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MANFREDO TAFURI, AND JEAN PAUL SARTRE WALK INTO A BAR AND ORDER HALF A GLASS OF BEER
(Or, Operations of Substance and Meaning for the Beginning Design Student)

Abstract
This paper investigates operations of substance and meaning for the beginning design student by looking closely at the space in time before a design concept is formulated.

Teaching the beginning design student involves the synthesis of myriad concerns and considerations, from guiding the student to develop the eyes of a designer, to the instructor's continual questioning of architecture itself (of the profession and the artifact) in order to determine for him or herself how to create a relevant environment for learning. Immersed within this environment, students are often confronted with the production of a design concept: a guiding premise through which decisions are made and against which ideas are tested, a concept that guides how their design will unfold and structures how a project will progress.

But implicit in this production is a pre-condition, a sort of repository of raw material out of which the design concept is to be constructed. Before the design concept can be articulated and acted upon, there is (must be) something else.

In that space before concept there is insight: a spark, a revelation, a discovery--and insight can be taught.

Method
The place of insight is exposed through an exploration of its components: its potential knowledge base, operation, and structure. Key points are elucidated through examples of student work.

Conclusion
In this case, insight, the pre-condition of the design concept, is developed through careful study of the embedded potential for transformation present in a given context. Analysis and study lead to insight and synthesis.

Keywords
Observation, Insight, Design Concept, Beginning, Confidence

In the slice of time directly before a design concept, there is insight. If we attempt to slow the camera down, as Benjamin[i] might say, to zoom in and pry open this slice, we can occupy that space where insight is formed and take a look around. The journey is crucial, or rather, the stop. Long before the destination is reached, before the settling dust catches in light aimed at the nostalgic wreck of a design studio after the review, before supplies are re-supplied, before layers of trace and debris pile up, before even the design concept is conceived, we stop the car and get out to go for a walk.

Before the there, there is a here. Students are often confronted with the production of a design concept or strategy: a guiding premise through which decisions are made and against which ideas are tested. It is a part of the process that guides how their design will unfold and structures how a project will progress. But implicit in this production is a pre-condition, a sort of accumulation or repository of raw material out of which the design concept is to be constructed. Before the design concept can be articulated and acted upon, there is (must be) something else. How do beginning design students collect this raw material? How do we teach students to be insightful about the built environment—both in terms of how they see the world around themselves and in how they begin to structure proposals for design, for how design is to take place?

For how design is to take place is a very wide question. That spark, revelation, that discovery of insight that can be formulated into a design concept begins to answer this question for the design student. It allows a student to conduct a design process, rather than solve a problem and allows for a clarity of thinking toward design proposals. Confidence is gained through ownership of ideas where, rather than trying to hit a target, the student creates the premise.

1) Frameworks of knowledge

Architecture emerges from the didactic, from how it is taught to how it teaches. From Alberti's early treatise to Wagner's "Guidebook to His Students" and beyond, architecture, its instruction, and what it instructs have been intrinsically linked. From this linkage there emerges a certain dilemma: what kind of knowledge forms the basis of this didactic relationship? And, how does this knowledge operate for the beginning design student?

The trap of the *a priori*

We can continue to pry open this brief space of insight by looking first at two differing and complementary frameworks of thought: *a priori* knowledge and empirical knowledge. The discussion of *a priori* concepts in architecture can be as plastic and complex as a discussion of architectural history itself. Manfredo Tafuri often points to how architecture operates in response to an architect's deep seeded need for legitimization.[ii] In this first clue from his *Ricerca* (Tafuri 2006), he begins with the proposition that, "Rather than focusing on the formation of norms—the objective of a veritable avalanche of studies—it seems more useful to examine the way in which the 'production of meaning' was conceptualized during the era that we have become accustomed to call the Renaissance." He refers to the " 'anomalous' *exempla* from the imperial era" explored and dismembered by renaissance architects and asserts that, "the antique so often cited by these architects represents a collection of *disjecta membra* that are read 'in a metaphorical sense.' Hence the impulse to innovate is grafted onto 'a need for rule' left unsatisfied by Vitruvius…."[iii] The scattered debris was gathered *for* its eccentricity, for its lawlessness, and made a case. The renaissance, or what we "call the Renaissance," was the *avant-garde*. Innovation with this need for a rule eventually becomes a self-referential system for design. Meaning comes not from the relationship of *design* with *some-thing,* but rather from the relationship of one 'part' to another—each piece in the kit having an assigned value that determines the complexity or eloquence of the relationship designed. So then within this system, one must become an expert on the value of each particular part. One could argue within this context that it was not curiosity and a quest for understanding that founded fields of study such as archeology, but rather a deep seeded insecurity driving a search to 'fill in the gaps'.

A priori study promotes the seeking of a body of knowledge in which to become an expert. Study, in this case, is used to produce rules according to which problems are solved. It provides the clarity of: *yes* and *no*, *right* and *wrong*, or *what to do, what not to do*. As such, study within an *a priori* framework produces two traps for design students. First: the sponge trap. Students sense the right and wrong of the framework and they begin to cling to those

definitions. The *yes's* are known and all one has to do is learn them, absorb them, to become a "good" architect. The second trap follows from the first: the expert trap. Students sense that the gaps in their knowledge must be filled in before acting, before making a decision. Becoming a "good" architect then becomes impossible. The realization results in paralysis. In a way, one could say that *a priori* study disallows insight, or rather, when it is allowed, this system cages it in a very strict rubric, what both Tafuri[iv] and Perez-Gomez[v] discuss as the self-referential system referred to above. Often voiced as a shift *from* "a priori" *to* self-referential, for this argument, the two systems can both be described as *a priori* and the shift is one in kind: *from* referencing an outside system *to* referencing internally determined rules that pre-date the design process.

Figure 1. Student, Catherine Mason.
Tonal Study. Seeing through charcoal, Fall 2007.

Empirical access

Curiously, the empiricism that Perez-Gomez[vi] credits with this shift, now offers us a different point of view. In conducting the didactic relationship between architecture, its instruction, and what it instructs, empirical study provides us with some initial benefits. First, the basis of empirical knowledge is sense perception. Sense perception relates directly to occupation: to the variety of sources and resources of phenomena within an environment and how they are perceived by an occupant, and by the design student. Students can directly investigate their experience of light, shadow, color, sound, temperature, and texture. Second, with no forgone conclusion, students are allowed to build up a point of view incrementally through their own direct investigations. Rather than trying to hit a target, the student creates the premise. This operation allows for the development of a "good response" rather than a

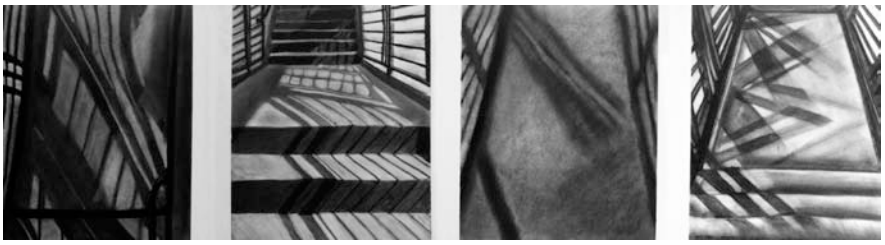


Figure 2. Student, Page Carpenter. Charcoal study. Designed observation, Spring 2008.

"right answer". Third, design problems loose the digressive pull of problem solving. Problem solving can be seen as the opposite of invention when the student learns to see a problem as a barrier to overcome: if a wall, then a stair. This line of thinking concretizes the problem into the solution. On the other hand, with no pre-existing answer, the student can learn to see a problem as a lens for viewing. Problems become the source of invention and in the invention; they are transformed, not concretized.

2) Perception sensed

Even our most spontaneous of revelations occur within a framework of thought. As designers, we create a scaffold of resources to draw from, or rather we create a medium for ourselves through which to think as we work. This medium for beginning design students starts with active perception—perception that they continue to shape with experience. Drawing exercises this past fall semester were used to foster a student's engagement with their surroundings. Rather than operate as a passive receptor of knowledge and information, students began to actively see the world around themselves, to design observations. In his *Illuminations*, Benjamin describes how, "During long periods of history, the mode of human sense perception changes with humanity's entire mode of existence. The manner in which human sense perception is organized, the medium in which it is accomplished, is determined not only by nature but by historical circumstances as well."[vii] In later examples, he exposes how new technologies and media can and do change how a society perceives its environment. "With the close-up, space expands; with slow motion, movement is extended…. Even if one has a general knowledge of the way people walk, one knows nothing of a person's posture during the fractional second of a stride. The act of reaching for a lighter or a spoon is familiar routine, yet we hardly

know what really goes on between hand and metal, not to mention how this fluctuates with our moods. Here the camera intervenes with the resources of its lowerings and liftings, it interruptions and isolations, its extensions and accelerations, its enlargements and reductions. The camera introduces us to unconscious optics…."[viii] This change in sense perception happens not only when a society produces a new medium of production, but also when individuals learn to see through a medium that is new to them.

Figures 3 and 4. Student, Whitney Ashley. Photo collage study and site installation, Spring 2008.

The second twist

As students learn to see through new drawing media, their perception shifts. Although quite separate from the final model described by Varnelis (1998), this new medium of thought shares its roots with *The Education of the Innocent Eye*. In *The Genealogy of the Innocent Eye*, Varnelis relays the coining of the phrase by Ruskin and discusses how, "According to Ruskin, this innocent transparency of vision was displaced by conventions learned from society: 'Having once come to conclusions touching the signification of certain colours, we always suppose that we *see* what we only know, and have hardly any consciousness of the real aspect of the signs we have learned to interpret.'"[ix] Ruskin's "infantile sight" was one of direct perception, unaffected by memory. Varnelis further explains that, "Ruskin emphasized drawing perceptions rather than preconceptions of the outside world."[x] Here again lies a twist, *the* twist. For the change in sense perception sought by Ruskin was taught, "not with direct observation but with abstract formal lessons."[xi] If at first we began close-up to Ruskin in thinking through an evolving sense perception, now we have been

snapped away by his "abstract formal lessons". Next, the history draws us into Pestalozzi's hope, "to help children learn perceptually, by doing, not by repetition. True understanding of an object, he believed, would be gained when the student would measure and draw it from real life."[xii] Only to then launch us back when Varnelis explains that, "Pestalozzi's instructor would begin teaching children an alphabet of geometric forms, such as lines, shapes, and angles. The result, he believed, would be that the student would learn to observe and represent abstractions."[xiii] In Varnelis' *Genealogy*, repeated whispers of empirical study are enacted through *a priori* means. "By the eighties, the visual language had become codified in a series of textbooks of principles of architectural composition…."[xiv] In each case, the innocent eye leads to abstraction. The burden of signification is not ameliorated, but again shifts in kind.

Perception and iconic memory

A second look at Ruskin's initial call for innocence is revealing: "we always suppose that we *see* what we only know, and have hardly any consciousness of the real aspect of the signs we have learned to interpret."[xv] Here, memory and learning stand in the way of seeing. Iconic memory stands in for direct experience. The study of memory reveals that, "We begin the processing of a memory with encoding—the individual's representation of events for convenient interpretation and memory storage…."[xvi] Other researchers explain, "As time passes after learning, one's representation of distant events loses detail through forgetting but becomes more schematized, organized, and related to other material in memory (Barlett, 1932) during the process of consolidation."[xvii] So the helpful abstraction that Ruskin identified as changing perception works over time after learning. The iconic representation of an object, a shoe perhaps, condenses over time such that as more and more shoes are observed, their "shoeness" is abstracted into memory and one is able to know a shoe when one sees it, even though the current shoe may be radically different than the first shoe observed. It was a similar layer of abstract signification that Ruskin attempted to make transparent by teaching "formal lessons" based on an *a priori* understanding of form pre-abstracted for his students. In this example the connection between *a priori* concepts and abstraction is two-fold. In one case, memory operates through abstraction to create *a priori* knowledge, available

for its next retrieval. The abstract *known* object is experienced along with the perception of the *actual* object being observed. In the other, Ruskin specifies that *seeing* is obscured by a type of vision characterized by knowing. In his statement, one's perception of an object or color is abstracted by knowing what it signifies. Signification is then subverted through the use of abstract and pre-determined formal qualities. Both of these operations of abstraction greatly reduce the opportunity for insight by drastically reducing the amount of 'raw' material available from which to work.

The tall grass and drone of summer insects confirm a space away from the highway and with the car well behind us, us *auto*moblie, not automatic, we come to a clearing.

3) The scaffolding of insight

In this example, the framework for insight is different than that ultimately produced by *the innocent eye*. Rather than focusing on a system of abstraction manifest through a requisite 'kit of parts,' the change in sense perception is mediated by analysis. We can now hone in on one key difference between analytical study and iconic abstraction. Abstraction reduces, condenses, and reorganizes information by strictly following commonalities. All else is stripped away. On the other hand, while analysis filters out focused information, the totality remains. This allows one to revisit the same condition in multiple ways and to take away new information each time.

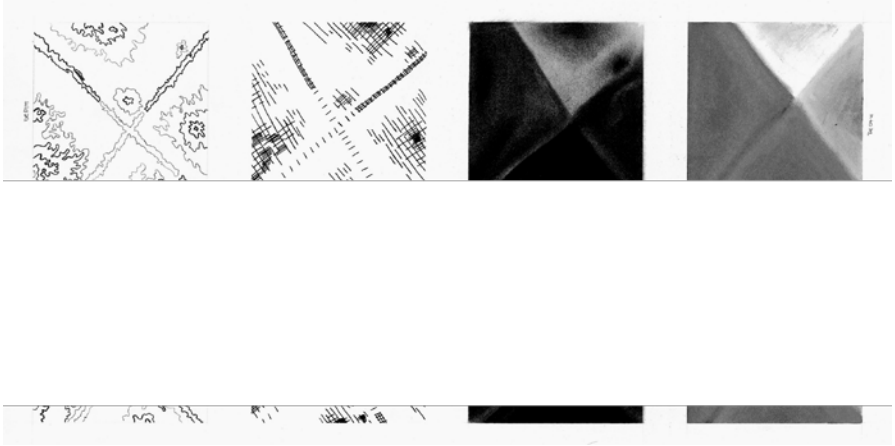


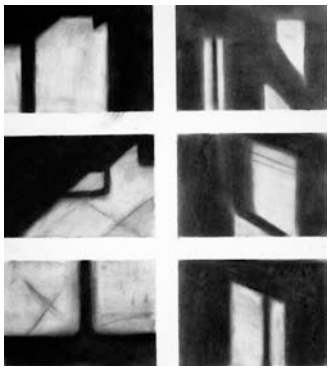
Figure 5. Student, Sarah Dean. Multimedia texture analysis, Fall 2007. Left to right: pencil, pen, charcoal, pastel.

For beginning design studio the scaffolding of insight was built around media filters and study. The use of media filters began in the fall semester through a series of direct observation drawing exercises intended to promote the students' engagement with the world around them as designers. Pencil, charcoal, pen, and pastel each became a new analytical filter to think through as students learned to use the bias of a particular medium with intention. They learned to see with eyes that question, draw relationships, extract conditions, and intentionally disassemble and reassemble their environment, as they move through it. Iconic memory becomes transparent through close, direct observation of detail. As Spear and Riccio (1994) suggest, "…memory-as-process begins at some point in the perception process, presumably near the end, or just afterward. It should be understood that the issue of exactly when perception stops and memory processing begins is difficult and not yet reconciled, if indeed it is reconcilable." Perhaps it is in this oscillation prior to consolidation where insight begins to emerge.

As a new conscious attitude toward the site takes shape, "insight comes as a release to the tension of inquiry."[xviii] With a variety of media filters at their disposal in the spring semester, students conducted studies to create new knowledge gained directly from the site of their intended project. The process moved form initial designed observations to critical research to refined studies, all investigated directly on site. Through this study the student collects the raw material to develop an insightful point of view.

Figure 6. Student, Zachary Stephen Line. Photo collage of glazed surfaces, day and night. Spring, 2008.

In this case the synapses for insight, the pre-condition of the design concept, are developed through careful study of the embedded potential for transformation present in a given context. Analysis and study lead to insight and synthesis.



Figures 7 and 8. Student, Dena Davani. Designed observation, charcoal. Photo collage study. Spring, 2008.

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Notes

[i] Benjamin, p 235-237.

[ii] Tafuri, p xxviii. This passage in the *Preface* is one example of Tafuri's many references to an architect's need for legitimization.

[iii] Ibid., p 7.

[iv] Ibid., p xxviii.

[v] Perez-Gomez, p 4. "...and composed of laws of an exclusively prescriptive character that purposely avoid all reference to philosophy or cosmology. Theory thus reduced to a self-referential system whose elements must be combined through mathematical logic must pretend that its values, and therefore its meaning, are derived from the system itself. This formulation, however, constitutes its most radical limitation since any reference to the perceived world is considered subjective, lacking in real value."

[vi] Perez-Gomez, p 11. …but with a twist. What Perez-Gomez actually draws out for us is that empiricism at its inception was intertwined with *a priori* concepts and then was used in the attempt to proof *a priori* knowledge, such as mathematics. With this distinction, the implicit irony that empiricism lead to the notion that, "any reference to the perceived world is considered subjective, lacking in real value" dissolves. The twist is outlined where he says, "The eighteenth century rejected as fiction the closed geometrical systems of seventeenth-century philosophers, but accepted Newton's empirical methods as universally valid. The influence of Newton paved the way for the systematization and mathematization of knowledge, a knowledge that held that immutable, mathematical laws could be derived from the observation of natural phenomena, and that would eventually take on the form of nineteenth-century positivism. Implicit in eighteenth century Newtonianism, though to the modern mind it may seem thoroughly empiricist, was a Platonic cosmology, usually complemented by some form of deism, in which geometry and number had transcendental value and power in and of themselves.

[vii] Benjamin, p 222.

[viii] Ibid., at pp 236, 237.

[ix] Varnelis, p 212.

[x] Ibid., at p 213.

[xi] Ibid.

[xii] Ibid.

[xiii] Ibid., at pp 213, 214.

[xiv] Ibid., at p218.

[xv] Ruskin, p 22, after Varnelis.

[xvi] Spear, p 11.

[xvii] Weingartner, p 201. Squire, Cohen, and Nadel, *The Medial Temporal Region and Memory Consolidation: A New Hypothesis*.

[xviii] Lonergan, p 4.