

# Percept vs. Precept: Digital Media & the Creative Process

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## Keywords

Percept, Creativity, Ideation, Tectonic Color, Kinetics

The design of architecture, as well as all of the arts, is a creative act concerned with the expression of ideas through culturally significant and relevant form. In order for the creative act to transcend the authority or dictates of precedents or trends, it must be informed and guided by a process and not a product; one which reveals, but does not dictate, expressive, functional form. The initial impact of digital media on architectural design has been the ability to render the look of a final project or to create shapes that reflect the facility of the tool. Digital media also enables the composition and structure of space and form to be discovered simultaneously and relationally with the phenomena of color and kinetics, to generate and visualize an idea as form, and to represent form as experience. This requires interweaving computing with a creative process in which percept, rather than precept, is the driving force of the investigation. This paper explores the role of ideation, tectonic color and kinetics as an intentional design strategy and formgiver for architecture. The role of the computer is to enable the designer to generate meaningful architecture beyond precepts of image and style.

Design as a making in the mind uses our rational and imaginative faculties. Complete freedom is not

a necessity for inventiveness. Research on creativity indicates that “constraining options and focusing thought in a specific, rigorous and discerning direction” play an important role. [1] The key is a balance of structured and discursive inquiry that encourages a speculative, free association of ideas. Tim Berners-Lee, one of the creators of the World Wide Web, likened creativity to a weblike process that is nonlinear but also not random; which when placed in an environment rich with information will float ideas so the mind “can jiggle them into an insight.” [2] Geoffrey Vickers in his essay, “Rationality and Intuition” described this symbiotic relationship as “...two functions which in practice are never wholly separated but which are, nonetheless, logically distinct as two reciprocating phases in a recurrent process of mental activity.” [3] The rational is formative and intuition is generative; both are essential to creativity.

Ideation is a creative process that draws upon the balance of directed and discursive inquiry inherent in meditation and an ideographic process used in poetry. Meditation as a method of thinking deliberately in order to develop certain specific emotions is essential to the creative process. Within the act of meditation, a person moves from memory

through understanding to imagination. This is achieved through an intense, deliberate focusing of the mind and thought on the abstraction of a form, thing, or concept in order to develop or induce imagination. Ideation in poetry is an ideographic process which uses visual ideograms or pictographs as the starting point for generating expressive words and concepts for a writer. In architecture, ideation reverses the process and involves identifying words or concepts as the starting point for interpreting the ideas visually as forms which evoke, rather than illustrate, the concepts architecturally. [4] The concepts are described visually as ideograms and then developed compositionally and spatially through tectonic color and material studies. The point of this process is to develop the ability to identify appropriate concepts and to interpret the ideas visually as forms, whether the ideas come from a work of literature or a building program. Thus, the architectural program and creative investigation remain potent both as subject and method. The focus is to develop architecture that is culturally significant and relevant, rather than to superimpose the latest style regardless of whether it is appropriate to the situation.

In *Mind's Eye* [figure 1], the person passes through the shell of an artifact and engages with the past, or memory, in juxtaposition with the new - a room physically manifest as a play of wood and light cradled by the armature of the old and new structures; an analogy to the pure white light of enraptured vision, the imaginative state of contemplation achieved at the end of the journey. The essay by Samuel Taylor Coleridge on imagination as a balance or reconciliation of opposite and potentially discordant qualities is the primary theme of the ideographic approach to the design. The ideogram for the reconciliation of "general" and "concrete" is the basis of the architectural form and sequence concerning levels of contemplation, or states of mind, as a part of the journey to the room. Other ideograms generated forms as contempla-

tive objects or physical moments evoking the muse and motivating the person to reflect and understand.

Kenneth Frampton refers to tectonics as the "poetics of construction" a concern with both the revelation of constructional technique and expressive potential. [5] Tectonics does not favor any particular style, it facilitates connections regardless of style. The tectonic implications of color and kinetics expand the expressive dimensions of material and form to link "construct" and "content" as a part of ideation. Color is more than the mere dressing of a form after the fact; it has its own inherent logic and expressive potential on the conceptual origin of a work of architecture, its tectonic and material integrity. Color, material and forms are the physical manifestations that inform our perception and concurrent understanding of a work of architecture. Tectonics deals with the constructive arts; the relationship of the parts to the whole via composition (elements and relationships), structure (formal and physical), and space (field and volume). Color harmony identifies effective chromatic relationships. Tectonic color incorporates the compositional, structural, and spatial aspects of color harmony with its conceptual and material expression in the construction of our visual experience. [6]

Kinetics embraces both passage and transformation as an architectural concept and computer construct. Architecture is a three-dimensional entity that we experience as much through movement as repose. Therefore, it is essential that the computer technology used to design architecture enables the consideration of both aspects of this experience. Animation encourages becoming aware of the implications of a design as a part of ideation and development. It records the mundane tasks to discover what people would normally do and see moving from Point A to Point B in different surroundings to reveal the architectural implications of a design. This enables the tangible reality of light,

Figure 1:  
Mind's Eye



space, material, and time to construct architectural ideas as form based on an understanding of the perceptual experience as an integral part of the design process.

An understanding of the creative process must inform both the development as well as the use of computing if digital media is to be a design partner. Creativity embraces the concept "what if". This requires the ability to look at an issue from different points of view. The promise of digital media to facilitate creativity is realized when it enables decisions to be quickly visualized and revised throughout the design process. Digital media impinges on creativity when the logic and capabilities of computer technology rather than design issues drive decisions. For digital media to fulfill its promise, it must be intuitive, adaptable and transparent.

An article on "Game Theory" by J. C. Herz in the New York Times reported on the issue of "two cultures" at the 1999 Siggraph (Special Interest Group on Computer Graphics) conference - those for whom computer science is the goal and those for whom technology is "a tool that allows them to get on with their art". [7] The primary thrust of the article is that Siggraph, and by extension the field of computing, needs to integrate the two different cultures in order that people who work with different design languages can learn from one another. The goal is to develop interfaces which are easy to use. What the article doesn't address is that developing good interfaces, as well as applications, requires an understanding of the design process; the way in which designers work and the way in which design ideas/ projects evolve. It is in this arena that the use of digital media to capture the mind's eye is especially potent.

## Notes

- 1 Angier, Natalie. **Route to Creativity: Following Bliss or Dots?** New York Times (September 7, 1999): Section D 3.
- 2 Lohr, Steve. **A Parent's View of the World Wide Web as It Reaches Adolescence**, New York Times (September 20, 1999): Section C1-2.
- 3 Vickers, Geoffrey. **Rationality and Intuition** in ON AESTHETICS IN SCIENCE. Ed. Judith Wechsler (Cambridge, Mass.: MIT Press, 1978): 157
- 4 For more information on the ideographic process in  
1) Writing - Pound, Ezra. **ABC of READING** (New York: New Directions, 1960): 53; 2) Architecture - Brady, Darlene A. and Mark M. English, **Creativity: The Virtual Process of Metaphor**, *Structurist* 33/34 (1993/94): 39-42.
- 5 Frampton, Kenneth. **STUDIES IN TECTONIC CULTURE** (Cambridge, MA: MIT Press, 1995): 2.
- 6 This paper is based on the author's forthcoming Book / CD - **ARCHITECTONIC COLOR: ITS VIRTUAL AND PHYSICAL REALITY**. See also: Brady, Darlene. A. **Poetics, Color & Kinetics: Content & Computing**. **ADVANCES IN SYSTEMS RESEARCH AND CYBERNETICS**, Vol. II G.E. Lasker and G. Andonian, Eds. Windsor, Ontario: University of Windsor, 1998. pp. 81-85; Brady and English, op. cit. **Architectonic Color: Composition, Structure, and Space**, *Structurist* 31/ 32 (1991/92) and **Architectonic Color: By Intent or Default**, *Inland Architect* 37/ 2 (March/April 1993): 42-45.
- 7 Herz, J. C. **Game Theory - Easier Than Crayons: Graphics Grows Up**, New York Times (August 19, 1999): Section D4.

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