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ABSTRACT

This paper presents an approach to understanding visual metaphor which uses metaphoric analysis and comprehension by graphic and pictorial means. The perceptible qualities of shape, line, form, color, and texture, that make up the visual structure characteristic of any particular shape, configuration, or scene, are called physiognomic properties; the mixing of these properties in different categorical matrixes is called bisociation. Combined, physiognomic perception and boundary breaking, through bisociation, form the basis for visual metaphoric communication. Sixteen adults (13 female and 3 male) participated in a workshop which focused on playing a visual game, "Bisociative Pictionary," based on the current commercial game, "Pictionary." A self-portrait pencil drawing was selected as the visual metaphor for analysis. Participants were divided into teams and encouraged to find as many bisociations as possible within a 30-minute game period; only graphic, drawn responses were allowed for communication. A bisociation could only be confirmed when another member of a team guessed the name of the object or activity being drawn; successful matches were totaled at the conclusion of the game. Participants then analyzed the drawn responses for categorical patterns. Participants discovered three of the artist's six predetermined levels of meaning. The patterns of visual matches indicated that such a purely visual game can help individuals discover multiple levels of shared visual meaning. Selected participant drawings are shown, matched to the levels of meaning predetermined by the artist. Forty-seven photographs, drawings, and charts illustrate the discussion. (Contains 16 references.) (AEF)

The Visual Analysis Of Visual Metaphor

Dennis M. Dake and Brian Roberts

Most professional literature on metaphor says that metaphor is primarily a linguistic experience. Current theoretical and experimental models generally break metaphor into separate components, such as vehicle, ground, and subject and then further subdivide it into a large variety of types. (Ortony, 1993, Feinstein 1983, Kennedy 1982)

Even the professional literature on visual metaphor, commonly uses verbal metaphor as its primary evidentiary base and uses analogies to verbal metaphor as its theoretical structure. This current paper presents a more visually based approach to understanding visual metaphor. The methodology suggested in this paper is that of metaphoric analysis and comprehension by graphic and pictorial means. It is the authors' contention that visual metaphor functions more simply and more visually than tje current theoretical models suggest. Yet in spite of this simple structure, the rich nature of perceptual and mental images can provide a multileveled complexity of significant metaphoric meanings.

AMBIGUITY AND THE NATURE OF VISUAL TRUTH

The visible world is forever ambiguous and open to individual, idiosyncratic interpretation. The mental imagery constructed within an individual human brain, from perceptual inputs, is further confounded by individual differences in expectations and prior experience. This subjective, perceptual filter leads to differing, individual conclusions concerning the meaning of all percepts. Does this imply then, that there can be no meaningful visual communication between individuals? If the answer is yes, then the very foundation of visual literacy is called into question.

The contention in this paper is that visual communication does not make its primary contribution to shared human knowledge through literal means and serial causation. It is clear, from both the scientific and artistic evidence, that visual expression is most effective in the area of the metaphoric and multi-leveled, parallel communication of meanings.

BISOCIATION

The perception of meaning in visual metaphor begins with a heightened sensitivity to visual structure. The perceptible qualities of shape, line, form, color, and texture,that make up the unique visual structure characteristic of any particular shape, configuration, or scene, are called physiognomic properties.

Physiognomic properties are perhaps best understood through visual example. The illustration (Figure 1) by Charles Philipon, shows the similarity of physiognomic qualities shared between King Louis Philippe and a common pear. This is a classic example that is often used to illustrate the nature of physiognomic characteristics. So fluid are physiognomic characteristics that they can easily cross categorical boundaries at the expense of common object recognition and culturally approved meanings.

Figure 1: Charles Philipon, Les Poires, 1834

The mixing of physiognomic properties from objects in different categorical matrixes has been called **bisociation** (Koestler, 1964). Koestler coined the term bisociation to differentiate the type of fluid, generative thought we are considering here, from ordinary associational thinking. In his book, The Act of Creation, Koestler demonstrates that bisociation is the foundation for what humans commonly call the act of creation.

Looked at in terms of modern cognitive psychology, bisociation is an exemplar of what neuropsychologists have identified as **"thinking by appearance."** Levy and Trevarthen concluded in their 1976 study that, "The right and left hemispheres are specialized for detecting structural and functional similarities, respectively...". In other words, the left hemisphere makes logical connections between objects based on their ability to fulfill similar functions. The right hemisphere is, to the contrary, specialized for making comparisons based on purely structural appearance. Right hemispheric choices are based on a purely image-based reasoning. To draw upon an individual storehouse of mental images contained in memory involves an act of imagination (image - a - nation: a nation of learned images). The authors suggest that "thinking by appearance" is a vital mental process necessary to create, analyze and understand visual metaphor.

Visual artists have often remarked on the fluid and category-breaking nature of meaning in the visual sphere. Best known for his comments on the subject is Spanish artist Pablo Picasso.

"Reality is more than the thing itself. I look always for the super reality. Reality lies in how you see things. A green parrot is also a green salad and a green parrot. He who makes it only a parrot dimishes its reality. A painter who

copies a tree blinds himself to the real tree. I see things otherwise. A palm tree can become a horse." (Pablo Picasso, July 10, 1950 in Sunday Observer)

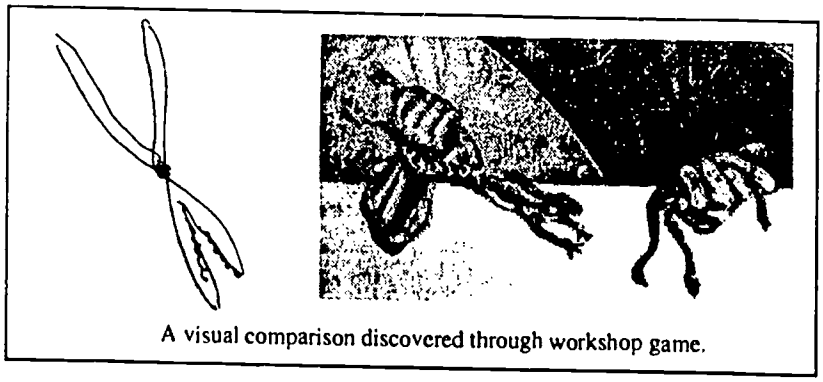
Combined, physiognomic perception and boundary breaking thinking, through bisociation, form the basis for visual metaphoric communication. Without the rich and multi-layered analogies that are suggested by these two thinking skills, visual meaning is reduced to a low level of literal illustration.

A PLAYFUL GAME TO UNEARTH MULTIPLE MEANINGS

The remainder of this paper will report, in largely visual form, the results of a workshop held at the 27th annual convention of the International Visual Literacy Association, in Chicago, Illinois, on October 18, 1995. Rather than present a further written explanation of visual metaphor it was the decision of the authors to demonstrate, in visual practice, the efficacy of the visual analysis of visual metaphor.

Figure 2: Brian Roberts, 183 Days, Pencil on Paper

PARTICIPANTS: Sixteen adult participants self-selected to attend this workshop entitled, "The Visual Analysis of Visual Metaphor." It was assumed that attendance indicated a positive attitudinal mindset toward the subjects of visual metaphor and visual analysis. The participants were members of the International Visual Literacy Association with intense professional interests in matters visual and educational. Thirteen of the participants were female and 3 male. They ranged in approximate age from 30 to 70 years of age. They came from a wide range of professional, visually related, disciplines.



A visual comparison discovered through workshop game.

PRIOR ANALYSIS OF THE VISUAL METAPHOR: A self-portrait pencil drawing, entitled, "183 days." (FIGURE # 2)

created by one of the authors, Brian Roberts, was selected as the visual metaphor for analysis. This highly symbolic visual art work is the result of much disciplined visual thinking through disciplined sketch pages (some of which are reproduce here). These thoughtful pages show a careful and creative evolution of many levels of meaning. The intended and discovered meanings were carefully analyzed, prior to the workshop so that they could be compared with meanings discovered subsequently by the workshop participants.

WORKSHOP ACTIVITIES: The workshop focused on playing a visual game, **Bisociative Pictionary,** based on the current commercial game, Pictionary. This game allowed participants to visually discover bisociations in the drawing, "183 Days," without excessive verbalization.

Figure 3: Workshop participants sorting drawings into categorical themes and taping in groups on the wall.

The participants were divided into teams of four members each and encouraged, through free association, to find as many bisociations as they possibly could within a 30 minute game period. No verbal clues were to be given to other team members about the bisociations individuals saw. Only graphic, drawn responses were allowed for communication. A bisociation could only be confirmed when another member of a team guessed the name of the object or activity being drawn. When a successful match was confirmed, it was added to a stack of correct matches for that group. At the conclusion of the 30 minute round each team totaled up their confirmed responses and the team with the most non-duplicated responses was declared the winner. (The winning team in this particular contest had 83 confirmed matches.)

To determine the possible meaning behind these bisociations, the winning team was then asked to analyze its stack of drawn responses for categorical patterns. Drawings in each categorical grouping were taped to a wall and labeled with titles suggested by participants. The other workshop teams were then encouraged to contribute their drawings to these visual categories and then to create additional thematic groupings from their remaining stacks of bisociative drawings.

A visual comparison discovered through workshop game.

Chart # 1 shows the quantitative results of this classifying activity, condensing all drawings into 12 categories. Only after the conclusion of this pattern seeking activity were the participants shown a slide show version of the artist's analysis of levels of meaning.

Chart # 1

Categorization of Bisociative Drawings by Workshop Participants

CATEGORY	NO.	2ND CATEGORY
NATURE	40	2
TOOLS	27	8
PEOPLES ROLES	23	2
ENTERTAINMENT	22	3
FOOD	18	8
MYTHOLOGY	16	5
ANIMALS	15	6
CLOTHS	14	2
MAN MADE OBJECTS	12	3
EROTIC	9	2
PEOPLE IN ART	6	3
MISC.	4	0

The initial categorizing exercise resulted in the discovery, by workshop participants, of three of the six predetermined levels of meaning. Because many of participants' drawings could also fit in more than one category and many drawings suggested knowledge of other levels of intended meaning, the researchers concluded that they should conduct their own critical visual analysis of all workshop drawings.

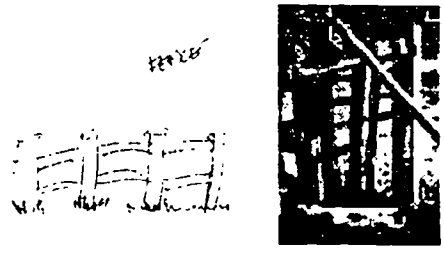
Chart # 2

Comparison: Workshop Drawings Distribution and Predetermined Levels of Meaning

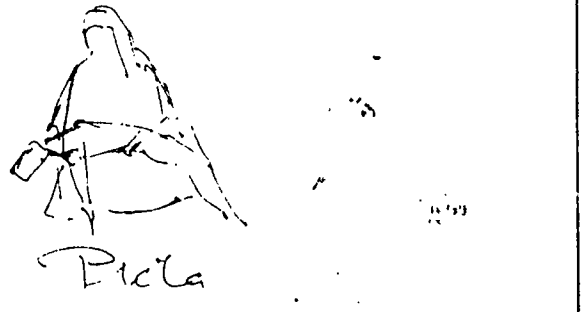
	Original Matches Participants	Critical Analysis Authors
LITERAL	0	2
MULTIPLE ROLES	23	20
NATURE AND EARTH	40	43
EROTIC	9	12
METAMORPHOSIS	0	5
UNIVERSAL	0	5

As shown in Chart # 2, this critical redistribution resulted in a pattern of, what seems to the authors, clear visual matches in all 6 predetermined areas of meaning. These visual patterns seem to indicate that a purely visual game, such a bisociative pictionary can help individua discover multiple levels of shared visual meaning.

To help the reader judge the natu of visual pattern correlations, selected participant drawings are shown in the following section, matched on the opposite page to the levels of meaning predetermined by the artist.

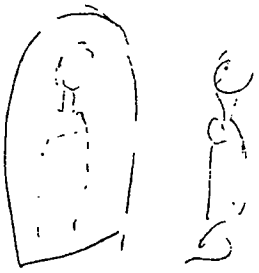


Some addditional visual comparison discovered through workshop game.



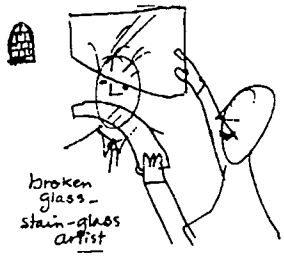
Visual Analysis by Workshop Participants

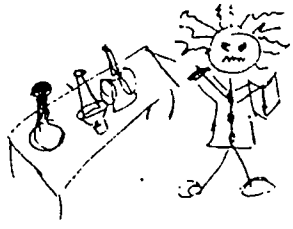
Level 1: Literal



Participants had the literal image before them throughout the workshop game. A person viewing himself in a mirror and the Iowa farm-based image of "American Gothic" are particularly strong visual connections with the artist's rural life.

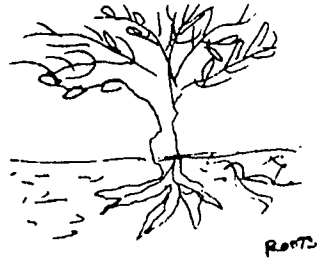
Level 2: Multiple Roles





Among the many roles present in the artist's life and visually identified by the workshop participants were: farmer, glass artist, and teacher/presenter.

Level 3: Nature and the Earth

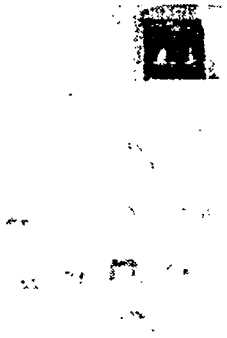


The fertile earth, from which plants draw their nourishment, and the forces of weather that interact with growing things, were correctly analyzed from visual clues alone.

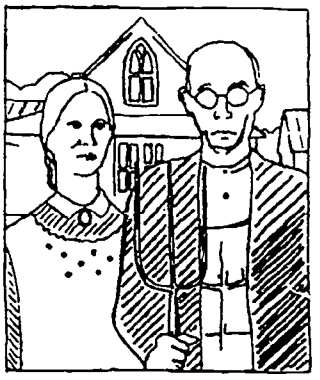
Predetermined Visual Analysis by Authors

Level 1: Literal

The literal level of meaning is that "183 Days" is a self-portrait of the artist.



The self-portrait was developed from the photo of a farmer presenting an ear of corn.



American Gothic done by Iowa artist, Grant Wood, a historical connection to the presentation of a farmer wearing bibs.

Level 2: Multiple Roles

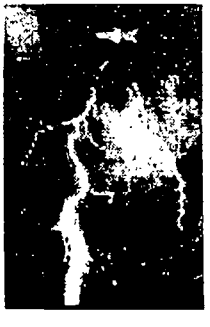
The future art teacher utilizes many tools for demonstrating to a class.

The forms of an original glass vase show the glassblower's role.

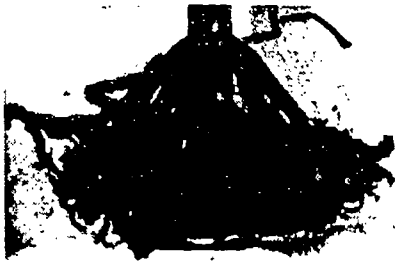
Grandfather, father, son: the farmer's role is maintained from generation to generation.

Level 3: Nature and the Earth

Connections to soil where life begins and also ends.



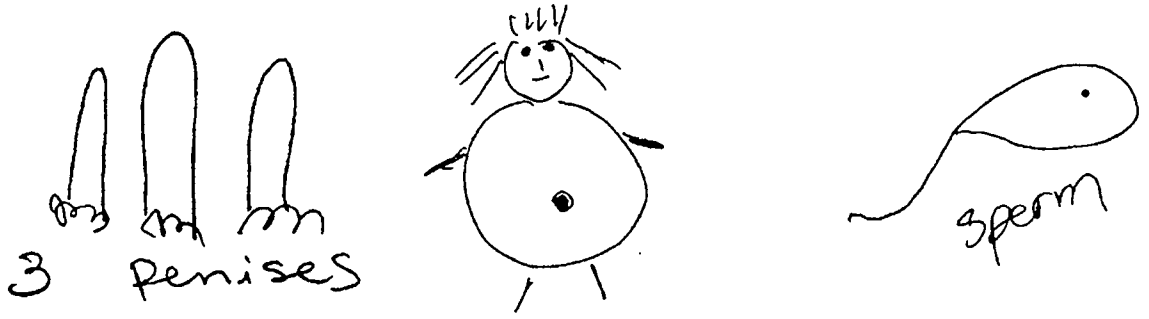
Nature also has its destructive side such as lightning.



A corn plant establishes roots to gather nourishment.

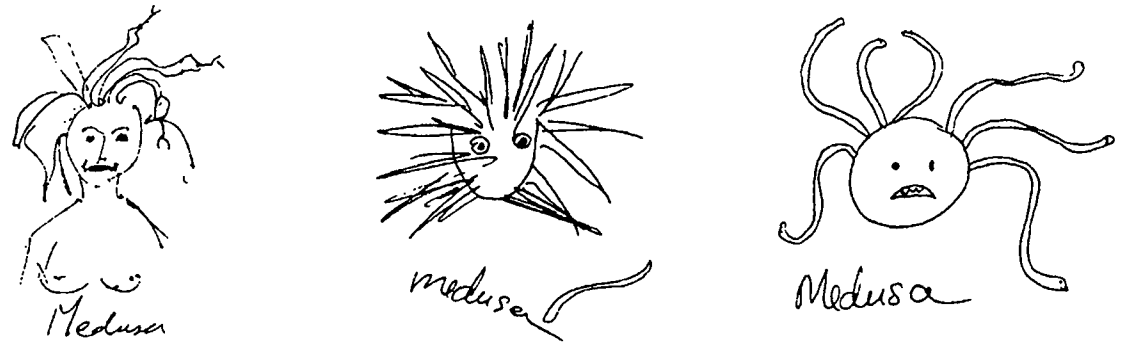
Visual Analysis by Workshop Participants

Level 4: Erotic / Fertility



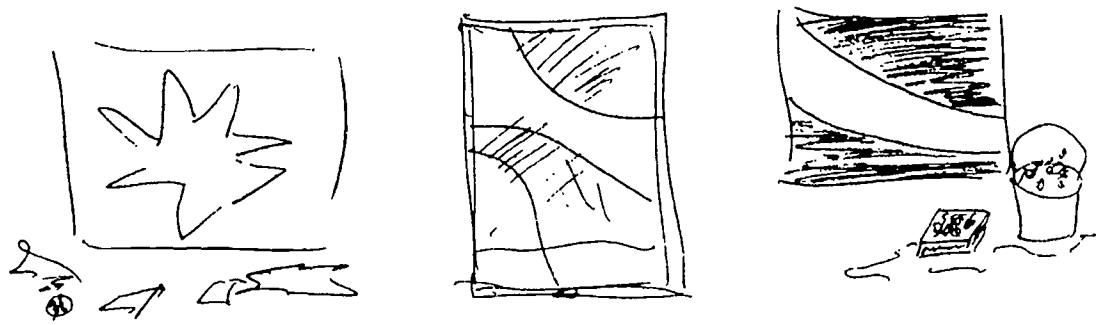
Eroticism and fertility were major themes explored by the artist in the visual thinking that led to the drawing, "183 Days". Several of the teams of workshop participants correctly detected and visually expressed awareness of this theme.

Level 5: Metamorphosis



The mythical figure of the medusa, a symbol of transformation and change, was a common subject drawn by workshop participants. It corresponds to the many changes currently occurring in the artist's life.

Level 6: Universal

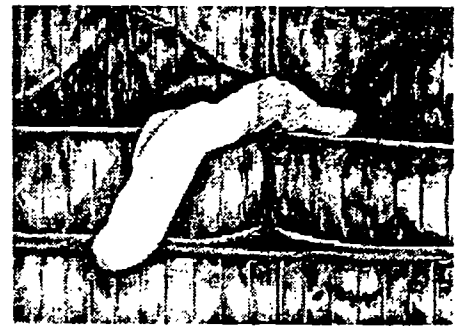


The shattering of the plane of glass in a window is a theme that corresponds to current postmodern thought, which moves beyond detached observation of nature from a single, static vantage point, projected on a transparent picture plane.

Predetermined Visual Analysis by Authors

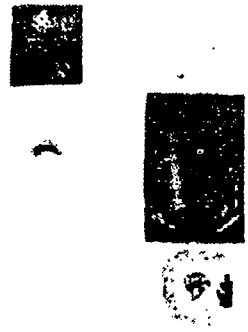
Level 4: Erotic / Fertility

Serpent Goddess (16th c. B.C.E,. Crete) and modern sculpture, Forbidden Fruit, (Andrew Leicester, 1991) are fertility symbols bearing offerings; one offers snakes and the other DNA strands for genetic engineering.



In an original preparatory drawing, the artist explores the theme of the denial of erotic potential.

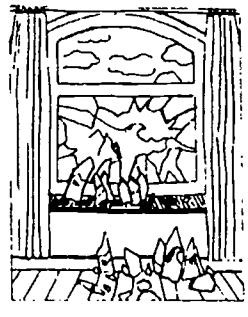
Level 5: Metamorphosis



Sketches focus on the transformations occurring internally and externally to the artist. As with the Medusa, many transformations and changes are occurring.

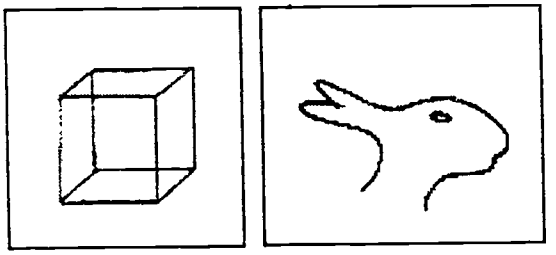
Just as frogs mature through different stages of life, the artist is growing through different development stages.

Level 6: Universal



Paintings by Jasper Johns and Rene Magritte demonstrate the breaking of the Renaissance "window on the world," complications not easily unified into a single perspective.

Artist explores lack of harmony in the world by breaking the picture plane.



Figures 4 & 5: Necker Cube and Duck/Rabbit reversible figures.

MULTIPI E LEVELS OF MEANING

It was the general conclusion of workshop participants that they had discovered a number of noticeable visual correspondences of meaning, with the artist's intended levels of meaning. The authors agree. This agreement conforms with the idea that visual forms communicate multiple levels of meaning. The visual patterns just presented demonstrate that these meaningful connections can be understood by purely visual analysis. This brings up the question of how multiple levels of meaning can be simultaneously embodied in specific visual forms?

RECONSTRUALS

A possible cognitive basis for thinking by appearance has been suggested by psychologist Mary Peterson with the concept of **reconstrual of imagery.** Rather than simple visual recognition Peterson suggests that, in perception, "there exists a stage in which a structural description of a shape is not connected to an interpretation." (Peterson 1993) At this stage there appears to be a rapid search through an imagistic lexicon for the best possible match.

Reversible illusions, such as the Necker Cube (Figure # 4) and the duck/rabbit form, (Figure # 5) show this flexible mental ability to make multiple decisions about a single form. It is the Elephant/snail illusion, shown in Figure 6, however, which best illustrates the ability of the brain to provide multiple, meaningful alternatives without a shift in the reference frame of the viewer.

In the Elephant/snail illusion there is no swapping of the left for the right side, figure for ground, or top for bottom. The viewer's reference frame remains the same in relationship to this single form and yet it alternates between elephant and snail. This suggests that every shape or form in the visible world can be a trigger for multiple bisociations. Many associated meanings are carried along with the each of these matches. This looser categorical thinking is what some have called, remote analogies. From remote analogies multiple meaningful associations, are indeed possible.

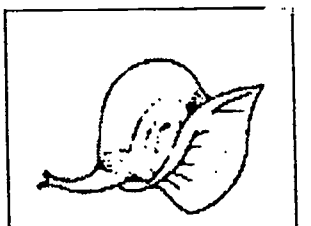


Figure 6: Elephant/snail reconstrual figure.

MEANING AS TRANSACTIONS WITH THE ENVIRONMENT

Visually based meaning is not something to be found in the exterior object but something each observer constructs internally. Multiple levels of meaning poetically arise out of the nature of these multiple individual transactions with the visible object. Meaning within visual literacy requires **response-ability** from the individual doing the creative seeing.

It is this paper's primary conclusion that multilevel visual meaning is foundational to both visual literacy and visual creativity. Conceptual boundary breaking and multi leveled perception are necessary mental skills in all areas of productive human life. Perceiving multiple levels of meaning requires a shift from mechanical and static labeling to a dynamic, relational, contextual, and process oriented type of thinking. Logical reasoning in verbal terms is not, in this case, the best laboratory for the understanding meaningful patterns. Arthur Koestler suggests the real basis for understanding the discovery of visual meaning.

"The mind is insatiable for meaning, drawn from, or projected into the world of appearances, for unearthing hidden analogies which connect the unknown with the familiar, and show the familiar in an unexpected light. It weaves the raw material of experience into patterns, and connects them with other patterns....." (Koestler, 1975, page 390)

Searching for meaningful visual patterns through bisociation, thinking by appearance, and reconstrual are vital skills leading to visual literacy. As shown in the previous analysis of visual metaphor, the patterns and themes that are discovered from thinking this visual way, can cumulatively reveal patterns of multiple poetic meanings.

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