

UNSTAKED TERRITORY: Frontiers of Beginning Design

Proceedings of the 19th National Conference on the Beginning
Design Student, Oklahoma State University, Stillwater, Oklahoma
April 3-5, 2003



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Challenging The Boundaries I
Challenging The Boundaries II
Integrating The Boundaries
Obscuring The Boundaries
Various Terrains
Initial Terrain

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Drawing as a Site for Exploration in Foundation Design

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Within the discipline of architecture, drawing is often regarded as a tool for communication. But, *is* architectural drawing principally about communication, or does it also touch a more elemental and profound yearning in us which seeks a reality within its own physical medium? If we agree that architectural form and concept are one, inseparably defining one another as two sides of a coin define the coin, we could imagine drawing not merely as an instrument for communication, but as a means to explore architectural ideas.

As a way to stake out the territory for this paper, let me share a story with you. My five year old daughter, Molly, loves to draw. One day she sat down to draw her classroom hamster. Her first sketch elicited an unexpected comment from her, “oh, that’s a talking bat.” Another drawing inspired this, “...and that’s a talking sailboat.” Rather than frustration with her inability to *will an image of the hamster into existence*, Molly felt an immediate and unencumbered response to what she had drawn, belying her belief that the drawing had a life of its own into which she had entered, *in dialogue with* the drawing.

Young children learn through repetition and if left to their own devices, will often repeat a drawing over and over, subconsciously or unintentionally introducing slight variations on a theme as they dialogue with and through the medium. Children use drawing as a place to investigate and reveal their emerging understanding of the world around them. The physical medium of the drawing is both the place of and *a partner in* the investigation. The drawing unfolds easily and modestly as a mute companion in their playful dialogue. Children seek a reality within the physical medium of the drawing, to which they give their full, undivided attention. The curiosity and enthusiasm that children bring to their play and work can serve as a model for an alternative approach to drawing in architectural design education. The ego less, childlike play, resisting expectation or pressure from peers, in which children find an immediacy within the drawing, provides a genuine example for us to emulate.

Before written language, early humans used drawing, to honor, depict, and record stories; to capture fleeting moments and to render the beauty of what they saw. These unpremeditated expressions of pure awe at the beauty of form exploit the possibilities of drawing as a medium. The distinction between the image of an existing condition and the formal expression of an idea is inadvertently blurred as the author and the drawing are partnered in the process of making.

These are just two examples, child’s play and early human rendering, of the possibility of drawing as a site for exploration and investigation, rather than merely as a tool for communication. Now, set aside for the moment this idea of drawing as exploration to ponder two important considerations as we continue staking out the territory of this investigation.

First, one challenge for architects is that, for them, drawing is an intervening medium, not directly the object of their thought and creativity. Though architecture directly engages the materiality of our world and our existence, it differs from other arts in that the architect’s most intense activity is in the manipulation of the drawing and not in the manipulation of the final artifact, the building. What distinguishes the *work of art* is that the subject and the medium are inseparable; the artist’s medium constitutes the conceptual idea, given vitality through its rendering into form - a painting or a sculpture, for example. Architects, on the other hand, employ various means to *approximate* the building, focusing on particular material intentions that result in a *semblance* of the building, not the actual building.

Secondly, the predictive role of architectural drawings, so much a part of the professional and academic domain today, was not always the case in the evolution of an idea into architectural form. In the past, drawings suggested where the craftsmen might begin the process of construction; the craftsmen, usually equipped with skills evolved over generations, were entrusted with realizing an architect’s vision. However, though the relationship between drawing and building has undergone transformations over the centuries, our penchant for control still has not yielded an easy, one-to-one correspondence between a drawing and a building. Indeed, in their book *Architectural Representation and the Perspective Hinge*, Alberto Perez-Gomez and Louise Pelletier challenge the conventional set of projections which we assume add up to a complete, objective idea of a building. They suggest

that "... an invisible *perspectival hinge* is always at work between these common forms of representation and the world to which they refer." More important, the *properties* of drawing, which give it its inherent value as a method of representation, often go unrecognized and underutilized. This is both surprising and unfortunate, for the power of the drawing as a medium lies not in its likeness to that which it portrays, but in its *distinctness* from it. This may sound paradoxical or seem to put the architect at a disadvantage, but I believe it opens the potential for architectural drawing, in and of itself, to become an opportunity for exploration, inherent in which are the properties and powers which underlie and inform the conceptual development of architectural form.

Against the backdrop of these considerations, let's return to the possibility of drawing as a site for exploration and dialogue. Drawing, the kind of "making" most often used by architects, resides between the architect's imagination and the design of a building. Drawing techniques are doggedly taught in schools of architecture, so convinced are we that good technique will yield good design. The possibility that drawing is more than a means to communicate is no doubt recognized, but perhaps overlooked in design studio pedagogy where technique may be the arbitrary choice of an instructor. If we are committed to engaging discovery and exploration of the undetermined dimensions of the architectural idea, the *role* of drawing in the design studio could assume new significance: as an instrument to *expand* the boundaries of what is known. The process of making and the investigation and development of ideas could occur simultaneously in one construction, the drawing.

Within the drawing, the mind and the hand inform one another. The mind and the hand are partners: they move in an unfolding dance. Drawing and thinking become simultaneous operation and expression. Conceptual notions arise within the character of the drawing as evidence of a dialogue between the author and the drawing, the mind and the hand. The process of making is critical for students in their early design years, for they learn through making. Since drawing is a medium which students can employ easily, it can serve as a means for them to investigate what *could be*, instead of a means to depict and represent what is *known*. It is important here to distinguish between *drawing what is known*, which, on the one hand, is meant to record impressions or document that which exists, and, on the other hand, is the predictable rendering of a premeditated vision in the student's mind - the "willing the image of the hamster into existence," so to speak. By contrast, exploration through drawing of what *could be*, is a way of manipulating ideas through the manipulation of architectural form.

Drawing creates a world of its own in terms of its own medium and its own making. It has physical constraints and a physical presence; still, as a tool in design education, it is both a means of exploring ideas, and the residue that remains after making, working, and thinking has occurred on paper. Drawing becomes evidence of an investigatory process. Through "dialoguing" and "partnering," the drawing, like the child's mute companion, is simultaneously formed by the student and informs the student. However, this is only possible if the student is encouraged to *see* and *respond to* what she has drawn. In this light, architectural drawing allies itself with the work of art. Indeed, pencil and paper for the architect become like paint and canvas for the painter, or clay for the sculptor. Drawing - both the process and the record - emerges as the material residue left by the process of drawing and thinking simultaneously.

This suggests that perhaps, as teachers, we must consider not only what is known, knowable and teachable, but also consider those places on or beyond the limits of what is known - the frontiers - to explore those areas where what "could be" is possible. We must have the courage and the patience to allow ambiguity, spontaneity and uncertainty to sit comfortably in the work of our students. The site for exploration is that place on the frontier of architectural knowledge - beyond convention, institution, or expectation - a place which is wide open for exploration and prospecting.

A compelling aspect of beginning studio are the questions posed by eager students; persistent questions about beauty, meaning and architecture seem to bubble to the surface and demand our consideration. Their questions provide a way into our discipline. Architectural educator David Leatherbarrow contends in *The Roots of Architectural Invention*, that the "fundamental questions simply do not go away, nor can they be assigned to past periods while 'answers' are tied to the time of their foundation. Fundamental questions in architecture persist, and the understanding and experience of their persistence actually makes up the structure of architectural reality." For me, this reality is the realm in which I prefer to confront questions at their elemental levels, assuring that they arise from what is seen and understood in the work. It is in this *guise* that the integration of theory into the fabric of the design process *through drawing and making*, provides beginning students with an invaluable conceptual framework within which they may begin to develop their own internal, critical sense of what they see and make.

Nevertheless, while theory certainly plays a role in architectural design and may be an important factor in the design process, the theoretical concept alone does not possess the power to bring about design. Though, typically, architectural theory is concerned with either a body of knowledge or ideology through which a piece of architecture might be examined, the arrangement and organization of pure concepts cannot generate form. In order to determine the undetermined, one cannot simply choose a conceptual solution to depict, for architectural ideas are

not accomplished in the medium of thought, but in the medium of form. Thus, the *design process itself*, within which the architecture unfolds, becomes a site for theoretical investigation, as well. Within a narrow and specific set of pedagogical parameters guiding the scope of studio work, carefully conceived material exercises unveil theoretical issues evidenced in the work.

Now, let's turn to some examples of drawing. The sketch marks a moment of *becoming* in the design process in which multiple combinations and readings are simultaneously present, open and possible. The sketch is a repository of dormant vitality that lies within the penciled textures of its physical materiality and is as much a *participant* in the process of the architecture becoming, as the architect herself. That dialogue between student and penciled marks reveal latent and simultaneous possibilities within the drawing. Ultimately, subsequent drawings reveal and unfold just one or two of the possible configurations inherent in the initial, generative sketch. Student and instructor together must recognize the intrinsic power of the early sketch, so that the student can see, respond to and conceptualize through the materiality of the drawing. However, it remains the responsibility of the instructor to choose the type of drawing, limit the palette, and define the parameters, so that particular issues become salient in the process of making the drawing.

The section is a drawing in which to explore architectural space and the experience of the volume of space. The section demonstrates a social and experiential dimension of architecture. Like its companion drawings the plan and the elevation, the section is an orthographic projection in which equal weight is given to each element in the drawing. Two dimensions are accurately represented in the section, width and height; by eliminating the information in the third dimension, the other two are emphasized. Within the section, human scale and human interaction with space and form become legible. Sectional elements within the drawing describe and focus our attention on the experiential aspects of the architecture.

Today, new technological advances, the speed of reproduction, and seductive capabilities for depiction entice us. How can architectural education effectively integrate the technological alternative to hand drawing into the curriculum? Drawing on the computer provides students with colors, lines and textures to "choose" from; opaque or transparent materials are selected, complete. Decisions appear to have come to a final resolution before they are fully conceived. There is little possibility for ambiguity, suggestion, or multiple readings. These drawings communicate what has been chosen from the digital list of possibilities; yet, drawing is about *evolving* choices. While some might call this ambiguous or fuzzy thinking, design drawing is by nature a fuzzy process and therein lies its power. Using drawing to *explore* frees us, through the iterative process, to distill the work, fueling the investigation that eventually evolves the formal resolution. Students must learn when it is appropriate to use the computer and when it makes sense to draw by hand. *The mode of representation is never neutral*; knowing when to use which tool is critical to design thinking. This suggests that instruction in foundation design must guide students thoughtfully through a process of simultaneous making and thinking to familiarize them with this extraordinary realization.

Tracing, though used frequently in studio teaching, needs some explication related to the issues I have raised here. Unexpectedly, tracing wields a considerable impact in the development of the ability to see. Tracing examples of existing drawings permits students to distinguish contours, proportions, line weights and relationships. An additional benefit is that, given the task of tracing, students feel released from the pressure of having to make something on the blank page. They shift, inadvertently, into a mode of seeing and drawing, in which they automatically *listen* to their traced marks.

There are other drawings that distinguish between depiction and proposal. By the use of different and combined media, depiction may be enhanced and ideas developed in ways which are *essential to their making and production*. Again, Perez-Gomez and Pelletier compel us to consider the implications of the tools we use, and suggest that in searching for "...appropriate alternatives to the ideological stagnation plaguing most architectural creation [today,] *the first crucial step is to acknowledge that value-laden tools of representation underlie the conception and realization of architecture.*" (my emphasis) Ideas are manifest in the form, order and character of the drawing where the *medium is important as the means of depiction*. Investigation of what could be, is a way of manipulating ideas, not architectural form, per se; such explorations on paper might propose and not, merely, represent. This shift in emphasis for drawing suggests that this 'paper architecture' is perhaps more akin to art.

Exploration and investigation through drawing awaken that place in the mind where the work of the hand touches a green thought, where form and space are still malleable, simultaneously allowing all possibilities for their configuration and disposition. Conceptually, this marks a passage into uncharted territory where possibilities unfold through the poetic vision. Since the fundamental questions remain with us to be answered in our time, we must have a way to access the frontiers of architectural design, for each generation must confront and answer these questions anew. By examining the problem of thought and design in the making of architecture, where meaning resides within the invisible dimensions of the physical material that constitutes the work, we find the stuff which *is* the meaning.

Drawing becomes a liberating capacity permitting students to post themselves on the outer limits - the frontiers - of known conditions. Compelled to pursue, explore, investigate, reveal, and dismantle, students may safely transgress these limits and find ways to engage and fashion a depth in their work that reflects their own humanness. Perez Gomez and Pelletier encourage us to see “the possibilities of the constructed world as a poetic translation, rather than prosaic transcription, of its representations.” I propose that more than a translation, the drawing becomes the subject itself: the site for investigation and the artifact. We must have the courage to embrace drawing and its inherent properties, as a critical tool for investigation and engagement that reflects our human condition. For in this way drawing initiates the recovery of the lost ground of our connection to making - using our hands and our minds together - by opening up that place where there is no distinction between the creative acts of exploration and production.

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Abstract: Drawing as a Site for Exploration in Foundation Design
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Within the discipline of architecture, we often regard drawing as a vehicle for communication. For some, drawing is a means to illustrate an idea or solve a technical problem. If architectural form and concept define one another, as two sides of the same coin define the coin, one could imagine drawing not as a tool for communication, but as a means to explore architectural ideas. Making and the transformation and development of ideas could occur simultaneously, then, in one construction, the drawing. Students learn by making, and since drawing is a medium which they can employ easily, it might serve as a means to investigate what *could be*, instead of as a means to depict and represent what is *known*. This idea is particularly important notion in the early design years.

Young children learn through repetition and if left to their own devices, will often repeat a drawing over and over, subconsciously or unintentionally introducing slight variations on a theme as they dialogue with and through the medium. Is architectural drawing about communication, or does it touch a more elemental and profound yearning in us that seeks a reality within its physical medium? This paper contends that it is the latter and argues that drawing in foundation design can be both the site for exploration of ideas and the artifact.

Throughout history, architects have used drawing to represent building. Certainly theory plays a role in the development of architectural design, but while theory is important and surely a factor in the design process, the theoretical concept does not possess the power to effect design. The arrangement and organization of pure concepts, revealing some hierarchy of being and the world, cannot generate form. In order to determine the undetermined, one cannot simply choose a conceptual solution to depict, for architectural design is not accomplished in the medium of thought, but in the medium of form.

There are drawings that distinguish between depiction and proposal. By the use of different media, depiction may be enhanced and ideas developed in ways which are essential to their making and production. Drawing and thinking become simultaneous operation and expression. Ideas can be manifest in the form, order and character of the drawing where the medium is important as the means of depiction. Exploration through drawing of what could be, is a way of manipulating ideas, not architectural form, per se; such explorations on paper might propose, not represent. This shift in emphasis for drawing suggests a kind of architectural drawing that is perhaps more akin to art.

