The essence of understanding visual literacy lies in the visually literate exploration of issues process. This understanding must deal with both the processes involved in the creation and interpretation of concrete visual communication. Visual discourses’s greatest contribution to human knowledge and thought is not the sequential, linear, analytical text but the encompassing and holistic visual image. The former is rule driven and literally based while the latter is ambiguous, holistically rich, synthetic, and metaphoric in meaning. Highlights include: process specific view of brain hemispheres; two process specific characteristics of visual literacy: generative functions of graphic ideation and epistemological characteristics of visual representation; visual interpretation; viewer response theory; multicontextual thought; visual process linguistics: descriptive, historical, comparative, theoretical, and geographical; psychomorphology; visual logic; and bisociation. Charts, diagrams and illustrations are included. (Contains 35 references.) (DGM)
Process Issues in Visual Literacy

Dennis M. Dake

Often there is too little that is visual about visual literacy. The literature in visual literacy is scarcely more visual in its presentation than that in other professions. The printed materials dealing with visual literacy can most often be characterized as verbally driven analysis rather than being visually literate statements. This reductionist, analytic focus in visual literacy often confines itself merely to the lower order issues of instructional efficiency and to the selection of appropriate examples for visual illustration. Nearly missing from the professional literature on visual literacy is critical inquiry into encompassing visions of perception's unique contributions to higher order human thought and activity. Because of this oversight the visual literacy movement has failed to grow significantly in the twenty six years since its founding.

It is the contention of this paper that the essence of understanding visual literacy lies in the visually literate exploration of issues of process. This understanding must deal with both the processes involved in the creation and the interpretation of concrete images of visual communication. Visual discourse's greatest contribution to human knowledge and thought is not the sequential, linear,
analytical text but the encompassing and holistic visual image. The former is rule driven and literally based while the latter is ambiguous, holistically rich, synthetic, and metaphoric in meaning.

Process Specific View of Brain Hemispheres

In seeking a foundational base for understanding process issues in visual literacy, I found that an in-depth review of the scientific literature related to the psychology of hemispheric specialization and laterality lead to some revealing possibilities. Specifically, in 1975 Dr. Joseph Bogen, in an article entitled, "Educational Aspects of Hemispheric Specialization," advanced the notion that the hemispheres of the human brain are best characterized as neither modality specific or material specific but rather as process specific.

In chart #1, I have outlined some of Dr. Bogen’s suggestions concerning the specific mental processes that he feels best characterize the dominant functions of the left and right hemispheres in most humans. Reading down the left hand column seems to describe the process base for current visual literacy scholarship and inquiry. It is the right hand column, however, that suggests the specific processes most integral to the actual functions of visual literacy. The non-verbal, gestalt based apprehension and transformation of spatial configurations is the very essence of both visual thinking and graphic ideation. The sensitive apprehension and simultaneous, multiple processing of associations with these same visual configurations seems to provide the basis for the sound visually literate interpretation of images.

If the establishment of visual literacy, as a sound educational discipline, is the goal, scholars and researchers should concentrate on visual communication’s original and unique roots in these right hemispherically disciplined processes. These processes are the unique endowment which visual language can provide to the educational process.

By concentrating on this process base, visual literacy can support its claim to being basic and foundational to the educational process. Visual Literacy should not allow itself to become “a scholastized, post-Gutenberg-industrialized, computer-happy exaggeration of the Graeco-Roman penchant for propositionizing,” as Dr. Bogen characterized much of dominant western culture. By stressing its unique features, visual literacy can provide a valuable balancing function for education.

Process Specific Characteristics of Visual Literacy

Projecting from the scientific evidence, it seems that a great deal of visual literacy application, while clearly about visual literacy, is not at the same time exemplary of visual literacy. A balancing emphasis, using the specific processes that are unique to visual literacy, will provide the substantive content for effecting change in our culture. If the processes of visual ideation and the
Chart #1: Process Specific Characteristics of the Hemispheres of the Brain

<table>
<thead>
<tr>
<th>LEFT</th>
<th>RIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPOSITIONAL</td>
<td>APPOSITIONAL</td>
</tr>
<tr>
<td>VERBAL INTELLIGENCE</td>
<td>PERFORMANCE INTELLIGENCE</td>
</tr>
<tr>
<td>LINGUISTIC</td>
<td>CONFIGURATIONAL PROCESSING</td>
</tr>
<tr>
<td>TRANSFORMATION</td>
<td>PLAYFUL EXPERIMENTATION</td>
</tr>
<tr>
<td>RIGOROUS &amp; ANALYTICAL PLANNING</td>
<td>TIME-INDEPENDENT STIMULUS PROCESSING</td>
</tr>
<tr>
<td>TIME ORDERED SEQUENCES</td>
<td>GESTALT FORMATION</td>
</tr>
<tr>
<td>ABSTRACTING ESSENTIALS</td>
<td>NON-VERBAL</td>
</tr>
<tr>
<td>VERBAL (SPEECH)</td>
<td>THINKING BY APPEARANCE</td>
</tr>
<tr>
<td>THINKING BY FUNCTION</td>
<td>MULTIPLE PROCESSING</td>
</tr>
<tr>
<td>SEQUENTIAL PROCESSING</td>
<td>SIMULTANEOUS PATTERNS</td>
</tr>
<tr>
<td>LINEAR PROCESSING</td>
<td>WORLD AS SUBSET OF THE SELF</td>
</tr>
<tr>
<td>SELF AS SUBSET OF WORLD</td>
<td>RECEPTIVE</td>
</tr>
<tr>
<td>EXECUTIVE (directed, purposeful, and controlled)</td>
<td>EVOCATIVE</td>
</tr>
<tr>
<td>CONCEPTUAL</td>
<td>SENSITIVITY AND AWARENESS</td>
</tr>
<tr>
<td>KNOWLEDGE</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from: Some Educational Aspects of Hemispheric Specialization by Joseph E. Bogen, M.D., UCLA Educator, Spring 1975 (Vol. 17, No. 2.)
complex interpretation of meanings in visual form are explored and critically studied, visual literacy will be most soundly based as an educational discipline. The right hand column of chart #2 provides some food for thought concerning the way specific mental processes might effect the study of visual literacy. Education based on this type of study could make a singular contribution to human mental development.

Processes that Count

There are two process-specific based areas in which visual literacy can make unique contributions to human thinking and understanding. These are: (1) the generative functions of graphic ideation and (2) the unique epistemological characteristics of visual interpretation.

Visual language’s dynamic generative functions are well established as a discipline within the visual.

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Chart #2: Process Specific Issues Applied to Visual Literacy

<table>
<thead>
<tr>
<th>ABOUT VISUAL LITERACY</th>
<th>OF VISUAL LITERACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILLUSTRATION</td>
<td>ART</td>
</tr>
<tr>
<td>TRADITIONAL SCHOLARSHIP</td>
<td>ONGOING VISUAL FORMATION</td>
</tr>
<tr>
<td>SURFACE</td>
<td>DEPTH: Process Foundation</td>
</tr>
<tr>
<td>CREATIVITY</td>
<td>EVOLUTION OF VISUAL IDEAS</td>
</tr>
<tr>
<td>TRUTH</td>
<td>AMBIGUITY / UNCERTAINTY</td>
</tr>
<tr>
<td>POWER</td>
<td>PERSUASION BY VISUAL EXAMPLE</td>
</tr>
<tr>
<td>MEANING OUTSIDE SELF</td>
<td>INTERNAL MULTIPLE MEANINGS FROM TRANSACTION WITH OBJECTS</td>
</tr>
</tbody>
</table>
Visual literacy education should seek to explore, debate, discuss, and understand all aspects of these formative processes that result in forms of visually literate communication. As the artist Paul Klee observed, "Form is the end, death. Form-giving is movement, action. Form-giving is life." (Spiller, 1961) The generative process is dramatically revealed in the preparatory work and early stages of form making that precede the completion of a finished image. Understanding the dynamics and patterns of this productive thinking process will provide visual literacy with essential, teachable thinking skills.

Visual interpretation of meaning provides a second challenging specific mental process in which visual modes of inquiry offer a truly unique second way of knowing. Diagram #1 symbolizes this process as an integral and reciprocal partnership with graphic ideation. Each act of form-making includes for the creator integrated and receptive acts of interpretation. For an eventual viewer of the form, re-creation in personally meaningful terms within the mind must be accomplished before the creative act of visual communication is complete.

**Graphic Ideation**

It is common in discussing how new visual messages are brought into existence to use the term "creativity". Creativity implies that new forms are brought into existence out of the nothingness of unformed raw materials. This view is not supported by the actual visual evidence from artist's and designer's sketchbooks. Preparatory drawings, and three dimensional maquettes from the work of professional visual communicators clearly show that visual ideas evolve, slowly and patiently, over often long periods of sustained disciplined work. One sketch leads to another or simply suggests an interesting possibility that may not even be immediately useful. Two visual configurations, through playful experimentation, can combine into a third form, not predictable from its component parts. While the final solution may seem to occur in an insightful flash of intuitive creativity, this is not the expe-
perience shown in the disciplined and productive visual evidence.

Visual thought, the visual evidence indicates, is carried on in a wordless medium of visual form to visual form activity. The basis of this thoughtful process of visual thinking is an abstract configuration of lines, shapes, colors, and values, perceived without reference to what that configuration may signify in the external world. This abstract essence of visual thought is perhaps what the scientist David Marr called, "a primal sketch" (Marr 1982). Many professional artists refer to this activity as "Seizing the Glimpse". The glimpse is described as a very small abstract flash of recognition and understanding.

The work of artist David Ulch shows this process of thinking by visual means alone (abstract configuration to abstract configuration). His process demonstrates a kind of purposeful flexibility (an openness to imaginative possibilities of, as yet, vague purpose). Shape and form possibilities are, in this fluid mental state, combined freely and the final work slowly evolves into its final expressive form. Lessons are, of course, learned during this process through reflection on developing form.
Additional Visual Thinking from Motorcycle Source

Copyright David Ulch
Used with permission of the artist

Impressions of a Motorcycle Etching 6 x 8 inches

Copyright David Ulch
Used with permission of the artist
This visual thinking is also characterized by a continual search for an authentic voice of originality. The example provided by artist Kristin Tow Meadows demonstrates an intriguing solution to a purely visual search for original form. This large collaged image reflects an insight by the artist of her deep personal involvement with art history. The origins of this form lie in earlier periods in the history of art. The source was a particularly significant contact with her true interests in life (her origins).

Originality, according to psychologist Rudolf Arnheim, has little to do with a conscious decision to be different and unique. The experience of originality arises naturally out of intuitive discoveries, in form language, of the roots of the unique self. In the example shown here, the artist found in a drawing by Renaissance artist, Leonardo Da Vinci, entitled, "Virtruvian Man," (which speaks to the symmetry and harmony of the ideal human) a significant configurational and ideational base for further her visual thinking about the nature of modern human life.

Commentary on Modern Man - Collage 8' x 8'  
Copyright Kristin Tow Meadows  
Used with permission of the artist
The hundreds of years that separate Leonardo from our own time are not recognized by the specific processes of the right hemisphere. In this case the artist has substituted collage images of the clutter of contemporary culture to show a contrast with the orderly image from the past. The artist has incorporated a deeply personal, yet borrowed, interest as the base of visual formation. This borrowed structural foundation does not however represent a privileged new platform from which to pontificate on a totally new perspective. It is rather a deeply felt position, with borrowed references, from the artist's own roots in interest, thought, and feeling.

**Visual Interpretation**

The interpretation of visual images is problematic for the visual literacy researcher, since there is almost an automatic assumption in western culture that interpretation is only possible through left hemispheric specific processes. Interpretation is assumed to be an analytical function aimed at knowledge formation through the abstracting of essentials. Visual interpretation seems to function otherwise.

Visual interpretation is based more heavily on the specific processes that scientists have identified as right hemispheric in character. In an earlier time the philosopher John Dewey characterized this process as a kind of transactual psychology. Rather than postulating a neutral, objective observer discovering knowledge embedded in the exterior world, transactual psychology suggests that humans understand their environment through a continual "bargaining" process between what is inside them and the exterior world outside their skin. In this bargaining process each person constructs his or her perceptions through a filter of past experiences, assumptions and purposes. Each person, because of differing experiences and associations, perceives what is "out there" in a largely unique way. There is no common world out there, only common ways of transacting, common bargains.

For the individual interested in visual literacy there is an imperative to avoid the executive, dominating functions of left hemispheric linear thought. A world in which what is perceived is dictated over by the words assigned to describe experience does not value a literacy that is visually based. Visual literacy implies that the meaning one constructs is not something that comes from the object but from the active internal experience one has when viewing the object.

**Viewer Response Theory**

What is needed in visual literacy is a visually mediated process to deal with this infinitely variable bargaining process of transactual interpretation. In literary criticism the methodology which seeks to deal with this complex interpretative process is called reader response criticism. I am proposing that a similar methodology would be equally useful in visual realms of experience, a viewer response criticism.
Viewer response theory would move the focus of attention away from the visual object and toward the viewer and their transactional bargains with the object. What this type of interpretation would seek to discover has to do with the viewer's share of the creative process which re-creates the object within the viewer's mind. Viewer response criticism must avoid assigning any absolute meaning or truth to interactions with the object. Objectivity, as far as it exists, can only be said to reside in an understanding of the process-specific way that a particular viewer or group of viewers transacts with the object.

The goal of viewer response methodology might be said to be the merging of the self and the object (the other). Instead of an object oriented formalistic analysis, the viewer is empowered to base interpretations of his or her own perceptions on a natural "birthright". Expertise for the person practicing viewer response criticism resides not in external others (whether they are people or objects) but in the intimate knowledge of one's own perceptual processes. This type of interpretation solidly re integrates visual knowledge into normal human discourse from which formalism and objectivism have removed it. Each viewer (even the person viewing the initial form-making of his/her own hands) is empowered with expertise based on personally lived experience.

In addition to objectivity, visual response theory effects the positionality of the interpreter. Rather than the single eyed, stationary, objective observer of the Renaissance, this new world of viewer response interpretation posits that each viewer will always have simultaneously multiple perspectives on meaning. This is so because of the multitude of associations that visual elements in any visual scene suggest. This simultaneity of position is very much like the reality suggested by relativistic physics and modern cubist painting. This type of complex visual reality can itself be studied visually as shown in the accompanying painting done from multiple vantage points by a high school art student.

Those individuals who share a significant portion of the interpreter's perspectives would constitute an interpretative community with shared assumptions. The sharing of meaning is possible in that two or more persons
share overlapping in their respective interpretive communities. The interpretative viewer can make a meaningful connection with the original maker of a form when he or she discovers a way to relate to (transact with) the object in much the same way as did the original creator.

Meaning that is based on right hemispheric specific processing is not a "set" and unchanging thing. Something may come to mean one thing now and another thing later. The viewer may tap into one level of meaning at one point in time and, given the changing circumstances of life experiences, perceive this same form as a quite different level of meaning at another time. Out of a complicated and ambiguous process meaning (or rather meanings) will continually evolve from any visual. The potential for a number of meaningful associations is clearly demonstrated in a high school student's drawing, "The Real Me."

**Multicontextual not Unicontextual**

All thinking outcomes that provide new knowledge involve a fusion of previously unrelated ideas, planes of thought, or contexts. The Canadian psychologist, George Swede has, for example, characterized all creative thought as multicontextual.

"To express the idea that more than two planes of thought are always involved in creative thinking, I suggest the term "multicontextual thought." It makes clear that anything creative is the result of the integration of a number of different concepts or contexts..." (Swede, 1993)

Creative graphic ideation and visual response interpretation are both in this way multicontextual rather than unicontextual. With multiple, simultaneous processing in the right hemisphere, many contexts apply within the viewers mind to any visual perception. These multiple, relevant contexts make possible the multiple-leveled meanings of metaphoric thinking in visual communication.

The metaphoric, visual development of graphic forms are shown in the developmental sketches of artist...
Gretchen Raisch for an expressive self portrait. Many of the metaphorical contexts are explored during the sketching process from which she developed the final form. The moodiness of the first sketch suggests a context of human isolation and introspection while the next two drawing pages show an attempt to integrate this self-embracing figure with a “bramble patch” of twisted veins/vines. From the dark recesses of this twisted organic thicket emerge many alien faces or forces. The final formative drawing integrates these separate contexts into a single form, multicontextual and metaphorical in implications. The self portrait, breaking or tearing into its constituent parts, mirrors the surrounding plumbing.
Possible Multiple Levels of Meaning

1. Personal Struggle
2. Structure of a constructed world breaking down
3. Disolution of an organic wholeness
4. New relationship between human and environment
5. New forms/potentials emerging

Different Multicontextual Associations

1. Coat hanger abortions
2. Issue in newspapers
3. Meat hook
4. Shadow on the unborn
5. Slashing angles
6. Newspapers spread as if to protect against a messy operation

Self Portrait 14" x 16" Pencil
Copyright Gretchen Raisch. Used with permission of the artist.

Abortion 10" x 12" Pencil
Copyright Ronald Heinen. Used with permission of the artist.
environment/infrastructure.

The multiple analogies that are possible from these visually rich contexts must seek a type of metaphorical coherence focused on significant attitudes or positions in relation to humans and their relationship to the universe. It is not necessary to reduce these multiple contextual positions into a single meaning with left hemispherically specific processes. There may be multiple possible levels of meaning that have a thematic unity. Meaning at multiple levels of understanding can be simultaneously truthful and poetically significant. This richer and thicker critical understanding of the visual message can lead to a richer self identity for the viewer. It also serves as a limiting factor on a kind of interpretative nihilism.

The artist Pablo Picasso anticipated the importance of understanding this sort of right hemispherically mediated visual thinking when he said,

"Why do you think I date everything I do? Because it is not sufficient to know an artist's works - it is also necessary to know when they did them, why, how, under what circumstances.... Some day there will undoubtedly be a science - it may be called the science of man - which will seek to learn more about man in general through the study of creative man."

Perhaps visual literacy is now called upon to develop such a visually based science.

**VISUAL PROCESS LINGUISTICS**

**PSYCHOMORPHOLOGY**

**VISUAL LOGIC**

**BISOCIATION**

Visual Process Linguistics

Visual literacy could contribute to a "science of creative humanity" with visually literate scholarship. We could seek to define and understand visual thought in purely visual modes of exploration and discourse, a kind of visual process linguistics. This visual based world could provide for its own brand of phonetics, phonology, morphology, syntax, and semantics. These new disciplines would not, however, be simply grafted onto existing linear and verbal based linguistic traditions. Visual process linguistics should provide multiple visual perspectives to an "interpretative community of the imagination". Here are several suggestions for methods of visual process linguistic inquiry:

**Psychomorphology**

Morphology is defined as the scientific study of form and structure, as of an organism, regarded as a whole. This biological connection makes clear the holistic manner in which form and structure must also be explored in the visual sphere of expe-
rience. Perceptions, concerning the nature of creative thought, can yield a rich and ever evolving body of concrete perceptual insights when explored by purely visual holistic means.

From an ambiguous visible world, new forms will continually arise in the viewer's consciousness through a rich discipline that could be called, psychomorphology. Psychomorphology as a discipline would enrich understanding of the functions of the visual mind. From childhood to adulthood individuals can explore the nature of their transactions with the world.

In student examples for an activity called, "Spirit in the Paper" young artists convincingly demonstrate that, even in a randomly crumpled sheet of white paper, the interpretative visual mind will create meaningful transactions. These interpretative transactions may be given names such as rocky landscape, bird, or dancing figures. The names are less significant however than what these transactual bargains tell us about the functions of the individual interpreting mind. An ex-
ample of the author's own psychomorphology experiments, a painting entitled, "Spirit on the Land," demonstrates how a deliberately ambiguous figure can evoke a wide variety of possible interpretations.

Visual Logic

Visual language also has a distinctive process-specific form of syntax. This syntax is clearly no rule driven in the same way that verbal syntax is. Rather, it seems to follow a kind of holistic visual logic that seeks the original synthesis of new gestalt wholes based on allowable perceptual functions within the visual perception system. The author Edmund Blair Bolles in his 1991 book, "A Second Way of Knowing: The Riddle of Human Perception," lays out the case for this gestalt based way of knowing. I would define visual logic in the following manner.

**VISUAL LOGIC:** A characteristic of visual designs that are said to "work." It is characterized by a sense of cohesiveness, comprehensibility and internal integrity among all its elements. Visual logic is based upon a belief that each person has an internal, intuitive teacher which he or she can learn to trust for guidance in the development of visual forms.
This process of shaping a meaningful visual message from the raw material of the world requires the slow evolution of visual formation with intervening processes of visual interpretation. This visual logic process is demonstrated in visual to visual action of four pages of thoughtful experimental sketches by the artist Gigja Baldursdottir. The resulting untitled abstract painting demonstrates the fruits of this labor after visual logic.

Untitled Painting
Acrylic on Canvas
Copyright Gigja Baldursdottir
Used with permission of the artist
Bisociation

Phonology, the study of speech sounds, could also have its corollary in the visual world. Arthur Koestler, in his 1975 book, "The Act of Creation," proposed that all creative ideas arise from a mixture of qualities hidden in previously unrelated or unassociated objects or contexts. This cross fertilization of unrelated ideas and associative contexts within a single human brain produces new ideas whose shape and form cannot be predicted from the constituent parts. Koestler called this process bisociation, to distinguish it from more pedestrian associative thinking.

Student examples from both elementary and secondary school levels show the potential for the visual study of bisociation. Bisociation can lead to visual solutions which sensitively make us aware of new poetic meanings in the world.

In the visual world, a similar kind of merging of visible qualities is at the heart of the formation of new visual thoughts (configurations).

TYPES OF LINGUISTICS:

- DESCRIPTIVE
- HISTORICAL
- COMPARATIVE
- THEORETICAL
- GEOGRAPHICAL
Types of Visual Process Linguistics

Visual Process Linguistics could take on many forms of purely visual inquiry. In closing let me suggest how, by analogy, visual scholarship might yield methods of inquiry complementary to those found in verbal linguistics.

1. Descriptive Linguistics -
This form of inquiry would seek to comment on the multicontextual understandings, gained from interacting with visual configurations, through the creation of a richer, thicker descriptions in new visual form.

Three student examples from an activity called, "Metaphoric Face" show how visual researchers can mix and unify contexts from a variety of sources, while being guided by acts of visual response interpretation. These examples from middle school, high school, and college age levels demonstrate that individuals of all ages can engage in this type of activity to improve their visual literacy.

Design a Metaphoric Face from the poetic mixing of many visual qualities.

Middle School level students
Copyright New Art Basics Project
2. Historical Linguistics -
This type of visual process linguistics would seek to discover sources of original linguistic stock from which visual language systems and styles have evolved. The example provided from a middle school student shows how in a visual thinking activity called “Combinative Grid,” there is careful and critical visual study of such historically based sources.

3. Comparative Linguistics -
Visual to visual comparisons can be particularly lucrative in considering the flood of possible associations and bisociations a visual suggests. Compare for example the three previously mentioned examples of “Metaphoric Face.” What fruitful observations could be made about the different ways in which these students transacted with their visual environment?
4. **Theoretical Linguistics** -
The creation (evolution) of original images through a process of disciplined visual thought holds many theoretical possibilities. Artist Bill Miller demonstrates in his sketchbook the search for an expressive form to convey his psychological impressions of a room in just such a visual and theoretical quest.

*Bill Miller*
*Impressions of a Room: A Theoretical Exploration of Meaning*
*Watercolor 12" x 14"*
5. Geographical Linguistics -
Exploration of multicultural visual languages might yield startling comparisons and universal human traits. In my final example one can see a student altered photograph exploring the significance of face painting, scarification, tattooing, and cosmetic makeup. This activity, called “Face Doodles,” allows the viewer to make original observations and discoveries of a purely visual nature.

Conclusion

The experience of visual literacy ought to be as much or more a visual adventure, requiring critical production and seeing, than it is an experience of verbal discourse about visual matters. This requires more participatory visual action and qualitative research methodology than is currently demonstrated in the professional literature concerning visual literacy.

The process issues defined in this paper have many pedagogical and curricular implications for educators. Education can no longer afford to continue with methods that, media critic Marshall McLuhan characterized as, “stenciling on brain pans.” In a visual literacy program, individuals must be required to actively explore the transactual nature of both their graphic ideation and visual interpretation processes. These process issues underlie and are constituted by all past, present and future images.

Visual language, with its dynamic and every changing functions, can provide a great educational benefit to human thought but as the poet Longfellow said, “Art is long and time is fleeting.” It is time for the visual literacy movement to develop a greater focus on long term process issues.

References


