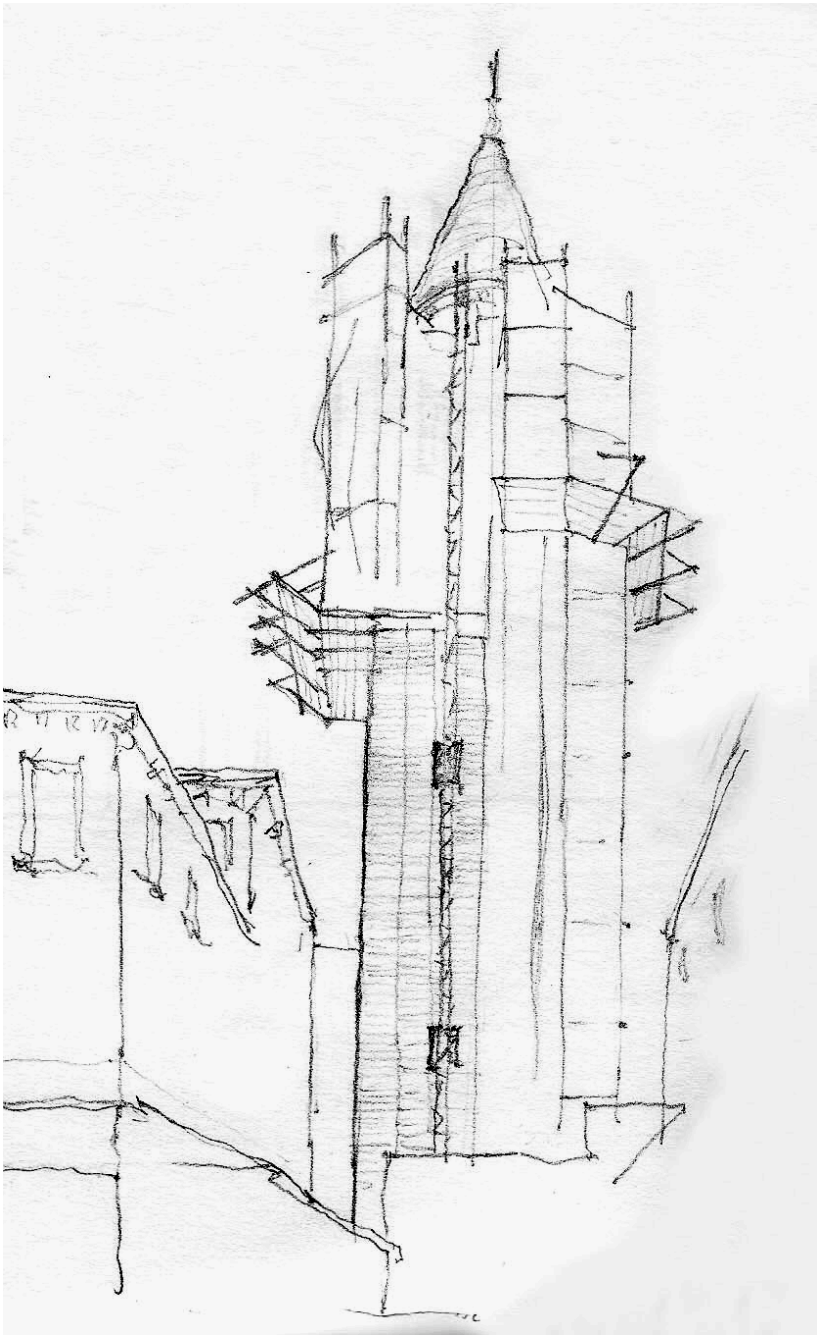
9 Edmund Husserl, *Ideas: General Introduction to Pure Phenomenology*, Collier Books, 1913.

10 William Addis, *Structural Engineering, the Nature and Theory of Design*, Ellis Horwood, 1990.

11 Ibid.



Even at first glance we can trace the thread of intentionality running through these historic definitions: a thread so intertwined that if pulled out, the concept of design simply unravels. But the awareness of this thread also helps us understand design as a tectonic[12] concept: a weave of several key ideas that become a screen through which to view, or filter, concepts like 'architecture' or 'building'.

When applied to the discipline of architecture which is predicated on making buildings, this intentionality-filter reveals and highlights a process we can call *planning* that is critically distinct from the act of *construction*. The conceptual distance between these concepts provides the space for the mind to work on a particular problem as it weighs and values alternative outcomes of action. It is in bridging this gap between 'plan' and 'action', that the intentionality of design is located.

Equally present in this bridge space is the need for ''symbolic action"[13]; the representation of intention being essential to the formulation of any plan. Intentions without symbolic action cannot constitute design, any more than design 'by itself' can constitute architecture. It is only the formal representation of intentions that allows design to assert itself. Design is a synthetic action, woven[14] of intentionality and representation.

It is here that "drawing" so importantly enters the lineage of design definitions[15]. The act of drawing carries within it both the fact of expression and the purposefulness of the gesture—a formal vessel for representation. To draw is both 'directional' and symbolic: it searches out, purposes, and symbolizes all at the same time. To draw is to divide: To create specificity where none existed before. This specificity of design required by the uniqueness of human intentions (or the intentionality of design made possible by specification) makes for a critical comparison between design and tradition.

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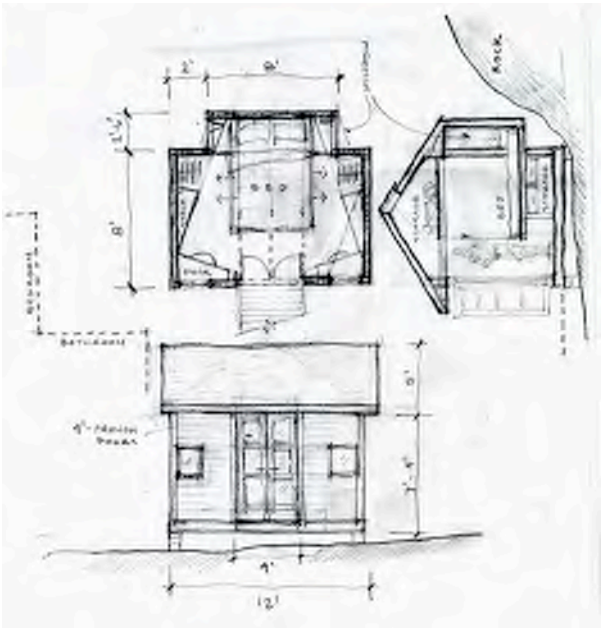
12 Kenneth Frampton, Studies in *Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*, MIT Press, 1995.

13 Kenneth Burke. See *On Symbols and Society*, University of Chicago Press, 1989.

14 Edmund Husserl. *Ideas: General Introduction to Pure Phenomenology*, Collier Books, 1913, pp. 232-233.

15 "A thinker is very much like a draughtsman whose aim is to represent all the interrelations between things." Wittgenstein, Ludwig,.*Culture and Value*, University of Chicago Press, 1984, p.12e [From 1931].



site

I'm in the Institute's "Infinite Corridor" and it's Mom calling again from Canada "about the cottage"—and whether or not we should add a new bedroom on "the side facing the boathouse". As I graze the hall for the best cell-phone reception, terrazzo echoes and a stream of passing strangers add to the distance. But she "really needs to make a decision" despite the fact, I might add, that "The Brown Cottage", a small un-insulated cabin on Lake Joseph (a place increasingly colonized by "year-round" monster vacation-homes) has been in a perfect state of partial completion since it was built for my great grandparents 50 years ago. For the last fifty years, there has been a continuous discussion of "adding-on" something or other, and the building is now a collection of various additions, all stained a dark brown—an intricate web of planks and nails holding each other together, and mysteriously forming the place I learned to swim, build a fire and knit (a scarf for Piglet), got my first dog, Rupert, read innumerable novels, Reader's Digests and

Intentionality may also be present in tradition.[16] But unlike in design, where intentions are explicitly manifest in the bridge *between* planning and making, in tradition intention is located in the seamless overlap between 'a way of making' and the origin of the activity that is rooted in cultural identity[17]. What does it mean to "create a tradition", a practice we have all participated in at some level? While creating a tradition[18] can be a conscious and projective act, its challenge lies in the naming and origin of authority and subjective values. In tradition, intentionality is generally concealed by an appeal to 'how something was, and therefore *should be*, done'. Design, on the other hand, celebrates itself as a rupture with context, making a virtue of individual choice in the face of any status quo.

Unlike culture or craft, which are based on tradition, design makes explicit the concept of both intentionality and value, empowering an individual or group to enter into a process of open dialogue concerning what is valued, and the possibilities of achieving these things through specified action. Design, in this sense, is a fundamentally modern concept, effectively relying on specification[19] for realization, while at the same time, giving tremendous agency to subjectivity.

And here we see the paradox and power of Jurgen Habermas' concept of "communicative rationality" and his urgent call to recognize modernity as an unfinished project; a project with the intentionality necessary for any recognition and enactment of social "justice". Communicative rationality is a balance between this rational (potentially rigid, authoritarian) concept of justice or truth, and the "communicative" part of the equation; acknowledging that only through individual voices acting in dialogue[20] can any "rationality" be arrived at. This belief in the

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16 Raymond Williams, *Keywords*, Oxford Press, 1976. See 'key word:' "Tradition, p. 269.."

17 "…an identity that by nature deals with time, history and respect for the dead." Williams, Keywords, p.270

For example: 'this is a good way to build a house,...[because] my Grandfather did it this way.'

See also Prem Chandavarkhar, "Crafting the Public Realm: Speculations on the Potential of Open Source Methodologies in Development by Design," Thinkcycle.org, 2002.

18 Raymond Williams speaks of traditions as constructs, as previously referenced in *Keywords* (see footnote 16).

19 Scott Francisco, "The Way We Do Things Around Here." MIT 2005

20 See *5. Dialogue* in this text, referring to Bakhtin's dialogism.

Archie comics—and from under my covers heard Grandma's daily "Yoo-hoo" calling up from the morning water as she swam by—sweetly but decisively suggesting it was time to "get up and embrace the day".

And what about here? How do we embrace the day in the Infinite Corridor? Where can we greet the passing stream of strangers who look just a little too focussed for new introductions and have cell-phones waiting to be whipped out in response to any lull in productivity?

At the cottage there are rag-rugs and patchwork quilts, ripe tomato sandwiches, rocking chairs in white porch-paint, copper-screens, glass jars of rusty nails, overgrown cedar trees and wood steps showing signs of rot, that "seem like we just rebuilt yesterday". The cottage smells exactly the same every time I walk in, no matter how long it's been. The soft slam of the screen door over waves resonating under the dock, or the sound of bare feet on the hollow wood floor, are at least as much a part of the cottage as: rooms (that "are just a little too small"), roofs (that "are going to need to be replaced") or the gas stove with a pilot light (that "needs to be turned off when you head back to the city").

Nevertheless, Mom has several reasons for the urgency of her proposal: Uncle Les has "offered to help for two weeks." And "we need to think about how much can we actually get done." By implication, this rules out the 2nd floor piggy-

responsibility to act is paired with a faith in the authority of subjectivity[21].

From the pointing baby, waiting expectantly for the pleasurable assurance and power of 'thing-names', to the poet or philosopher teasing out and cultivating new words that bridge past and future—rises the ecstatic sound of the human searching for meaning. And these cries are not alone. They are accompanied by the sounds of the axe and the hammer; chainsaw, rock-drill and dynamite; the rhythmic pounding of machines and the static pulse of the arc-welder. Sparks fly. Humans are at work: Converting the found into the *intended*—transforming the material world and material needs, into a new kind of speech—a presentation of will, and an embodiment of values.

Design is the expression of intent.

21 Mauricio Passerin D'entreves and Seyla Benhabib (eds.), *Habermas and the Unfinished Project of Modernity*, MIT Press, 1997, p. 2. "In 'Modernity: An Unfinished Project'…Habermas provides a number of powerful arguments for retaining a commitment to the project of modernity. …deeply aware of the pathologies of modernity he believes they can only addressed and resolved in a fruitful way by protecting and expanding the sphere of communicative rationality against the systematic imperatives of the economy and the state (that is the colonization of the lifeworld), and by re-linking the differentiated domains of science morality and art, and their corresponding expert cultures with the communicative praxis of the lifeworld (that is, reversing cultural impoverishment)." (p. 4)

back addition that I have been advocating; and rushing to finish in two weeks is not my idea of a good solution …In my imagination the whole project is a great family activity—carpentering along side my dad, brothers in law, and sisters—bonding over 2x4s, plywood and the sound of hammers and chop-saws. And don't we need a little complexity to make the most out of this? (There really is nothing like seeing a building raised up under your own steam, especially when you're the one who gets to use it when it's done; so why not prolong it and enjoy the ride?) Mom is convinced, however, that a single room addition on the side is "just so much simpler" and "something Dad and Les can finish in May." What's more, she adds, it would be all that's needed to suit the renters, or make enough space so that "we can all be up there together." (This used to be an annoying saying of hers, but now increasingly comes from my own heart as well.) For me, though, this time together is also time we could build something together: like the family room addition in the city, the summer before I started architecture school in Toronto. To this day it makes me happy to look up at the parabolic curved ceiling that Dad and I built, having worked this out in pencil on wood-scrap sketches, long before the California projects with Yusuke and Roto would make this kind of "twisted plane" construction common-place.

Several days and (somewhat tedious) mom-phone-calls later, complete with pointed

3. Symbol

> *The fact that sensory contact with the world is reworked into something meaningful through the use of symbols is the defining feature of human existence, and also constitutes, from a normative standpoint, the basic trait of a properly human mode of being.*[22]
>
> - Jurgen Habermas

> *We are not interested in symbols… You need to read Deleuze.*[23]
>
> - Helene Furjan

After being expropriated and dragged through the mud by postmodernism, 'symbol' has become a much-maligned and radically misunderstood concept in architectural discourse today.

But give someone chalk and a blank slate[24], and they will begin to draw – lines that become communication for both self and others. Lines grow to be both pragmatic and profound with our awareness that all symbols begin with division: 'this from that'. The powerful and simple legibility of the line is itself a symbol, dedicated to the concept of 'separation and difference' (the other side of this coin being 'connection')[25]. Like the "distinctive features" or "phonemes" that make speech possible, making and recognizing difference (and connection) is at the base of all language. Once clear, divisions immediately progress toward assignment and representation: 'this means that': Anything distinct enough to be 'identified' will be given meaning by humans. In order to be useful, however, consensus is always required in the assignment of meaning: The utility of symbols is based on their repeatability and gathered agreement.[26] From this standpoint,

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22 Jurgen Habermas, *The Liberating Power of Symbols*, MIT Press, 2001, p. 7.

23 Helene Furjan: spoken directly to me; the "we" presumptuously on behalf of the "Imaging" panel at the "Loopholes; within discourse and practice" Architecture Conference, hosted by the Harvard Graduate School of Design, April 16, 2005.

24 This blank slate may be metaphorical, but it carries the notion of a stable context (which is a form of silence in its stability). Emptiness cannot be recognized 'alone,' but is always relative to the "slate" – a structure that facilitates emptiness and thus any meaningful action or inhabitation.

25 Thus drawing in its basic form is so essential to design, as one of the most elemental means of symbol making, representation and knowledge/value transfer. See: Edward Robbins, *Why Architects Draw*, MIT Press, 1997.

26 Benjamin Lee Worf, *Language Thought and Reality*, MIT Press, 1956, p. 213."…We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way – an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement, of course, is an implicit and unstated one, BUT ITS TERMS ARE ABSOLUTELY OBLIGATORY; we cannot talk at all except by subscribing to the organization and classification of data

questions about our (three siblings) still-pending procreativity, a completely different solution is arrived at: “Permit restrictions” that have always hovered over “adding anything” to the cottage have come to the fore: a dreaded call to “the Township” has confirmed that if we add space to the building we will have to have the septic system “inspected”. Given its fifty-year history of complete invisibility (do we even know where it is?), “The Septic” is not likely to be in fighting-form, even though it always “seems to be working fine”. The cost of a new system is out of the question, and we apply our collaborative design thinking to the problem of adding space while avoiding permits. A new stand-alone cabin, up to 100 square feet can be built “without a permit” (10x10 mom insists, “to fit the bed”; but my love of plywood suggests the more modular 8x12. We reach an elegant compromise with an 8x12 footprint, preserving the plywood’s modesty at being cut, but add a “bay window” that the head of the bed fits into). Amazingly we all agree that this can provide the space we need “for now”, without the septic review; And until the next (ever-pending) urge to “add-on”, our sewage can feel safe that it will not be disturbed.

we can say that symbols are constructive, particularly of community: Communities form around symbols as the carriers of shared meaning, identity, experience and values[27].

If we intend to express ourselves, we require symbols[28]—there seems to be no alternative. The 'specification of intent' that distinguishes human communication happens only through symbolic (inter)action[29]. This growing realization in social theory has rejuvenated a study focusing specifically on the use of symbols by "actors", and how this agency shapes and invests symbols and their contexts with shared meaning. Allan Canfield describes this new field:

> *Symbolic Interaction begins with the assumptions that communication requires the use of shared symbols; that self and identity are constructed through interaction and that humans create society through interaction. …the symbolization process applies to both verbal and nonverbal communication…Humans create metaphors for the body and for body actions.*[30]

The key in this definition of Symbolic Interaction is the word "create": "...humans create society… Humans create metaphors…" While semiotics, the study of signs, has been central to postmodern thinking, the progression towards 'deconstruction' and poststructuralism highlights the ideological difference, and even conflict, between 'sign' and 'symbol.' Charles Sanders Peirce was among several theorists and linguists who made this important breakthrough in semiotics, the field he is considered to have founded. Expanding Saussure's concept of the sign, which was "arbitrary" and "systematic,"[31] Peirce divided signs into three categories: Icon, Index and Symbol. Of these sign types, only symbol is seen as truly 'arbitrary': paradoxically relying on

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which the agreement decrees…"

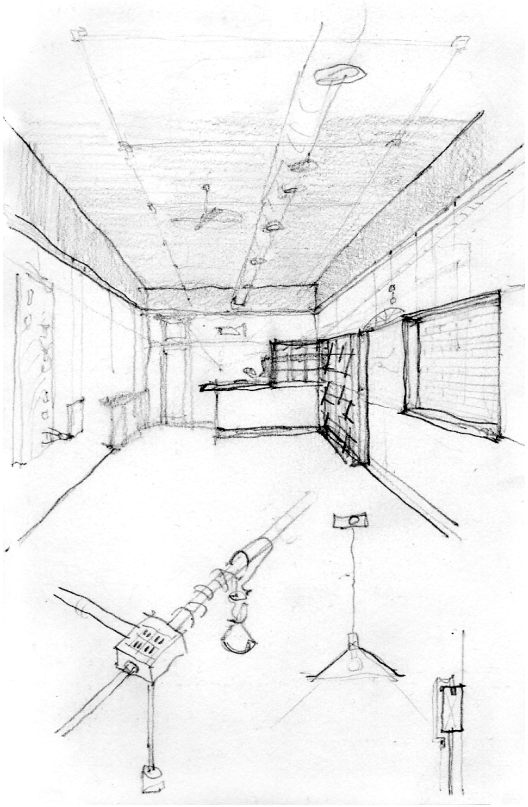
27 Schein, Geertz, Gadamer, Burke; Kenneth Lipartito: "Culture and the Practice of Business History." University of Houston, 1995. This paper has a particularly useful depiction of culture as a construct with tremendous power.

28 The key reference here will be the towering work of Kenneth Burke, which is well represented in the compendium *On Symbols and Society*, edited by Joseph R. Gusfield. The introduction contains an excellent framing of Burke's enigmatic life and work. While Saussure argues that symbols are distinguished from signs in that they are less arbitrarily connected to their meaning (*Course in General Linguistics*, p. 68), Burke takes a more generalized approach, blending these differences in the concept of "symbolic action." Of particular importance is the usefulness of the term 'symbolize,' or as Burke would say, "symbolification." I am arguing that the design process is primarily one of symbolic action.

29 Allan Canfield, *Body, Identity and Interaction: Interpreting Nonverbal Communication*, "Making Sense of Symbolic Interaction," http://canfield.etcxt.net.

30 Ibid.

31 Ferdinand de Saussure, Course in General Linguistics, McGraw Hill, 1966, pp. 107-119.



plumbers

Pipes are important to a café: a café is like a primitive body, with transactions of supplies, energy and waste – drinking, washing and disposal. It needs *water*, and only plumbers like Dave and Walter make all of this possible.

If you think about it, plumbers are strange characters in our architectural dramas. They see through our walls—our masks of plaster, paint and tile. They work inside the inside, making life possible in a built world—physically connecting us to the most critical resources of the earth so we can stay

human intention to make the "arbitrary" connection between signifier and signified. It is in this sense that symbols are *made*; whereas other sign types are based on cause and effect: (Smoke is a sign of fire; growling a sign that a dog is 'defensive'—indexical) or pictorial similarity (this 'picture' is a sign of fire—Icon). Of Peirce's three sign types, symbol is the only one that is intentionality created, therefore having design at its core.[32] And while an architect may be one who designs as part of the process of building, architects should also be careful not to claim special status as "space makers," as many have: Essentially all linguistic or cultural innovation is a form of space making. "Useable Space" is space that is productively inhabited by –facilitating interaction, communication, dialogue and expression, in both its making and its use.

But architectural discourse, along with many other creative disciplines, has become dizzy and disoriented by postmodernism's energetic de-lamination and (often clumsy or half-hearted) re-grafting of symbol, intention and communication[33]. Symbols can be thought of as complex organisms: highly adaptable, but also susceptible to extreme shifts in context. This is a particularly acute problem for architecture, as we recognize our total reliance on symbols for any discourse; and given that all of the 'artifacts' of architectural education (and even professional architectural practice) are themselves symbols, and thus intrinsically rhetorical.

As one example, we can examine a series of architectural models, each created by individual students in a studio group, and lined up for the purpose of a design review. To the extent that these objects function expressively (not merely as icons or indexes) they each do so as a compilation of symbols. Each project is rhetorical, more or less skilfully representing particular intentions, values, ideas and commitments; and each student 'intends' that their creation will be *understood*—having something to contribute to the discourse locally and at large. Desire is a necessary baseline that must be established before any real dialogue or discovery can even begin.

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32 "Peirce's seminal work … defined a sign as 'something which stands to somebody for something,' and one of his major contributions to semiotics was the categorization of signs into three main types: (1) an icon, which resembles its referent (such as a road sign for falling rocks); (2) an index, which is associated with its referent (as smoke is a sign of fire); and (3) a symbol, which is related to its referent only by convention (as with words or traffic signals). Pierce also demonstrated that a sign can never have a definite meaning, for the meaning must be continuously qualified." Encyclopedia Britannica, <www.britannica.com>

33 Postmodern "facadism" can be seen as an example of how symbols were asked by architects to operate without the structure and investment necessary to sustain them. As Symbols were used autonomously they became useless.

deeper and longer inside our own constructions. (Imagine a city without pipes.) These characters can't be avoided or sidestepped, and they are expensive for a reason: They are smiths of copper, bronze and iron: great mechanical sculptors that deal with our shit, and deliver us clean water without a drip. David and Walter were the ones to do it at the Café, and I was cautiously optimistic that if I could just stay on their good side, maybe they wouldn't break our bank, force us to relocate the sink or industrial coffee machine, reconfigure our entire plan, and send us back to the drawing board to start from scratch.

Having said this, everything is negotiation (starting with basic communication) and so I was looking for our common language. These guys had worked with architects before, and right away I could sense a resistance built up from years of listening to "suits" authoritatively telling them the wrong thing to do, or being forced to make nonsensical changes one after the other—turning perfectly good piping into clog-prone copper spaghetti.

The first thing to be done, then, was identification. I wanted them to know "where I was coming from," to trust and really talk to me, allowing me into their problem solving process so we could work together and make sure the job was done in the most sensible way while not dropping the ball when it came

From this vantage we can begin to peel back the many layers of symbolic action present in each of these models. If one of the models is made out of cardboard, for example, we might legitimately ask if this represents something. This particular *difference* (from the other models) may be a statement against a ubiquitously digital environment, or symbolize an expression against 'bass-wood' as unaffordable, or destructive of tropical forests. Alternatively, if cardboard was used out of habit, it may merely indicate an absence of forethought or a default to status quo, convenience or familiarity. Critical here is both the context itself and the choices within this context. If the mandate in the studio was for every student to build their models from cardboard, it would be hard to see that any one student 'choosing' to use cardboard could represent something symbolically. The imposed limitation would turn this potential symbol into mere index in the context of this particular studio. Even still, the choice to use cardboard, and whether it is to be cut with a knife or laser cutter, may contain a strong symbolic gesture on the part of the professor within the larger context of a particular school, or even contemporary architectural pedagogy.

To be useful in terms of intentionality, symbols must have both specificity and agency: They must be legible and repeatable, as must all signs, but they must also be invested with collective meaning. Of special importance, then, is that symbols also carry the potential for mis-use and re-appropriation[34]. For example, a 'pat on the back' or a 'slap in the face' are each more than symbolic: They have "indexical" cause and effect results (warm feeling, sore face etc.). Nevertheless these actions are symbolic to the degree that they are intended to convey some arbitrary meaning that has been assigned. To the extent that these actions are symbolic and not merely 'indexical' (as with a dog growling and baring its teeth), they rely on the arbitrary understanding that one, for example, means an "affirmation" and the other an aggressive "denunciation"; Symbolically speaking, either action could just as well be used to 'affirm' or 'greet' someone. The fact that an action is painful or pleasurable does not warrant that it will necessarily be used as a symbol of either 'negativity' or 'positivity'. To the contrary, symbolic potential resides precisely in the fact that these signs can be 'used' to mean something quite

34 See Kenneth Burke quote, section 13. *Self* in this text: "Humans are the symbol making, symbol misusing animal…"

to the most important issues. I wanted to get into the walls with them, and this was going to require some strategy. What could be done or said to cut through the stereotypes? What ways of relating, what symbols (speaking, dressing, drawing, gestures, touching), might challenge the all too-stable markers of position, hierarchy or association? I wanted to discover common ground, and was on a quest for what we might have (i.e. value) in common to help this emerge.

But before I get there, I have to ask: Am I the only one who finds it ironic that our plumbers, both Dave and Walter are *Marines?* ("Once a Marine, always a Marine" I was corrected when I let "ex-Marine" slip out upon recognizing the Globe and Anchor crest on their tank-sized tool cart). Dave might well have just stepped off the battlefield, although Walter maintains Dave was the one with the desk job in the Corp. Nevertheless, Dave carries himself like a full-sized version of his bulging forearms: disproportionately triangular and solid; serious with a smirk. Curiosity and humour connect David and Walter, along with fraternal respect, and (like most of us) a healthy level of suspicion for certain things outside their own world. Walter is a few years older, shaped somewhat in the reverse of David's triangle. More experienced and less worldly. Both smile and revel in the irony of their situation: dealing with the Institute's sewage while maintaining a clear flow into

unrelated to material associations. Compare, for example, the 'affirmative' message of 'lip-disks', 'circumcision', 'hazing rituals' and various other 'body art', to the seemingly benign thumbs down of ancient Rome, or the famous betrayal with a kiss. It is also important to note that a 'slap' is not necessarily symbolic (hitting a mosquito), any more than picking a stone up off the ground is necessarily symbolic. In some contexts, however, 'picking up a stone' may be symbolic of an "impending stoning"; in others, a desire to "play a game", and in still others that the ground here is a bad place for a picnic site.

In all of these instances the key issue is that some-one is interested in the intentions of the *other* who is making the (potentially symbolic) action, thinking: "what does he mean"—"what are his intentions"? "What does he want to say?" Symbols allow us to enter into and reflect on the intentions of both self, and other, rather than being left to infer possible cause and effect outcomes (i.e. simply what 'will happen'), such as: "he will throw the stone", "he is clearing the ground" or "he is angry". Symbols create distance for the reflective freedom in communication that ultimately becomes design.

The specific potential of symbol as a carrier of values and intent, is crucial for architects and designers to understand if we are to transcend the barren materialistic or even bio-deterministic landscape left by postmodern "enlightenment". Despite the continued dominance of science and theory re-empowered by the "movements of deconstruction", symbolic interaction continues to assert itself, re-establishing its values and hierarchies. Symbols are the bridge between personal 'free will', and the human need for 'other' and thus community. The depth of human expression relies on the richness of a symbolic repertoire and our ability to 'make', 'use', and 'misuse' new symbols—thus actively cultivating new contexts, new values and new cultures. For architects, this process embodies the core concept of design: using creative resources to sharpen our sensitivity to each other and the contexts we have created—synthesizing the imperatives of language structure and natural law with the imagination and intentions of being human.

Intent is communicated through the use of Symbol.

their bank. Plumbers at the Institute might as well smirk. They probably make more money than a good percentage of the faculty, and unlike the faculty, they were needed on the inside of this design project. So for the first few days of the work there was, on both sides, a search for something in common: "common sense" is what they called it. They tried to figure out who I was (what I wanted, what authority I had etc.) and I tired to figure them out, how they worked and what motivated them.

The real breakthrough came in a moment of inspiration just close enough to 3pm that an idea and my "go-ahead" to reconfigure and vastly simplify a particular drain-line allowed them to complete it and go home early. "Now *this* was design that they could *get into"*—and proof that architects could think. From then on it was love. I was in, if not as "one of them", at least as an honorary guest. My daily visits were greeted with personal stories, anecdotes, jokes and backslaps; there was trans-global discourse on: tsunamis (bad and coming again), women (good and hopefully coming), taxes (coming too regularly), terrorists (coming but we'll be waiting), food (coming on a dish of brown rice) and tools (coming with them in their huge steel cart on wheels—a Sherman tank with the Marine's Crest, and a handle on each end.)

Over the several weeks that the plumbers

4. Rhetoric

> *The movements of deconstruction do not destroy structures from the outside. [These movements] are not possible and effective, nor can they take effective aim, except by inhabiting these structures. Inhabiting in a certain way, because one always inhabits, and all the more when one does not suspect it. Operating necessarily from the inside, borrowing all the strategic and economic resources of subversion from the old structure, borrowing them structurally.*[35]
>
> -Jacques Derrida

> *…to free itself, it will have to pass over to the other side—there where territories tremble, where the structures collapse, where the ethoses get mixed up, where a powerful song of the earth is unleashed…*[36]
>
> -Gilles Deleuze

From the lofty frameworks of theory to the deep excavations of practice, architectural discourse has been radically reshaped by deconstruction's liquidation of *symbol*, *language* and *value*. This has been without a doubt exhilarating—tremendous energy released in the combustion of dense structures of meaning that had accumulated over generations of dialogue, conflict and consensus. Many warmed around this bonfire, and some still stoke the dying embers. But deconstruction's role in this scenario, was not, as it is commonly understood, an attack on *objectivity*, but rather on the *authority of subjectivity*. The logical and inevitable result of this has been the embrace of theory and system: pseudo-objective, elastic networks that aspire to redundancy, interchangeability, indeterminacy, and freedom from persuasive, rhetorical and thus constructive value.

In the case of architecture, which must be built and inhabited, these foundational tremors have provoked a return to the material but relativistic claims of 'progress' through technology[37]. Architecture in the academe is now faced with either legitimizing itself in material [i.e., fundable]

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35 Jacques Derrida, *Of Grammatology*. trans. Gayatri Spivak, John Hopkins University Press, 1976, p. 24.

36 Gilles Deleuze, *Essays Critical and Clinical*, University of Minnesota Press, 1997, p. 104.

37 At many "top design schools", this can be seen in the architecture studio offerings that bill themselves as "cutting edge," progressive, or even representative of contemporary practice (Kieran Timberlake: *Refabricating Architecture*. A focus on "systems," computer "programs," tools and technique are considered explicit and primary aims; this can be interpreted as a general avoidance (and even rejection of) design as a human endeavor valuable in its own right. In some cases, this "anti-design" philosophy is made explicit. See section 12; *Device*; Goulthorpe's DECOI projects.

worked on the project, we built increasing rapport. More talk about “the industry”, family, technology, work and our futures. They encouraged me to work “in the trade” for a few years (advice that some professors might consider giving). In their minds I became “plumber material”, and I think they knew this meant something to me. It would be hard to say if this identification made a difference in the final layout of the Café or even the final budget. I would like to say that it did on both counts. But there is no mistaking that it created a ripple effect in the project; and in many ways these effects are why the project was initiated. Ultimately the whole of process and product of the project was conceived as a way of reaching out to people and offering both a material and symbolic space to engage. When I see Dave or Walter sitting for coffee at the new tables (intentionally designed by a group of hopeful students) and referring with delight to their work (now invisible) that brings the dialectic life-blood of water in and out of the Café – it seems beyond any doubt that there was a difference, and that it was *made*.

terms like "sustainability" and "innovation", or accepting its own extinction.[38] By castrating both logos and rationality, "the movements of deconstruction" effectively created space for new meta-rational orders to emerge and fill the voids left by banished hierarchies. These new orders, of course, quickly became hierarchies of their own—dictatorships[39] that, by process of elimination, tend to be mechanistic and technocratic, while maintaining their necessary but paradoxical indeterminacy. The irony of postmodernism is that after dispensing with presence, logos, the primacy of subjectivity, human agency and moral responsibility[40]; 'modern' technology can once again be engaged, and finally embraced with impunity and ever-greater faith—even if as an aesthetic.[41]

Symbols, however, unlike language cannot be reduced to mere system and structure. With their inseparable values, symbols resist the determinism that ultimately leads to the theories of "posthumanism" and the "end of man"[42]. In their 'humanness', symbols declare and reaffirm a need for the subjective but constructive actions of expression, dialogue and judgment that constitute design. Because symbols are made and remade through use, they constantly confront us with our own agency—our ability to embed personal meaning and values in the very structures of our communication. In short, symbols ensure and empower subjectivity, persuasion and rhetoric as a constructive act on the part of all users of human language.

Rhetoric is motivational communication; it carries the intention to move—to express, impact and

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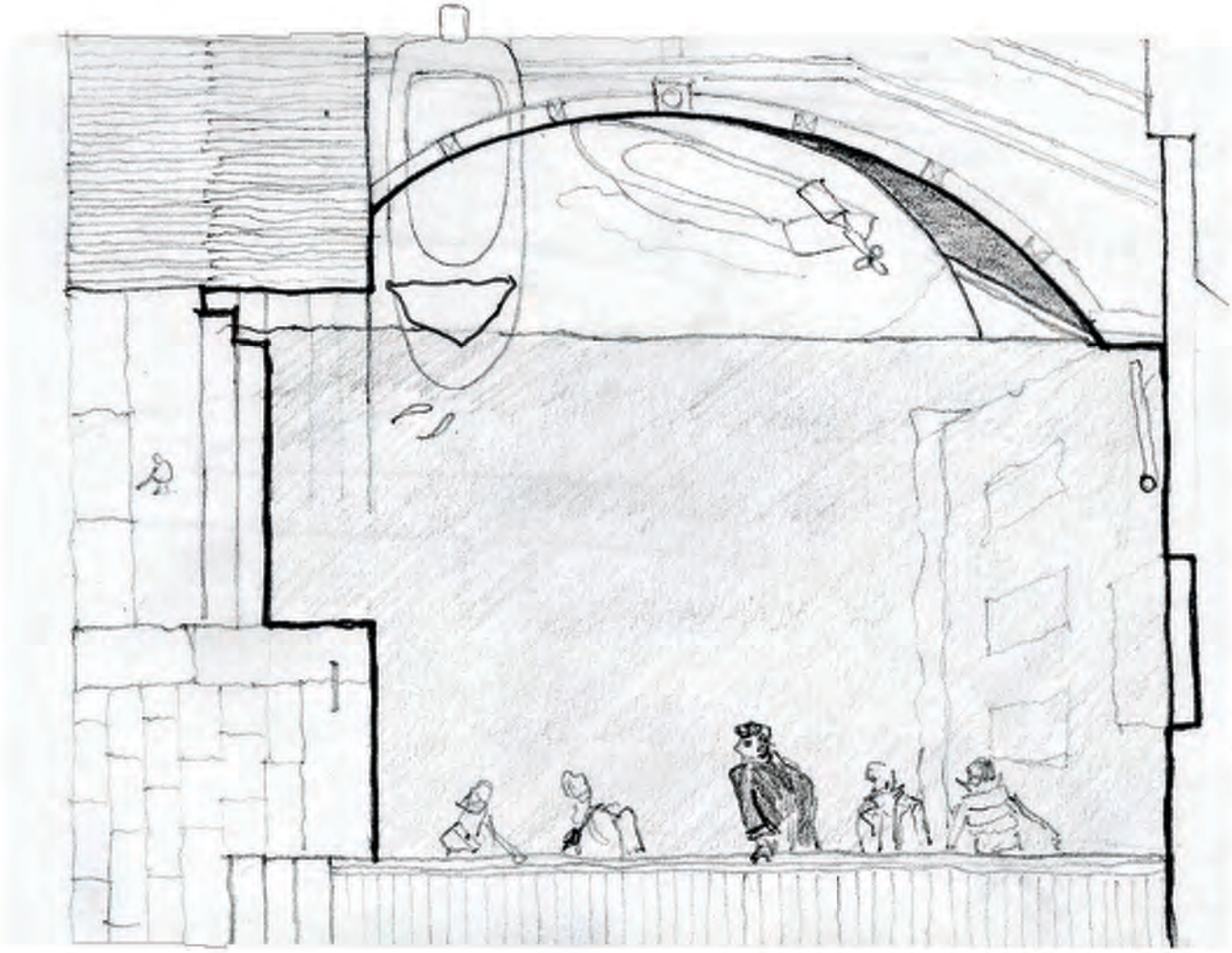
38 At M.I.T. researchers are increasingly pressured to bring funding in from outside sources. As technological / industrial sectors often have the greatest disposable cash flow, it only follows that research servicing industrial technology will be promoted. MIT's Media Lab one example of this: Fiscal survival cannot be ignored, and if this survival depends on funding from corporations who profit by technological advancement, this is what academic research must provide.

39 Or equally like terrorist network cell structures, difficult to pin down or locate; hegemonic by virtue of avoidance and invisibility as opposed to direct personal confrontation negotiation or rhetoric.

40 See Jurgen Habermas' "Modernity: an Unfinished Project," and also Terry Eagleton's *End of Theory*.

41 The work of Greg Lynn, dECOi etc. can be seen as an aestheticization (or even symbolification) of indeterminacy facilitated by technique.

42 "…one could certainly wager that man would be erased, like a face drawn in the sand at the edge of the sea." (Foucault, The Order of Things. p. 387) Butler, Haraway, Lyotard among many theorists, added to the discourse on the "end of the Human." By the pervasiveness and codependence of modern structuralism and postmodern deconstruction, the concept of a unique "human condition" is practically no longer a viable field of study.) See Zhang Longxi's: "Facing Challenges to the Humanities: An East-West Cross-Cultural Perspective," University of Toronto Humanities Centre.



persuade[43]. It relies on an inseparable relationship between personal (subjective) values, and the fact that these values can be carried to another person. The symbols that must carry these values are part of a language system that has rhetoric *built in*; [44] where persuasion is a primary goal of human communication, and not merely one of its possible outcomes. Design, in its intentionality, is likewise rhetorical. It is concerned with the fact of expression and persuasion (consensus building) and is not primarily a problem-solving endeavor; even if problem solving may be a vital part of the expressive, symbolic, rhetorical action.

Is it utopian or romantic to imagine that all people everywhere can constantly create new symbols that reflect personal interests, bias and values, even as power is so clearly at work in language? Maybe it is. While it is possible to make symbols from scratch, or invest them with subjective meaning, they most often come to us already formed, vested with meaning and values; raising the question of whether "freedom of expression" through language is ever truly possible, or if symbols are bound to be coercive by nature.[45]

This "preloaded" condition of symbols, however, which was the subject of deconstruction, can clearly be seen equally as pragmatic and efficient, or limiting and exploitive, a paradox that is critical to any holistic understanding of design. Design both *uses* and *constructs* symbols as an exploration and expression of intentionality across diverse contexts. Designers, like all humans, are users as well as constructors of symbols[46]. Fortunately, then, symbols manage to be both precise and ambiguous. In their arbitrariness they allow—even encourage—the 'poetic slippages' and 'productive interpretations' that facilitate new symbolized meaning. New meanings and content are created as symbols are used in new ways, and as they are constructed from the pre-existing fragments of language and culture. In this everyday use by intentional, communicating individuals, symbols become persuasive, rhetorical and thus powerful.

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43 Brian Vickers, *In Defense of Rhetoric*, Oxford University Press, 1988, p.50.

44 Bakhtin, Burke, Gadamer. Each author in his own way demonstrates the ever-presence of rhetoric in language.

45 Michel Foucault, *The Order of Things*, Random House, 1970; A book about power and language.

46 "all humans are designers." Norman Potter, *What is a Designer*: *Things. Places.* Messages, Hyphen Press, 2002, p. 10.
See Section 13. *Self.*

plywood

Plywood can become an obsession if you let it. I'm not recommending it, just making an observation, (although I might say that the "youth of today" could use a little more plywood in their lives, that's just me.) What is it about this material that makes it so seductive? I've thought long and hard about this, and while I'm not yet prepared to give away my secrets, I will say it has something to do with its dialectic between blankness and grain—peeling back into the rings of collected time. Plywood is about potential—surface and substance; 4x8 "sheets" neatly stacked on a pallet—processed and ready for action.

Design, likewise, is only interesting because it involves some thing made by some other and must therefore mean something. Everything humans do has meaning attributed to it. Once this is realized we are liberated to discuss what it may mean, and how this meaning is constituted, created or conveyed. Meaning cannot be separated from values; addressing material needs is never enough. Making a difference must always go beyond chance and necessity. Meaningful difference presumes freedom, agency and intent, empowering design to communicate.

Unlike current dogma that responds to the crisis of design relevance by suggesting we can '(re)design the world'[47], rhetoric is based on the notion of *influence*: the possibility that each person has the potential and responsibility to interact persuasively with others. This can be extended to the idea that human communication is never neutral, and that all dialogue is saturated with values, attitudes, and desire[48]. In this sense all communication is an assertion of both individual freedom and communality—always in some way intended to convince others.

Design as rhetoric emerges from the intentional individual, the freedom of choice, and the desire to speak, and thus relate, to others[49]. Design as symbolic interaction is the art/skill/craft of persuasion; the intention to bring people into shared space, shared understanding and shared value.

Thus symbols have a necessarily conservative function, but they are also conflictual and disruptive. Layered over the 'conservative'[50] function of symbols (conservation of the shared experience of community by virtue of repetition, concretization and re-articulation) is the fact

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47 Bruce Mau, *Massive Change*. Book and traveling exhibition that raises the question: "Now that we can do anything, what will we do…," a question that is about nothing less than "designing the world." this return to to the modernist notion of redesigning the world is an interesting consequence of postmodern relativism.

48 See Section 5. *Dialogue* (Bakhtin's dialogism).

49 Burke, "Semantic and Poetic Meaning," *The Philosophy of Literary Form*, Louisiana State University Press, 1941, pp. 138-167. Also See Walt Whitman *Leaves of Grass*, "Song of Myself," and particularly the commentary by Kenneth Burke in "Towards Looking Back," *Journal of General Education,* Volume 28, 1976, pp. 179-182.

50 Martin Heidegger, *Poetry, Language, Thought*, Harper Colophon Books, 2001, p. 199. "Not only the creation of the work is poetic, but equally poetic, though in its own way, is the preserving of the work; for a work is in actual effect a work only when we remove ourselves from our commonplace routine…"Martin Heidegger, *Poetry, Language, Thought*," "The Origin of the Work of Art," Harper and Row, 1971, pp.74-75.

Meanwhile, the Baltic Birch plywood of the café benches has been showing some problems: hairline cracks have developed in the finish, and they seem to be getting worse. I first noticed them several weeks ago and have been monitoring them since. Something will have to be done, but to know what to do I need to know why this is happening.

In the span of about 10 seconds here's what goes through my mind:
First, come thoughts of design oversights: what if we got something wrong? Miscalculations are a part of my life: in fact I can hardly think of a project I've worked on where there wasn't some kind of un-welcomed surprise or need for impromptu correction. (One reason why building stuff is so intense!) My thoughts, then, are that these cracks might be related to the overall structural integrity of the laminated Baltic Birch "slabs" we used to make the bench tops; i.e. the cracks might be revealing a structural failure, or excessive flexure of the slabs. Despite their anticipated abuse, these benches were not "calculated", but rather designed intuitively by our small student team: Kenny, a 6'6" lanky, clean-cut talented-but-sceptical no-nonsense Belgian; and Sergio, dressed head to toe in black and wind blown from the mountains and city streets of Chile who always seemed an incongruous mix of beatnik, biker, boarder and friendly digital villain. Together, we had poured over sketches

that they are used to communicate new meaning and values. The fusion of these two extremes of symbolic action becomes the rhetorical function: The assertion of new meaning and conflicting ideas, coupled with a call for sympathetic response.

In their arbitrary but assigned "specificity" or value-filled made-ness, the use of symbols challenges and reinforces existing forms, along with the contexts that give them meaning. This relationship can be seen as interdependent and mutually beneficial: where two conflicting functions rely on the other, and yet are never quite stabilized in the relation. As they reach beyond the normative, specification can be seen as a poetic act, and poetic action as a form of specification; in the sense that poetry can never fully rely on existing language structures for expression. Poetry is a traumatic event, but also one of healing: it draws in participants of the dialogue, creating a new space of shared meaning that can ultimately be used by others. Through the use of symbols we embrace rhetoric as a tenet of human relations. Symbols become a framework for the expression of values and ideas as a constructive strategy for creative meaningful life.

Symbols are formed by the persuasive values of Rhetoric.

and computer screens for days, working out the proportions, details, scale, density, structure and manufacturing process for the bank of six booths along the outside wall of the café at the terminus of the Infinite Corridor.

Our thinking had been simple: Two 3/4" sheets of fin-ply Baltic-Birch plywood laminated together into one solid slab should be "very strong". Then again, six 180lb people sitting on this slab spanning 5 feet are also "a lot of weight". Knowing this, we took things to the next level: we asked our millwork contractor, Mr. Jim Rotch, what he thought. In a voice husky from 40 years in a woodshop, he proclaimed that the benches were "strong enough to park a truck on". Although encouraging, this also made me a bit nervous, and we decided to make a design change: We added some steel—two posts on the center-line of each bench, reducing the span to less than half the original in the long direction. With this addition these benches surely were strong enough for the truck scenario, if only it could be parked in the right location. However, the loading configuration had also now changed and become more complex: The previously simple open box design, which had given these top slabs support only along the 'short' ends had been a 'simple-span' condition. Now with two point supports along the center axis, the slab span was drastically reduced, and now, for all practical purposes,

5. Dialogue

> *We need never deny the presence of strife, enmity, faction as a characteristic motive of rhetorical expression. We need not close our eyes to their almost tyrannous ubiquity in human relations; we can be on the alert to see how such temptations to strife are implicit in the institutions that condition human relationships; yet we can at the same time always look beyond this order, to the principle of identification in general, a choice justified by the fact that identifications in the order of love are also characteristic of rhetorical expression.*[51]
>
> -Kenneth Burke

> *The modern man in revolt has become practically useless for all purposes of revolt. By rebelling against everything he has lost his right to rebel against anything.*[52]
>
> -G. K. Chesterton (1908)

Must we express ourselves persuasively to truly dialogue? It seems we are wired to detect human sounds—strange flashes and vibrations that signal intentions. Regardless of their particular form or context, any human inter-action challenges us to decipher—drawn as we are by the conviction that there is someone else out there, and that this someone, has something to say. If the other had nothing to say—nothing personal, or nothing strange[53]—there would be no interest; in either the signs being used (which in this case would not be symbols), or even the basic concept of otherness. We are searching for others like us, but to be like us, an-other must have unique intentions and ideas of their own that can be communicated through actions.

Therefore, the first step in establishing any link of communication and interest is to affirm both commonality and individuality. What we have in common is always the base for interested dialogue, but the differencing of rhetoric is equally necessary: there must be a *we* and *me—you, I* and *us*.[54]

The rejection of dialogue is all too evident in history: The extent to which people (and peoples)

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51 Kenneth Burke, *A Rhetoric of Motives*, University of California Press, 1969, p 20.

52 G.K. Chesterson, *Orthodoxy*, Waterbrook Press, 2001, originally published 1908, p. 54.

53 Julia Kristeva, "Strangers to Ourselves," 1988. This short 4 page paper is a brilliant monologue on the question of otherness and strangeness.

54 Martin Buber, *I and Thou*, Charles Scribner's Sons, 1970, pp. 82-90.

structural vulnerability remained only in the transverse direction: a cantilever across the new steel posts under the centerline: picture, for example, a 240-pound (ex-)Marine plumber, all muscle no fat, to whom we will return later, sitting *on the edge of his seat* in the center of the long edge. Flexure suddenly becomes an issue, not so much in the long direction, but rather across the 34 inch 'short span' created by the now supported central axis. As this load is increased, we would naturally see an increased flex; putting the top layer of plywood veneer in tension across the grain (i.e., the wrong direction) given that the grain was oriented in the long direction to work with the original long-span condition. (Also, to minimize our waste, we had carefully designed the benches and tables using the typical 5'x5' Baltic Birch sheets as templates, and thus used almost every square inch of material.)

So, my question is this: As I sit on this bench beside fellow student Luis, and feel it flex under our combined weight, I reckon whether or not this is enough movement to open the veneer and create the cracks. If it is, then Mr. Rotch can quite rightly claim that the cracks are not the responsibility of the "American Milling Company"; leaving us to deal with two serious problems: reinforcing the benches, and then refinishing them in place—i.e.: *not a pretty picture*.

have been exploited and abused, is often the extent to which 'commonality' was not recognized and thus particular voices ignored. 'Differencing,' or as Bordieu would call it, "distinction," is the necessary first move of any symbolic action or power play. To the extent that a 'them and us' can be codified and instantiated, is often the extent to which particular groups can legitimize 'inhuman' treatment of the other. 'Dehumanization' has always been a reliable means of rationalizing abuse—and not only on the grand scale of genocide and systematized oppression, but power abuse all the way down into communities, families and individual lives[55]. Self-centeredness in place of constructive dialogue.

If dialogue begins with the establishment of both identity and commonality, however, this security strangely also deepens the potential for the destabilizing, 'disorienting' nature of rhetorical discourse—allowing the subjective, rhetorical, nature of symbols free reign to challenge, differentiate and conflict within the safe confines of fundamental acceptance and affirmation.[56] Thus dialogue and rhetoric are intertwined, relying on each other completely in concept and practice. Without rhetoric, the expression of intention and persuasion, there can be no genuine dialogue. And without the unifying context of dialogue and the constructive interplay of 'voices', there is no context for the movements of rhetoric.

Literary theorist Mikhail Bakhtin began exploring the concept of dialogue and "dialogism" in the early part of the 20th century. His work was characterized by a passion for the way "everyday language" and "individual voices" in dialogue continually construct, break down, and reconstruct meaning and social orders. But unlike the poststructuralists who came after him (many of whom he inspired[57]) Bakhtin found a unique balance where social critique did not lead to formless relativism. For Bakhtin, it was "quite possible to imagine and postulate a unified truth that required a plurality of consciousnesses, one that cannot in principle be fitted into the bounds of a

55 The examples here are endless, but India's caste "system", and America's dealings with Native people and African slaves are some of the most obvious. Differencing almost always precedes exploitation: Race as it is explicitly (visually) manifest becomes an easy handle for symbolification and therefore the attachment of subjective meaning. See also Pierre Bordieu: *Distinction; A Social Critique of the Judgment of Taste*. Harvard University Press 1984

56 Martin Buber, *Between Man and Man*, The MacMillan Company, 1965, pp 4-6.

57 Bataille, Foucault, Kristeva. See also: Lee Honeycutt, "Bakhtin and Critical Theory," Master of Arts Thesis, University of North Carolina, 1994.

My first clue that this is NOT the case, and that something else is going on, is that these tiny cracks are not occurring everywhere: not on the table-tops but most importantly, not on all of the benches. Deduction suggests that the cracks, then, cannot likely be associated with any type of wear or usage pattern. This is good in that at least that the defect is not a "specification problem" on my part, but more likely a failure of the materials themselves. Nevertheless, the cracks are there, something is going on, and I will need to find out what in order to have the problem solved by convincing Mr. Rotch and his crew to come out and refinish the benches at "no expense to the school".

This information, however, will not be enough. "Information is power" has been revised to "communication is power". We are living not in the "Information Age", but in the "Communication Age"—a "Network Society". I'm not making this up: This is being spoken to me directly by the master himself, Manuel Castells while he sits across from me in one of these very booths, while I fervently hope he does not get a sliver in his butt. "Communication is the essence of the network society," he says, and although I disagree with my lunch date on the neutrality of the communication (i.e., network) *technology*, there is no doubt that at the end of the day,

single consciousness, one that is, by its very nature, full of event potential and is born at a point of contact among various consciousnesses."[58] Bakhtin was persecuted and suppressed by the Stalinist regime: his work (rightly) interpreted as a critique of the totalitarian system of government:

> *Truth is not born nor is it to be found inside the head of an individual person, it is born between people collectively searching for truth, in the process of their dialogic interaction*[59].
>
> *The single adequate form for verbally expressing authentic human life is the open-ended dialogue. Life by its very nature is dialogic. To live means to participate in dialogue: to ask questions, to heed, to respond, to agree, and so forth. In this dialogue a person participates wholly and throughout his life: with his eyes, lips, hands, soul, spirit, with his whole body and deeds. He invests his entire self in discourse, and this discourse enters into the dialogic fabric of human life, into the world symposium.*[60]

Bakhtin extends this model of dialogism beyond the participation of the individual, and into language itself, introducing the concept of "heteroglossia": multiple languages (voices) operating alternately and simultaneously. Heteroglossia, as a component of dialogism, highlights the fact that there are "…no 'neutral' words and forms…" but that "…language has been completely taken over, shot through with intentions and accents. …All words have the 'taste' of a profession, a genre, a tendency, a party, a particular work, a particular person, a generation, an age group, the day and hour…all words are populated by *intentions*…"[61]

In Bakhtin's dialogical model we see rhetoric as the ever-present force of intention—the choice to participate, and the imperative to express 'that which cannot be known' without a transformative experience—a transformation that mysteriously relies on the use of shared symbols.

The interdependence between symbol, value, context and expression is crucial for rhetorical play and thus the intentionality of design as a communicative action. Dialogue requires the 'self', 'other' and the relation, and can only be fulfilled through the unpredictable assertion of agency,

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58 Mikhail Bakhtin, *Problems of Dostoevsky's Poetics*. University of Minnesota Press, 1984, p.81.

59 Ibid., p.110.

60 Ibid., p. 293.

61 Mikhail Bakhtin, "Discourse in the Novel," *The Dialogic Imagination*, University of Texas Press, 1981, p. 293.

communication is the thing; and I have to figure out how to *communicate* these finishing defects to Mr. Rotch so as not to turn the whole damn thing into a degenerative legal conflict.

First I find the technical answer: the face veneer of the plywood most probably has shrunk due to moisture loss, after the application of the finish—something that does not usually happen because a finish generally seals and stabilizes moisture transmission. But in the case where moisture content is excessive before the finish is applied, the drying effect over time would cause cross grain shrinkage that, due to the perpendicular and thus stable veneer below the face, would cause checking: (i.e., small evenly distributed cracks opening in the surface). With this information, I prepare my rhetorical strategy for American Milling. How will they react? They have already made a point that they have "lost money on the job", a popular rhetorical trope used by contractors that, while *possibly* true, often is a way of leveraging any "changes" to their advantage. However, if it is true, I also don't want to back a wounded cat into a corner: There are always loopholes on both sides of a contract, and unlike the digital neutrality of Castells' technologically mediated network, good graces, reputation and personal connection are still the most important elements in getting a contractor to

be it individual or on the part of community or collective.

This play and conflict of dialogue (and design) contrast sharply with science and theory, which are characterized by 'reliability' and thus usefulness based on an ability to predict: Tested by research and method, predictability becomes *law*, becomes system and can thus become *technique*.[62] When these forced are joined together in a networked technical system we have a phenomenon that offers (and then exerts) control over production, capital, health, agriculture, environment, media, politics, genetics etc. Is this control 'good' or 'bad'? Burke answers that "Technology is so great a coefficient of power that when it makes a mistake the results can be fantastically disproportionate to the intentions…True, technology's ability to magnify our disorders may imply equally great abilities to magnify our powers of improvement…But technology is so highly innovative that we necessarily lag in learning how best for all of us to live with it. …in such complicated choices, there are always so many more ways of being wrong than being right."[63]

In today's academy, however, the usefulness of transferable information and theory has been disproportionately elevated by our search for *control*: a means to extend our 'influence'[64] and shape our environment. If we can predict precisely, we can control precisely; be it in medicine, psychology, physics, biology, politics or engineering. These are sciences which characteristically seek information, theory and law. Information easily becomes control and power by virtue of "technique"[65] –a systematic and transferable (therefore commodifiable) application of information over environment and "lifeworld".[66]

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62 Here I refer to the contrasting visions of Manuel Castells: *The Network Society*, 1989, and *The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process*. 1989. And Jacques Ellul: The Technological Society, 1964, *The Technological System*, 1980, and *The Technological Bluff*, 1980.

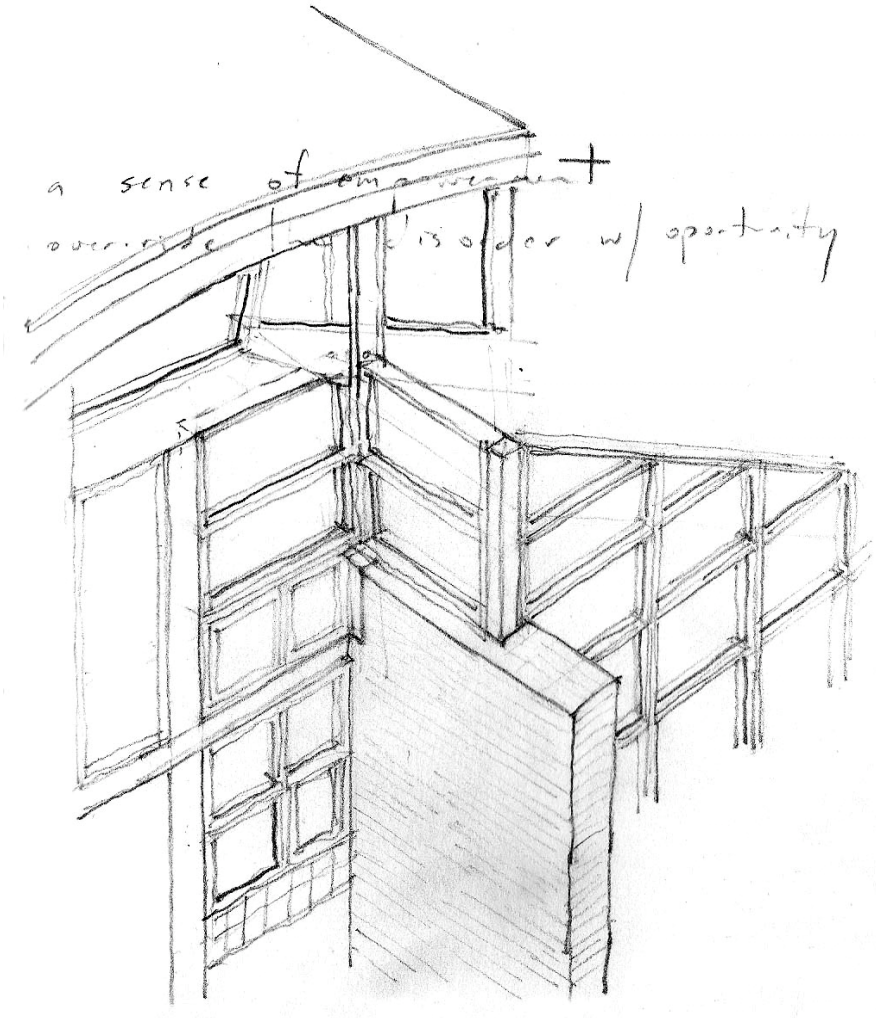
63 Kenneth Burke, "Towards Looking Back"; *Journal of General Education*, 28, 1976-77, p. 188.

64 The irony here of course is that 'influence' suggests values and purpose which are exactly what information itself cannot deliver. Here enters the concept of deferral, where information systems continually push intentions into the future.

65 See Section 10. *Technique*: Jacques Elull ,*The Technological System*, The Continuum Publishing Corporation, 1980.

66 Jurgen Habermas "…argues that societal modernization is characterized by the growing autonomy of subsystems of purpositive-rational action steered by the media of money and power… whose untrammeled expansion leads to a colonization of the lifeworld…" Maurrizio Passerin d'Entreves and Seyla Benhabib (eds.), *Habermas and the Unfinished Project of Modernity*, MIT Press, 1997, p. 3.

finish a job properly.
Which they just did today.



While undeniably producing intended results, however, technological and theoretical systems can never fully deliver on their promise of control; for while systems offer effectiveness and control in one sense, they usurp it in another: control through system is always subservient to the system itself; always mediated and standardized to conform to protocol. While this appears at first very similar to the conditions imposed by language (as a system)[67] the ubiquitous force of rhetoric and dialogue *as a practice* change both the stakes and the rules. Where the technological system has a tendency to be proprietary, usually a product of corporate, academic or state (bureaucratic) imperatives, language is more elusive—language belongs to all the participants of dialogue. While systems can be owned and 'managed' by virtue of specification[68], the constant exercise of desire and choice in rhetorical dialogue precludes fixity and thus singular ownership of language[69].

Dialogue requires motive, intentionality and interest; these being the hallmarks of human communication and identity. Without the will there is no human, and no possibility of true dialogue. Dialogue is transformative or it is not at all. It bridges the destabilization of rhetoric and the inertia of structured context; joining the subjective and the structural. Dialogue brings individual expression and choice into shared space, becoming a means of identification[70] and an act of reconciliation.[71]

Rhetoric is essential to the process of Dialogue.

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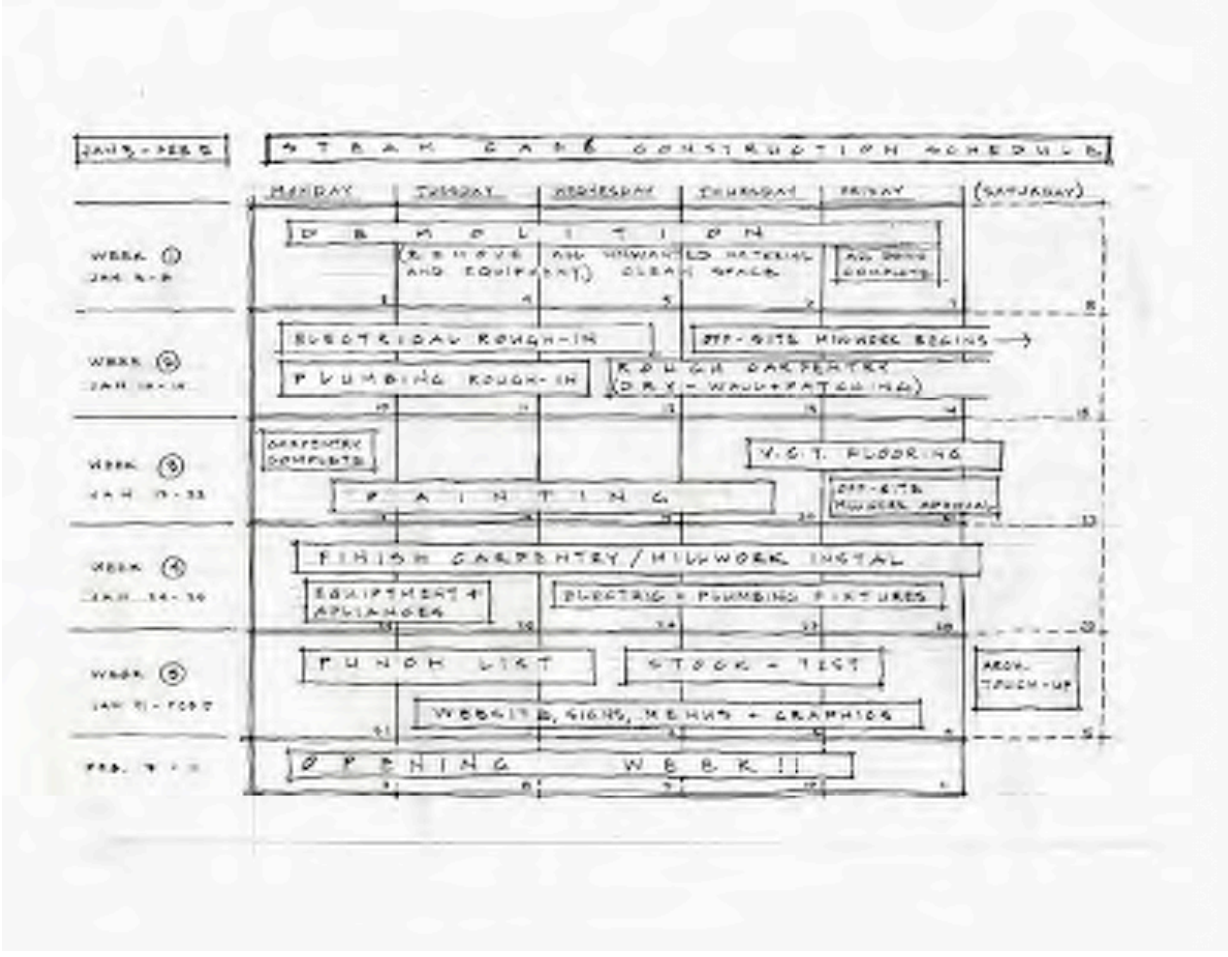
67 Ferdinand de Saussure, *Course in General Liguistics*, The Philosophical Library, 1959.

68 This raises the interesting (and frightening) cases of Intellectual Property rights, particularly the patenting of biological organisms. Recent attempts by American companies to patent "Basmati Rice" and the "Neem Tree" of India, shed light on the conflict between "system" and "culture or language". Intellectual property rights are based on specificity. Once specificity can be established, the possibility of ownership is immediately present. This also links back to research funding at Institutions like MIT, where number of patents are a direct mark of prestige and hierarchy.

69 See Gadamer's *Praise of Theory*; Yale 1998; Translator's introduction, p. xxviii.

70 Kenneth Burke, "Equipment for Living," *The Philosophy of Literary Form*: Studies in Symbolic Action, University of California Press, 1941, p. 311.

71 Hans-Georg Gadamer, "Culture and the Word," *In Praise of Theory*, Yale University Press, 1998. (Lecture, 1980.)


STEAK CAKE CONSTRUCTION SCHEDULE
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
(SATURDAY)
DEMOLITION
(REMOVE ALL UNWANTED MATERIAL AND EQUIPMENT) CLEAN SPACE
ALL DEMO COMPLETE
ELECTRICAL ROUGH-IN
OFF-SITE MILLWORK BEGINS
PLUMBING ROUGH-IN
ROUGH CARPENTRY (DRY-WALL PATCHING)
CARPENTRY COMPLETE
V.C.T. FLOORING
PAINTING
OFF-SITE MILLWORK APROVAL
FINISH CARPENTRY / MILLWORK INSTAL
EQUIPMENT & APPLIANCES
ELECTRIC & PLUMBING FIXTURES
PUNCH LIST
STOCK - TEST
ARCH. TOUCH-UP
WEBSITE, SIGNS, MENUS & GRAPHICS
OPENING WEEK!!

6. Language

I would like to argue that without a system of formal constraints there are no creative acts.[72]

-Noam Chomsky

Any child who has tried to retreat from the adult world of rules and authority by making a 'secret code' of some kind, realizes very quickly that without some 'structures of agreement' on the meaning and value of symbols, there can be no communication, and no 'secret society'. As communication becomes more complex, more symbols and more sophisticated structural relationships between these symbols are necessary. The history of linguistics has been a running attempt to sort through these systems and structured relationships that, in spite of onerous regulations and embedded assumptions and values, give all humans access to a full spectrum of complex thoughts, emotions and ideas[73].

This is also true of culture, which like other structures of shared meaning and value, is built on implicit and explicit relationships, performances, habits and shared assumptions[74]. Like language, culture provides a framework that allows complex articulations of values and meaning; allowing for expression and communication in, and through, the actions and patterns of everyday life.

Both language and culture can thus be seen as "normative contexts": frameworks of consensus and constraint; stable and malleable; providing a site for free individual expression.[75]

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72 Noam Chomsky, "Language and Freedom," *The Chomsky Reader*, Pantheon, 1987, p. 146.

73 Benjamin Lee Whorf, *Language, Thought and Reality*, MIT Press, 1956. The Sapir Whorf concept of "formal completeness" was a defining moment in linguistics that challenged eugenicists who argued that some cultures (and thus languages) where fundamentally "less evolved" and inferior. The Sapir Whorf hypothesis argued that although often vastly different in their implicit values, all languages could communicate all concepts and were thus "formally complete."

74 Edgar Schein, *Organizational Culture and Leadership*, John Wiley & Sons, 2004.

Kenneth Lipartito, "Culture and the Practice of Business History," University of Houston, 1995.

Hans-Georg Gadamer, "Culture and the Word," *Praise of Theory*, Yale University Press, 1998, p. 1.

75 For an excellent and comprehensive look at the relationship between normativity and expression, see Robert Cummings Neville, *Normative Cultures*, State University of New York Press, 1995, part of the *Axiology of Thinking* Series.

As simple as this seems, it has been a difficult pill for contemporary architectural discourse to swallow; And even after design's half-hearted recovery from deconstruction there remains a persistent twitch: a reluctance to embrace the daunting 'limitations' of standards[76], principles, values, or norms, and find in them the ground and legs on which to walk again. But as part of architecture's ongoing therapy, these "restrictive" value-laden structures of language and culture will need to be gently reintroduced; and rather than hard, deterministic and restrictive, they can unfold into the very basis for free self-expression[77] and the engagement of dialogue. As they are embraced, these limits become productive—structures that let us move, and eventually even dance[78].

This dance is where the play of dialogue enters once more. For, like the kid teaching his cohorts the secret code or learning to square dance in gym class, agreements can only be arrived at through dialogue and the collective performance of rhetoric and symbol: Values are assigned to symbols through practice, use and repetition.

In the dialectic between 'community and individual', 'tradition and innovation', 'rules and play', 'language (system) and rhetoric', may be found the most basic conditions for the functioning of any creative work—the expression of intention, choice and our unique presence in the world. At the most basic level, embedded in structure is the notion of shared meaning: repetition that allows both understanding and a practice of intersubjective communality: the body and gravity, the joy and grief we all share and relate to. This is what makes us *normal*[79].

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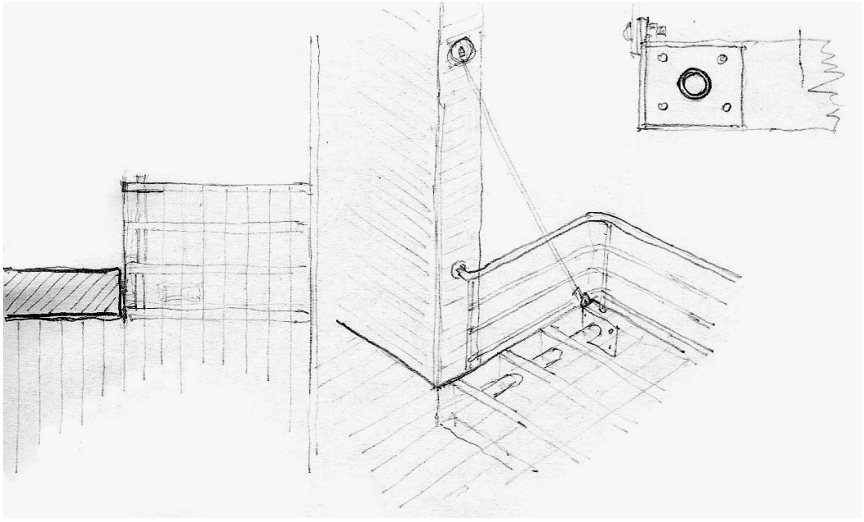
76 The "Non-Standard Praxis" conference at M.I.T., 2004, organized by Mark Goulthorpe and attended with much zeal by the international digital design 'community', is one of many examples of the paradoxically institutionalized notion of escape from 'context' (i.e. standards) as a basis of communicative action. This intractable position is indicative of larger, far reaching pedagogical issues and the breakdown of communicative rhetorical skills, and thus true revolutionary action or dialogical practice.

77 For an excellent account of this dialectic, see Noam Chomsky's "Language and Freedom," *The Chomsky Reader*, Pantheon Books, 1987.

78 At some point very soon, someone in the design community needs to explore the untold possibilities of the "Dance Dance Revolution" Arcade Game as a form of mental kinetic therapy for the rhythmically or physically challenged. This is no joke. This game, that "forces people to dance," has enormous potential as an object of study in the field of architecture. More and more we will see architecture as a 'game' that induces certain behavior through structures of play. First come, first served on this research. I will leave it at that...

79 Normal: "a line or plane that is perpendicular to another line or plane." This perpendicularity is a structural condition that sets up a



adhesion

Glue, I am told by those who know more about
this than I do, always involves some
combination of mechanical and chemical
bond. Although I have not yet found someone
who can tell me where the one starts and the
other ends. Was the bond, or its failure,
mechanical or chemical?
I'll never know.

This concept of normality, however, is highly resisted in a culture where 'individuality' and 'diversity' have become dominant values. Forty years of critical theory and post-structural dismantling of culturally imbedded power relations, layer over American individualism, have added up to an enormous impact on architecture's ability to embrace the interdependent conditions of "language and freedom"[80] and the call to build through rhetorical-dialogical action.

Critical theory rightly associated structure with "presence" [Derrida] and values, and values with the inevitability of "hierarchy" [Deleuze]; an awareness that, in light of the 'failed project of modernity,' coalesced as the 'challenge to structure'. But the benefit of horizontality (rhizome), and the flattened, hierarchy-free world it suggests may turn out to be a fatal sacrifice for design, if true subject-hood, 'personal identity' and 'authorized expression' are lost along with the value-laden structures they depend on.

To enter the political context in which deconstruction and critical theory operated, it could be said that all language, context and culture are inescapably *conservative*: They achieve usability (and thus their own survival) through normativity: standards, repetition, rules, predictability and reliability. "If the concept of culture is to have utility, it should draw our attention to those things that are the product of our human need for stability, consistency, and meaning. Culture formation is always, by definition, a striving toward patterning and integration…"[81]

Rhetorical expression, on the other hand, is creative and in thus conflictual. It is predicated on difference—but difference that can only be expressed in relation to and thus through shared context. Design and dialogue are simultaneously a challenge to, and an establishment of, hierarchy by virtue of subjective values that become structure.

This normative and conservative function of language and context underscores the importance of

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pattern allowing a recognition of any shift, the 'new,' the 'other…'

80 "Language and Freedom" is the title of Noam Chomsky's rarely cited, and uncharacteristic fusion of his linguistics and politics. The paper is a spectacular examination of the paradoxical relationship between language, structure and dissent.

81 Edgar Schein, Organizational Culture and Leadership; John Wiley and Sons, 2004, p. 17.

So I have mixed feelings about glue; something I can say, although I use it regularly, and in spite of the fact that glue makes plywood (one of my material obsessions) possible. And I know how to use glue well, owing to many lessons on the precise methods of clamping and the complex attributes of various glue types in the basement workshop of our Nida Court house, where Dad, head slightly ducked to avoid the steel pipes suspended from the exposed floor joists above, would show me how to make almost anything I could imagine in wood. There was always a big plastic jar of White glue with layers of clear, leathery residue around the neck which made the all-important "always-close-the-lid" directive an increasingly relative procedure. Dad would remind me that "a good glue job should never break at the joint."

But what about a *bad* one? And how could we ever know unless we break it?

How far can we trust an adhesive? I sometimes wonder if I would set sail across the ocean in a boat held together with glue. Although in some ways I think we might rely on these indeterminate connections more often than we care to know, both glue and caulking (a similarly 'un-tectonic' material) still have some issues to overcome to secure my confidence. Maybe these misgivings about adhesives can be traced back to a memorable event in my first

tradition as a backdrop for recognizing 'strangeness'. Gadamer goes even further, turning "distance into an advantage that makes understanding possible in the first place. The reader comes to understand a text precisely because s/he cannot immediately accept it as familiar."[82]

Context then, is much more than a descriptor of 'site' in the architectural sense: geography, climate, politics, nationality, etc. Context seen as a more comprehensive structure—as culture—is the complete matrix of values and meaning that binds these many features in symbolic relation and thus utility as a language. Culture is a stabilizing framework of values, but mutable in the sense that it can be transformed dialogically through design. As a means of expression, design both questions and reinforces the stability of the extant cultural framework and the symbols that constitute it. Like dialogue in language, design cannot leave context unchanged. Depending on the poetic or rhetorical effectiveness, however, context and culture will always seek to re-incorporate these design moves into shared space, and thus into structure.[83]

Culture and Language are both normative structures based on generalizations and repetition. That is their first premise and most basic attribute. And their ability to pass symbols across the divide of individuality, also allows them to be invested with shared meaning and value, and supports communication, commonality and relationships.

Culture is the necessary context of design, as language is the necessary context for dialogue. Design is a dialogue facilitated by culture as a kind of language: a structure that links complex invested symbols in grammatical webs, extending their utility by increasing their means of combination, and reaching always broader and deeper into the space of relation and the reaches of the heart.

Dialogue depends on the normative structure of Culture and Language.

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82 Andreja Novakovic, "Uncovering the Conditions for Understanding Another; An Examination of Translation, Interpretation, and Understanding in Gadamer's Truth and Method," Senior Seminar, Haverford College, 2004.

83 Perhaps the most important problem in design discourse today is concerned with the relationship between *stability, fixity, structure, order,* and *flexibility, indeterminacy, transformation*. Ultimately how does this conflict frame the agency of humankind in our universe?

year ‘Nature of Materials’ architecture class, not long after Dad and I had finished the addition to Nida Court As was the weekly custom, professor Carmen Corneil was using an ‘overhead’ projector to flash, one by one, our “weekly detail assignments” up in front of the class. Arriving at my assignment, a red marker came out with a flourish as he circled an offending specification, and with an ironic but endearing rebuke that I will never forget admonished: “CAULKING IS AN ADMISSION OF ERROR.”

But my misgivings over adhesives can also be explained by more recent events: for instance, those that transpired in the minutes following a recent knock at the 3-415 studio door...

It was 20 minutes before the grand opening reception of the Café. Nick, my indispensable partner-in-crime, was nowhere in the vicinity, still preoccupied as he was with a long-planned visit from his girlfriend, a witty horticulturalist from the Midwest and not-quite-engaged-yet better-half-to-be. Knowing that his pieces of the puzzle – layers of digital infrastructure, were complete and ready to go, he would likely be showing up for the festivities in his usual Nick of time. Meanwhile Ahmet, the solid, friendly and diligent Sodexho manager from Turkey who had become a trusted part of the Café

7. Poetic Action

> *…Man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it…not an experimental science in search of law, but an interpretative one in search of meaning…*[84]
>
> - Clifford Geertz

> *I call this development, in which human play finds its true perfection…'the transformation into structure'. Only through this development does play acquire its ideality, so that it can be intended and understood as play. ...play has…an absolute autonomy, and that is what is suggested by the idea of transformation.*[85]
>
> - Hans Georg Gadamer

> *The poet in the novelty of his images is always the origin of language.*[86]
>
> - Gaston Bachelard

At issue here is the process and outcome of dialogue – how it fundamentally constructs, deconstructs and reconstructs language and culture frameworks. For this to happen, dialogue must 'put into play' all of our previous devices: intention, symbols, value, rhetoric, and personal agency, in addition to the standards and structure of communality, connectivity and responsibility. As Bakhtin shows, 'dialogue' relies on difference (heteroglossia) –yet community can only be constituted via *common language* (Gadamer, Burke, Habermas). Being that language is itself a system[87], structure and standards become foundational to the existence of community and dialogue. The interdependence between dialogue and the frameworks that give it space to exist remains more than ever, a vital concept for today's architectural discourse.

The constructive/disruptive function of dialogue and design, and the 'specification' necessary for

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84 Clifford Geertz, *The Interpretation of Cultures*, Basic Books, 1977, p.5.

85 Hans-Georg Gadamer, *Truth and Method*, The Seabury Press, 1975, p. 99.

86 Gaston Bachelard, *The Poetics of Space*, Beacon Press, 1969, p. xx.

87 Ferdinand de Saussure introduced two radical and fundamental concepts into linguistics: "language as a system," and "the arbitrariness of the sign." These are found in his foundational *Course in General Linguistics*, a text published after his death, compiled of papers, notes and lectures of his life's work.

"In fact every means of expression in society is based, in principle, on collective behavior or what amounts to the same thing – one convention. …fixed by a rule."(p. 68.)

team, had come frantically looking for me with this news: One of the soup warmers had “fallen through” the island countertop in which it had been suspended. I had been worried about this, and regrettably knew instantly what had happened: *Glue failure*. I had adhered the structural rubber gasket in place with silicone, convincing myself that it would be “strong enough”. Unfortunately, the silicone adhesive caulking (usually “very strong”) had not properly cured due to an unforeseen chemical reaction between the neoprene, the oil finish on the butcher-block, and the Home-Depot variety of silicone (an inferior formulation to what was once commonly available, and still used in the industry).

As I grabbed my screw-gun, a few drill bits and a handful of small miscellaneous stainless screws, I choreographed a solution: pilot holes into the maple, 40 denier rubber’s capacity to hold a #6 domehead screw, spacing pattern given the number of screws on hand in relation to the expected loads, heat, corrosion, moisture problems, future cleaning issues—all the concerns that go into something as small as installing a 12” diameter soup-warming pot into a hole that is too big because, after being cut to manufacturers specs, you found that the mounting-flange supplied for the job was not round but square, ugly, and compromising of the “whole idea” of the nice round soup pots (their “POTNESS”) and thus had to be

design to speak into and through context, can be seen as fundamentally disruptive. This is the poetic act that reconstitutes and/or assigns new meaning through new relationships between and to symbolic forms; relationships that that cannot be found in an existing linguistic and cultural framework. A brick, for example, is made to be used "like this"; It has orientation, a method, a craft and cultural context[88] through which it operates, represents and reconstructs.[89] But what if we want to use the brick in a new way—to turn it on its side, for example, letting light come through its holes? Or what if we want a brick wall to read as a surface: to float, warp or flap in the wind as many architects have?[90] Achieving this will require detailed "specifications". The context or 'craft' of brick masonry alone will simply not allow it to speak in such a way. In order to do this, we must reach beyond the imperatives and conventions of its associated grammar and context, into the abstract potential of language. Specification requires that we speak clearly and abstractly about our intentions, with enough force to tear the brick it out of its comfortable context of craft-culture. This expression through 'displacement' (only one of countless poetic devices) is rhetorical: Through it the designer destabilizes the multiple normative frameworks in which brick has symbolic value. At the same time, based on the persuasiveness of the gesture, the brick is also being *reassigned*. For example, the second, third (or hundredth) time brick is used 'this way' by the same architect or others, it will not have quite the same poetic meaning or impact. In fact to the extent that it comes to be understood that brick can be used that way, the context has been re-shaped to incorporate this new symbolic identity of brick as "fabric", "screen" or "curtain". The use of brick in North American construction today, for example, rarely ever fulfils its historic role as a 'load-bearing' structure or "what a brick wants to be," but rather, is used almost exclusively as a "curtain wall" material. This radical shift, almost unthinkable 100 years ago[91] has been fully incorporated into 'practice'; masons having all but lost the normative skills to construct load-bearing brick walls.[92] As an interesting contrast, the cultural reading of

88 For a more involved discussion on Craft and Culture in building, see "The Way We Do Things Around Here," Scott Francisco, MIT, 2004. Available at <culturelab.org> (resources)

89 "What Does the Brick Want to Be?" – Louis Khan

90 The work of Gerhy and Siza are two examples of this, accompanied by plenty of verbal / textual rhetoric supporting this interpretation.

91 This is not to say that brick was never used historically as a veneer, of which there are many examples, but rather to draw attention to the inertia of the 'meaning' of brick; on the part of both the masonry craft and the surrounding culture. It is dialectical" the transformation into structure" that we are concerned with here.

92 This was shown in practice during the construction of the Eres House in Lexington, Kentucky. Despite Kentucky's history of brick

abandoned in favour of an improvisational solution: For example, running a rubber gasket along the inside of the cut-out hole to make it smaller and provide support to the soup pots.

All of which brings another hole to mind: an enormous one that was "dug by hand" for the basement of our addition to Nida Court. It had been hotly disputed in the family "whether it was worth it or not" to build a basement under this family room addition that, in the tradition of the great-grand-parent's cottage, "we had been talking about for at least ten years". But Dad, envisioning a studio added to the basement workshop, had rallied the troops, which basically meant me and Graham, my future brother-in-law, to excavate the monstrous hole. To do this without heavy equipment was partly a symbol of frugality ("the whole addition," Dad would often repeat to family and guest alike, "cost less than ten thousand dollars"). But the digging was equally symbolic of transcendence and the accomplishment inherent in this kind of challenge. I was eighteen. Graham and my older sister, Jane, would marry later that summer, and the marriage was not to last. By my third year at the College of Architecture, two years after my professor's warning, the marriage was over, affecting me deeply. Graham by mysterious force had become a brother. *Where did the break occur this time, at the joint or inside the material?*

brick still lags far behind this shift in craft. In popular culture it seems most people still 'read' brick as synonymous with 'solid wall' construction, heaviness and permanence—residual meaning from centuries of its particular use. But the transformative potential of poetic action is always game for this challenge.

Bachelard asks: "How—with no preparation can this singular, short-lived event constituted by the appearance of an unusual poetic image, react on other minds and hearts, despite the barriers of common sense [and] all the disciplined schools of thought, content in their immobility?"[93]
In "Material Revolution" I suggested that "this is where design finds itself, inevitably stuck somewhere between immobility, and a belief in the transformational potential of the very limitations that restrict..."[94]

> *…somewhere between*
> *leadership and discipline,*
>
> *the scribe studies: order, systems, genetics,*
> *scientific method, statistics, results, precision.*
>
> *the structure of things.*
>
> *the scribe dedicates himself to investigation, exploration, and memory*
>
> *divides, observes and records.*
> *articulates rigorously,*
> *seeks clarity in the limits of grammar, vocabulary and meaning.*
>
> *learns the language; how to speak, how to draw, how to build…*
> *expands into language and fills its extreme reaches,*
> *like spring sap pushing up from the roots, through the branches into the leaves,*
> *leaving none without nourishment. the tree is not changed but filled*
> *(by the desire for knowledge).*
> *the scribe is a disciple*
> *who learns the rules*
> *and by mobilizing its joints,*

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construction, local masons had to be cajoled into using brick as a structural material.

93 Gaston Bachelard, *The Poetics of Space*, Beacon Press, 1994, Introduction, p. xviii.

94 Scott Francisco, "Material Revolution," 2002. Supported by the University of Kentucky College of Architecture. Presented at the ACSA annual conference held in Louisville Kentucky. Full text in ACSA Proceedings, 2002, <culturelab.org> or <scottfrancisco.com>

Meanwhile, soup and people would be arriving in minutes—a fact for which I was actually able to give thanks as I imagined a (narrowly avoided) "potness" of hot soup crashing to the floor, and onto the ever dignified dean Santos' feet. Meanwhile in the café, although there was no soup to clean up, black neoprene rubber and silicone were everywhere under foot, with chefs in crisp white shirts and tall hats scurrying above. The rubber strip gaskets, that had been pressure-fit into the inside of the round cut-outs and glued with silicone, had been pushed down and out of the hole by the weight of the empty soup-warmer, and had sprung-free like a well-greased 40" rubber snake. Now, anyone who has done any silicone-time knows that the worst thing about this ingenious material is getting it on yourself—an act that virtually *ensures* it will be transferred onto everything you even glance at for the next three days, and not an option in a clean kitchen with food and guests minutes away. So the rubber snake (still slimy with uncured silicone) was gingery charmed, teased and compressed back into its home in the counter-top. Pilot-holes were drilled every 4" around the inside of the rubber and into the maple countertop, screws set carefully to ensure they did not pull through, and the soup-pots reinstalled as the soup handlers waited in the background. Mechanical connections to the rescue;

Total working time: 8 minutes.

discovers the extent and range of the framework…or body.

but the poet is not content with this range,
with the prescribed possibilities of language, or the limits of the body.

the poet is driven to speak what existing systems will not allow.

and finds:
rules stifling without play
knowledge dead without imagination
genetics predictable without cross-fertilization
science rote without invention
order claustrophobic without a shift
clarity sterile without ambiguity.

the poet, seeks difference,

new relationships
between things,
give voice to the unsayable.
through their disorder these new relationships speak beyond language
but are ever indebted to it.

but language is equally indebted to these shifts
because,
through poetry the structure has been changed;
words created,
theories proposed,
mutations caused.
orders stretched to accommodate our desire…[95]

Language and culture as structure, as *context*, must always be reliable and thus stable; without this stability structure has no ability to empower dialogue, and ultimately no value. Yet these structures constituted by dialogue (which is rhetorical) can never be stable. They are in a constant state of sublimation and condensation. Poetic action, dialogue and design all represent forms of communicative construction and thus leadership; powering a continuous cycle between structure and its transformation.

Language is formed and transformed through Poetic Action.

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95 Scott Francisco, "Material Revolution," University of Kentucky, 2001.

But did I mention that *I* was also breaking-up over my two years at the Institute? A slow pulling apart of a relationship that had been headed toward a permanent bond, all but the invitations; this other soul and I, so attached, so different and so in common. It was not to be a clean break at the joint, but what was it holding us together? A weave of sharing: connections, feelings, beliefs—passions, events, people and places*:* an attic room illuminated like a cloud, life lessons in a school, a wooden cottage, humid summer nights, a rooftop dance over a strange city; foreign continents, border states, crossed oceans and an afternoon swim in a cold distant sea. Pieces of each still attached, fragments, like slivers of wood permanently adhered to the other: pieces gained, pieces lost. Painful, dangerous, constructive. Mechanical and chemical.

8. Leadership

> *…cultures begin with leaders who impose their own values and assumptions on a group. If that group is successful, the assumptions come to be taken for granted… But as the group encounters adaptive difficulties…where some of its assumptions are no longer valid, leadership comes into play once more.*[96]
>
> -Edgar Schein

> *Man acts as if he were the shaper and master of language, while in fact language remains the master of man…*[97]
>
> -Martin Heidegger

For various reasons, terms like: value, symbol, leadership, structure and dialogue have an uncomfortable place in contemporary architectural discourse: In today's architectural schools, conferences, competitions and writings, discussion is more often centered around destabilization and deconstruction of imbedded hierarchies through the strategic use of: *transparency, mutation, multiplicity, indeterminacy* and *hybridity*. But like biological hybrids, these 'critical programs' tend to be infertile: While recalling the subjective agency found in symbol, rhetoric and poetic action, they simultaneously appeal to the disengaged objectivity of system. In the end, these programs cannot deliver results without some kind of follow-through; the transformation of values or rhetoric into structured context. But the fear of directional leadership creates a tendency to operate without fully embracing human subjectivity and values, creating an illusion of influence with no potency.

The relational paradigms described by the "arboreal[98]" (vertical, hierarchical) at one extreme, and the "rhizome" (horizontal, dissenting, anti-authoritative) at the other, are both programs that are vital to the function of symbol, rhetoric, dialogue and culture. From an architectural perspective, however, these programs can never be entirely symmetrical. Architecture, as a particular

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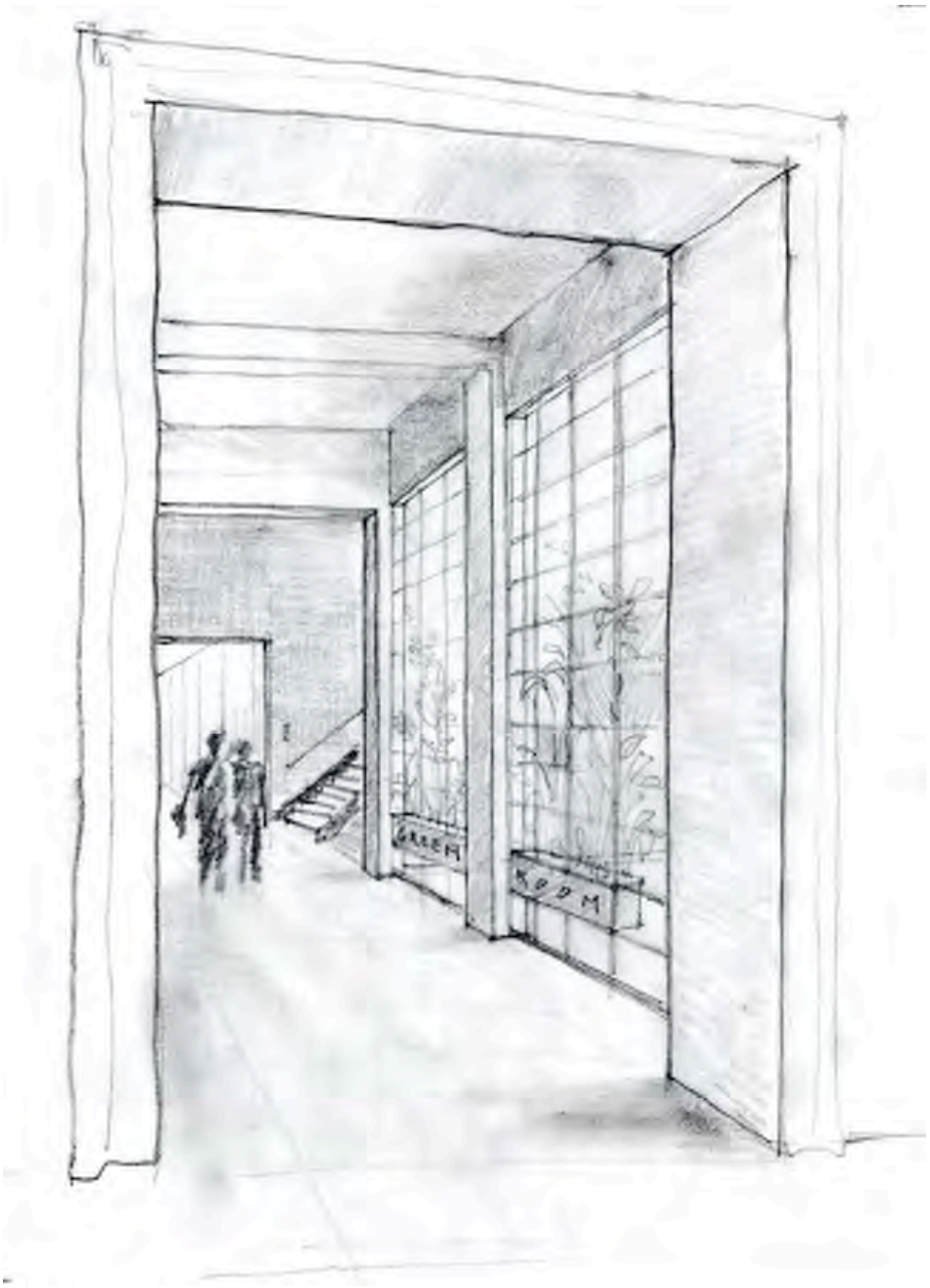
96 Edgar Schein, *Organizational Culture and Leadership*, John Wiley And Sons, 2004.

97 Martin Heidegger, *Poetry, Language, Thought*, Harper Colophon Books, 1971, p. 146.

98 Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, University of Minnesota Press, 2000, p.15. Deleuze and Guattari outline the distinction between the rhizome and the hierarchical tree-like "arboreal". For Deleuze, these models represent the extreme differences in power relations imbedded in all types of social structures: "We're tired of trees. We should stop believing in trees, roots, and radicals. They've made us suffer too much. All of arborescent culture is founded on them, from biology to linguistics. Nothing is beautiful or loving or political aside from underground stems and aerial root, adventitious growths and rhizomes."


GREEN
ROOM

discourse, and certainly as a profession, is primarily concerned with the constructive over the speculative, exploratory or deconstructive. Once again, this does not mean that critical tools are unimportant: As we are demonstrating, they are *indispensable*. But for architecture to have meaning as a discipline it must articulate its field and thus its values hierarchically; separating itself from what it is not. Architecture is concerned with building, and activated by intentional design. Following this, I suggest that design is less a form of 'research'[99], which strives to be neutral and objective, and much more a form of 'leadership', which is explicitly subjective and rhetorical. The link between leadership and design can be seen as Gadamer's deliberate "transformation into structure"[100].

Unlike the more ambiguous "praxis," which relies on systematic and structural validation, leadership represents both individual and collective interests: not as exclusive conditions, but as interpenetrating and dynamic[101] forces. While leadership may imply a hierarchical role within the context of a group, through dialogue it also carries the constant potential to shift according to new values, invoking and requiring participation at every step through reflection and rhetoric.

Here leadership and design overlap, sharing virtually the same footprint: design as an activity of expressed intentionality, and leadership as one of directional transformation—each embracing symbolic action with rhetorical function, always appealing to context and consensus, even as they embody change with purpose.

Ironically, despite the contemporary mantras touting design as a means of stemming poverty, disease, housing crises, and energy shortages, design most often pays the bills by moonlighting as high-priced social identity equipment. These two seemingly disparate agendas, however, are united by a key idea: directional change. In both cases, the design(er) has the responsibility of engaging in transformational dialogue with (or on behalf of) a community, group or individual. In both cases the transformation is not primarily material but a change in the perceptions and

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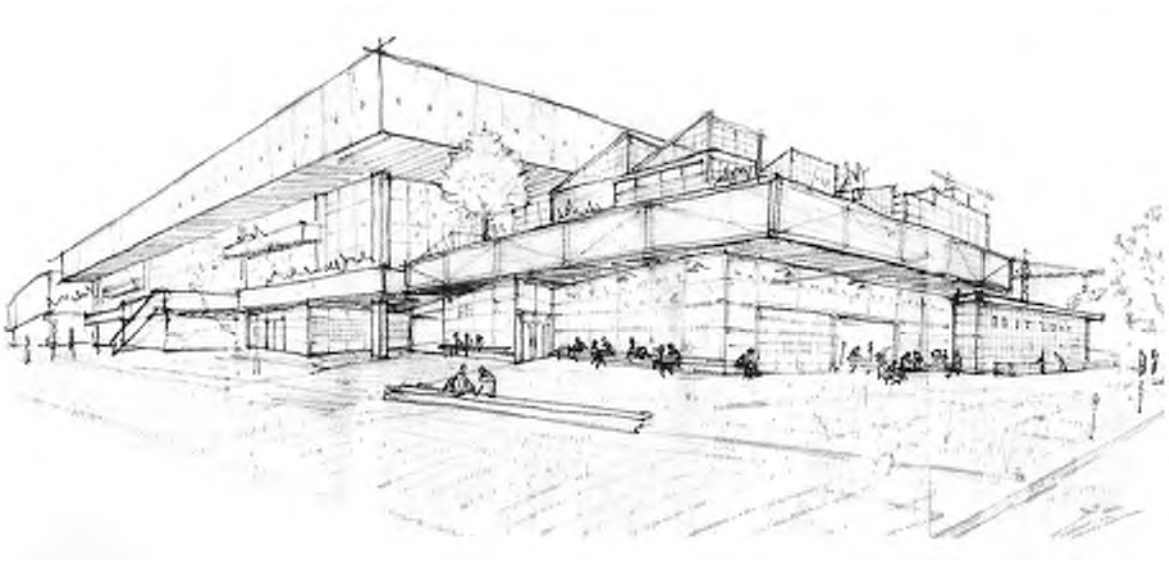
99 We can also see "research", like science, as a rhetorical trope – a means to increase the power of an argument.

100 Hans-Georg Gadamer, *Truth and Method*, Seabury Press, 1975, p. 99.

101 Edgar Schein, *Organizational Culture and Leadership*, John Wiley and Sons, p. 22. This whole text is an excellent summary of operational and theoretic leadership; critical reading on the subject of organization and culture.



suits

It's amazing who you can meet in a "Too-Busy To Deal With You Right Now" hand-off. I've been lucky—over the last year they've often been people who believe in making things happen.

Immer was one such a discovery: he was lodged in a large office fully colonized by a diverse cadre of stuffed beavers perched among stacks of books and trophies. The centrepiece was a gigantic flat-Mac monitor hovering over a

patterns of the community. Despite the common ground it represents, it is this very 'rhetorical core' of the design enterprise that is so often overlooked or neglected in academic discourse.

While an alliance with critical theory has allowed architectural discourse to make good friends with *praxis*[102], the humanistic and thus teleological slant of symbol, rhetoric, values and leadership have been notably excluded from the clique. Praxis, as defined by Marx and later generations of critical theorists, describes an intentional change to structure; but the definition lacks a thorough acknowledgement of imbedded subjectivity (Kierkegaard's "subjective thought"). The paradox between the 'activistic' nature of praxis, and its simultaneous appeal to Enlightenment moral relativity and structural determinism, makes it a difficult and, I would argue, self-defeating concept. Leadership, by contrast, embraces and embodies the idea of subjective and thus rhetorical movement, making 'leadership' a much more direct and useful model for design as an intentional, subjective and explicitly communicative discipline. While:

> *…the poet, seeks difference,*
>
> *new relationships*
> *between things,*
> *give voice to the unsayable.*
>
> *but the leader,*
>
> *thinks before acting*
> *and examines her values.*
> *looks for principles in the order and poetry around her.*
> *looks into her conscience and nature*
> *and re-examines her values against the truth she finds.*
>
> *the leader is concerned with where she is going*
> *before being caught up with the details of effectiveness.*
>
> *she examines what she has to say,*
> *measuring it against the principles she has discovered*
> *in her rigorous investigations*
> *in her explorations and discoveries*
> *in her unfulfilled expressions and ideas.*

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102 See Malcolm McCullough's *Abstracting Craft: The Practiced Digital Hand*, MIT Press, 1996, pp. 249-251.

long messy desk and surely used almost exclusively for dealing with hundreds of daily emails. This was a den if there ever was one, and the small round conference table in one corner would become the stage for a long dialogue that is hopefully not finished yet. When I drop by for my Immer fix, I already know I'll hear a loud: "GO AWAY!" or "WHAT DO YOU *WANT*?!" Without looking up from his screen, Immer will sense me peering into his lodge, eyes gleaming and face illuminated in the maroon light of Institute Webmail. But curiosity will overcome him, and he'll want to talk. Immer is big, brash and blue-blazer. A fifty-something fraternity boy who loves the Institute with every breath—even as he trash-talks its idiotic idiosyncrasies out from under one side of a waxed moustache. Immer loves students, loves ideas, loves change, and somehow still manages to love bureaucracy. So when I first went to him with "an idea", there was no way he could resist, even though he could see that "institutional barriers" were everywhere.

Brutalist modern architect Eduardo Catalano's 1965 Student Center was the site of the first Café proposal. The building had become Immer's baby ten years ago, when he had proudly removed 750,000 pounds of concrete in order to open up the interior for a student lounge, food court and a host of new amenities. "…Catalano, bless his heart; *what was he*

the leader guides the self before sharing with others.
true leadership is always personal before social.[103]

This brings us to the place where leadership as a concept in design can actually help shape our discourse as it explicitly engages language and culture. By shaping structures of communication and contexts, leadership goes to the root values of any issue we might hope to address[104] rather than focusing on technical details or problems. Design as leadership must be concerned with creating and transforming useable space more than simply solving pragmatic or material challenges. The individual participation (leadership) in dialogue is poetic and transformative to the degree that it helps shape language: new symbols, new spaces, new expressions that are both unique, and useable by others.

Poetic action is an essential component of Leadership.

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103 Scott Francisco, "Material Revolution," University of Kentucky, 2001.

104 This concept is perhaps best articulated by Raymond Williams in his "Cultural Materialism," a critique of Marxism's rejection of culture as an autonomous force in social practice among several texts, including "Base and Superstructure in Marxist Cultural Theory," *Problems in Materialism and Culture*, Verso, 1980. Edgar Schein's Organizational Culture and Leadership was the landmark book that in 1985 brought "organizational culture" into the business world by storm, building on ethnography and anthropology, operationalizing culture in organizations.

THINKING?!" Immer would say. Despite his personal investment in the massive changes years earlier, he knew it was due for more, and was intrigued by the idea of a new café facing Mass Ave and the student-street extension of the Infinite Corridor. The concept was simple: convert the radically introverted and underused "game-room" (*yes, a new home would be found for "dance-dance-revolution"*) currently occupying the most prominent corner of the building, into an outward looking café, with an entrance and patio facing the street. The idea of the café was to be a reflection of the Institute community, with healthy international food created through an open source interface developed for recipe submissions and other types of interactivity. Among many other digital design revelations, Nick had introduced me to the concept of "open source," a participatory design strategy developed by some of his fellow anarchist software mavens. Our proposed café would address the very real problem of a faltering food culture on campus by soliciting recipes from the international student body, bringing vibrant street life to a "dead space" on the most significant corner of the Campus. Immer got it right away, but unlike our fantasies of immediate action, this would not translate into tangible results quite as easily. After hours of heartfelt and convincing dialogue (*"You don't need to convince me, I love the idea"*) Immer simply could not give us the site for fear of investing in a location that had larger and longer-term issues at stake.

9. Efficiency

> *…in myth and ritual the great instinctive forces of civilized life have their origin: law and order, commerce and profit, craft and art, poetry, wisdom and science. All are rooted in the primeval soil of play.*[105]
>
> - Johan Huizinga

> *…the process of production is always based on some form of knowledge. This is in fact what technology is all about, since technology is "the use of scientific knowledge to specify ways of doing things in a reproducible manner." …what is specific to the informational mode of development is that knowledge intervenes on knowledge itself in order to generate higher productivity.*[106]
>
> - Manuel Castells

> *…the movement of thought has a mysterious quality foreign to the entire technological exercise, based as this is on delimited procedures that can be endlessly repeated—reiteration being the soul of technology.*[107]
>
> - Stuart Sim

The overlapping processes of design, dialogue and leadership are human interactions expressing, negotiating and reformulating meaning and values, and ideas about meaning and values. Insomuch as these processes proceed sincerely and in "good will"[108] (communicative rationalism) they will both 'represent' and 'lead' community life—from the level of individuals and families to the whole human population as a community on earth[109]. The usefulness of these activities is located in the reconciliation between individual creative vision and universal human relationships.

Precisely on account of individual agency and free will, these intentional, inter-subjective

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105 Johan Huizinga, *Homo Ludens*, Beacon Press, 1971.

106 Manuel Castells, *The Informational City: Information, Technology, Economic Restructuring, and the Urban-Regional Process*, Basil Blackwell, 1989.

107 Stuart Sim, "Lyotard and the Inhuman," *The End of Everything* [Richard Appignanesi, ed.], Totem Books, 2003.

108 Hans-Georg Gadamer, "Man and his Hand in Modern Civilization," *Praise of Theory*, Yale University Press, 1998, p.124. Gadamer makes reference to the fact that "dialectic presupposes good will…the concrete situation of mutual understanding as opposed to blindly rigorous argument; it is the intent to come to understanding that first gives discourse true possibility and…opens the way to insight."

109 This notion of total human autonomy has been one of the most difficult concepts linking modernism and postmodernism. While Modernism was guided by conflicting structures of authority, such as Darwinism and Socialism; Postmodernism was similarly confounded by the conflict of "cultural relativism" and standards of "social justice".

Over the next several months there were conversations and meetings all over the Institute as we pushed the concept of "incremental change" – an alternative to the endless bureaucratic deferral to a long-range Master Plan. *"Unlimited needs and wants in the face of limited resources,"* Immer would say; a mantra that helped us to refine the proposal meeting by meeting. Over these often impromptu round table discussions, Immer would talk with obvious passion about pragmatic Institute politics, strategy and vision, stories from life experience, theories of change, and admonitions for my future. Immer was a rhetorician par excellence. But finally there was the amicable hand-off, when, worn down by a combination of his interest in the idea, the seeming impasse of the site and our simple refusal to let it die, he felt the need to "tag-team" the project (and get us off his back).

It was through this thoughtful hand-off that we were introduced to Ike: solid, compact, complex, enthusiastic and serious; a deep charred and polished block of carved walnut in a well-cut suit. When you meet Ike you know you have really *met* someone. Ike exudes cool,

activities involve rhetoric, judgment, limits,[110] conflict and the indeterminacy of play. Design and leadership as part of this set are processes that must presume "difference" and "presence" along with the desire and ability to communicate, translate, propose, and contest. They require both subjectivity of symbol and the normative frameworks that sustain symbolic interaction. Design and leadership encapsulate the most basic human project—representing, if not embodying, any spiritual life and dimension—founded on the fusion of choice, relationship and responsibility.

To call these indeterminate processes of interaction "the most basic human project", however, is to expose a metaphysical fissure by decisively elevating human communication and relationships above material "survival" which establishment science (Darwinism) tacitly or explicitly advocates as the primary motivating force of all life.[111] 'Technology', seen simply as "material culture" [112] has a much longer history than "science" but it both leads and follows the pattern of pragmatism associated with it. Technology offers a technical 'solution' to every material problem: food, shelter, weapons, medicines, intoxicants, transport, energy, urban settlement (plumbing), communication and information management. These material processes and artifacts in turn offer themselves readily to scientific analysis: classification, objectification, quantification, computation, rationalization and maximization. As we are forever reminded in today's debate over the content in high school science education, science studies only observable 'representable' phenomena, and the principles and theories that result from these observations, and thus govern them. Science is a system of *information management* of the material world with the explicit goal of (re)application. The cooperation of science and technology always promise the most direct route to predetermined results irrespective of leadership or end-goal, be it security or terrorist attack, carpet bombing or humanitarian aid.

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110 G.K. Chesterton, *Orthodoxy*, Waterbrook Press, p. 56.

111 Prime examples of 'survival ethics' can be found in Freud's *Beyond The Pleasure P*rinciple, and *The Selfish Gene* by Richard Dawkins, Oxford University Press, 1990, and challenged in Dr. Armand M. Nichol, Jr's *The Question of God: C.S. Lewis and Sigmund Freud Debate God, Love, Sex, and the Meaning of Life*, Free Press, 2002, and William Dembski's The *Design Revolution: Answering the Toughest Questions About Intelligent Design*, Intervarsity Press, 2004.

112 A definition of technology is still a debated concept in today's scientific and design discourses. At this point I find Manuel Castels' definition to be the most useful and least contradictory; Castells refers to technology simply as "material culture." Discussion with Castells at Steam Café, M.I.T. January 2005.

See also Ursala Franklin, *The Real World of Technology*, Anansi, 1999 "…technology as a practice"

and his office is center stage—ten steps from the Infinite Corridor: big bright and orderly, with a view of Killian Court, a large rectangular meeting table and a small rotating collection of African art. Ike's first concern is graduate students and their experience at the Institute, and somehow he seems to know them all. He believes passionately in action, collaboration and getting things done, and between this and his recent "Report on Graduate Student Life", our pitch was easy. Working closely with Barrie, the director of communications, Ike had recently analyzed the "graduate student experience" through extensive discussions and surveys, determining that despite the favourable academic climate, many graduates felt there was something missing. This missing something was laboriously teased out, and eventually titled the "Priceless Encounter"—an off-the-grid, off-the-clock social experience that capitalizes on the richness and diversity of the people "that are" the Institute. Basically the report was a call for more and deeper interactions outside of the classroom or laboratory between all levels of students, professors and administration—a critical, and apparently lacking layer in the Institute experience. Meanwhile, what Nick and I prepared to present to Ike was, almost literally, a "machine" for generating Priceless Encounters. It was irresistible: a graduate student's oasis of urban interactivity in a sometimes institutional desert.

The tension between the intentional and expressive potential of design, and the compelling promise of efficiency and optimization is a central issue for architecture—historically, and more importantly in today's increasingly technology-dominated cultural sphere. In architecture, the complex process of bringing a building into existence typically involves numerous human voices and points of view, or as Bakhtin would say, different "languages": Client, architect, engineer, government agency, builder/contractor, and product/material suppliers being some of the 'voices' that even a simple building must engage while passing from idea into built reality. Importantly, each of these voices are bodies often constituted by of a 'community' of interlocutors with its own internal culture which asserts itself at the next level of dialogue. When the engineer speaks professionally, s/he typically speaks not as an individual, but as a representative voice of a particular group of engineers (a firm or office), and also on behalf of engineering as a 'field'.

As anyone who has made a building knows, all of these human voices that are needed to get something built can create an enormous and frustrating drag on the idea-to-reality path. And who of us as architects has not fantasized about circumnavigating this labyrinth in favour of a more direct route between idea and production?[113]

In an industrial capitalist society the agenda of efficiency is inescapable and, more importantly, highly marketable: Time is money, And after all, who wants to spend their time "talking to someone" about train tickets, long-distance rates or city garbage collection? Computers can do this for us and can probably do it faster and 'better'. If the program is set up in the 'right' way with the 'right' parameters, a computer can 'optimize' choices for us, making the 'best' decisions for the largest number of people.

Enter Parametric Design in architecture: a technologized version of an old idea. Parametric digital design tools are used to establish (i.e. fix) particular relationships between predetermined elements so that a change in a variable will automatically result in a 'chain reaction' between

113 Enter the fantasy of the "one-man architecture office" heavily promoted by the digital-tool culture. In this dream world, or nightmare, the lone practitioner designs using a computer that sends "specifications" directly to fabrication machines which eventually deliver completed project along with robots to assemble it, etc. No dialogue necessary.

With Ike and Barrie on-side, the Café project began to lift off, helping transition the idea from the politically charged Student Center site, back to our home turf: the Infinite Corridor as it passed through the School of Architecture and Planning. Through these meetings (therapy sessions for futurists and social reformers) we released our grip on a grand plan with its vision of fully integrated technological interfaces, interactive medias, food from around the world prepared by a charismatic and benevolent chef with constant student participation—in favour of an incremental plan that we could begin to realize immediately. Once we set our sights on reconstructing the Architecture School's outdated Dome café, things began to move fast: Meetings with Dean Santos; Introductions to head of the Institute's Dining Program: Richard D. B. the Third (cautious optimism) and the indefatigable Ward Ganger, lover of all things epicurean, and always hungry for new ideas in the industry.

Ike made a practice of *synthesis*; being equally a "people" and "ideas" person, which was so clearly demonstrated in an engagement of problems as both material and interpersonal. No line was drawn between Ike's support of architectural ideas, the money these would require, and the academic and social value they would create. And it was in one of these meetings while Ike once again admonished me to "get my thesis *done*" that he recounted a

related elements that have been programmed or computationally linked to react in a particular way. For example: if all windows in a building must be no less than 30" above the floor, each must have a minimum area of 5sq feet, and the total area of window must be 1,000 square feet, etc. Once this is 'parametrized' in the program, a designer is free to 'play' with window design without having to constantly readjust for these preset conditions. A change in one window will be automatically incorporated into the whole system. This technique can be applied to optimizing traffic lights, flight paths, manufacturing flows, and potentially even the design of whole new cities. Parametrics becomes a system for replacing the 'repetitive tasks' of subjective thought (along with all of their potentially imbedded intention and indeterminable vagaries) with the computer's programmable logic.

Recently, the progressive Dutch architecture firm MVRDV created a series of computer programs with catchy names like "Citymaker", "Regionmaker" "Climatizer" and even "Idealizer."[114] In these programs a combination of 'data' and computational processes are used to create "optimized" scenarios for cities, regions and even a global climate. These highly publicized programs represent just one of many architectural examples of a shift towards parametric programming as an *alternative* to design. Increasingly universalized (shared, computational) data is relied on to create computational 'optimizations'. Decisions are offloaded to software that can "do a better job," i.e., make more efficient calculations, provided that desired "information" can be filtered through a numerical data entry and output scenario. Presumably, if a matrix of "optimum" relationships can be numerically established, anything can be optimized.

This reveals the basic problem for computation in architecture: *On what basis can we develop 'data' and criteria for the effectiveness of human processes like design and dialogue, when these are processes that transform the very matrixes of values and meaning themselves?* How can we have a 'best case' for a process that determines 'best', without engaging in intersubjective negotiation? And if this interactive, intersubjective, human process has value *in itself*, how can it be maximized or optimized other than ensuring that it happens as often and unmediated as possible?

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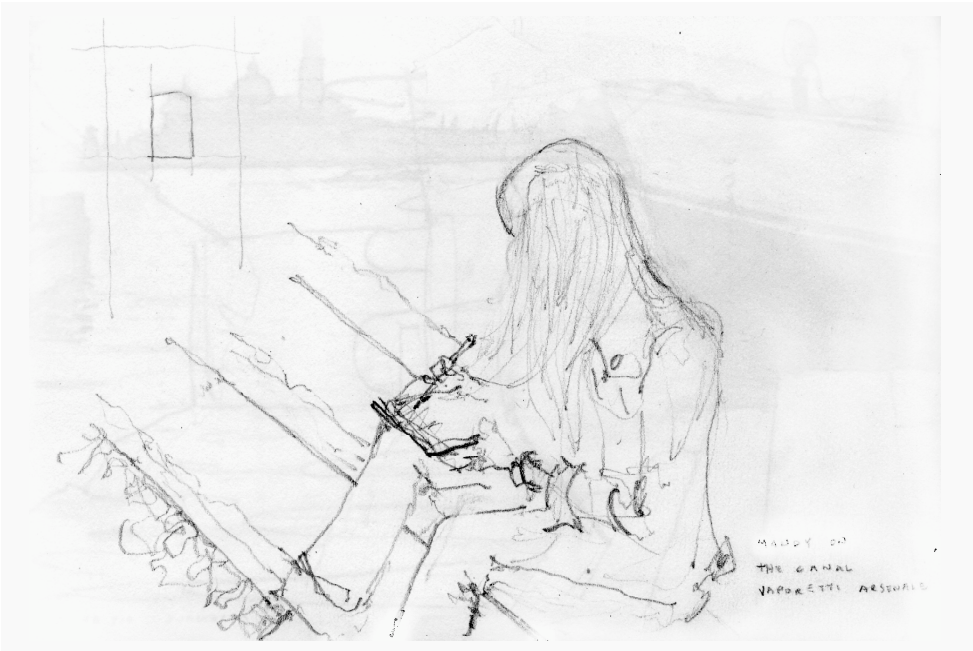
114 Winy Maas from MVRDV presented these programs as the key design work of the office in a recent lecture here at MIT on April 26, 2005. If this is seen as representative "progressive design", architecture is on the path to designing technological systems as opposed to dialogical rhetorical projects.

story from years ago in his own graduate studies. Leading up to his dissertation, Ike had also had been surrounded by an endless horizon of important distractions, and finally had to set out on the water in a small boat to find the peace to *write* it. Ike had been a leader in the student civil rights movement.



In the need to predetermine relationships, parametrics displaces the poetic potential of the 'indeterminate' relation. Where poetic action gains new and unpredictable meaning from the relation, in parametrics parameters must be established and thus relations become fixed: *if x then y*. Design as communication rejects this notion. In design there are no inherently correct solutions, only solutions that best express intentions and values. *Even when* optimization and efficiencies play a role in this expressive act, as they most often do, these are still in service to indeterminate human values. Design is a 'meaning generator' by virtue of the intentional individual, and this individual's ability to utilize context as a means of relating and expressing.

Dialogue and design create conflict. By introducing new values into existing, languages, cultures and contexts of various kinds, individual freedoms, choices and values are put in an arena of evaluation, hierarchies, negotiation and compromises. Only the belief in human worth and autonomy can allow this process to be generative of useful results, results that can change the hearts and minds of individuals and thus the course of history.

Efficiency, on the other hand, seeks to eliminate conflict: It calls for a system through which all 'information' must be reduced to (or represented by, value-free binary code or data. In society's embrace of these techniques we have normalized a reliance on computational filters that optimize data—replacing the messy and imprecise use of rhetoric and dialogue creating new meaning and values. Today there are countless examples: in the 'efficiency' garnered by computerized voice-recognition "operators" and digital reservation "agents" named Laura, to the actuarial programs used to assess credit risks: processing compiled data to determine mortgage eligibility. Obviously a version of this program could also be used by lending institutions, (who already control a surprising portion of the built landscape) to grant new construction mortgages on the basis of particular "design features" as they are parametrized to correspond to perceived real estate value. But maybe architects should not fear; a "design-mortgage-optimizer" program made specially for the hopeful architect is likely to follow close behind.[115]

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115 Mechanically speaking, technology can play 'with itself' like two robotic soccer teams. Japan's famous Robocup is a yearly event featuring teams of autonomous robots playing soccer against each other. This raises many fascinating questions, such as where is the play

Can computers and their techniques help us maximize or optimize *design*? Can play be optimized? Or is the act of play a means of negotiating the relationship between constraint and freedom, an activity that has meaning only as it is acted out. One wonders whether 'player pianos' or 'robotic jockeys'[116] (currently under development to replace human riders in Qatar's traditional camel races) have anything to offer the human project of play. Certainly they may be more efficient, safer, and cleaner. They also avoid the moral dilemma of unwanted piano lessons for youngsters or the temptation to employ children to ride large animals in a dangerous race. But can technological systems really play?

While the novelty of art incongruously infused with technical systems may still garner guest lectureships, academic fellowships and gallery showings, these often appear to be bestowed by the groping and bewildered critics who are loath to find themselves behind the times or missing out on the 'next big thing'. Fewer and more distant are the critics in academia who dare to deeply interrogate these technological infrastructures; sustained as they are by institutions that are ever more allied with corporations whose explicit interest is labor-reducing 'efficiency,' as a path to increased profit.[117] As a designer looking for ways to address problems faced by society, however, it might not be too much to ask at least the well-trod discourse of 'art history' to provide some leadership to those charged with constructing the next generation of 'inhabitable structures'. It may be a time for leadership to emerge from the humanities, rather than science, engineering or business schools.[118]

If, on the other hand, we have already abdicated any and all metaphysical questions, we are left alone with some combination of technique and aesthetics: techniques *of* aesthetics, or an aesthetics of unintentional rationality. Here mathematics, fractals, theoretical physics come to the

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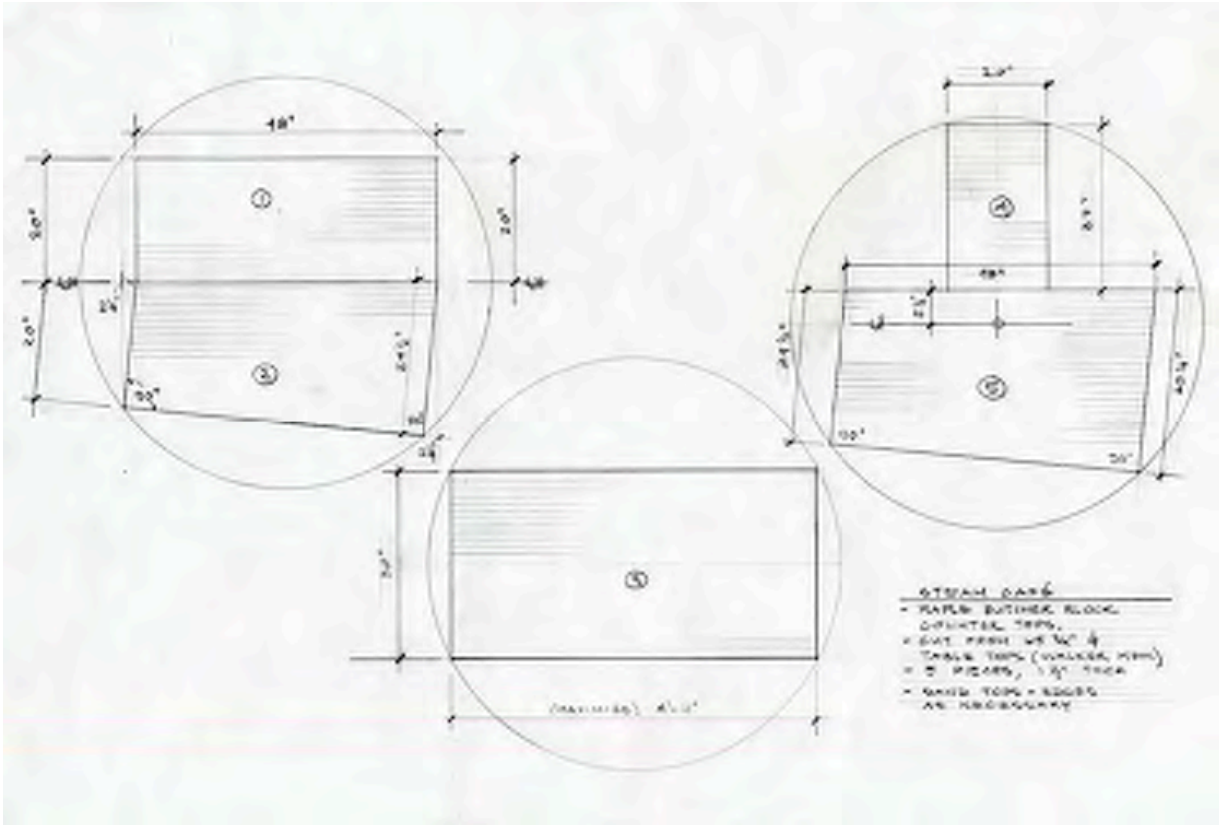
located in this event; in the field or in the lab. As in, "engineers can play too!" But is this really play?

116 "Qatar to replace camel riders with robots," CNN.com, April 20, 2005.

117 See "The Corporation," a film by Mark Achbar, Jennifer Abbott and Joel Bakan, based on the book The Corporation: The Pathological Pursuit of Profit and Power by Joel Bakan. The film "psychoanalyses" the corporation as "an individual" and finds it to be certifiably psychopathic, according to its own stated values.

118 Zhang Longxi, "Facing Challenges to the Humanities: An East-West Cross-Cultural Perspective," University of Toronto Humanities Centre. A quick look at academic influence today reveals technology and business as dominant.



money

Money also plays a role in architecture, but we don't like to talk about it. Like plumbing (and plumbers) we prefer to keep it out of sight.

fore. We are compelled to ask: "…is the theory *beautiful*?"[119] But instead of the intentionality of leadership we have DNA, genetics, organics, and the "aestheticization of the random"; the displacement of order as a sign of intentionality, and thus the rejection of design fundamentally.

Although efficiency is a useful question in any material production and is itself a question of value, it need not be elevated to dominance. Historically we can see many cultures both pre- and post- industrial revolution where efficiency was subservient to other values.[120] While the conflict of human intentionality is not efficient, it may raise questions that are the most urgent or important. The paradigm of leadership unlike 'praxis' or 'efficiency' is characterized by bringing unpredictable *people* into a space of collaboration and dialogue, where complex problems can be negotiated rhetorically through "co-construction". These are likely to be the most challenging and meaningful life questions, reaching beyond materialism into spaces beyond the limits of science and technology.

Leadership involves play and conflict that cannot be reconciled with Efficiency.

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119 See Robert Cummings Neville's "The Axiology of Thinking," *Normative Cultures*, State University of New York Press, 1995, p. X. "The overall thesis…is that valuing, in several senses, is the heart of thinking; this stands in contrast to the more typical claim that reason in some logical sense is at the heart. If thinking is always some kind of valuing, then the paradigms of mathematical physics that separate facts from values…are rarified abstractions that hide something of their own nature."

120 The most obvious contemporary example in North America would be the Amish, although traditional Asian culture, until recently, did not focus on efficiency and progress as much as relationships, environment and family. See Richard Nisbett, The Geography of Thought : How Asians and Westerners Think Differently...and Why. 2003

What is it about money that makes us so uncomfortable—as if money has *nothing to do with design*? Like other symbols, money affords different ways to *express* ones-self; Not the only ways, but increasingly in architecture, almost: Concrete sidewalks, stone curbs, Baltic Birch plywood, new roofs, paint-stripper, wood-working machines, pipes and plumbers (especially plumbers), cell phone minute-plans (with free-nights-and-weekends), glue, caulking, floor tiles, parking tickets and sandpaper all cost money; and we wanted these things to collaborate with us and *make something happen* and help us say something useful in the process.

For the Café project we knew we needed some money to make anything happen, so we went for the money right away. Our *design* was to get the money; [we had designs on the money]. Why? Because money talks; it talks in many different ways, and we wanted to teach the money to talk our language; this was part of our "design strategy". We wanted the money to help us do something specific, (something that we would specify using symbols of different sorts, because that's what designers do) which would, in turn, help us *say* something particular. In short, we wanted to build something, and because we couldn't produce all the materials and labour ourselves, we thought money would be a useful tool to

10. Technique

> *If the theory of cybernetics is by itself to oust all metaphysical concepts—including the concepts of soul, of life, of value, of choice, of memory—which until recently served to separate machine from man, it must conserve the notion of writing...* [121]
>
> - Jacques Derrida

> *Total technization occurs when every aspect of human life is subject to control and manipulation, to experimentation and observation, so that demonstrable efficiency is achieved everywhere.*[122]
>
> - Jacques Ellul

> *…Objective reflection makes the subject accidental, and thereby transforms existence into something indifferent, something vanishing. …all interest, like all decisiveness is rooted in subjectivity.*[123]
>
> - Søren Kierkegaard

The growing convergence and confusion today between 'technology' and 'design' may well be at the heart of a mounting crisis in the theory, practice, and education of architecture. Architecture, which deals with technology as a matter of course, is deeply impacted by this ambiguity as it struggles to define its role in contemporary culture and public life[124]. Much of this confusion begins with terminology: Although a comprehensive definition of technology is well beyond the scope of this writing, I would like to argue that the lack of definition of 'technology' in architectural discourse protects it from direct interrogation. In common usage today, technology as a concept (even among social scientists in the field) slips back and forth between Manuel Castells' conveniently inclusive "material culture"[125], and Jacques Ellul's critique of technology as

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121 Jacques Derrida, *Of Grammatology* (trans. Gayatri Spivak),:John Hopkins University Press, 1976. From "Exergue," p.9

122 Jacques Ellul, *The Technological System*, Continuum Publishing Corp, orig. published 1977 (from 1980 translation) p. 82

123 Soren Kierkegaard, *Concluding Unscientific Postscripts*, Princeton University Press, 1960.

124 For a timely and provocative look at this sense of crisis in contemporary architecture, see Sarah Goldhagen, "Our Degraded Public Realm; The Multiple failures of Architectural Education" Harvard Graduate School of Design, 2003. The paper outlines the complicity of public, private and educational factors that are dragging architectural culture down to historic lows in America.

125 Manuel Castells, *The Rise of the Network Society*, Basil Blackwell, 1996, and *The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process*, Basil Blackwell, 1989.

work with. And, because we wanted to raise money, we also felt that money could function symbolically—a "show of support"—as in, "these people have promised us 'X' amount of money…maybe you would *also* like to support the project?" Maybe I was under the influence of too much NPR fundraising campaign propaganda subliminally implanted during my not quite-awake clock radio morning hours (where was Grandma now swimming by to wake me)—but, nonetheless, it seemed like the right idea.

To get the money, we would need to convince some people to give it to us—people who presumably wanted the money for other things. ("Unlimited needs and wants in the face of limited resources.") So we developed a rhetorical strategy using images and words—symbols of potential possibilities that could be exchanged for the symbols of money that we would use for building something, by giving it to other people – all of which might be explained by my not having more thoroughly read Deleuze.

We wrote descriptions, we drew pictures, we took photographs, we used a computer to make models and splice all these together. Nick was the mastermind behind a series of these compositions that became a new currency: something we could lay down on

an instrumental part of a totalizing system driven by "technique".[126]

Notwithstanding Ellul's critical distinction between technology with technique[127], I proceed here with a belief that in our milieu technology has become so inseparable from technique, and that any reference to technology in architectural discourse today imbeds the notion of technique fully and implicitly. Although this will have to be fleshed out in a future writing, I will go so far as to argue that architectural discourse, being one of the few academic fields that 'directly' *and* 'theoretically' confronts the full spectrum of technology, has cultivated the term "tectonic" as a means of differencing the craft-based 'material culture' aspect of technology from the systematic protocols of technique. With this term 'tectonic' now at play in architectural language, the term technology becomes ever more aligned with technique. The hybrid of 'technology', 'system' and 'technique' now sits at the far extreme from Frampton's notion of "tectonic culture".[128] It is this synthetic notion of technology 'as system', and 'as technique' that I am primarily concerned with here.

Without going further into etymology, my intent here is to frame a dialectical relationship between 'technology' and 'design' in order to clarify the symbolic differences between these concepts—encouraging a dialogue where the embedded rhetoric and inevitable conflict between them, can generate productive new patterns for architecture, life-practice and teaching.

Beginning in Kierkegaard's famous maxim above is the core of a design imperative: a practice of subjectivity and "selfhood" based in values, decisiveness and action: "No fact in itself can motivate an action. A fact can be the pretext for an action only in the context of values." [129] Design on this basis is subjective, active, communicative and existential—predicated on a personal and decisive response to factual context. Because of this obligation to subjectivity, design is

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126 Jacque Ellul, *The Technological Society*, New York, Alfred A. Knopf, 1964, p. vi. "Technique refers to any complex of standardized means for attaining a predetermined result."

127 Ellul, *The Technological System*, Continuum Publishing Corporation, 1980, p. 32. "Technology as a Concept."

128 'Tectonic' and 'technique,' although sharing common roots in the Greek word 'tekne,' are worlds apart in application in architecture. They have come to represent the extreme poles of technology.

129 Donald Palmer, *Kierkegaard for Beginners*, Writers and Readers Publishing, 1996, p. 37.

the desk of an administrator and watch the wheels begin to turn.

So, we got some money first from the Administration and then from the School of Architecture and Planning. Some people were shocked that we had some money, so they gave us some more. But after all this, there was still not enough money to make what we wanted, so we designed even harder: we tried to get people to do stuff cheaper; we eliminated the costly rapid prototyping technology and decided to build the less expensive way: by hand. We recycled "butcher-bock" (solid maple) from some old tables that we thought "didn't cost anything".

But we were mistaken. First Jimmy's Crew had to cut them "for us," and then they had to be sent to the Institute's Shop to be "finished". As it turns out, these guys also believe in making money speak; and we happened to have different dialects. When this began to go in the wrong (expensive) direction, we had to repossess (kidnap) and re-indoctrinate this wood to be free. We had to teach it how to speak on our behalf using less money. So we took it to the student "Hobby Shop" and trained it ourselves to do all kinds of things (by stripping the old varnish and hand-sanding, getting the most out of the round table shapes, or cutting out the round holes for soup-pots

always a *meaningful* response to an existing condition, always revealing of values and thus communicative, dialogical and rhetorical to any interested other.

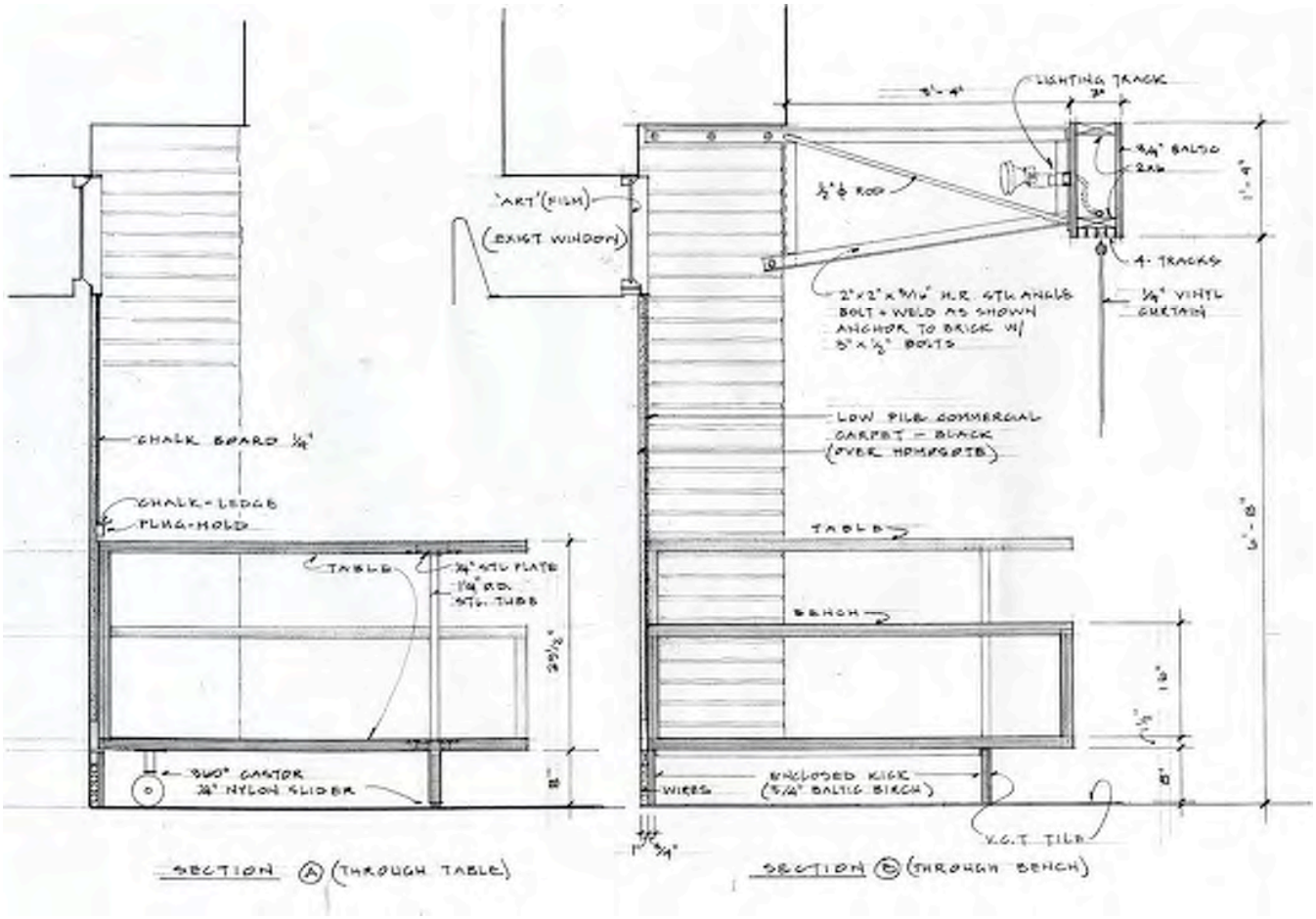
Technology and technique do not follow these same imperatives. Where design is subjective, communicative and rhetorical, technique is objective and instrumental. If, according to Ellul, technique is a process of systematic actions, processes and 'behaviors' developed to maximize a desired objective; it is also self-propagating, persistent and ultimately invasive[130]. In order to maintain legitimacy, technique must constantly expand; systematically rejecting the intrusion of willfulness in order to increase consistency, connectivity, and thus efficiency. The efficiency mandate is in turn the basis of all systematic function and the genesis of "technique"– translating consistency into system, into quantifiable results, and into real demonstrable control and power.

This suggested hegemony of technique in today's climate of technological confidence raises the question of *innovation* and *invention*: What should we do with these much-lauded hallmarks of technology that speak so optimistically of man-machine relations? By most accounts, innovation and invention are presumed to be the life-blood of technique. They are considered to be idea generators:[131] the locus of technical adaptation to all of the problems faced by humanity. But despite this confidence the question remains: In order to participate in technical innovation, must subjective forces first be subordinated or incorporated into the technical system? This question is deepened if the end goal of technique must be to solve a predetermined problem in the most efficient way–bringing efficiency to bear on context by reducing the friction of conflict. For this reason technique also has the reduction of choice as one of its mandates. This is not to say that humans do not design technological systems, of course we do (and we must continue to). Every technological artefact has some trace of design embedded in it. But these traces of intentionality can also be seen to be at odds with the systematic imperatives of technique. Here the separation between design and technology becomes even more clear. If the imperative of design is intentional, subjective and expressive, it seems to have little to offer the technical solution, unless incorporated. Ironically this does not imply that expression cannot happen *through* technical

130 Jacques Ellul, *The Technological System*, Continuum Publishing Corporation, 1980.

131 The late 90's saw a boom in the embrace of "creativity," "ideas," and "imagination" by both private and public sector organizations. "Idea factories" and "Creative workshops" spring up all across North America in an attempt to generate problem-solving environments.

with a jig saw). These didn't cost much at all because *we* worked for very little money, because we wanted to use the money to make the project speak better, and we knew this all cost money.



systems (see section 12. *Devices*), but this must be in spite of, rather than by virtue of, technique.

In basic terms, "A technical problem demands a technical solution."[132] This is a directive that extends to both 'means' and 'ends'. As Ellul describes, there are "two solutions," two kinds of techniques, which are employed in the technological system: the development of new "technical instruments" and the discovery of "a new end for humanity in the technical age."[133] While the proliferation of the first of these solutions began earnestly in the industrial age, the second began to take ground only much later through postmodern theory, as seen in Derrida's mandate for cybernetics or the praxis of post-humanism.

Technique, or technology as a system, is based on precise control over resources; an optimizing framework that can never properly digest the inherently messy indeterminacy of intentionality, subjectivity and rhetorical agency. It was this singular objective of technique—optimization and efficiency of process—that Ellul suggests leads inevitably to his two potential outcomes: either the endless creation of new technical instruments, or the reformulation of "a new end for human society".[134] Little did Ellul know that this new "end" was a double entendre, and loaded with irony: For following closely on the heals of Ellul's writing came fellow Frenchman Michel Foucault's famous wager that "man would be erased like a face drawn in the sand at the edge of the sea"[135] announcing the beginning of "posthumanism". Donna Haraway, for example, one of many proponents of posthumanism embraces the seductive world of "cyborgs:" "Modern machines are quintessentially micro electronic devices…they are light and clean because they are nothing but signals, electromagnetic waves, a section of a spectrum, and these machines are eminently portable, mobile…people are nowhere near so fluid, being both material and opaque. Cyborgs are ether, quintessence."[136] Technology is the perfect tool to displace man with all of his obscenity and conflict.

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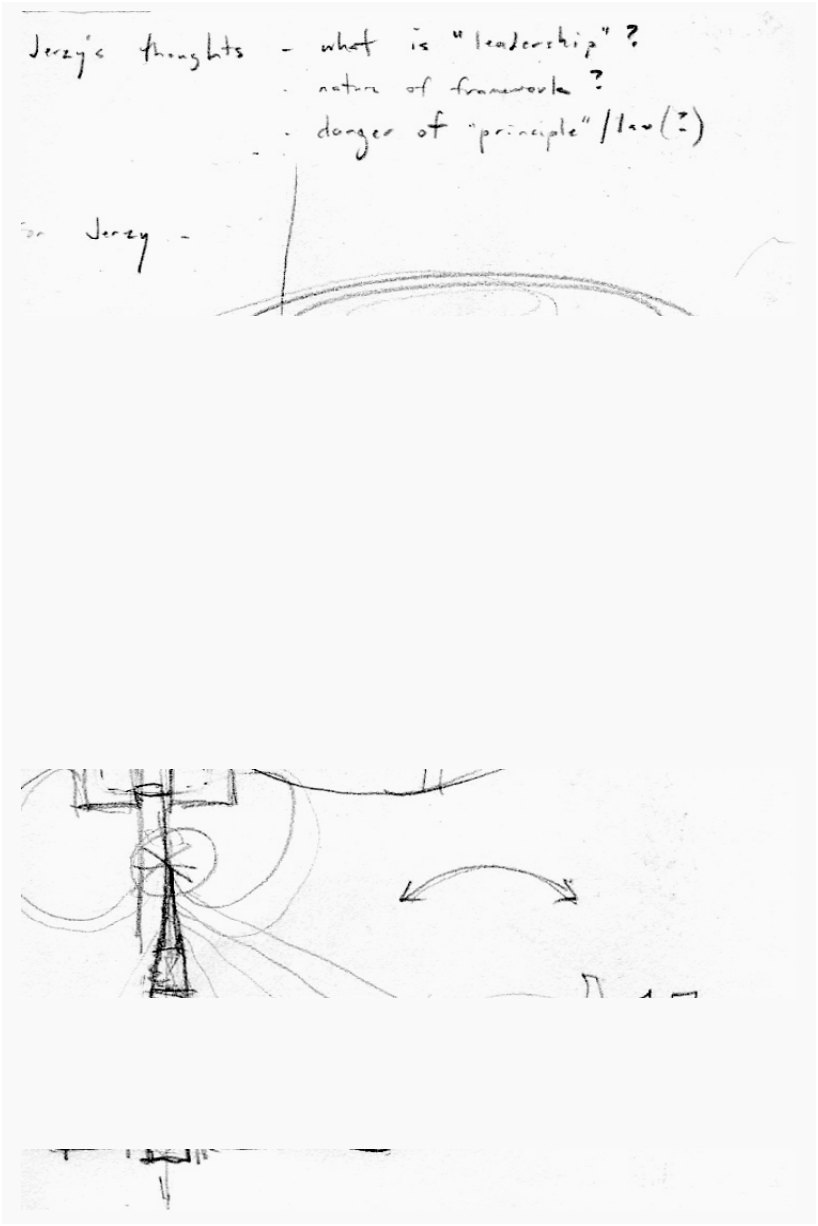
132 Jacque Ellul, *The Technological Society,* Alfred A. Knopf, 1964, p. 429.

133 Ibid., p. 431. Explanation of "new end for humanity…" Here design bifurcates. "The optimistic technician is not a man to lose heart. He will find [these ends] in a finality which can be imposed on technical evolution precisely because this finality can be technically established and calculated."

134 Jacques Ellul, *The Technological Society*, Alfred A. Knopf, 1964, pp. 429-430.

135 Michel Foucault, *The Order of Things*, Random House, 1970, p. 387.

136 Donna Haraway, Simians*, Cyborgs anhd Women: The Reinvention of Nature*, Routlouge, 1991, pp. 149, 153.



machines

We also found machines to be very helpful in the Café project, so we used many different kinds of machines. We used machines for cutting procedures on wood, metals and plastics: saws, drills, chisels, lasers, routers, planers, sanders etc. We used machines for measuring and drawing the space, and our designs on it: tape measures, parallel rulers, mechanical pencils, files servers and CAD software. We used machines for making images

Looking back to Ford's assembly line as an iconic example, technology has used technique as a 'system of behavior' that removes individual agency (poetically expressed by Charlie Chaplin's reflexive, repetitive movements in *Modern Times*). Despite both the ubiquitous hard and soft-sell of the latest 'freedom giving' technical solutions, there has been little ability to counteract this. Architecture's current fascination with 'mass customization' does not assuage this tendency either, but rather reinforces a prescriptive technical dependency. Despite its promise of infinite variation, mass-customization is simply an extension of mass-production ideology refitted with new (more sophisticated and thus insistent and demanding) machines and techniques, allowing mechanized production to extend beyond the confines of identical objects. In other words, even if mass-customization may allow a departure from the identical products of mass production, this has been achieved only by giving over exponentially increasing portions of human-centered architectural production and process to technique.[137]

In *The End of Everything*, Stuart Sim expands on Jean-François Lyotard's dialectic between human thought and computer action by drawing attention to the philosopher's "responsibility to thought", and differencing this moral imperative from the work of techno-science: "Computers do not have responsibilities", Sim adds, "they only have tasks." "Computer thought is logical, a matter of responding mechanically to binary code." Lyotard, by contrast, describes human thoughts as "clouds" rather than delimitable "fruits of the earth", polarizing the 'technological' from the 'dialogical'. Here design can be seen as a form of "subjective thought"[138], as opposed to technology as objective determinate reaction or task:

> *…Nothing could be further from computer reasoning than such a hazy series of events as this, where there are no clear patterns to be discerned…The movement of thought has a mysterious quality*

137 This contestable statement, which can never be fully substantiated, is based on the growing dominance of software in architectural process, production and even theoretical discourse. Software creates an obvious 'bottleneck' in architecture. Not only does it demand conformity to its own logic in order to enter the process of design, but it makes disproportionate demands on time to learn, adjust, upgrade, test etc. This can be seen in students who after several years in a 'professional architecture program', cannot draw, and have no way of representing space or communicating effectively without the assistance of highly specialized and proprietary techniques and machines.

138 Kierkegaard.

that could convincingly communicate the ideas of the project to the other people involved: colored pencils, digital cameras, computers, software and ink-jet printers. And we used machines for the communication itself, to actually transfer the information: post it notes, web sites, cellular phone networks, lap top computers connected to webmail servers, connected to the internet and then back to more computers in administrator's offices and millwork shops. And then we imbedded machines in the architecture of the project to encourage certain process to continue after the project was completed, like coffee-making, soup-warming, drink-cooling and communication between the café patrons and the management about how things were going and how the food tasted and what a better recipe might be for an Indian Fish Curry. We thought that other people using the Café would benefit from using machines as well.

When Kenny and Sergio signed on to help design and build the café, they did so partly to experiment with some new machines. The Institute had recently purchased the latest technology in CNC routers: a huge automated 'cutter' capable of translating digital files into instructions, and these into the precise milling of 4x8 sheets of construction material. It was to work something like a giant printer, practically a *fantasy* for the plywood obsessed. So our idea was to see if we could use this machine to

> *foreign to the entire technological enterprise, based as this is on delimiting procedures that can endlessly be repeated – reiterations being the soul of technology.*[139]

Following this differencing between subjective thought and technology comes the inevitable question of intersection and overlap. Given that both technology and design are unavoidable in the practice of architecture, and given that they embody such different programs of action, how do they impact each other? The language and context of architecture, Frampton argues, is based on a *tectonic* reality, forming architecture's contextual structure or "Tectonic Culture".[140] The tactile 'madeness' of tectonics relies on skill and knowledge of structure, materials, craft and technical process. But while 'tectonic' may represent the value-laden and participatory antithesis of 'technique' within the broad definition of technology, like any language it can only be seen as a *base* for subjective thought, poetic expression and thus design. To create architecture is to go beyond the 'material' and 'structural,' a paradoxical transcendence that happens only *through* their skillful and playful use, goaded by the intentionality of design.

In spite of architecture's optimistic consideration of technology as mere tool, technique and technological systems are not neutral. Friction is the enemy of the technological systems and the mainstay of design. In their dedication to predetermined results, technologies must favor efficiency over the potential conflict of human values.

Efficiency avoids the friction of design and leadership in favour of technology and Technique.

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139 Stuart Sim, "Lyotard and the Inhuman," *The End of Everything*, Richard Appignanesi (ed.), Totem Books, 2003, p. 25.

140 Kenneth Frampton, *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*, MIT Press, 1995, "Reflections on the Scope of the Tectonic" pp. 1-27,

make the whole project. But this particular machine and its human relations were to present us with some more problems… After being delivered to the Institute and removed from its crate, the new machine now sat in the corner of the School Woodshop like a huge uncaged, misunderstood animal—bored and dangerous, humming and screeching when probed by the excited students who would occasionally cluster around it. It would be months before it would be tamed by the cautious efforts of sceptical ring/shop-master Chris D., and a small band of renegade robot wranglers. Not having the luxury of time to wait for this breaking-in process, we set out on an expedition for a more mature man-machine duo, ready and experienced, that could help us fulfil our digital fabrication fantasies: thousands of laborless cuts in any shape we could dream up and that our computers could geometrically generate.

Our search led us to an old warehouse in Quincy on a bitter December day where we were greeted by a beaten-up steel door and a small cast of characters to match: weathered and scarred from years of play with big, dangerous machines. Johnny's was Italian, a five-year-old computer-assisted manufacturing monster that had seen plenty of action and was still considered the best in the business. But after an hour of bravado talk, looking over our drawings and models (laser-cut to simulate the

11. Agency

> *What is a place, a moment, not anchored in the immediate 'passion' of what happens? Is a computer in any way here and now? Can anything happen with it? Can anything happen to it?*[141]
>
> -Jean François Lyotard

> *Technique advocates entirely remaking life and its framework, for they have been badly made. Since heredity is full of chance, technique proposes to suppress it so as to engender the kind of men necessary for [technology's] ideal service...It is no longer necessary to rely on the chances of the family, or on the society.*[142]
>
> -Jacques Ellul

Is it possible that technical systems, and society's increasing reliance on them, 'displace' or 'defer' the dialogically shaped, participatory and thus value-loaded frameworks that traditionally dealt with our everyday social and material concerns? What might be the effects of this increasing investment and dependency? Are there human consequences? Is human agency lost (Ellul) or gained (Castells)?[143]

As one of thousands of examples we can look today at garbage: As urban 'garbage collection' became systematized, society has naturally become increasingly dependent on this system to dispose of its 'waste'. But this has also resulted in the loss of ability and knowledge of alternative methods for disposal of various types of waste:[144] garbage simply "goes in the trash". This shift in sensibility and loss of skill was inevitably followed by a sense of entitlement: a new "understanding" that trash is simply 'picked up *for* you' and therefore not a personal responsibility. Before this transformation, it had been common knowledge that 'reusing', 'recycling', 'composing', 'sorting' etc. were a part of daily life. And while recent recycling

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141 Jean François Lyotard, *The End of Everything: Postmodernism and the Vanishing of the Human*, Richard Appignanesi (ed.), Icon Books, 2003.

142 Jacques Ellul, *The Technological Society*, Alfred A. Knopf, 1964, p. 5.

143 Castell's primary thesis in *The Rise of the Network Society* is that communicative informational networks made possible by electronic technologies are a democratizing force against social / political dominance. "The unfolding promise of information technology opens up unlimited horizons of creativity and communications inviting us to the exploration of new domains of experience." p.1

144 The concept of "deskilling" is addressed by Malcolm McCullough, in both *Digital Ground* and *Abstracting Craft*. The concept suggests that as technology takes over certain tasks and normative practices, the skills that were taken for granted are lost, usually within a generation.

process), our Institute crew began to lose ground. While the most impressive feat of the Italian machine had been to carve a (very) detailed relief of a naked woman into a plywood panel, our desire for simple exposed box joints with several oblique corners were too much for Johnny and his mechanical beast. He concluded that our job would be easier to "do by hand" and much less expensive. Thus deflated, we retreated to the drawing boards and phone books, finally ending up in the old-school hands of Jim at American Milling with his tried and true table saws, routers and sanders.

So it's not that we didn't need machines, or didn't have any problems with machines; we relied on them, and had many problems with them, and are still having some. And these problems are not limited to the malfunctioning or even misuses of machines: sometimes it is the proper functioning of the machines that

programs and street-sweeping machines have attempted to catch up with the side-effects of systematized waste disposal, these have been only sporadically successful. It would currently appear that the displacement of culturally distributed knowledge, responsibility and even 'skill' in disposing of waste, cannot be overcome with technological systems alone.

If collective values become unnecessary to everyday life-world practice, and collective meaning is dismantled by technological systems that continually offer to 'solve the problem,' there can be no return to culture at the helm. But we can look to other places and times that used alternatives to technique to solve those problems. As a case in point is contemporary India, where still the great majority of domestic waste is collected and 'recycled' in some way, by a vast infrastructure of cultural practices and protocols. Garbage is often thrown on the street where it is picked up and sorted into one of many categories of use. For anyone who has been to Calcutta[145] (or even parts of Cambridge) it will be clear that I cannot make a case here for either 'culture' or 'technique' producing cleaner streets. Many examples would show that neither 'system' necessarily guarantees a particular outcome, although it could be argued that technique allows for better *measurement*. American visitors to Toronto are known for their exclamations of "how clean the streets are." Underlying this exclamation, though, is a question: are the streets clean because of better technology, or because of a culture that collectively values, and thus habitually/normatively keeps the streets clean. ('Just the way we do things around here'). Following this ambiguity of attribution, the issue moves beyond measurable results as the primary concern, and can include what the social impact might be of either system. If cases show that the net 'loss' or 'gain' in terms of specified results (clean streets) is indeterminate, we can look at impact in other terms: the promotion of technocratic expansion at one extreme, and the promotion or dissolution of social ties that allowed the cultural 'system' to function at the other. If the goal is expansion of technology, clearly technique and mechanization will be effective. If

145 Several months spent in India led to a fascination with the various cultural systems and protocols that allow complex material processes to function with exceedingly low-tech infrastructure. One of the most striking examples of this was the construction of the Canadian Embassy building in New Delhi. Built to Canadian building codes using only local labor, the project was a case study in the adaptive resource of craft culture. Hundreds of tons of concrete mixed by hand and carried in woven baskets on the heads of sari-wearing women. Men in saw pits hand ripping teak logs into boards to then be hand-planed into sections for precision thermal-pane windows, while charcoal-heated irons are used to solder complex HVAC ductwork.

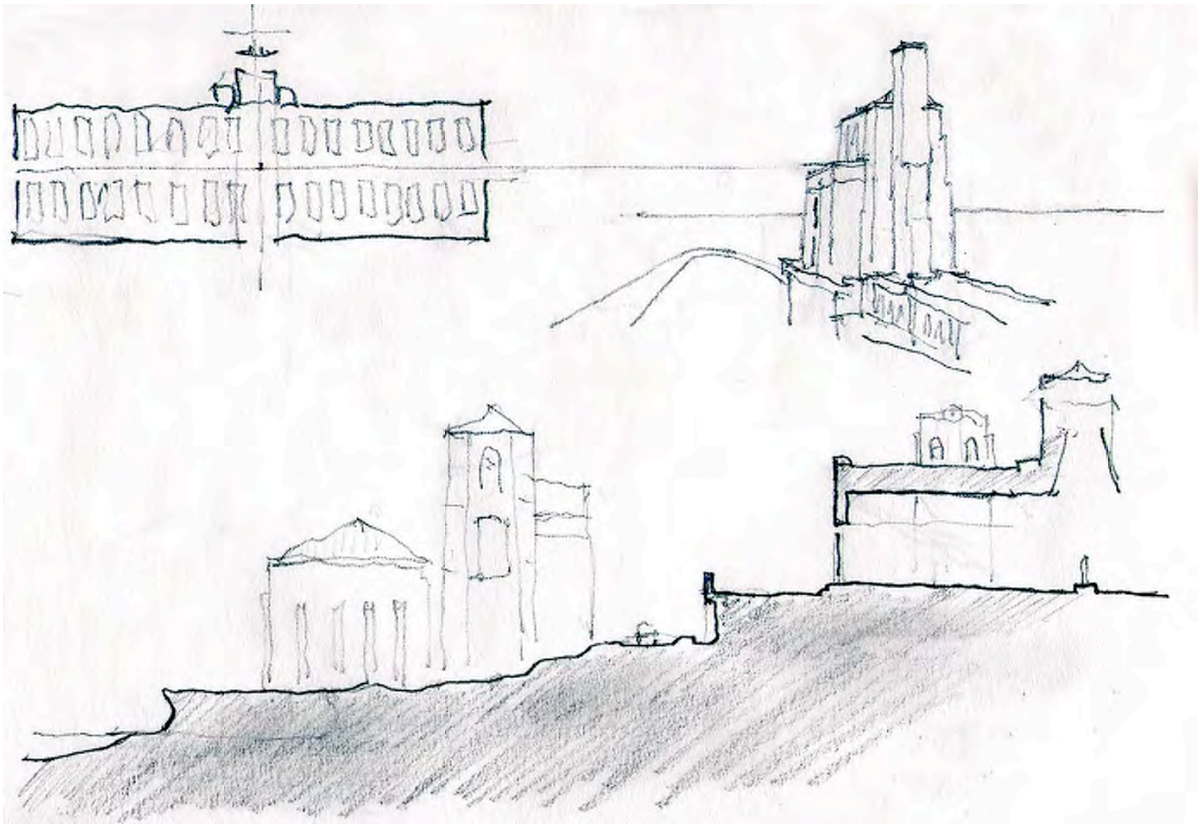
produces problems—*the bigger problems*. For example our three re-serviced stainless "open-air" drink coolers that line the back wall of the Café are functioning just the way they are supposed to. As they cool the air inside the unit they expel heat out the bottom onto the floor. In the 'closed-loop' of a small room, however, this is a losing battle: after all, this machine is designed as a refrigerator with no doors. But none of this is a problem to the machines, because machines cannot actually "have problems" any more than they can really be "helpful."

And, as I try to write a thesis, the proper functioning of email is making this difficult. Email as a means of communication has become "pervasive" as our own Bill Mitchell prophesied. Remaining in my mailbox are 567 emails pertaining to the Café project. And all around me like invisible and inaudible bees, more messages are trying to get in. I can't escape these messages, because I know they're *there*: questions, meetings, job offers in Florida, friendships, ideas about a new cabin up north, romances, break-ups, appointments, conferences, papers, news, answers, …and so many more questions.

the goals are furthering social connectedness, a sense of interdependence, personal identity and responsibility, then the technological system seems likely to be a failure. To be effective, technological systems require compliance to strict protocols, not exhortation and rhetoric. Subjective human interactions, which are presumed to be willful, unpredictable, (thus expensive and inefficient), tend to be filtered out—or at least reconfigured and conformed to the orderly, precise and tireless actions of the machine. In either case, streets may end up clean, or not clean.

To understand the conflict and potential reconciliation between technology and dialogical design, the concept of *deferral*, and specifically deferred intentionality, becomes critical. The need for reconciliation is meanwhile constantly buried by the ever-present assertion that technology and technique are 'mere tools' that can be used 'for good or ill' or that technology is, after all, a 'product of design.' And while examples of the 'helpful' application of technology surround us today, their reliability and convenience distracts and thus defers the central idea of design—an action that must be *expressive* in order to be at all. Utility for its own sake can never achieve this. Although we will return in 13 to the important symbolic, i.e. expressive, potentials of technology and utility; what we see in general, is that technical systems interrupt the multi-stranded fabric of subjective symbolic actions in favor of standardized operations. There is no contest here as to the measurable productivity of this compromise: The whole history of post-enlightenment Western civilization—particularly the industrial revolution—is based on the empirical reality of material/economic growth as a function of technological innovation. What has been more difficult to trace or track, however, is the consequence of giving over the subjective, symbolic, and rhetorical aspect of production (of material culture, knowledge, communication networks etc.) to the demands of a technological system. And while technological invention (as design) is sure to carry some imbedded trace of intentionality, these messages tend to be increasingly distant; pushed to the extreme reaches by efficiency and material productivity. They become a check to be cashed in a distant future of equilibrium between man and nature; a transaction that technical society's need for material growth and progress can never allow.

This brings us back to the concept of transformation as an autonomous event. Even if we acknowledge that technical invention communicates some trace of intentionality or agency, we also see that technical systems are pervasive and obligatory, and that human agency is



food and water

"Everyone has to eat…"
began my very own completely unoriginal
theory on how to get people communicating
more at the Institute; *the watering hole, the pub,*
the street café; Where were these places around
here—places where people intersect, connect
and talk about their lives and interests? These
thoughts would not leave me alone as I foraged
for something to eat on the day I met James G., a
connection that was to become piled so high
with irony that, were it a sandwich, it would be
impossible to get a mouth around.

progressively reduced to fewer means and outlets for participation in systematic processes. Working on an assembly line is not the best place for incremental invention and contribution. ("We don't pay you to think!"[146]) When this is multiplied by the fact that technological systems today are increasingly reliant and imbedded in other systems, the reduction in broad participation, and thus cultural formation, becomes exponential. Deferral occurs in technology's promise of extension and growth. While evidence (and advertising) surrounds us, demonstrating that we can achieve this growth in economic, material, communicative and bodily terms, in all cases we do so by deferring some amount of agency in cultural participation, giving up our potential leadership in the transformative processes themselves.

When architecture adopts and promotes terms like "ubiquitous computing", "embedded computation", "pervasive computing"[147] and "parametric design", it effectively sanctions and legitimizes the idea that digital technology and technique will become ever-more enmeshed in our lives and in spaces of communication and interaction[148]. But if we see ubiquitous computing as something that displaces human language and culture (with their embedded values and rhetorical symbols) it certainly begs for architecture as a discipline to respond with something more than a smug satisfaction to be invited to the technology party.

Can we defer 'culture' or 'dialogue' to technique and technology? At first this sounds absurd. But if we look around, the 'exchange' is well evidenced in our daily lives, and in technology's implicit and well advertised promise: reliance on 'technique' will be rewarded with new and always higher levels of efficiency and production. Technique asks us to exchange the indeterminacy of subjective agency for the necessarily abstract efficiency of 'system' and 'standardization', purchasing optimization at the expense of design.

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146 This is challenged by the Japanese concept of Kaizen and the work of W. Edwards Deming which would make another interesting paper topic

147 The work of Bill Mitchell, *City of Bits*, MIT Press, 1996, *E-topia*, MIT Press, 2000, and *Me++*, MIT Press, 2004, carries this technological optimism to new heights.

148 Malcolm McCullough, *Digital Ground*, MIT Press, 2004. McCullough writes specifically about "interaction design" between machines and humans as the next real challenge to the design field.

It was also the day I finally made it over to Frank Gehry's latest offering. Our 300 million dollar monument to innovation and difference: a soaring, disjointed, collage of intersecting boxes, floating chrome cylinders paper-thin brick walls, and windows popping out with a look of genuine surprise. The building was rumoured to house a new place to eat, and I was hoping to find something a little different than the usual Institute cafeteria fare and its characteristically un-'fair-like' atmosphere.

So here I was now, drifting along the "decon" extension to the "Infinite Corridor" with the rest of the dazzled and dizzied masses through a maze of architecture that seemed determined not to provide direction or landmarks. But following my nose I was eventually greeted by all the signs of a new designer café: stainless steel, back-lit plexi, exposed Canadian plywood, crisp white chef hats bobbing against the sound of Japanese sushi preparation and the warm light of roast chicken and green peas. I could now let my curiosity lead me in every direction: what was offered here; what was good, what was healthy, what was cool, new, and different? All of these choices were filtered through the newcomer feeling: naïve critical optimism, added to the tactical suspicion characteristic of the economically challenged student: *How were these people going to try to rip me off; and how*

But despite its ubiquity and effectiveness, technology itself cannot *want* to say something, and it cannot value on our behalf. The fact that technology 'as a system' does not value is precisely its greatest asset. To 'make our lives easier' technologies increasingly defer the need for us to value, speaking on our behalf without engaging subjective values as a base. Technical systems begin to stand-in for intentions: "It looks like you are trying to write a letter…Would you like some help?" -MSWord. These techniques displace practice, where meaning, ideas, order, deviance , etc. are at play in the hands and mind of the subject. While technology can do many things "for us," this privilege increasingly comes in the form of proprietary programs that must be either purchased or pirated. Like a Photoshop "filter," where digitized photographs may be re-rendered as 'colored-pencil' or 'magic marker' sketches. In these 'sketches', of course, there is no longer any trace of the hand, only the eviscerated shell of symbol referring to a now liquidated practice. As the scope of technique increases, all 'choices' or variations similarly become embedded in the potentials of software. There is no longer any need for the cumbersome skills necessary to achieve them without the help of technique. (Why bother learning how to render by hand when there is Photoshop?) The skills, values and agency of subjective participation and communication are usurped by the rigor and efficiency of the technical system.

While technology can function rhetorically and symbolically, as a system it functions beyond the scope of other symbols: Although in itself it cannot value, technique can usurp and defer the valuation process that makes us human.[149] Ever-more elusive and inescapable, technological systems create realm-of-choice illusions that stand in for direct engagement between self and other.

Technique as a system displaces or defers human agency.

149 See Footnote 21, *Habermas and the Unfinished Project of Modernity*. "colonization of the lifeworld…"

could I avoid it? (Not personal, just realistic.) By the time I made it through the line I had decided that my funds would be best spent maximizing my entree selections. Being both hungry and curious, I wanted to try as many as possible, and get a sense of what we had to work with here. Besides, we all know that sugar water is the place that the corporations cash in. I would have water, and not the variety bottled by Coca-Cola for $1.69, but rather some good old piped-in Institute H2O in a cup, maybe with some ice if I felt daring.

Balancing two heavily loaded plates in one hand and an open wallet in the other, I asked the cashier for a glass of water while I laid out my $8.79, which is where the intrigue began: "We don't serve *tap* water here. You can buy a *bottle* of water, or you can use the drinking fountain *down the hall*."

Should I have felt the way I did when I heard this? This brand new café (for all of us here at the Institute) was an infrastructure with boundaries, inside of which everything had to be purchased, including water. Was this even legal? Was not water a right? Beneath an exterior of dwindling calm, I began to hop up and down like Yosemite Sam, guns blazing: bang, bang, bang. *Who had made this decision*; this decisive action backing us into a corner to buy, buy, buy? As I carried my food towards the busy tables I suddenly felt

12. Device

> LUKE: What is it?
>
> BEN: Your father's lightsaber. This is the weapon of a Jedi Knight. Not as clumsy or as random as a blaster.
>
> *Luke pushes a button on the handle. A long beam shoots out about four feet and flickers there. The light plays across the ceiling.*
>
> BEN: An elegant weapon for a more civilized time…[150]
>
> –Star Wars Episode IV: A New Hope

What are these things we make used for anyway? Regardless of our views on "progress", technology has at least provided humans with some of their most useful *symbols*. An obvious example of this is found in the design of weapons: objects that are made to be seen and understood, not merely used in the material sense. It could be extended that many weapons are made *primarily* to be seen, interpreted, and described—employed in narrative and myth more powerfully than actual combat. From the earliest stone clubs to the latest 'rail-gun' technology, weapons have always been *presented* more than they are *used*. For obvious reasons, an effective symbol of engagement, control or power can be a much more 'useful tool' than one that requires actually hacking someone to death, or even shooting at them from outer space. This is particularly so in the case of drama and film, where these techno-rhetorical 'devices' carry an almost inordinate amount of symbolic power and thus narrative potential.

This powerful potential emphasizes a critical but very subtle connection between the symbolic, tectonic and pragmatic function of technology. Like a fetishized postmodern façade or a sports car that is more pimp than ride, an ornate (symbolic) sword will quickly loose its power if it drifts too far from the aesthetics of reliable 'swordness'.[151] Similarly, a gun looks most fearsome if it retains or exaggerates the machine-like aesthetic which gives it its technical power. The mechanistic 'form' of the "Gatlin-gun" for instance, although originally generated by

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150 George Lucas, *Star Wars Episode IV: A New Hope*, 1977.

151 Quinton Terintino's *Kill Bill Vol.1 + 2* make explicit use of this concept, following a long dramatic tradition

parched, and I began looking for signs of the people in charge: representatives, suits, white shirts, badges.
I knew they must be around here somewhere—the agents that keep this machine functioning.

The first likely looking candidate was a young woman wearing a dress (just slightly out of context) wandering watchfully with a badge (but no earpiece). I was right, a new assistant manager, but my pointed questions to her were rebuffed with slightly more sophistication than the cashier: “not her decision”, “company policy” [technique], “new venue”, “haven’t quite figured out how things worked yet” My frustration only increased with this systematic rebuff; She had been trained well. I went back to my seat, contemplating another trip to the fountain with a mouth half full of dry chicken. But as I got up, my eye was caught by an incongruous white shirt sitting alone amidst the sea of studently patrons. This guy knew something; I could tell by the way he glanced around, trying to disappear into his surroundings for a minute’s reprieve. Returning from my second trip to the fountain, I gathered my courage and sidled up to the table of the unsuspecting victim. “Are you in charge here?” I asked. James looked up with a smile, mid bite on a large square of pizza. He managed a gulp and a nod before I lit into him with my swelling belief that corporate food service was becoming

technological imperative, was incessantly imitated by fictional depictions of "lasers", "blasters" and "ray-guns". Consequently, I was not alone in my disappointment upon seeing the LASER taken out of its cupboard in science class, housed in a small mundane white box with rounded corners and rubber feet: How unexpressive. How boring. How useless.

This transposition of the 'aesthetics of function' into the symbolic power of 'function as an aesthetic', is the key to the symbolification of technology. At what point, for instance, did kings, generals and warriors stop fashioning their weapons after frightening animals or spirits, and begin to fashion them to accentuate a technological mastery? Which is more frightening, for example, a battering-ram that looks like a giant ram, or one that prominently displays its gears, pulleys, pistons and levers? Both are symbolic, the question is: symbolic of what? Where is the locus of value? Shifting to a more contemporary and less martial example: What should an 'ambulance' or 'hospital' look like today? With our increasing ability to *conceal* technology, there has been much discussion of healthcare facilities looking "more like home"; but there has also been some reluctance, on both sides, to relinquish the technological symbols that give Western medicine its cultural authority: *If we're going to be saving lives here, we are going to need to see some gadgets!*

The recognition and employment of technology's symbolic utility has been an important turn historically, and one that is clearly still in play around the world. It embodies the shift in values as technology becomes a powerful phenomenon by virtue of its meaning. Once this occurs, there is no use talking about technology as benign or ubiquitous. Technology and technique have been objectified; invested and believed in. Thus technology has meaning and power on its own terms, and as long as technology is used as a symbol of power, it will maintain this autonomy.

A digital watch, sports car or sky-scraping office tower are all examples of how technology can function symbolically beyond the actually function of the object. To ask if the device works is a misleading question. The technological object can 'work' very well even if it scarcely functions in its intended technical-mechanical sense. Like the broken wrist-watch worn by the tribesman or the redundant high-tech kitchen appliance of the urban dweller[152]—technology *made explicit* has

152 Modern kitchens are perhaps the best example of this: expensive stainless mixers and blenders sit unused on countertops, speaking

a form of despotism. Now I have to give this guy some credit here: Rather than sending me away with some well-rehearsed technical corporate policy and tactics, he asked me to sit down…

And who would have thought that almost an hour later we would be sitting there, after fetching the remains of my lunch and finishing my tirade about cafes and community, talking in depth about our lives: restaurants on the Newport Beach Boardwalk, organic farming, fishing trips, and where to find the best street life in Boston. James was the operations manager for the French Sodexho Corporation at the Institute, "the biggest food service provider in the world," with outposts as far as both the Arctic and Antarctic circles. And now that I had the agent cornered I was beginning to like the guy. As our conversation progressed, I began to wonder what this enormous international infrastructure might be able to offer to our burgeoning idea for a new 'open source' café on the other side of campus. James was on it like Brie on a baguette. We began to imagine and discuss a venue where food was something special to this incredible place, where people from around the world would contribute recipes… It was all making sense. I could tell James wanted to be the very chef that we had described in our proposal: creative, personal, inspiring, rigorous; A DJ architect of food, spinning recipes from around the world to an appreciative audience of brilliant eaters. James was one of those guys that's hard

power to 'work' in ways far more important than their suggested mechanical function.

Humans associate form with meaning. While these associations may be more or less arbitrary, this symbolification process is the basis of all human language. To the extent that *any* form is distinct or discernable in some way, it *will* begin to function symbolically. If a technical object has a form 'derived by function', this form will tend to become associated with this function, and the function in turn given symbolic value. A well-known example of this is found in the auto industry, which we can call the 'Jeep phenomenon'. The Jeep was first developed as a vehicle that was rugged and easily maintained in harsh conditions. For this reason, it had a form characterized by simple planar components, exposed fasteners, rivets, bolts, and an array of 'explicit parts' encouraging flexible interface between user and machine. What has become clear in today's auto market, however, is that these formal 'features' of the early Jeep have become extremely valuable as symbolic elements in the production of new automobiles that offer themselves to prospective buyers as symbols of 'ruggedness', 'freedom' and 'independence'. Ironically, these same formal elements in terms of today's technology have little, if anything, to do with their original function. For the most part, they are an appliqué over a fully functioning machine: *rhetorical technology*—material differentiations which function explicitly as symbol[153]

In the world of architecture and design, the Bauhaus School epitomized and even institutionalized this concept. While the Bauhaus was, for the most part, a hand-crafting institution[154], it was dedicated to the subtle symbolification of technological potential and technological process. It developed a means of producing cultural meaning and value using the products and forms of the industrial age as symbols. Even though (or especially because) these artifacts were painstakingly 'made by hand' and not by machines, they were able to act as

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eloquently of the intentions of their owners to cook more often and with more panache, despite the reality of take-out.

153 One can make similar claims for the symbolification of 'race' and any associated meaning: To the extent that racial characteristics are 'differencing' they can function symbolically; there is scarcely any avoiding the human process of symbolification. The question is: How and what do we invest in these symbols, from both inside and from without?

154 While the aesthetics of the Bauhaus School were clearly dedicated to machine process, the reality of production techniques of the time often meant objects had to be hand crafted. This was clearly no barrier to the embrace of a 'machine aesthetic'. Designers saw their role as poets and leaders; 'ushering in' a new aesthetic; full of values that had been loaded in by modern ideology: Jeanine Fielder and Peter Feierbend, *Bauhaus*, Koneman Press, 2000.

to pin down: a college kid one minute and a suburban father the next. He spoke like a homeboy from the other side of the tracks who had been spirited away to a secret island and taught some Jedi skills in politics and organizational structure. (Just enough to get us all into trouble, and accomplish some surprising things at the same time.) He knew the score, how things worked between people. He had also done his time in the kitchen, and you could tell he could hold his own with a Wusthof. Plans began to take shape at this table, and if I remember correctly I had water and maybe an iced tea on the house, but we were on to bigger plans.

Reflecting on all this months later when James would sit with Nick and I at the new Café watching people pass by in every direction while we talked over details of profit-and-loss, baby spinach, web platforms, plywood finishes and union labour, it would always come back to people. The people that bought, sold, prepared, ate, believed, complained, cared, or couldn't care less. And as we would discuss what "worked," what didn't, who was doing what well and who wasn't, it would always end up being about people.

James is still James. No longer a stranger. At work inside the leviathan, wrestling with a system that pays the bills for something he

poetically powerful symbols of the value of industrial manufacture—a concept that offered answers to problems linked to material disparity, and thus it was believed, all social conflict[155]. In the Bauhaus, design was not usurped by technique, but rather invested in its aesthetics. Its 'design' was to create effective symbols that would communicate the 'value of the technique' and the potentials of technology. "Modern Technology" became a symbol of the ideals of human material progress: transcendence, abundance, equality, global communication and harmony.[156]

In either Manuel Castells' embrace of technology as a democratization of "material culture," or Jacques Ellul's warning of technology as a totalizing system of 'technique,' the artifacts are assigned meaning. Technology in its explicit materiality thrives on symbolification: Whether a new car, the latest digital camera, military/industrial infrastructure, monster vacation home, modeling software, satellite dish, space shuttle, video game, RFID tag—technology exudes the possibility of symbolic appropriation in its ability to differentiate, and even mesmerize.

Designers have a unique position in this phenomenon. Design can use the rhetorical power of constructed symbols to either elevate technique (as does the corporate industrial complex to ensure continued consumption and expansion) or to provide cultural alternatives.

Architecture finds the symbolification process of "material culture" at its very core: To take a technological artifact, and make it speak, make it rhetorical, dialogical and human, is design—and the life-blood of architecture. But by not recognizing this role as poet and leader, many architects proceed with investment and engagement in technological systems to the peril of the rhetorical project, and eventually even the profession. Technology as a system is at odds with rhetoric, even if technology can so effectively embody it. Not to mention the fact that if measurable results and efficiency are the primary stakes of society, engineers can always trump architects with technique.

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155 Marxist theory was highly influential in the Bauhaus. Socialist principles provided underpinnings for the revolutionary social program of design and architecture. Because Marxist theory was based on structures of material production, it allowed a direct appropriation of technology and technique to social change.

156 "Naturalism has served as deceptively in the modern world as supernaturalism ever did in the past, to misrepresent motives that are intrinsic to the social order. In recent decades, this deception has been all the greater, since it borrows persuasiveness from the prestige of the natural sciences and their pragmatic sanction." Kenneth Burke, *Counter-Statement*, University of Chicago Press, 1957, Introduction, p. xi.156

believes in. But the System is still the System,
and although I haven't checked recently, I still
don't know if you can get water in a cup around
here. Systems are relentless, pushing and pulling
so often in the wrong direction.
But if people don't fight for something they can't
win. A few people got together here to make a
place where you can find a boiled egg, some
brown rice and a minute to talk to the stranger
across the table. So something did happen, and
while this may always resist being thoroughly
specified,
somehow it did mean something.

By not recognizing the vast differences in the programs of technique and rhetoric, architects constantly open themselves to the charge of extravagance and obsolescence. The technological system as a means of evaluation (value engineering) has no room for conflict, little room for dialogue or expression in any way but to further its mandate of efficiency.
The as yet un-built 'Bankside Paramorph' by Mark Goulthorpe of dECOi is one of many contemporary examples of this confusion between technological and rhetorical action. This cutting-edge "paramorph"[157] concept, a proposed private penthouse perched on a well-situated London high-rise, is made possible only by the most advanced digital fabrication techniques. While the project has been billed as visionary, the chances of it being realized grow increasingly slim—not because of the immediacy of technical problems, or budget and regulatory issues that all architects constantly face—but because as a rhetorical device it has programmed its own obsolescence. Precisely because this dwelling so clearly offers itself (in this case at a very high price) as a symbol of something, we immediately ask what meaning it has been invested with. Technology itself? While we have seen technology (as a symbol) invested with many different values—power, prestige, democracy, humanitarianism, elitism, dominance, subversion and even revolution—technology as a symbol of technique dissolves this rhetorical function. Technique itself will have no part of these human values.

This may be like the purchase of an expensive sports car: It is hard to imagine purchasing a Ferrari at full cost if it looked like a Ford, even if its performance was still Ferrari. It is obvious to all parties that the 'value' of such an acquisition is based on the expressive potential of the device. Not that performance is unimportant—on the contrary. But this performance must be expressed symbolically. While the Bankside Paramorph is certainly expressive and rhetorical as a design project, its particular symbolic function happens to be a celebration of the "liberating potentials" of technique. On behalf of its designer, it sponsors a 'lack of fixity', 'limitless variation' and hence "precise indeterminacy."[158] But if symbols require contextual structure, values, specificity and 'fixity' to maintain their rhetorical function, the paramorph has written its own death sentence.

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157 Mark Burry (of dECOi), "Modernisme, Modernism and the Third Millenium Praxis," 2001. "We have used parametric design to formulate the para-morph, a term we have borrowed from geology referring to an infinitely mutable object…"

158 Mark Goulthorpe, *Praxis* Interview. Issue 6: "New Technologies / New Architectures," 2004.

By rejecting the stability of language out of hand, the form loses symbolic inertia, except possibly as a totemic artifact; a museum piece, reminding us of 'where we have been' and the fleeting value of anti-value. As a collector's item fixed in metaphorical amber this may be desirable. But the inevitable question follows: why would anyone 'build' the artifact post-obsolescence? And to the extent that the symbolic power of the object is predicated on its economic and technical 'un-attainability,' any consummation of digital fabrication's promise—i.e. cheap, smooth, easy, 'mass-customization' etc.—would further defuse its power to differentiate, and thus identify. If the building is *that* easy to build, who would want one? Unless it operates symbolically, technique operates outside the realm of human values.

Here we return again to context. If a "slum" neighborhood can function as a rhetorical device within the context of a city—a single dilapidated tenement house, in a slum *context* has very little symbolic power. By contrast, we readily see the symbolic power of a rationalist tower inserted in the same slum.[159] Conversely, this rationalist high-rise has little symbolic utility in a sea of towers of the same formal language, as seen across the horizons of Sao Paulo or Shanghai.[160]

Like a high-rise tower in a shantytown, the unique form of the Bankside Penthouse (possible to make only by the sophistication of current technological systems) functions symbolically by virtue of context and difference. But the hidden message in this particular architectural scheme is that stable context (and thus discernable difference) is undermined by the potential pervasiveness that mass-customization techniques afford and rhetorically promote. With no stable context, everything can be 'different'. Therefore difference itself will no longer carry the value of distinction[161], or symbolic potential.

As demonstrated by the 1970's fashion-statement implicit in the popular 'moon-boots,'

159 The classic example of this is the Pruit Igoe housing project in St. Louis. See also "Vertical Village," Scott Francisco, MIT, 2004, for a discussion of the relationship between culture and technique in high rise public housing.

160 A "high-tech" or "efficient" solution has no more symbolic value than the vernacular "low-tech" in design per se; both may be equally 'useful' symbolically, depending on context. Because context is a product of intentional interventions, however, values shape context through design.

161 Pierre Bordieu, *Distinction, a Social Critique of the Judgment of Taste*, Harvard University Press, 1984. Bordieu speaks of "distinction" as a key concept in the structure of social space, but also levels a strong critique against cultural practices that maintain hierarchies by virtue of it.

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technology materially embodies an extension of power beyond ourselves, and thus refers beyond its material reality to an idea. To do this, however, it must have a form that is discernable, allowing for the precise attachment between technology's single-minded materialism and its symbolic value. For the cartoon-like moon-boots it was their silver colour and rubber geometry.

Whether or not we ever intend to embrace and use these symbols, technological systems in architecture are meaningful and rhetorical in relation to their context by virtue of the values constantly invested in them. Although the symbolic function of technology is fuelled and sustained by their demonstrable efficiency and effectiveness, these powerful attributes are not the core issue for design. In order to contribute in the practice of design, technology must become a device for self-expression, dialogue and collective identity.

Technology as a symbol becomes a useable rhetorical Device.

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13. Self

Being bodies that learn language
thereby becoming wordlings
humans are
the symbol-making, symbol-using, symbol-misusing animal
inventor of the negative
separated from our natural condition
by instruments of our own making
goaded by the spirit of hierarchy
acquiring foreknowledge of death
and rotten with perfection. [162]

-Kenneth Burke

What is the relationship between being human and making space?

We can explore this question with an architectural concept that is also a defining human activity: "adaptive re-use"; the definition of which serves just as well to describe our anthropological, sociological and linguistic behaviour. Humans rarely, if ever, make anything 'from scratch.' Instead we use what other have made before—be they words or buildings—reinvesting them with meaning and purpose to suit circumstances, material or rhetorical. In broad terms linguistics has dispensed with the notion that words contain meaning, and in turn clarified the simple idea that we attribute meaning to words (the meaning lies within us, not the words). Similarly buildings or spaces do not 'contain' function, program, etc. Any inhabitation or 'use' of a space, new or old, is in fact an adaptive re-use. As we inhabit space we interpret and transform it—new meaning created from old.

Having said this, 'new' forms and spaces are made all the time. For architects and designers 'space making' is a profession; but we often forget how universal an activity it really is: Anyone who has ever made a resolution, organized a room, started a company, coined a phrase, formed a secret society, created a recipe, written a poem, named a pet, or rock-band—has been involved in making space.

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162 Kenneth Burke, "The Human Actor:" *On Symbols and Society*, University of Chicago Press, 1989, p. 70.

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What is it about these activities that connects them—making them both spatial and significant? In each of these constructive acts there is *self, structure* and an *other*'[163]. In each case, language and meaning are at work; and in each case there are 'rules' to follow that are understood to be productive.

Like adaptive re-use, making spaces that others can inhabit is a basic and uniquely human project. It incorporates who we are and what we value as individuals, and more importantly, as groups at different scales: from families to organizations, cities to nations to hemispheres, and finally to the entire globe and all people.

In making inhabitable structures, we have found a way to say something about who we are, and what is important to us. We want each other to identify, to experience, to understand, to value. It may be tempting to think of these constructions as merely pragmatic responses; but while some of these activities may engage material needs, they are all fundamentally about something else, something more complex and more powerful.

Enter *design*; a pursuit, a discipline, and an everyday activity that arguably permeates all of our actions and inter-actions. In this activity, however, there can be no rational or empirical truths—no right or wrong answers. There is only 'response': expression of values and desire for change. Good design, then, is design that articulates well, and communicates ideas that are meaningful, sympathetic and contestable. Design by definition will both affirm and challenge its context or status quo.[164]

For architects and designers, this critical and constructive agency of design is often lost in the dense thicket of technique, theory and esoteric aesthetics; the navigation of which becomes a case study in 'not seeing the forest for the trees'. While architecture must engage an intensely

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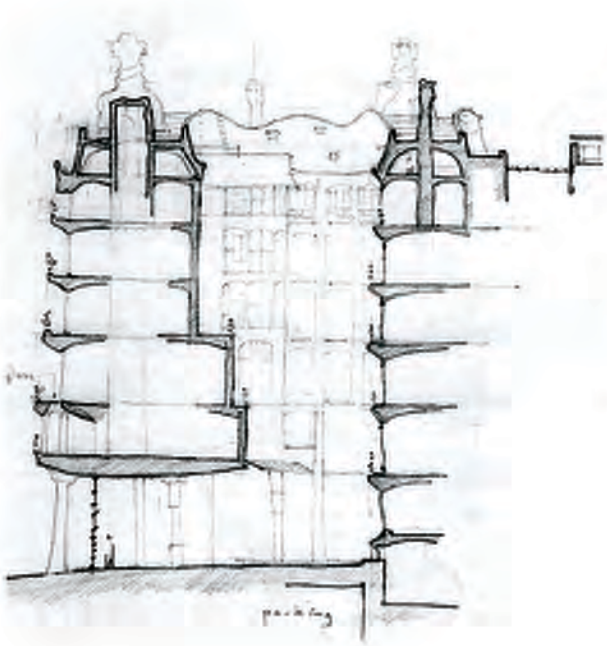
163 (Even when the other happens to be one's self.) "I can know what someone else is thinking, not what I am thinking. It is correct to say 'I know what you are thinking,' and wrong to say 'I know what I am thinking.'" Ludwig Wittgenstein, *Philosophical Investigations. Part II.*

164 William Dembski, *The Design Revolution: Answering The Toughest Questions About Intelligent Design.* Intervarsity Press, 2004, p. 87. Dembski's "explanatory filter" offers a new critical theoretical model to mediate between 'design', chance and 'law.'



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complex system of symbols suspended in a constantly shifting context of social, cultural, material, and technological matrices, it is design that invests these symbols with meaning and usefulness. Design poetically creates new language as it deconstructs, renovates, reconfigures and invigorates the old. As it exercises symbols rhetorically, it puts them to work, keeps them active, healthy and ready for action. Here adaptive re-use and design as space-making become indistinguishable. Useable space is the space of communication that is kept rich, clear and fertile by this constant process.

If anything is special about architecture it may be that it is so big, so heavy, so time consuming and expensive that it necessarily requires the participation of many people—a constructive dialogue between organizations, institutions, clients, builders, officials, etcetera. From this perspective the architect's special role is one of leadership, both within the professional process and in the realms of cultural development.

Design is a human enterprise. And architecture, while it relies on technology for its very existence, it is mere construction without human intent made explicit.

Design cannot exist in a deterministic cosmos. But if design does exist, everything changes; most importantly our sense of who we are and how we relate to each other: We become human by virtue of choice. Not choice as thought: Descartes' "I think therefore I am;" but rather Kierkegaard's thinking-action relationship where "truth is subjectivity". Design is the action component of "subjective thought". It cannot merely be thought—it must be done.

To do this, design must subdue the systematic and prescriptive tendencies of technique and become wary of any complacency towards or deferral of agency, dialogue and decision-making. By virtue of our consciousness and freedom, humans are charged with shaping or creating our world together.

What is the world we wish to make?
What is important to us?
What do we have to say to each other?

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Through design, we express, draw out who we are, not only in an abstract sense, but in the real sense of individual experiences, stories and lives, knit together into useable space.

These are the sounds of intentionality that emanate from design, and they consistently break through the self-silencing harmony of nature. We listen for these unique sounds of intention with every fiber of our being because this is who we are—beings in search of our selves through our dialogues, both horizontal and vertical. Space is what we make it, but we must always intend, always design, to embrace self-discovery as a never-ending and collective process.

Design is a symbolic and spatial expression of Self.

Epilogue:

Here dies another day
During which I have had eyes, ears, hands
And the great world round me;
And with tomorrow begins another.
Why am I allowed two?

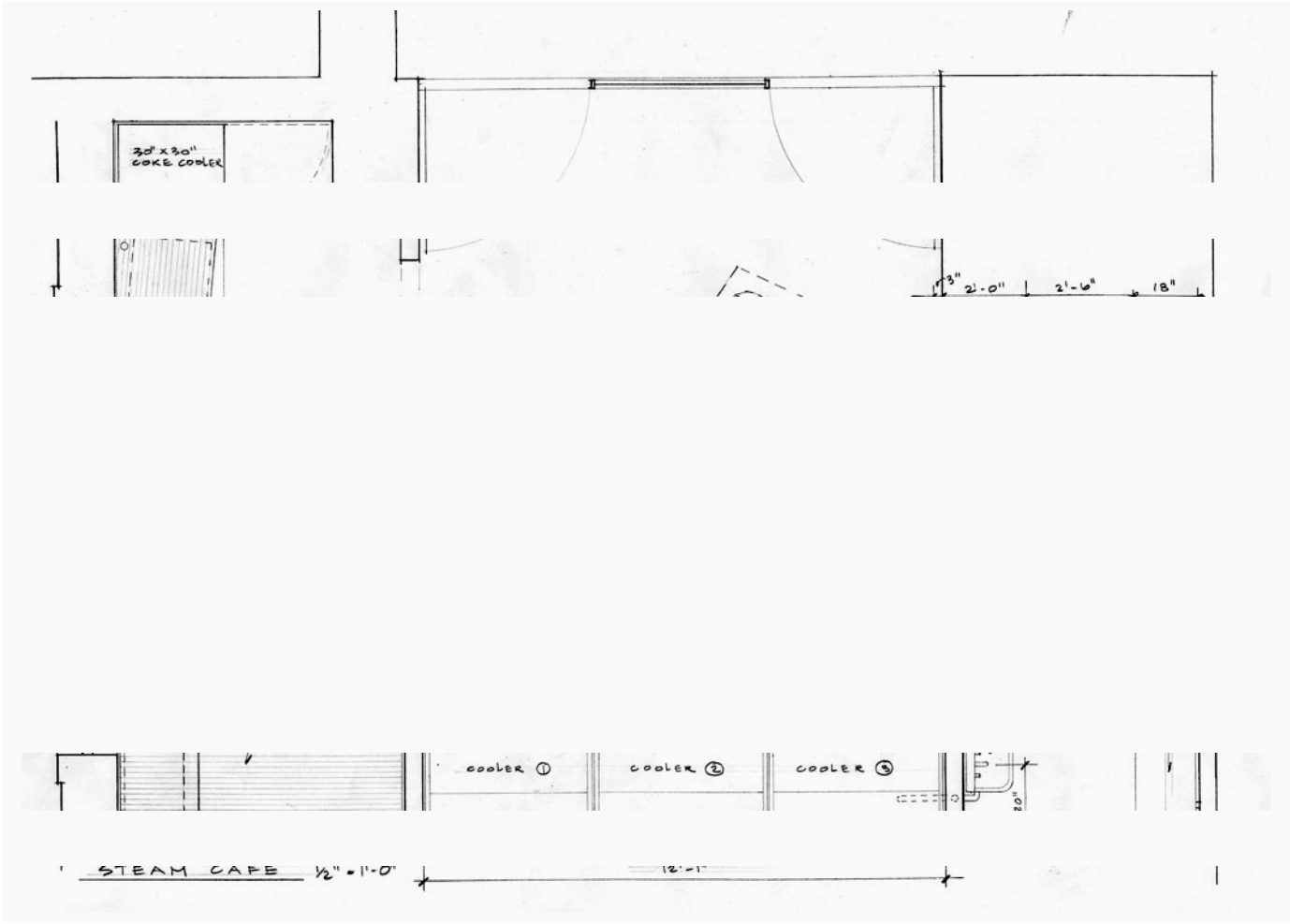
-G. K. Chesterton

Who are we trying to fool? Our time on earth is temporary no matter what our perspective or paradigm. On this ground, the human experience is founded on choices, not survival, and these choices come into being only through relationships—interactions with other people.

Design is about saying something in our making. And saying something is an engagement in the unique communality of humanity, the mysterious structure of language and the prospect of meaning and purpose beyond deterministic law. Design is a human pursuit, rooted in the natural world of body, materials and science, yet metaphysical by virtue of its directive to reach out and express.

Useable space is space for our selves and each other to use.
It is about meeting, sharing, entreating, illuminating and making:
Roofs and rooms, doors and windows to frame, protect and share what we value.
Places for us to sit and talk about our lives: joy, grief, dreams and passions
Families to honour the honourable
Spaces that open up ever-greater possibilities for relationship.

Show me yours.
A story, a song, a poem, a table
To reach across the gulf that separates and connects us.
Live out your values as building
And they will become symbols of something
Guides
For us all.


30" x 30"
COKE COOLER
3"
2'-0"
2'-6"
18"
COOLER ①
COOLER ②
COOLER ③
STEAM CAFE
½" = 1'-0"
12'-1"