Emerging Pedagogy: Capturing the Expressive Act

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A fundamental process of higher learning is that of abstraction and synthesis. The process of abstraction reduces sensory input to its fundamental components and allows for the establishment of a mental catalogue. These derived essences exist as one's artistic conscience. The intensity by which these images are engraved varies. The architect Le Corbusier emphasized the act of drawing and its correlation to memory when he wrote,

> "When one travels and works with visual things… one uses one's eyes and draws, so as to fix deep down in one's experience what is seen… All this means first to look, and then to observe, and finally to discover. Once the impression has been recorded by the pencil, it stays for good, entered, registered, inscribed."[1]

This process of *discovery* through drawing as defined by Le Corbusier is fundamental to the way in which an architect establishes visual arguments based in history and culture. Michael Graves commented with regard to drawing that,

> "No matter what medium I chose, my drawings were always analytical. It was important to me to reveal some salient characteristic of the architecture, perhaps its frontality, the layering of a spatial sequence, or simply the quality of a surface as it catches the light. I thought that if any one of my drawings was viewed as a travel scene, I had failed, since it would be merely picturesque."[2]

Thus, "it goes without saying that what the architect chooses to draw, using his sketchbook as a record of observation, reveals the examination of his artistic conscience."
The travel sketchbooks of architects are typically filled with images of buildings and the landscapes they inhabit. Their photographs capture aspects not as readily accessible to the quick sketch such as color and texture. In looking at these visual memoirs, select access is granted into the mind of the architect. Does this however provide glimpses into to the origins of the creative process? In the essay *Creative Writers and Day Dreaming*, Freud writes,

> "We laymen have always been intensely curious to know—like the Cardinal who put a similar question to Ariosto—from what sources that strange being, the creative writer, draws his material, and how he manages to make such an impression on us with it and to arouse in us emotions of which, perhaps, we had not even thought ourselves capable. Our interest is only heightened the more by the fact that, if we ask him, the writer himself gives us no explanation, or none that is satisfactory; and it is not at all weakened by our knowledge that not even the clearest insight into the determinants of his choice of material and into the nature of the art of creating imaginative form will ever help to make creative writers of us."[4]

In his paper *Dostoevsky and Parracide*, Freud denies that he, or psychoanalysis, will ever penetrate the sources of creativity. He writes, "Before the problem of the creative artist analysis must, alas, lay down its arms."[5] These statements with regard to the creative process describe an act that is anything but a *process,* a term that implies a series of actions and operations that are perhaps quantifiable. While one might look for direct connections between an architect's drawings and his built work, these literal one-to-one associations tend to be forced. It is more often the case that the architect draws from a multitude of experiences and transforms and shapes them throughout the design process. While not providing a concise roadmap, an architect's drawings are one piece of

a vast puzzle that does provide valuable insight to the evolution of an architectural design. Obviously, the more pieces one has at one's disposal, the more believable one's map of the artistic conscience becomes.

An interest in the possibility of mapping the artistic conscience led to my development of a seminar entitled *Visual Thinking.* The title of the course referenced Rudolf Arnheim's book and essay by the same title. Arnheim's research was groundbreaking in its understanding of developmental stages of visualization and representation. His emphasis on visual thinking was in large part reactionary. A significant shift had taken hold during the Enlightenment, away from a visual language to a system of higher intellect defined primarily by the written text. This method of conceptualizing resulted in a disembodied system based in words and symbols and yielding a visually illiterate society. Arnheim wrote,

> "We are the victims of an inveterate tradition according to which thinking takes place remote from perceptual experience. Since the senses are believed to be concerned with individual, concrete events, they are limited to collecting raw material of experience. It takes "higher" powers of the mind to process the sensory data."[6]

His belief that "many educators and psychologists are still reluctant to admit that perceptual thought processes are as exacting and inventive and require as much intelligence as the handling of intellectual concepts"[7] led him to challenge the state of education in this country. He writes,

> "Consequently, Western education has been concerned foremost with words and numbers. In our schools, reading, writing and arithmetic are practiced as skills that detach the child from sensory experience, and this estrangement intensifies during the high school and college years as the demands of words and numbers grow and childish things must be put aside. Only in kindergarten and first grade is education based on the cooperation of all the essential powers of the human mind; thereafter this natural and sensible procedure is dismissed as an obstacle to training in the proper kind of abstraction."[8]

These thoughts describe an inability by society to effectively comprehend graphic material, a kind of visual illiteracy. The paralleling of scientific methods in architecture has had a profound effect on methods of architectural analysis and one's ability to see an image, abstract it, and eventually recall and combine it as part the creative process. The goal of the course was to address many of the issues raised by Arnheim and to reestablish a method of visual thinking.

The first assignment for the seminar required the students to hone their senses through an analysis of the Tennessee River. The examination required that they formulate an idea about the attributes of an object through investigation, that they *first look, then observe, and finally discover*. To begin, each student identified three attributes that in some form described an *essence* of the river. These three ideas were then investigated through sketching, writing, photography, model building, or any other creative form of documentation. Having identified a single attribute on which to focus, they began a more in-depth analysis. One objective of the project was to allow students a venue to expand beyond their own preconceived notions about methods of representation and analysis. Through the investigation it became quite clear that the method of formal analysis by which they had been trained to look at architecture was not easily transferred to non-architectural objects or experiences. The object did not contain the "words" through which they had been instructed to define architecture. This structured language includes terms such as hierarchy, threshold, layering, circulation, figure/field, rotation, proportion, geometry, repetition, etc., all valid as reductive generators for understanding space, but not sufficient for expansive or temporal analysis. So what was it about the system of formal analysis that did not easily transfer to an object outside of architecture? The psychologist Anton Ehrenzweig writes,

> "There is certainly virtue in making the student aware that any shape, however complex, can ultimately be built up from the simplest elements. This awareness makes for clean athletic design. But the awareness of basic elements could also be misused as a fully conscious control of the entire working process. An excessive preoccupation with the geometric constituents of a design could make the student ignore the drastic transformation which the single elements undergo as they fuse into a more complex overall structure… In language teaching it may be justified to start by training the student to assemble sentences from the basic elements of language according to the rules of syntax and grammar. *But if the student is too content with the mechanical assembly of his sentences he mail fail to grasp the spirit of a living language* (emphasis mine)."[9]

The obvious conclusion was that the students had been analyzing a spatial phenomenon through the use of words that, by definition, have clear and teachable images attached. In his forward to the translation of Durand's *Précis of the Lectures on Architecture at the École Polytechnique*, Antoine Picone points out that as an art of composition and decomposition, the analytical method, first introduced by Locke in his *Essay Concerning Human Understanding,* grew increasingly generalized in its application as the eighteenth century proceeded.[10] In an attempt to parallel the success of the scientific community, teaching methods developed by individuals such as Durand at the École Polytechnique ultimately invaded the architectural design studios and became a force within the modern movement.[11] Predominantly used in current schools of architecture, this method of analysis as applied to architecture became highly specific and formalized. The analysis of the Tennessee River demanded that students expand their preconceived notions of the analytical methods and create visual arguments specific to a natural phenomenon.

The second project continued to expand the students' methods of visual thinking and supplemented their existing palette of analytical instruments with the introduction of digital video as a tool for analysis. Using a collection of public domain footage from the 1950's and 60's, the students were instructed to reassemble the footage that contained an underlying structure. The project introduced students to the basic video editing software such as iMovie as well as beginning to experiment with more involved video and sound editing products such as FinalCut, Adobe Premiere, After Effects, and Audition. While they were not allowed to use any additional footage, they could compose and insert their own audio tracks. Many of the projects explored the use of audio strategically to set a mood and a tempo for their particular film.

An advantage of digital video as a method of analysis is that it allows for the simultaneous combination of several mutually exclusive variations in a single act of comprehension. As such, it is more closely linked to a kind of low-level vision or dream state as described by Ehrenzweig.[12] Working with a flow of information, in contrast to static images, the student is equipped with a tool that is far less constraining and closer to his or her own method of invention that advances its course through uninhibited metaphorical association. The temporary nature of flickering images on a screen provides a reflection of our own creative consciousness and a familiar setting for discovery. The virtual realm exists as an environment capable of easily transforming and navigating layers of information and possesses the added dimension of time while incorporating sound to establish a rhythm and a mood.

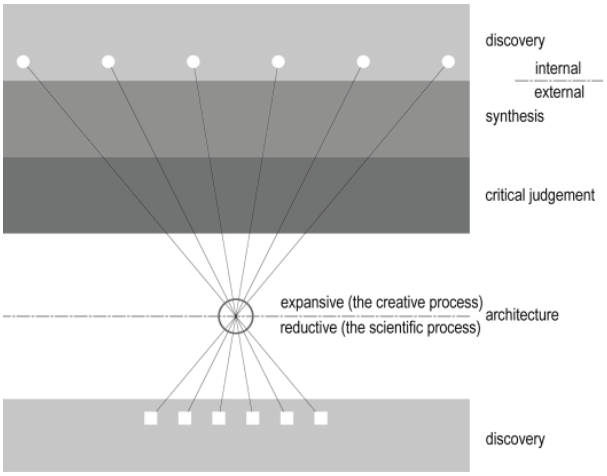


Fig. 1 The creative process

The final assignment of the semester applied these new analytical insights to the study of architectural precedent. To focus on developing a visual argument of natural phenomenon, the students were instructed to identify trajectories and events that would yield insight into the artistic conscience of the designer, rather than merely breaking down a project through a process of categorization, the more familiar reductive scientific method. The new analytical diagram (Fig. 1) demonstrates the two distinct processes. The central circle with its radiating lines represents the object to be analyzed. In schools of architecture this object is most commonly a work of architecture. The lines radiating outward describe an *analysis* that, as defined by Merriam-Webster, provides "a separation of a whole into its component parts."

The analysis below the line in diagram is defined as reductive in nature. As an example, in Thomas Jefferson's design for the Lawn at the University of Virginia, a lower half reductive analysis would generate an understanding of key concepts such

as the manipulation of landscape, threshold, center, layering, and hierarchy. It should be pointed out that a clear understanding of this formal method of analytical abstraction must be established before attempting to expand a precedent and identify origins, themselves a result of the reductive process.

In studying the lines radiating upwards, one might discover in an expansive analysis that in his youth Jefferson was trained as a surveyor, that he acquired a copy of Palladio's Quattro Libri while a student at William & Mary, he visited Mansart's Chateau de Marly while an ambassador to France, was a contemporary of the Enlightenment, and that he frequently corresponded with Latrobe and L'Enfant. This visual catalogue established by Jefferson yielded a collection of ideas defined by all the senses that possess formal as well as symbolic meaning. As such, the Lawn can be understood as an expression of his artistic conscience. The design is a realization of Nietzsche's imperative "Become who you are!"[13]

For the final project, students were instructed to focus on the upper half of the diagram and define those lines radiating up from the built work, the expansive process. The project looked at two works by the architect Le Corbusier. During the five-week analysis, students were asked to look beyond the completed architectural project, as is often the case in analytical procedures, and to get into the mind of Le Corbusier, or to see through his eyes. As an architect who claimed to have learned everything he knew about architecture through painting, the work of Le Corbusier provided the perfect case study. In *Le Corbusier and the Continual Revolution in Architecture*, Jencks writes, "He (Le Corbusier) fulfills the well-rounded paragon of Marx's Renaissance Man of the future: the person who is at least three different things every day— and Le Corbusier *did* carry on at least three different professions. Painter, most mornings until 1:00, architect most afternoons until about 6:00, and, in the evenings, writer, sometime conversationalist, and *bon viveur*."[14] The extensive resources available as a result of Le Corbusier's seemingly manic need to record and archive his work allowed for substantial glimpses through the architect's eyes throughout his formative years.

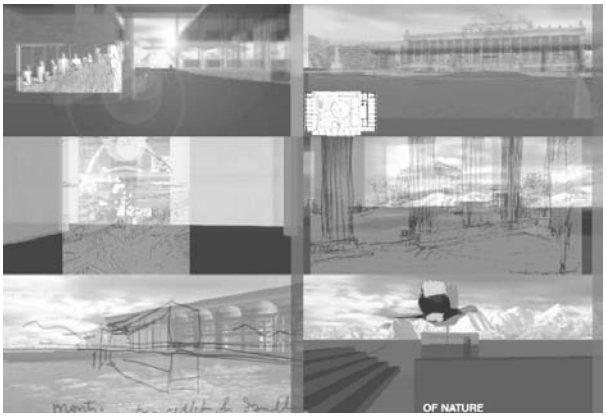
Searching through material that included sketchbooks, paintings, writings, and architectural drawings, the students collected material that they found to have been influential to Le Corbusier, specifically focusing on material relevant to the design of the Monastery of La Tourette and the Capitol Complex at Chandigarh. They operated under the assumption that in analyzing a precedent, the architect's photographs, sketches, paintings, architectural drawings, models, and writings provide valuable insight that is not always obvious in the final design. In studying these fragments, the students were asked to decipher a body of work and gain insight to the architect's process of discovery that could inform their own personal mode of seeing and methods of visual communication. This investigation was not meant to be prescriptive, but rather was meant to demonstrate some tangible methods of the design process.

The students were instructed to incorporate digital multi media technologies to montage the various revealed parts of Le Corbusier's artistic conscience. The final result was a montage based in time that demonstrated both reductive and expansive systems of analysis. The opening sequence of *A Journey Through Le Corbusier's Mind and Hand During the Creation of Chandigarh 1951-1963*, one of the projects created during the semester, uses a photograph to place Le Corbusier in the context of the site (Fig. 2). Le Corbusier is seen holding a map atop which is held a cut out figure of his modular man. The photograph quite literally identifies the creative mind to be explored for the remainder of the movie. This technique is expanded upon as the voice of the architect begins to play and subtitles are used to reinforce Le Corbusier's spoken ideas. The plan of the capital city is emphasized through the use of a subtle transparent layer of color until eventually the film focuses in on the cut out figure of the modular man, goes to black, and a title page is introduced with a series of Le Corbusier's early concept sketches transitioning through it. A change in the music from Edith Piaf's 1950's French classic "L'hymme a L'amour" to Radiohead's "I Might Be Wrong" serves to mark the transition from the relatively static and familiar image of Le Corbusier to the virtual analysis introduced over the next four minutes.

The sequencing of the analysis begins by placing the viewer outside the capitol looking at the long elevation of the Secretariat building. In this scene, a photograph is superimposed atop the digital model of the Secretariat, a comparison is made to Le Corbusier's Unité d'Habitation de Marseilles, and a colored band on the left side of the image keys the building into a previously shown site plan (Fig. 3). Lines are applied to these images to emphasize Le Corbusier's use of his modular system of proportion and are further emphasized with a series of images that transition from Leonardo da Vinci's Vitruvian Man (1490) to Le Corbusier's own drawings of his proportional system. Next, the viewer is invited to enter the scene as a motorbike crosses the composition from the lower right, and moves towards the Secretariat (Fig. 4a-b). As it passes through the building, an applied lens flare filter and a montaged image of the Himalayan Mountains in the distance establishes qualities of the site to which Le Corbusier responded. The next building that appears in the sequence is the Palace of the Assembly (Fig. 4c). In this analytical

Fig. 2 Le Corbusier looking at plan of Chandigarh

Fig. 3 Analysis of the Secretariat



Figs. 4a-f Stills from digital analysis of "A Journey Through Le Corbusier's Mind and Hand During the Creation of Chandigarh"

series, elevations and plans are superimposed to establish a connection between the Palace of the Assembly and Karl Friedrich Schinkel's Altes Museum (1822-30). A light blue tint highlights the assembly hall in Le Corbusier's plan as a floating object that exists in contrast to Schinkel's subtractive Rotunda. Exiting the Palace of the Assembly, a travel sketch done by Le Corbusier while atop the Acropolis, illustrating a framed view and layering of space, is superimposed on our view through a similar space that frames a view towards the Tower of Shadows (Fig. 4d). For both the Palace of the Assembly and the Hall of Shadows, the role of light on the architecture is illustrated through animation. The final building analyzed is the Court of Justice (Fig. 4e). A montaged series of images combines the digital model, a sky, mountains, and water, and displays them as independent animated features. Atop this image is a sketch by Le Corbusier illustrating his use of large pools of water to capture an exterior volume of space defined by the overhanging canopy and its reflection. As we move into the Court of Justice, painting, drawing, digital model, audio, and animation are combined to focus on the poetic and technical aspects of Le Corbusier's use of light in his architecture. The poetic and metaphorical aspect, expressed so clearly in his painting, is nowhere more apparent than in the final sequence of the movie that focuses on the Monument of the Open Hand. Through this sequence, the multiple readings attributed to the form are revealed though a series of superimpositions concluding with a bird in flight (Fig. 4f).

This virtual method of analysis introduces many techniques unavailable to traditional two-dimensional processes. Varying degrees of transparency or fade allow for a variety of superimpositions that include architectural precedent the architect had visited, painting, sketches, design drawings, and images outside of the architect's artistic conscience that emphasize certain themes. The virtual realm enables the student to move seamlessly and establish direct connections between two-dimensional and three-dimensional ideas. Plans, elevations, sections, photographs, and three-dimensional methods of representation can be established as a single thought. Using the three-dimensional model as a base and establishing a camera path, an added benefit of the movie format is that it demands that students actually occupy the spaces and landscapes they are documenting, developing not just an artistic conscience but also a spatial experience. One virtually walks through a series of superimpositions that demonstrate Le Corbusier's ability to incorporate past experience into his designs. This constant superimposition and transitioning of images allows the viewer to begin to make new metaphorical associations. This digital analysis is similar to the way that the artist Joseph Cornell's arrangement of photographs and found objects allow for new readings to develop from objects assembled into a single composition.[15] The newly established connections and abstractions serve to feed the top tier of the analytical diagram, discovery, and in turn help to establish one's own artistic conscience.

ENDNOTES

1. Le Corbusier, Creation is a Patient Search, trans. J. Palmes (New York: Praeger, 1960), 37.

2. Michael Graves, "Foreword," in Michael Graves: Images of a Grand Tour, Brian M. Ambroziak (New York: Princeton Architectural Press, 2005), ix.

3. Michael Graves, "Le Corbusier's Drawn Reference," in Le Corbusier: Selected Drawings (London: Academy Editions, 1981): 8-25.

4. Sigmund Freud, "Creative Writer's and Daydreaming," in The Freud Reader, ed. Peter Gay (New York: WW Norton & Company, 1989): 436-443.

5. Sigmund Freud, "Dostoevsky and Parracide," in The Freud Reader, ed. Peter Gay (New York: WW Norton & Company, 1989), 444.

6. Rudolf Arnheim, Visual Thinking, in Vision + Value Series: Education of Vision, ed. Gyorgy Kepes (New York: George Braziller, 1965), 2.

7. Ibid.

8. Ibid.

9. Anton Ehrenzweig, Conscious Planning and Unconscious Scanning, in Vision + Value Series: Education of Vision, ed. Gyorgy Kepes (New York: George Braziller, 1965), 32.

10. Antoine Picon, "From "Poetry of Art" to Method: The Theory of Jean-Nicolas-Louis Durand," in Jean-Nicolas-Louis Durand: Précis of the Lectures on Architecture, trans. David Britt (Los Angeles: The Getty Research Institute, 2000), 21.

11. Reyner Banham, Theory and Design in the First Machine Age (Cambridge: The MIT Press, 1989), 15.

12. Anton Ehrenzweig, Conscious Planning and Unconscious Scanning, in Vision + Value Series: Education of Vision, ed. Gyorgy Kepes (New York: George Braziller, 1965): 29.

13. Jean-Louis Cohen, "Le Corbusier's Nietzschean Metaphors," in Nietzsche and "An Architecture of Our Minds," ed. Alexandre Kosta and Irving Wohlfarth (Los Angeles: The Getty Research Institute, 2000), 314.

14. Charles Jencks, Le Corbusier and the Continual Revolution in Architecture (New York: The Monacelli Press, 2000), 10.

15. The glass separating the two contrasting worlds in Cornell's compositions is replaced by the glass of the computer screen in digital methods of analysis.