

Drawing Space

Bradley Walters
bradley.walters@ufl.edu
University of Florida

To say that the drawing has been displaced by building may be all too self-evident, both in practice and in academia. It is interesting that the displacement has been caused in part by the success of architectural drawings, drawings that evolved from two-dimensional ideas to three-dimensional models to photorealistic renders to full-motion video. The drawing has become such a successful and necessary simulacra that today it is often read simply as building, eliminating the space that previously existed between the drawing and built work. New alternative or parallel realities can be rapidly constructed with such a degree of precision that fact and fiction are blurred, the (construct of the) drawing dissolves, and proposed constructions are read as built work, *fait accompli*.

This shift has occurred precisely at the moment that two- and three-dimensional drawing techniques have been subsumed by component-based information modeling. While relationships between components can always be identified, the data-driven model allows and encourages a certain emphasis on independent architectural objects: walls, floors, columns, beams, door hardware, etc. The tools favor an approach that begins and ends with physical things, things that are deployed, repeated, arrayed, and/or collaged at the will of the designer, architect, or parametric operator.

The emphasis resides within the physical constructs and/or on the resultant operational pastiche rather than on the spaces shaped within and around them.

To be fair, it is always difficult to talk exclusively about either architectural objects or the spaces they define, since the experience of built work binds both aspects together. But this realization about built work can too quickly be transferred to digitally modeled and/or rendered constructs (which read as built work), with a similar de-emphasis on space as an issue, topic of concern, and/or a point of origin. It can be argued that it is the architectural object that matters, and that the architect and/or student of architecture should work to shape the thing itself such that it, in turn, can shape space.

In architectural curricula, it is becoming increasingly common to favor the physical and/or digital model in this way, assuming that through skillful manipulation of it, the space will become clear, meaningful, and/or functional. Unfortunately, the space is often seen as a resultant, occasionally well-developed but often merely residual, able to be bent, broken, stretched, and torqued at will.

As an alternative, however, it is possible to use drawing to probe and articulate space itself, absent any physical and/or digital constructs. This paper proposes a type of operative drawing that allows for the drawing construct to offer some resistance to the will of the designer. Rather than drawing inert objects, the process involves equal parts animate and inanimate subjects. Drawings are built of lines that map movements, vectors, forces, and weight into space. They are occupied and motivated by a body or bodies in motion, each engaging their environment with fingers, toes, eyes, tongues, and ears. These drawings can allow for the graphic communication of haptic and experiential aspects of space by making visible that which is typically unseen and/or relegated to words. These apparitions can then haunt, inform, shape, and challenge the design process.

Drawing Space suggests the need for both drawings that describe a dense, fertile, and full space as well as the need for a space in the design process during which this thoughtful drawing may occur.

Spaces of Speculation

The making of architecture is complicated. Part of this complication comes from issues of scale, its multifarious nature, and its entanglements with social, historical, cultural, political, economic, and environmental concerns. Even the seemingly simplest of projects can become weighted with so many competing demands that the student or practitioner of architecture can find it difficult to focus and/or move within a field of complex and competing demands. Paralysis can set in, hopefully before any number of other physical or psychological disorders take their toll.

Architects and designers often self-medicate as a means of working through these moments. For some, the therapy relies on a near-religious belief in the individual self, and the need for design work to be ruddered by a single individual's creative vision, as articulated by skilled hands and a sharp mind. In contemporary practice, with our acknowledgement of the value of specialists, there are few if any projects that are single-handedly designed and built by a single architect/craftsperson. But there are many team structures in which the architect remains a principal author, and the work reflects this singular authorial vision.

There are others who eschew such an emphasis on the singular individual self and/or author, favoring instead a form of group therapy founded in collaboration with others. Whether in very small pairings or in large multi-disciplinary teams, designers work through meetings, teleconferences, coffee break discussions, and occasionally playful banter to sort through difficult decisions with the input of many voices. Integrated project delivery (IPD) provides one of many ways in which these collaborations may be formalized.

There are, of course, other methods of self-medicating, some more or less healthy than others.

All of these therapy regimens have their advocates and detractors, and there are many hybrid design team manifestations that are used to work through the complications of the design and construction processes. The methodologies that one adopts betray important differences in the ways in which architecture is defined and pursued. It is the space between these different positions and approaches that has served as the grounds for many of the important discussions of agency and criticality in/of architecture over the past several years. It is clear that the field is in a state of flux, and that the roles of architecture, architects, and design pedagogies are evolving.

As the agency of architecture is shifting, so we also see changes in the role and possibility of drawing within design and communication processes. In a cultural flood of high-quality, professionally-produced photo-realistic drawings and animations, the drawing's power as a meaningful representational device has largely been subsumed by the inevitability of the built work that it portends. At the same time, the drawing in the construction documentation process is threatened by litigation, construction efficiencies, and economics. It is being replaced by component-based digital models within the documentation process (transferred to the contractor and/or fabricator as a digitally complete construction) and/or being outsourced as a part of "designated design" systems provided directly by specialist sub-contractors (i.e. curtain wall systems, cold-formed metal framing, innovative and/or proprietary metal cladding, vegetated roofs, etc.).

Architectural drawings have long been plagued by their performative requirements and their role within an extended design process. With "architectural" drawing comes the implication of a corresponding architecture, or more precisely, a three-dimensional construction beyond the bounds of the drawing. Architectural drawings are called on to both communicate ideas and represent the implications of those ideas as they are translated into built work.

But the drawing has the unique opportunity to do more than represent ideas formulated and/or residing elsewhere. The drawing has the capacity for speculation and invention not readily possible in other media. And the design process can engage many different kinds of drawings, from the most cryptic to the most clear, from the gestural to the specific, from the hand to the mouse to the screen. As Deanna Petherbridge points out in her excellent tome *The Primacy of Drawing: Histories and Theories of Practice*:

"An important aspect of the sketch in any medium is that it is part of a chain of evolution (systematic or chaotic) inviting sequential cognitive and practical procedures. Its essential aspect is its suggestiveness: open-ended, ambiguous, imprecise, it allows for interpretations and reinterpretations, and lends itself to corrections, second thoughts, redrawings, rewritings and reorderings." (1)

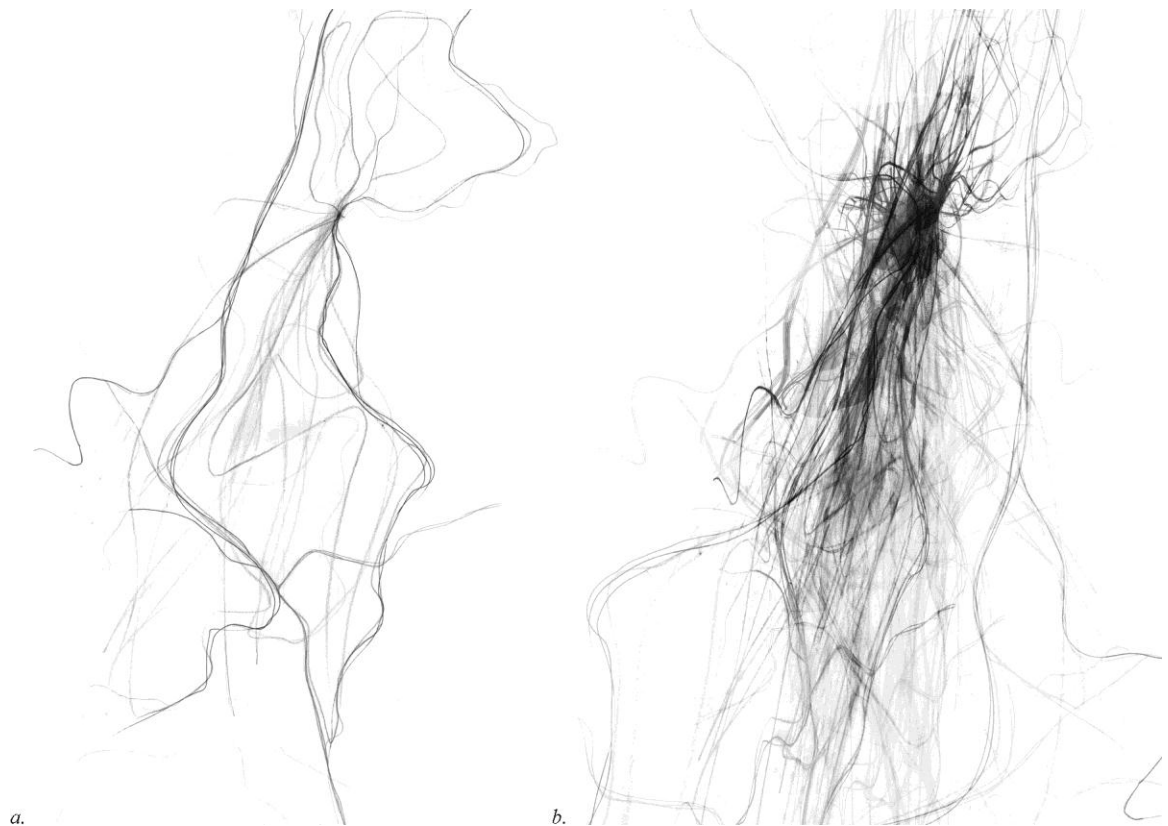


Figure 1. Bee mappings, responding to specific site and environmental conditions: a) early version of drawing with initial markings, and b) fully-developed mapping. Drawings prepared by Steven Albert for Architectural Design 5, ARC 3320, Fall 2009. Instructor: Bradley Walters.

As a tool and/or ground for thinking, the drawing offers a space for speculation. It occupies a privileged position, suspended precariously within an ever-developing process of becoming.

The idea of architectural design as *speculation* is significant, as it suggests an architectural pursuit or study for which the end is not yet known or perhaps even knowable. It alludes to a need for considerable research, care, concern, and thoughtful consideration, but also offers no assurance of outcomes. Speculation is at times exceedingly risky, which can lead many in practice and in the academy to shun it in favor of pursuits that offer more safe, if mundane, rewards and results.

To pursue speculative goals in architecture and drawing requires a space within which complicated questions can be asked and imaginative proposals pursued. It means loosening and/or breaking linear and/or performative connections between drawing and making, allowing for time in the process to reflect, question, and/or embrace more varied concerns. In speaking about studio reviews at The Bartlett, Peter Cook notes that:

“A certain tradition of discussion still lingers—far less “positional” than an American session and less declamatory than in France or Germany. The non-British are often puzzled that a discussion can stray far away from the motives or maneuvers of the project and engage in speculation, whimsy, pernicky detail, gossip, nostalgia, raconteurship and probably avoid (at all costs) the definition of the project as “good” or “bad.” The same waywardness has often been observed in the English Novel, where identification of good, evil, heroism or villainy are replaced by messy and complex situations—but full of intriguing side-issues that months later strike you as containing the essence of the message.” (2)

The drawing can provide spaces within the design and education process where speculation, development, and even distraction can occur, establishing architecture as a mutable territory filled with mystery and laden with possibility. Iain Borden further suggests “this, then, is the propositional nature of architecture, a place for asking questions as much as finding solutions, but doing so in a way that always conveys some kind of explorative and potential connection between what can be done, what might be done, what should be done and what imaginably could be done.” (3)

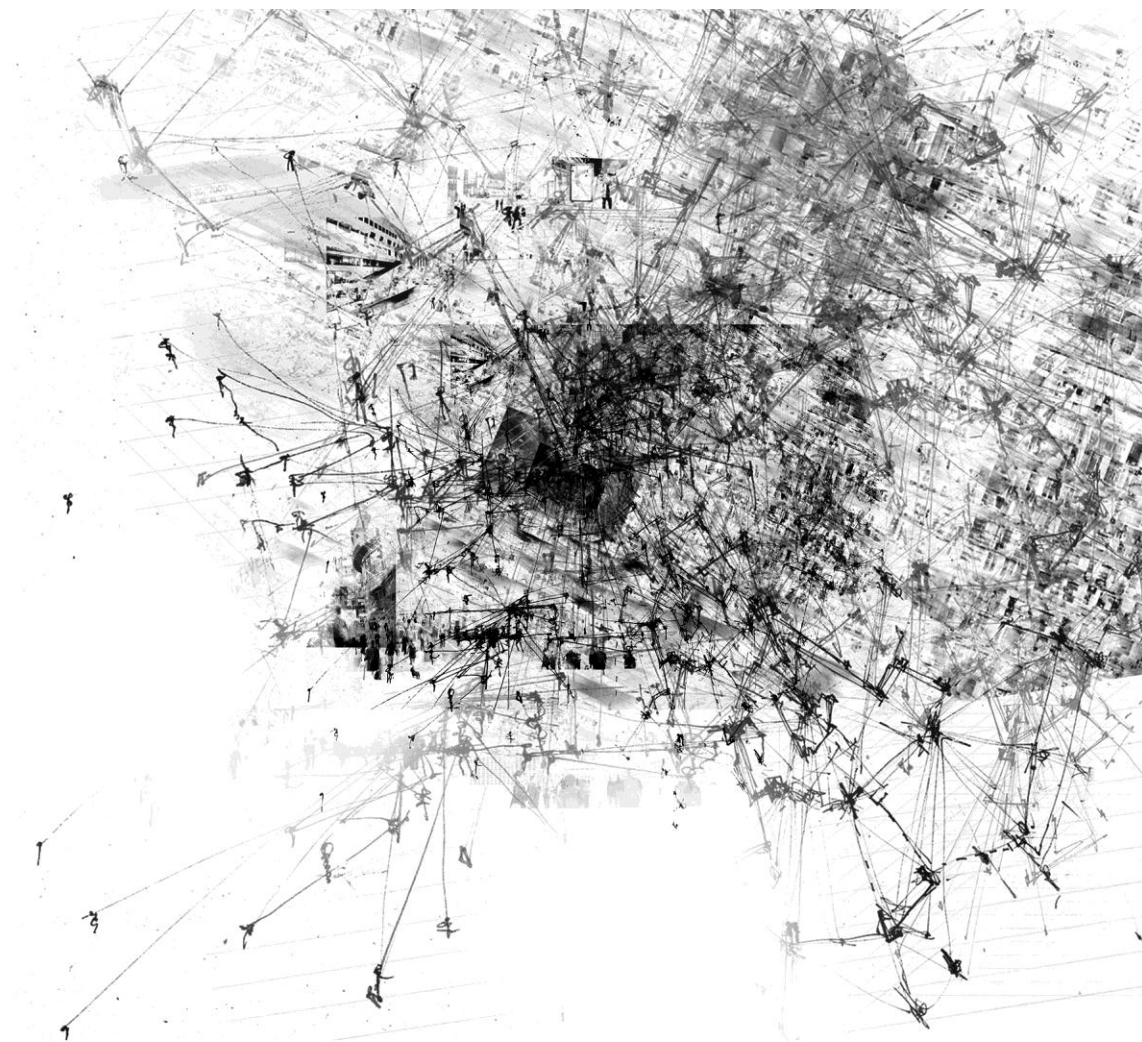


Figure 2. Urban analysis of New York: A hyper-mediated space of network and flows. Drawing prepared by Justine Ala and Patrick Little for Architectural Design 7, ARC 4322, Fall 2010. Instructor: Bradley Walters.

Space of the Body: Present Absences

In his encyclopedia, *Natural History*, of A.D. 77, Gaius Plinius Cecilius Secundus, or “Pliny the Elder,” recounts the Greek myth of the invention of drawing. In this classic and often re-told story, the Corinthian maiden Dibutade is described as having made the first drawing by tracing the shadow of her soon-to-be absent lover as it is cast on a wall by the light of a lamp. The story (and its many reinterpretations in painting and drawing), depict the act of drawing as representing and preserving the imprint of something that exists outside of itself. But once her lover departs, the drawing’s role expands to incorporate the issues of absence and loss. It is the absence of her lover that is embodied within the presence of the drawing. The story also involves issues of projection, as the light of the lamp creates the initial shadow and as the drawing later projects its subject’s presence within the space of the room.

The projective possibilities and roles of architectural drawings are central to many practices and schools of architecture. In fact, one could say that the profession is getting ever better at delimiting drawings to the service of projection. But many drawings stop short of pursuing the issue of making present certain absences, as recounted in Pliny’s story.

With regards to the human body, in particular, it is often the last mark and/or entourage to arrive in a drawing, if it arrives at all. The result is often a certain disconnect between the construction and the space and/or occupation that it defines.

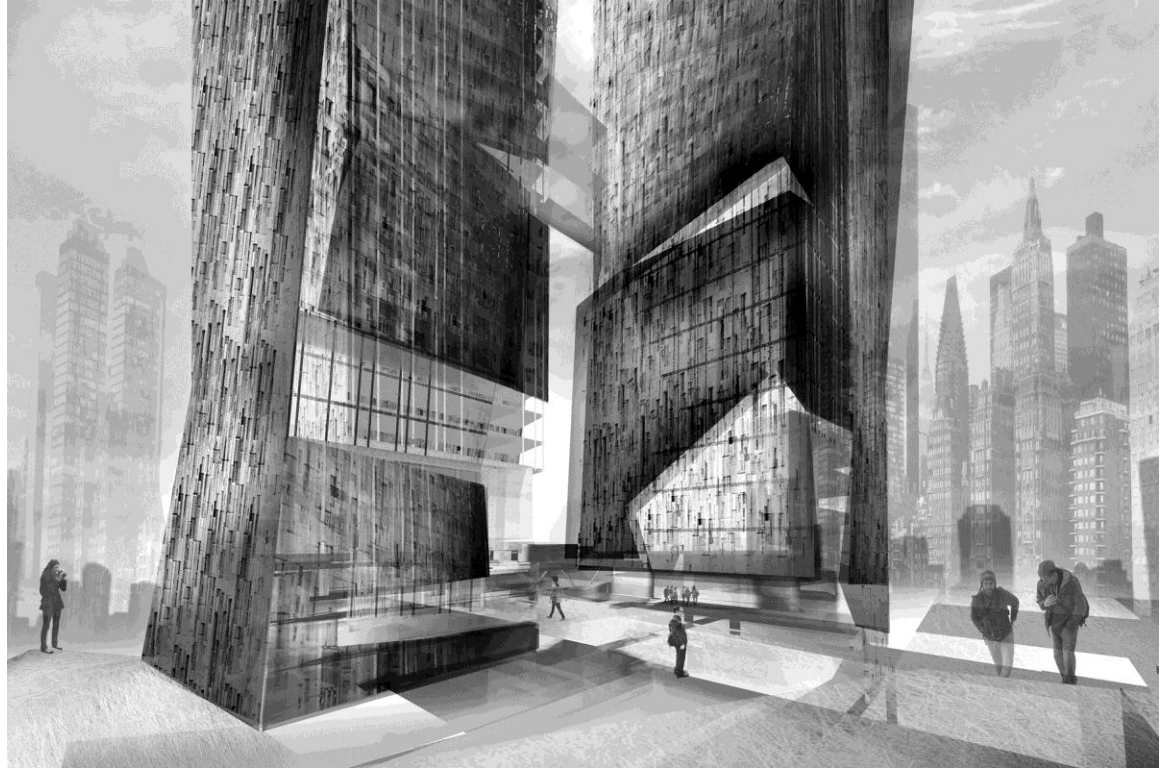


Figure 3. Proposal for living in the hyper-mediated space of network and flows, New York NY. Drawing prepared by Justine Ala and Patrick Little for Architectural Design 7, ARC 4322, Fall 2010. Instructor: Bradley Walters.

In today's heavily mediated environment, this disconnect is exacerbated as "the body" itself is splintered, occupying multiple time-zones, social structures, and behavioral norms simultaneously. Presence and absence are conflated, confused, and altered. As Hal Foster has suggested:

"These are only some of the splittings that occur with a new intensity today: a spatiotemporal splitting, the paradox of immediacy produced through mediation; a moral splitting, the paradox of disgust undercut by fascination, or of sympathy undercut by sadism; and a splitting of the body image, the ecstasy of dispersal rescued by armoring, or the fantasy of disembodiment dispelled by abjection. If a postmodern subject can be posited at all, it is made and unmade in such splittings. Is it any wonder that this subject is often dysfunctional, suspended between obscene proximity and spectacular separation?" (4)

To begin to draw by inscribing human use and activity within a space and/or engaging objects is to fill and make present the space itself, coding all that follows with traces of use and occupation. Rather than trying to restore the lost singularity of self, it is possible to leverage this current altered state within the drawing. These prosthetic drawing constructs allow for extensions of and from the body. They serve as armatures through which we can speculate on new cross-pollinations, myriad intersections, and/or fragmentary political, social, and cultural formations possible. The socially-engaged yet distracted body and mind can occupy drawings throughout their construction.

Translations and Indeterminacy

Singular drawings, however rich and suggestive, do not become ends within themselves in an architectural design process. The making of architecture requires translations that challenge ideas with alternative proposals and/or test them at variable scales and through different media. Each scale and media engages a unique set of material constraints and design possibilities. Bob Scheil writes that "the prospect of realizing ideas into built form is a transition during which some qualities are gained and others lost. As immaterial and intangible ideas develop, the question of how things are made generates a period of opportunity." Further, the designer must be "prepared for the indeterminate nature of working with resistance, and adapt to change accordingly." (5)

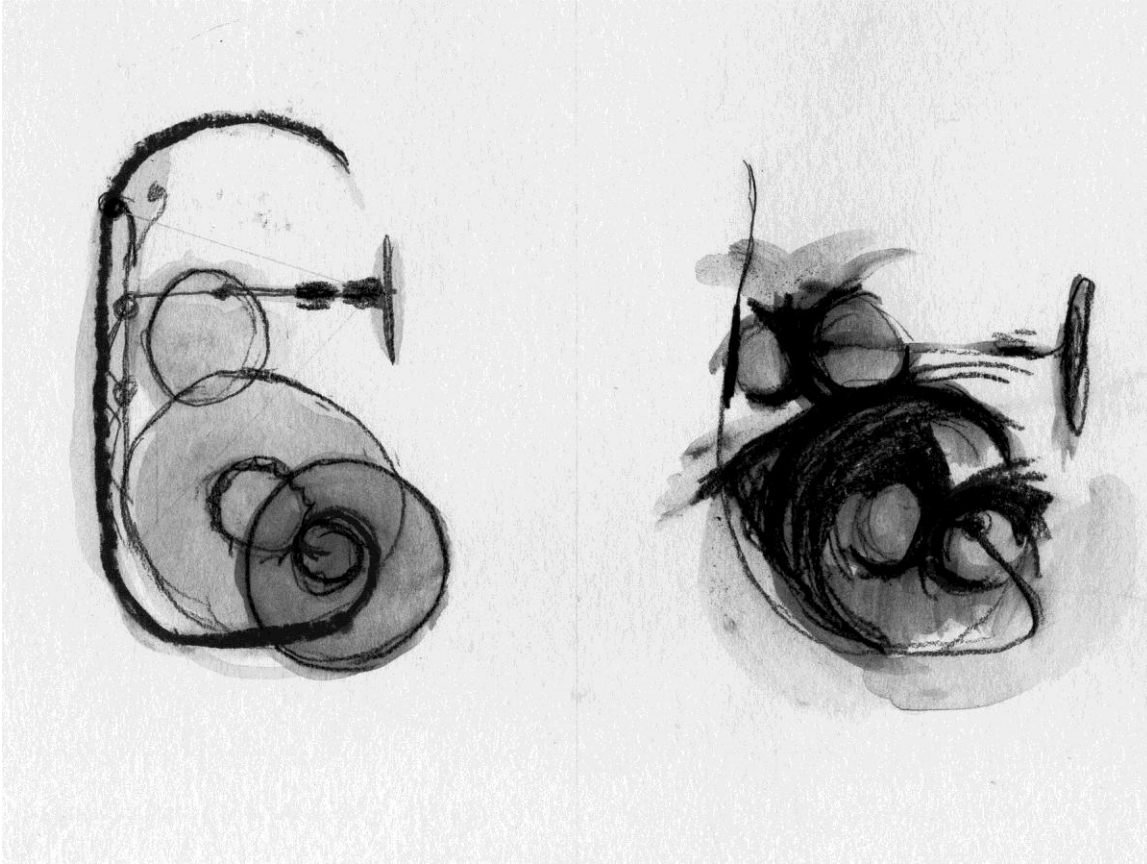


Figure 4. Resistance of 8mm movie camera, engaging and documenting actions of object, hand, and eye. The materiality of the drawing—watercolor, pencil, charcoal, and colored pencil on watercolor paper—provides direct resistance in its making. Drawing prepared by Kayla Ford for Architectural Design 2, ARC 1302, Spring 2012. Instructor: Lisa Huang. Graduate Teaching Assistants: Alana Taylor and Samuel Williams.

Recognizing the intermediary position of architectural drawings, Jonathan Hill notes that:

“The architectural drawing is a projection in that invisible lines link a point on the drawing to one on the building. But the journey from one to the other is not direct. All representations omit as much as they include. The drawing, model, photograph and text provide ambiguous and elusive information—an uncomfortable thought for any architect. Rarely do marks on paper equate to marks on site. To transform the drawing into the building requires an act of translation and an intimate knowledge of the techniques and materials of drawing and building.” (6)

In making these translations, it is often useful to retain interim steps throughout the process, for reflection, re-direction, and occasionally retreat. With physical media, often a sheet of paper or multiple layers of trace record these variable constructs. But with digital media, the intermediate constructs are typically overwritten with each incremental revision. It is easy to see each line as a new invention, one without a ground of prior studies that it can learn from and/or react to. To counter this tendency, we often encourage interim file saves, digital file exports, and prints that can index the design and thinking processes. This can establish a working rhythm while allowing for other operations and senses to engage and influence the design work.

Thick Space: Design Thinking, Education and Pedagogy

One aspect of thick space is atmosphere, something we both work within and that is shaped by our work. In tropical and subtropical climates, one aspect of atmosphere is readily perceptible as humid air embraces us, moves around us, envelopes us, and invades our bodies. But atmosphere involves more than just air itself, with its variable humidity and pressure conditions.

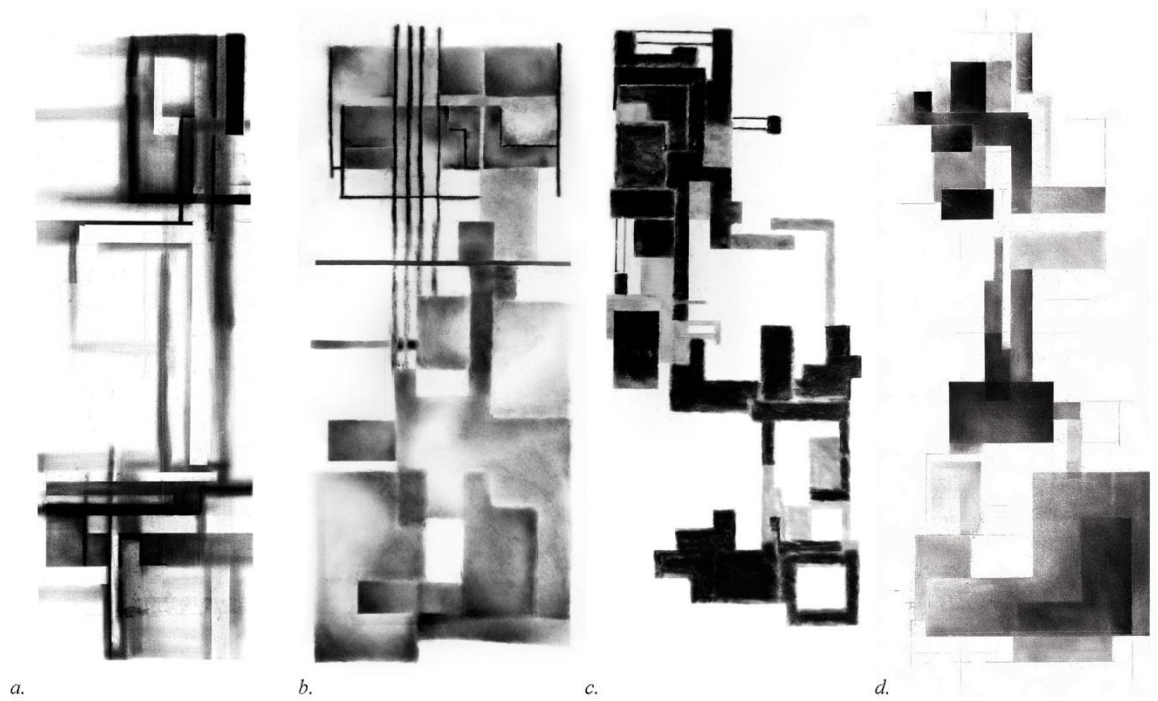


Figure 5. Charcoal studies of spatial itineraries. Drawings prepared by: a) Clarissa Antioquia, b) Joseph Wallace, c) R.J. Walker, and d) Dijana Milenov for Architectural Design 1, ARC 1301, Fall 2010. Instructor: Bradley Walters. Graduate Teaching Assistants: Dave Mojica and Kevin Fitzgerald.

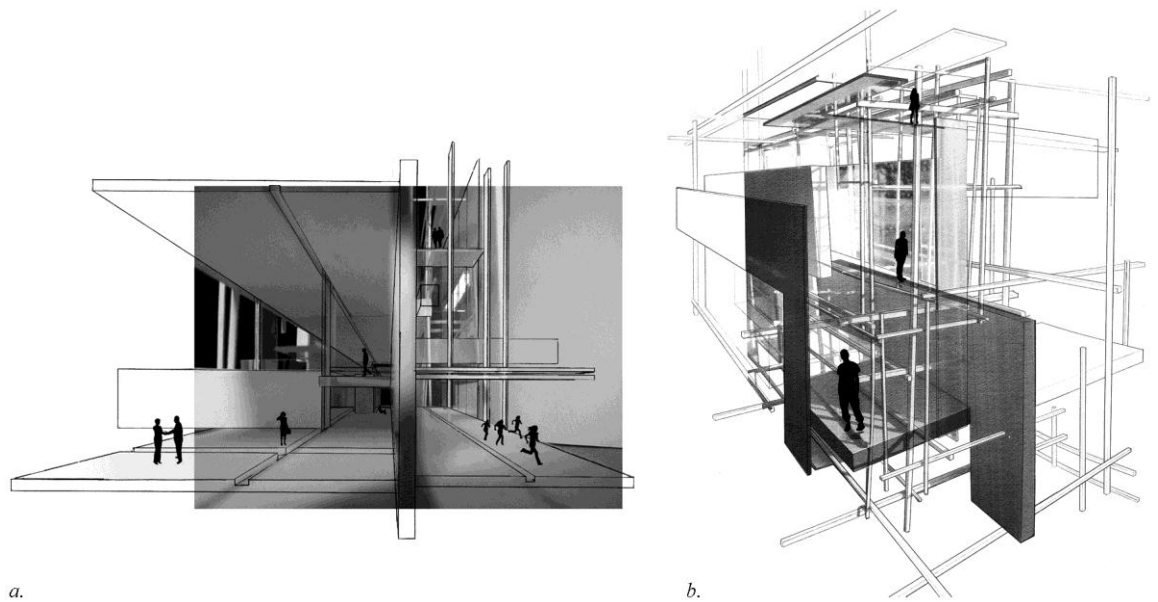


Figure 6. Hybrid drawings, deploying photographs, line drawing, and tone to speculate on qualities of space and occupation. Drawings prepared by: a) Casey Furman and b) Carmen Chan for Architectural Design 1, ARC 1301, Fall 2010. Instructor: Bradley Walters. Graduate Teaching Assistants: Dave Mojica and Kevin Fitzgerald.

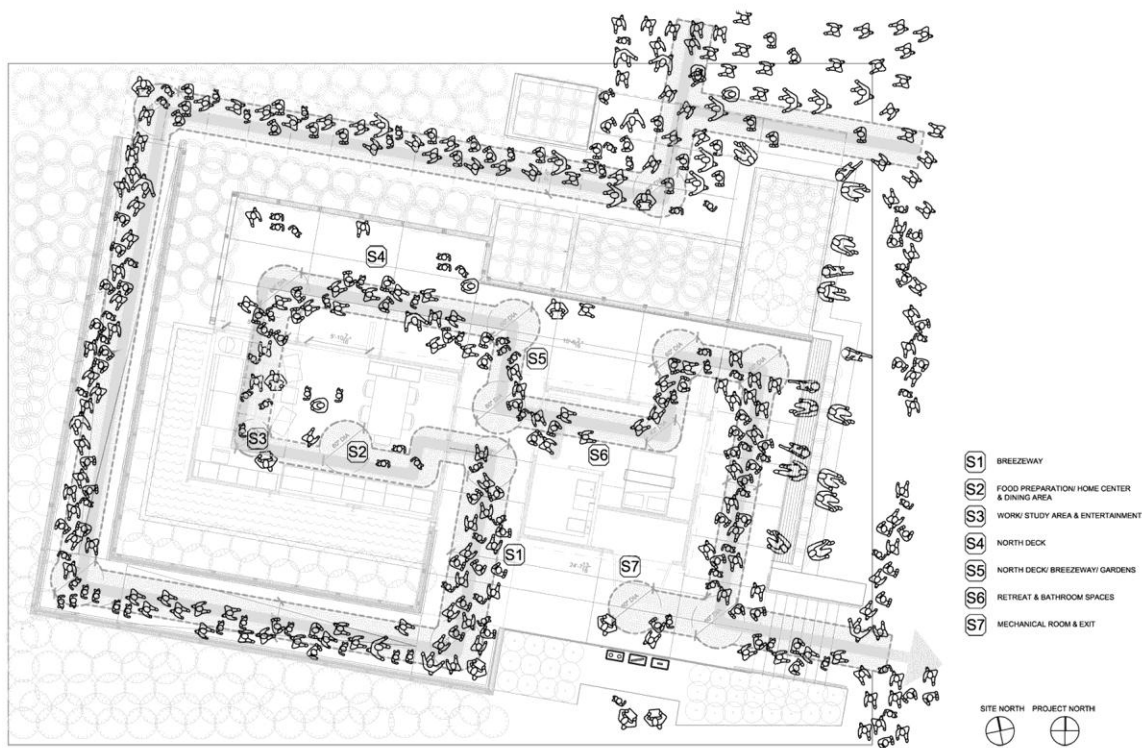


Figure 7. Public circulation tour plan for Solar Decathlon Europe Project RE:FOCUS (Madrid, Spain). Drawing prepared by University of Florida multidisciplinary design team, 2008-2010. Faculty Advisors: Robert J. Ries, Mark McGlothlin, Bradley Walters, Maruja Torres-Antonini, James G. Sullivan, and Russell C. Walters.

As Paul James writes:

“The word ‘atmosphere’ can denote the prevailing psychological climate. There is a connection between atmosphere, as an image of the density of embodied spatial experience, and the notion of a worldview or horizon. Martin Heidegger argued that we perceive the world through various horizons, which can be religious, moral, ideological, aesthetic and psychological. It is through these categories, he argued, that we interpret the sense and purpose of existence and history. Atmosphere is the spatial field through which we encounter and subsequently represent the world.” (7)

Further, he adds that “atmosphere relates to the critical strategy of clouding, to render obscure, to resist rhetorical clarity.” (8) Drawing can be charged with operating within a thick and tangible space, an atmosphere defined by ideas, environment, emotion, and meaning.

For a generation of architects, including Michael Webb, Peter Wilson, Thom Mayne, and Arata Isozaki, Walter Pichler’s drawing work has offered an important inspiration in the shaping of space and atmosphere. Peter Cook writes that:

“The power of [Walter] Pichler’s drawings is undeniable. Their oscillations between tight precision and atmospheric scribbles are as provocative as their inclusion of humanoid forms being violated by a wooden stake or a metallized limb. Another special characteristic of his drawings is the way in which they convey the idea of energy. Lines intensify (sometimes at their extremities), rasp, scratch, and scribble across the paper. Color or tone is dropped down as if blood is being spilled. These mannerisms, quite distinctive, have been formalized in the drawings of Raimund Abraham and Günther Domenig and act as some basis for the dynamic sketches of Coop Himmelblau.” (9)

Cook goes on to add that “Pichler’s work is highly symbolic, ritualistic, even shocking. For architects, though, it has a special quality of breaking down the boundary between container and contained, as well as between the directly readable or tangible object and the referential or ‘haunting’ object.” (10)

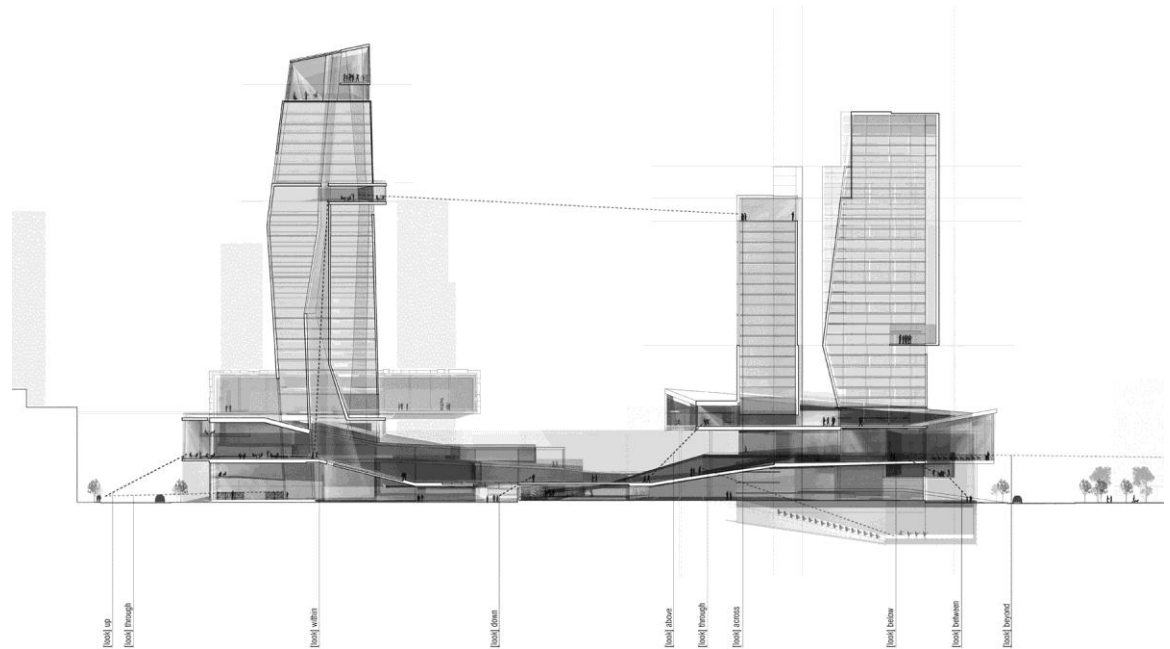


Figure 8. Urban viewing: a mixed-use program of figured and bracketing spaces, New York NY. Drawing prepared by Katie Chu and Melissa Hurcomb for Architectural Design 7, ARC 4322, Fall 2009. Instructor: Bradley Walters.

Endings and Beginnings

The gardening of ideas is sometimes messy. It is a thick process, with the most potent and thoughtful stems growing in and amongst weeds, or more precisely, within a complex ecological system of relationships and interdependencies. Thoughtful drawings often emerge in unexpected cracks and crevices, not necessarily in the right place or at the most opportune moment. We must recognize that these ideas and drawings need fertile spaces in which to grow, and we must shape design processes to allow for them to exist within a web of relationships even when these relationships do not at first appear to be fruitful and/or meaningful. It is important to recognize the fullness of the field, territories, paper, and screen within which drawings emerge and, with luck, blossom and propagate.

The first drawing gives way to the second, and the second to the third, each one successively improving on and/or editing the earlier version.

“It could be argued that the removal of an initial sketch or part of a sketch from the original mass of *pentimenti* in which it is embedded, through redrawing, retracing, pouncing or squaring up is an essential tactic in grasping its new meanings and potential for evolution in a developmental chain. The relative violence of the act of tearing away, or physically removing part of a work, with its concomitant rejection of the previous embedding of forms, functions as a spur to change.” (11)

To finish is to begin anew. Sharpen your pencil and turn on your screen. Draw.

Again.

Acknowledgements

At the University of Florida, the curriculum is a shared project of the entire faculty. The present work is developed within the context of a thoughtful curriculum that benefits from the work of many hands. The curriculum continues to evolve, and it is hoped that this document furthers that mission.

Thanks to Adeline “Nina” Hofer, Peter Chomowicz, and Jill Moser who taught me a great respect and appreciation for line, tone, color, drawing, and painting as a student. And thanks to Mark McGlothlin and Lisa Huang, who have provided invaluable resources and assistance in developing a culture of drawing at the University of Florida.

Special thanks to the students whose work is included herein, and to the many others who contribute every day to the vibrancy of the discourse at the University of Florida School of Architecture.

Notes

1. Deanna Petherbridge, *The Primacy of Drawing: Histories and Theories of Practice* (New Haven and London: Yale University Press, 2010), 28.

2. Peter Cook, *The Finer Grains of Radicalism* (Excerpted from the catalogue of the SCI-Arc Library exhibition, “London Eight,” curated by Sir Peter Cook, Southern California Institute of Architecture in Los Angeles, CA, March 19 - May 16, 2010, <http://lebbeuswoods.wordpress.com/2010/03/25/peter-cook-the-london-eight/>, accessed: 31 May 2012).

3. Iain Borden, “Bartlett Designs,” *Bartlett Designs: Speculating with Architecture*, eds. Laura Allen, Iain Borden, Nadia O’Hare, and Neil Spiller (West Sussex: John Wiley & Sons Ltd., 2009), 13.

4. Hal Foster, *The Return of the Real: The Avant-Garde at the End of the Century* (Cambridge MA: The MIT Press, 1996), 222.

5. Bob Scheil, “Design Through Making: An Introduction,” *AD Architectural Design*. ed. Helen Castle. Vol. 75, No. 4, July/August 2005 (West Sussex: John Wiley & Sons Ltd., 2005), 7.

6. Jonathan Hill, “Building the Drawing,” *AD Architectural Design*. ed. Helen Castle. Vol. 75, No. 4, July/August 2005 (West Sussex: John Wiley & Sons Ltd., 2005), 16.

7. Paul James, “Walter Pichler’s House Next to the Smithy: Atmosphere and Ground,” *AD Architectural Design*. ed. Julieanna Preston. Vol. 78, No.3, May/June 2008 (West Sussex: John Wiley & Sons Ltd., 2008), 61.

8. Paul James, “Walter Pichler’s House Next to the Smithy: Atmosphere and Ground,” *AD Architectural Design*. ed. Julieanna Preston. Vol. 78, No.3, May/June 2008 (West Sussex: John Wiley & Sons Ltd., 2008), 61.

9. Peter Cook and Rosie Llewellyn-Jones, *New Spirit in Architecture* (New York: Rizzoli International Publications, Inc., 1991), 16.

10. Peter Cook and Rosie Llewellyn-Jones, *New Spirit in Architecture* (New York: Rizzoli International Publications, Inc., 1991), 16.

11. Deanna Petherbridge, *The Primacy of Drawing: Histories and Theories of Practice* (New Haven and London: Yale University Press, 2010), 166.