Detours and Denouements

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"The bewilderments of the eyes are of two kinds, and arise from two causes, either from coming out of the light or from going into the light, which is true of the mind's eye, quite as much as of the bodily eye; and he who remembers this when he sees any one whose vision is perplexed and weak, will not be too ready to laugh; he will first ask whether that soul of man has come out of the brighter light, and is unable to see because unaccustomed to the dark, or having turned from darkness to the day is dazzled by excess of light." – Plato, *The Republic*[1]

Spaces of Inquiry

The spaces that we occupy between light and dark as well as our movements from one extreme to another remind us at once of fundamental relationships between the mechanics of bodily perception and the mind's understanding of space. These liminal moments make time physically present, binding together the space of experience with the biological time required for the body's response to change. At edges between the very bright and very dark, we recognize how each extreme has the ability to cloak and conceal certain nuances of space within it. Where these marginal edges expand to become broader in-between zones, our occupation of them can be prolonged. The physical movements of the body are then able to better synchronize with our adaptive vision, allowing us to discover some of the secrets of shadows and to appreciate subtle interplays of light and dark.

Jun'ichirō Tanizaki's *In Praise of Shadows*, extols the role of shadows in the shaping and perception of space. Writing specifically from within a Japanese cultural context, he describes the role of shadows as fundamental to placemaking: "In making for ourselves a place to live, we first spread a parasol to throw a shadow on the earth, and in the pale light of the shadow we put together a house."[2] Subsequent to this initial act, he speaks about the importance of shadows in providing spaces for occupation, spaces within which subtle change and differentiation become legible because of the shadows. "The beauty of a Japanese room," he writes, "depends on a variation of shadows, heavy shadows against light shadows—it has nothing else. Westerners are amazed at the simplicity of Japanese rooms, perceiving in them no more than ashen walls bereft of ornament. Their reaction is understandable, but it betrays a failure to comprehend the mystery of shadows." Reflecting on this work, Guy Horton notes that "*In Praise of Shadows* reminds us of other realms, other feelings that architectural space can evoke, ways of designing for repose, reflection, and solitude in a world that places emphasis on striving, action, and noise. It presents a different way of envisioning space, less 'hot' and dynamic and more deep and subtle."[3]

But it is exactly this "hot and dynamic" condition that shapes the lives of young people today. Many of our university students do not recognize or appreciate the subtle territories of the shadows, the richness of margins between light and darkness, or the time required to probe such ambiguous conditions. Many see higher education as an opportunity to move from the darkness of Plato's cave into "the light" as they gain knowledge, experience, and/or skills. They seek to move as quickly as possible from what they see as a place of darkness to a place of brilliant and never-failing light.

Education in design and architecture today, however, is about more than simply the illumination of hitherto unknown territories through the conveyance of pre-formed knowledge from one generation to another. In contemporary post-industrial educational models, students have become more than empty receptacles to be filled in serial fashion. And, at the same time, the problems of our discipline are simultaneously both more complex and less clearly defined. As Donald Schön wrote in *Educating the Reflective Practitioner*, "the problems of real-world practice do not present themselves to practitioners as well-formed structures. Indeed, they tend not to present themselves as problems at all but as messy, indeterminate situations."[4] The shift from problems (to be solved) to complex situations (in which to operate) is a fundamental and defining characteristic of practice today. It requires students and future practitioners to be able to navigate unstable intellectual grounds, constructing individuated and highly variable frameworks within

which each project can be developed. It also requires us to be adept at deploying non-linear design strategies to study a problem from multiple points of view concurrently.

Challenges

As a result of economic difficulties and varying degrees of austerity in both private equity markets and public budget allotments, those in practice and in the academy have been challenged to do more with less. With increasing costs and diminishing fees, firms deploy digital tools and/or outsource work to more efficiently deliver design services. For many, digital tools and integrated, purpose-driven models have become a panacea for greater efficiency.
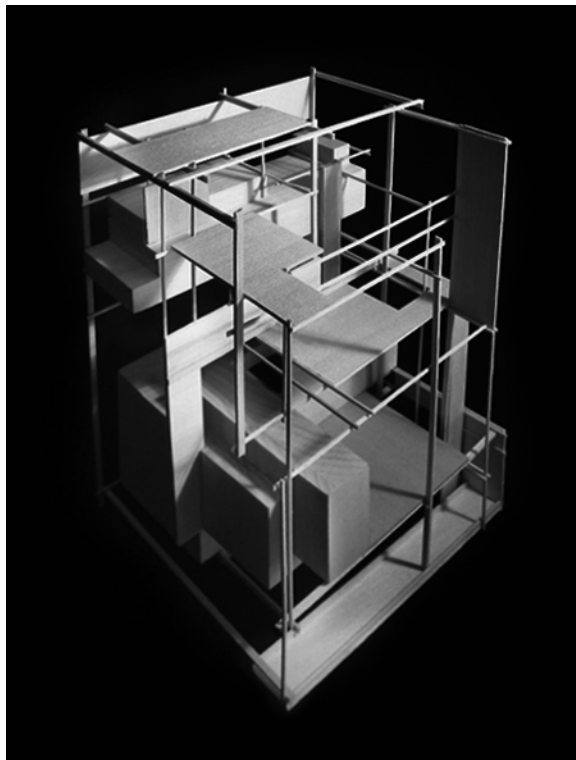

Fig. 1. Displacements of introductory design. As the first project in the studio design sequence, the Cube challenges students to shift their focus from objects to space. Preconceived images of architecture are displaced by new spatial languages and resultant formal constructions. Student work by Adam McCollister for Architectural Design 1, ARC 1301, Fall 2010. Instructor: Bradley Walters.

Schools are similarly streamlining processes, responding to charged professional and political environments. With constrained funding, curricula at many schools are being abridged, shifting programs progressively further from a broad-based liberal-arts education and towards highly specialized professional training. Schools are increasingly pressured to provide students with marketable technical skills that can be applied immediately. This has created a deepening debate surrounding education and training.

It is too simplistic to simply posit these positions as diametrically opposed, with the scientist and poet (or technician and theorist) battling one another for students, funding, and/or validation. The indeterminacy of contemporary architectural discourses, in particular, requires professionals skilled in the kind of "rigorous artistry" promoted by Schön. To educate students for both the near- and long-terms, we must develop both refined technical skills and broad-based reflective thinking that together can sustain and fuel a lifelong love of learning through making.

The charge is to develop educational models that allow students to answer direct quantifiable questions with great precision and specificity, while also developing the ability to ask open-ended questions. Nonlinear studio practices begin by providing students with the clarity of certain known goals, while consciously interrupting their paths with meaningful detours and/or denouements along the way. Of particular importance are those exercises that may change the terms of the argument, unsettle formerly known territories, or create unexpected synergies amongst unlikely partners. The work requires planning, intensive coaching, management of students' expectations, and a certain willingness of students to suspend disbelief along the way.

On Education and Training

In casual conversation and political discourse in the United States, it is common today to hear education and training used together or interchanged in seemingly synonymous ways. In his most recent *State of the Union Address*, for example, President Obama referred to the need for "our citizens have to have access to the education and training that today's jobs require." Elsewhere in the same address, he referred to the need to "equip our citizens with the skills and training to fill those jobs." He continues, noting that "most young people will need some higher education. It's a simple fact the more education you've got, the more likely you are to have a good job and work your way into the middle class." Later, he referred to the need for value-based comparisons of different schools, such that you would know "where

you can *get the most bang for your educational buck*." [5]

On the opposite side of the political divide, we hear similar echoes from the current Governor of Florida, who has advocated for an increase in science, technology, engineering, and mathematics (STEM) programs to respond to increased job openings in these fields. He notes that "we have to ensure we make STEM education a priority for Florida children so that more Florida families have *the tools* they need to pursue the American Dream." [6] Architecture, by the way, is considered to be one of these much-needed "STEM" disciplines.

When the objective is to provide students with "tools" and "skills" for filling current job openings, it becomes clear that the conflation of "education" and "training" is more than simply a question of semantics. It underscores a changing emphasis, one that shifts from a broader (and longer-term) educational mission towards more precisely delimited (and more immediate) training objectives.

In seeking to clarify the differences between these terms, Peter Rickman writes that "training is about practice, about skill, about learning how to do things. Education is about fostering the mind, by encouraging it to think independently and introducing it to knowledge of the physical and cultural world. It's about theory, understanding and a sense of values." [7] Framed thus, it is possible for us to advocate for one of the terms over the other. Intellectuals and the more philosophically-inclined (Rickman included) may argue in favor of "educational" processes that frame ways of thinking, and that may in turn allow for innovation in methods by which specific tasks are completed. But others may suggest that "training" and the disciplined development of skills may allow for a more direct engagement with matter necessary for innovation.

Within the discipline of architecture, these debates have been revived recently with publication of new data on the length of time required to attain professional licensure in the U.S. Including completion of required education, experience, and examination components, this process now stretches to an average of 14.5 years from completion of secondary/high school to licensure. [8] For some, this long duration is seen as evidence of a broken system, one that requires revaluation of

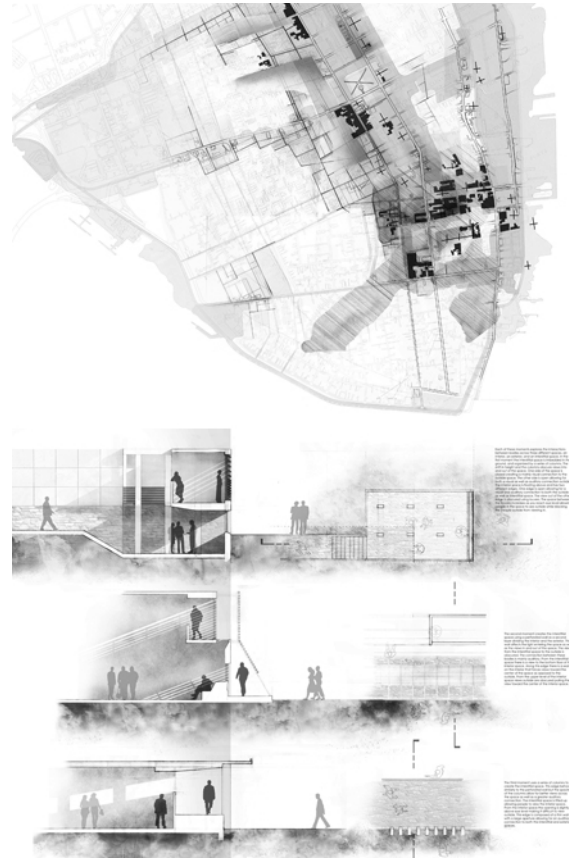educational and experience requirements, in particular.

Fig. 2. Rapid and extreme scalar oscillations. These paired one-week studies of edge at the scale of the city (1:9600) and the body (1:24) were developed for projects in Charleston, South Carolina, U.S.A. Image: student work by Alexander Thomas (top) and Jonathan Fidalgo (bottom), prepared for Architectural Design 6, ARC 3321, Spring 2013. Instructor: Bradley Walters.

The separation between that which is traditionally learned in formal education (at the academy) and that which is learned through direct experience (in the profession) is seen as contributing, in part, to this protracted process.

One response, as promoted by Renée Cheng, Professor and Head of the School of Architecture at the University of Minnesota, advocates the evolution of academia in service to the profession. She suggests that a closer and more beneficial relationship can be developed, based on "a knowledge loop in which the profession would identify problems in the course of practice, and academics would research and communicate useful results back to practitioners." [9] In this close dance, it is the profession that leads, with academia providing a supportive, if submissive,

role. While such suggestions are considered heresy in many schools, they reinforce a more broadly-based idea that it is the schools, not the profession, that should be re-calibrated and/or reinvented.
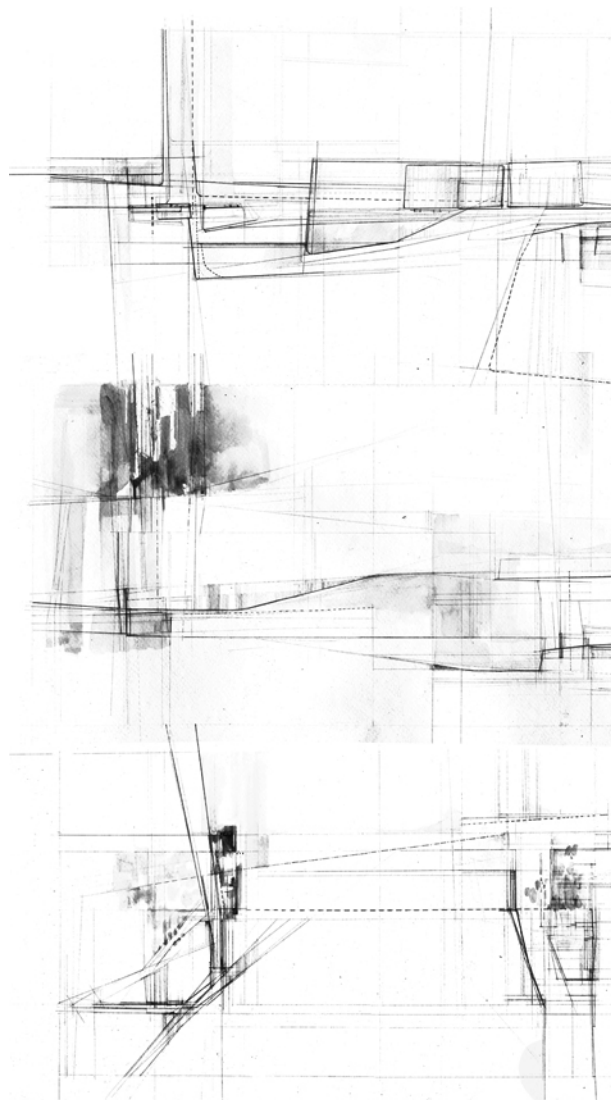

Fig. 3. Eidetic images, mapping and marking site through frames of bodily experience. Drawings prepared by Dijana Milenov for Architectural Design 5, ARC 3320, Fall 2012. Instructor: Bradley Walters.

An alternative position is outlined by Robert Somol in his descriptions of the ETH in Zurich. He refers to the program as harboring the development of critical, self-reflective processes of "disciplining," within which architecture emerges principally as a discursive practice. He writes that "today, this project of disciplining is more important than ever as architectural education—seduced by new technologies that provide answers before the significance of questions can be formulated—risks being reduced to mere technique, to a species of vocational training." [10] He suggests that the

disciplined processes of making developed in the academy serve as important anchors and/or rudders for the discourse of architecture. Speculative work, arising out of these careful, discursive practices, claims territories for architecture that may go beyond extant practices, suggesting new trajectories to be pursued by the profession.

Between these positions is the bright line that separates licensed professionals from unlicensed faculty. It creates a particularly charged environment, with those on one side often undervaluing and/or feeling threatened by those on the other side. The skills and positions of each extreme provide useful ways forward, although they can obscure nuanced approaches that incorporate aspects of both.

Detours and Interruptions

Fed by practitioners and academics alike, certain mythologies of architecture promote the possibility of designing from the concept to the construct, or from the seed to the tree, allowing one decision to inform the next, unfolding in a sequential and/or linear progression that develops over time. But to isolate the design process to the tree, as in this example, is to overlook the roles of many other factors at work (water, light, climate, nutrient cycles, wildlife, context, etc.).

As we acknowledge the complex and often contradictory nature of practice today, we often find that this monocular and linear development of projects is often either not tenable or not desirable. Sometimes projects that begin as singularly-focused and clear ideas are consumed by the many other drivers that impact them, obscuring and/or obliterating the initial design concept. Even in the hands of seasoned practitioners, networks or fields of motivators interact to shape portions and/or aspects of the work, and can diminish the role of a singular "big idea" along the way. But if we abandon ideas of hierarchy and/or the specificity of more singular/important design motivators altogether, architectural responses can become fragmented and undifferentiated. They can lose the ability to synthesize, combine, and/or construct complex relationships that benefit from the many disparate drivers. At the core, the work can lose meaning and relevancy.

In the design studio, one strategy for addressing this paradox is to set in motion certain formal or spatial motivators, pursuing these in tandem with

non-sequential and/or concurrent studies that move across a wide range of scales. The design process proceeds in an interrupted manner, as students are asked to shift their focus and approach the project in different ways.

In the architectural design studio, there is almost always a degree of uncertainty at work, but these intentionally interrupted processes require a greater degree of trust, and a willingness on the part of the student to yield some of his or her autonomy to follow the prompts of a coach or teacher. This is akin to Samuel Taylor Coleridge's call for readers of his poetry to exercise a "willing suspension of disbelief for the moment" to allow "shadows of imagination" to come alive in their minds.[11]

On the part of the educator or coach, there is a heightened responsibility for pedagogical frameworks and careful sequencing of projects that force students to approach their work from multiple, concurrent viewpoints.

In recent years, we have been testing this strategy by introducing interruptions in the curriculum. The first and longest running of these interruptions occurs at the beginning of the first year of our program, as we introduce students to a completely unfamiliar territory of space. The cube project (Fig. 1) unsettles students, challenges their preconceptions about architecture, and introduces them to a new language of operations and spatial relationships. With time and considerable practice, students acclimate to this new language and process of learning through making, eventually growing comfortable and even at times complacent. The vessel project introduced in the second semester (Fig. 4) forces students out of their newly-acquired comfort zones, requiring them to work at full scale (1:1). This project engages their bodies directly, developing a new appreciation for matter, mass, and weight through hands-on work with building materials.

Recent experiments in the fall of the third year displace physical site conditions through the construction of "eidetic images" (Fig. 3). These drawing constructions are challenged to stitch together phenomena and measure through the interplay of line and tone. They require students to both engage the physical site and at once transcend it through their drawing constructions.
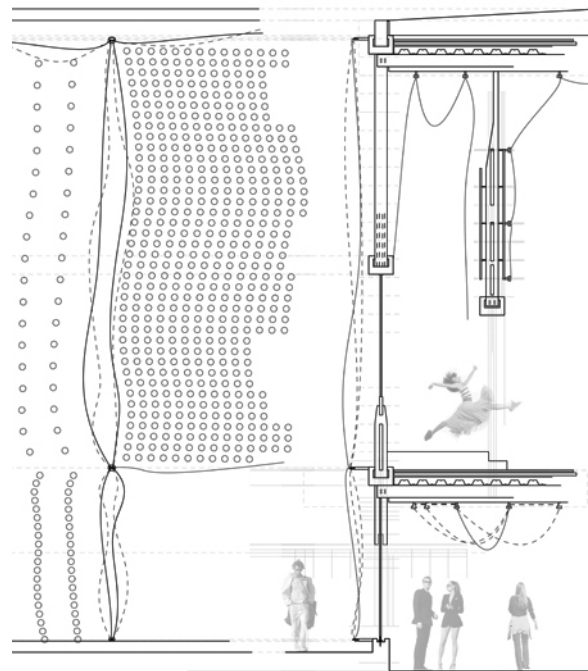

Fig. 5. Large-scale (1:12) building sections and elevations developed early in the design process, while concepts were still fluid and indeterminate. Student work by Martin Fernandez for Architectural Design 6, ARC 3321, Spring 2013. Instructor: Bradley Walters.

Fig. 4. Full-scale (1:1) constructions in a first year design studio, to engage the body and frame interpersonal relationships. Student work by Paul Stanley and Caitlin Geis for Architectural Design 2, ARC 1302, Spring 2009. Instructor: Bradley Walters.

Ongoing work (Figs. 2 and 5) is challenging students to design proposals while shifting from the scale of urban mappings (1:9600), to the scale of the body (1:24), to the scale of the building (1:192). This was followed by speculative work on material assemblies (1:12), before returning to the scale of

the building (1:192). This work was accompanied by unscaled perspectival studies. These scalar oscillations allow students to study issues at multiple scales simultaneously, rather than telescoping from macro concepts to micro details.

Denouement

By introducing a series of interruptions and detours within the design process, we seek to develop within students the capacity for integrated, multi-dimensional thought. It is also a conscious attempt to bring speculative concepts together with material consequence, introducing students to the possibility that these things grow more interesting the more closely they are aligned. We seek to occupy and probe the unsettled and shadowed territories of architectural education that exist between blinding light and the emptiness of space.

Acknowledgements

At the University of Florida, the curriculum is a shared project of the 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. Particular thanks are due to Mark McGlothlin, who initiated the third-year project involving construction of eidetic images, and to Martin Gundersen for his thoughtful reflections and input on teaching and curricular structures. Special thanks also 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] Plato, *The Republic* (Book VII, 360 B.C.E.), trans. Benjamin Jowett. http://classics.mit.edu/Plato/republic.8.vii.html (accessed: 2 March 2013).

[2] Tanizaki, Jun'ichirō, *In Praise of Shadows* (New Haven, Conn: Leete's Island Books, 1977). http://dcrit.sva.edu/wp-content/uploads/2010/10/In-Praise-of-Shadows-Junichiro-Tanizaki.pdf (accessed: 2 March 2013).

[3] Horton, Guy, "The Indicator: In Praise of Shadows," from *ArchDaily*, 9 January 2013. http://www.archdaily.com/316262/the-indicator-in-praise-of-shadows/ (accessed: 2 March 2013).

[4] Schön, Donald A., *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions* (San Francisco: Jossey-Bass, 1987), 4.

[5] Obama, Barack, *Remarks by the President in the State of the Union Address*, 12 February 2013. http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address (accessed: 2 March 2013).

[6] Jordan, Gina, "Governor Says Job Openings Show The Need For More STEM Graduates," from *StateImpact*, 14 December 2012. http://stateimpact.npr.org/florida/2012/12/14/governor-says-job-openings-show-the-need-for-more-stem-graduates/ (accessed: 2 March 2013).

[7] Rickman, Peter, "Education versus Training," in *Philosophy Now: A Magazine of Ideas*, Issue 47, August/September 2004. http://philosophynow.org/issues/47/Education_versus_Training (accessed: 2 March 2013).

[8] Cheng, Renée, "A Better Path to Practicing," on *Design Intelligence*, 1 February 2013. http://www.di.net/articles/a-better-path-to-practicing/ (accessed: 2 March 2013).

[9] Ibid.

[10] Somol, R.E., "Operation Architecture," in *Inchoate: An Experiment in Architectural Education*, ed. Marc M. Angelil (Zürich: Swiss Federal Institute of Technology ETHZ, 2003), 11-12.

[11] Coleridge, Samuel Taylor and William Wordsworth, *Biographia Literaria or Biographical Sketches of My Literary Life and Opinions* (London: Rest Fenner, 1817), 174-175.