
A Pictorial Syntax of Shapes (Continued)

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LETTERS

Readers' comments are welcomed on texts published in Leonardo. The Editors reserve the right to shorten letters. Letters should be written in English or in French.

A PICTORIAL SYNTAX OF SHAPES (cont.)

I would like to comment on Curtis L. Carter's reply to the letter of E. H. Gombrich [*Leonardo* 9, 262 (1976)] in regard to Carter's article in *Leonardo* 9, 111 (1976). His reply contains the statement: 'There is sufficient evidence from art historical practice, experimental work with computers (James Gips and George Stiny [*Leonardo* 8, 213 (1975)] and others) and discussions of the question of shapes used by artists to suggest that my hypothesis of shapes will have practical applications.'

I understand that Carter, because of his predominantly theoretical interests, leaves the making of works to artists. Of course, there is no reason why artists should not be permitted to draw conclusions from their works and make them available, but I believe he would agree such conclusions are not necessarily sufficient evidence according to art historical practice.

I am also aware of the possible 'inbreeding' of analyses of a subject to form a closed circle by authors repeating each other's content. For instance, Carter in the above quotation from his letter refers to the article of Gips and Stiny and this article contains references to two books—one by Gips and one by Stiny. My review of these books can be found in *Leonardo* 10, 339 (1977).

In their books, Gips and Stiny state that their algorithmic aesthetic system is primarily concerned with shapes—a rather narrow limitation on aesthetics from the point of view of the philosophy of art. They apply their system to nonrepresentational geometrical painting, the meaning of which is nowhere emphasized. The possible semantic relevance of conceptual art is not hinted at. Why did they choose to make such paintings? I realize that an artwork can be made without an explicit verbal answer to this question, but they apply to their arbitrary choice a complex verbal and mathematical analysis to demonstrate that the paintings can be described in terms of natural and/or formal languages. Painters have the licence to choose a particular type of picture, but aestheticians in their analyses of pictures do not have such licence.

Gips and Stiny are aware that there are as many variations of picture grammar as there are articles on the subject. The variations are probably limitless. Carter might find the approach of Gips and Stiny very limiting, since others who analyze pictures cannot use their formal language. If care is not taken, the same situation may arise as the Babylonian confusion of tongues limiting the usefulness of natural language. The mathematics of abstract algebra is already in this situation.

I do not say that Carter does not have 'sufficient evidence from art historical practice', but I would like him to share this evidence, as may other *Leonardo* readers who have been struggling in the field of picture analysis.

I have found the article *The Visual Image* by Gombrich in *Scientific American*, p. 82 (Sept. 1972) very helpful. His approach, with many references to artworks, should be considered by those of us who are investigating the subject, perhaps in very limited areas, so that we shall not discover tomorrow what has long been known.

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The letter of Vladimir Bonačić above [*Leonardo* 11, 86 (1978)] contains three issues on which I would like to comment: (1) the practical application of my hypothesis of syntactic shapes for paintings; (2) the relation of the hypothesis to the studies of pictorial shapes by Gips and Stiny and (3) the omission of any discussion of pictorial meaning or semantics.

My article, *Painting and Language: A Pictorial Syntax for Shapes* [*Leonardo* 9, 111 (1976)], includes a range of art historical references to which the notion of shapes as syntactic elements of style is applicable. Morandini's use of shapes for analyzing pictorial style; Loran's studies of Cézanne's paintings and Lohse's discussion of his own paintings all provide examples of the practical uses of a syntax of shapes.

In my earlier article, *Syntax in Language and Painting* [*The Structurist* 12, 45 (1972–73)], I suggested applications of my hypothesis to Renaissance, medieval, mannerist, neoclassic, impressionist and fauvist styles. These examples in a variety of contemporary and historical styles should assure Bonačić of its possible uses for carrying out a formal analysis of paintings in a variety of styles and in different historical periods. Such concepts as shape and syntax can assist artists and interpreters of their paintings to a better understanding of the respective tasks of making and interpreting paintings. Paintings with similar shape elements and/or similar structures, for example, can be identified as belonging to the same styles. The concept of a syntax of shapes thus can provide a theoretical base for the notion of a style of painting. My treatment of the topic in these brief articles certainly calls for further elaboration and testing, both for determining its scope of inclusion and for possible exceptions, but the hypothesis cannot be dismissed for the reasons offered by Bonačić.

The charge of 'inbreeding' in the references offered in support of the notion of shape analysis is offset by the previous remarks. But I would like to comment briefly on some differences between Gips and Stiny [*Leonardo* 8, 213 (1975)] and my own interests in the formal analysis of paintings. Gips and Stiny offer 'a formalism for the complete specification of nonrepresentational, geometric paintings . . .'. Their studies constitute an approach to syntax for constructing paintings along the lines of a rigorous logical system. As I understand it, their approach is not intended for analyzing already existing traditional painting styles. My own interest, however, is to develop a theory of pictorial syntax for analyzing historic and contemporary styles of painting, and not merely for those paintings that are made by stipulating a set of pictorial rules in the manner of a system of symbolic logic. Admittedly, the problem of developing a theory of syntax for these historic and contemporary styles is the more difficult task. Gips and Stiny's work provides some helpful clues, but their approach does not accommodate the main bulk of art historical styles.

Bonačić suggests that there are limitless varieties of picture grammar. Theoretically, there are as many pictorial grammars as artists can imagine. But only a relatively few come into practice and are used and understood on a widespread basis. It is not unusual, however, for a group of artists in an historical period to share the same general pictorial grammar of style, as for example impressionist painters.

Finally, the omission of semantics from my article is a matter of selectivity and not a lack of awareness and interest in this important area of pictorial analysis. Even paintings of a

predominantly geometric structure, consisting of circles, triangles, etc., also have a semantic or interpretive aspect. The very interpretation of shapes as triangles, circles or polygons is already a semantic act of considerable complexity. The question of pictorial meaning to which Bonačić alludes includes semantic considerations, but it also involves pragmatics (Peirce, Morris) and even syntax!

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ON THE LIMITS OF INTUITION

Possibly the most important corrective for recent confusions about the role of intuition in art in D. N. Perkins' article in *Leonardo* 10, 119 (1977) is offered in its abstract, which states that intuition and reasoning are not at odds. Realization of this would limit the license some claim for artists to commit any distortion in the visual or plastic arts in the name of intuitive motivation.

The construction of the word 'in-tuition' suggests 'teaching in', that is, accumulating direct practical experience rather than speculative information for storage in the brain at a level not amenable to ready evocation by conscious command. Intuition then becomes a positive factor in respect to control of one's work that should be distinguished from negative impulses and capricious whim.

The latter arise, I believe, as petulant antagonisms to the effort necessary for the mastering of the materials and techniques for artistic accomplishment. Such feelings rarely occur among well-trained individuals, but are common among those who use a pose of superior cultural sophistication to justify any exercise of their personal wills.

Perkins points out in the last paragraph of Section IV of his article that 'intuition depends on familiarity'. Familiarity in the form of craft skills were inculcated in artists, until recently, by lengthy apprenticeship and the professions of, for example, science, engineering and medicine require a long period of preparation. Now that art materials are manufactured commercially, the training of artists tends to be centred on the visual characteristics of completed artworks in two or three dimensions. The fault of academic prescriptions is not so much that they are intellectually formulated (the sculptors of ancient Greece abided by canonical rules) but resides in the fact that they obscure the necessity for some intuitive control also.

To stimulate his students' awareness of the necessity of an intuitive element in artistic representation, Kenneth Hayes Miller, a 20th-century realist painter in the U.S.A., used to say: 'Seeing is touching at a distance.' He illustrated the force of intuition by suggesting that one imagine the sensation one would experience if one raised one's hand to catch a tennis ball, which turned out to be a baseball [1]. The value of intuition based on familiarity rather than on the use of formularized information is pointed out also in the remark that Ingres, noted for his classical realistic painting of nudes, is said to have made: 'All the bones and muscles are my friends, but I cannot call any of them by name.'

The creative process is very complex and poorly understood, as has been pointed out by numerous *Leonardo* authors, most recently by A. Jaumotte [2]. Intuition plays an important role in the process, and I believe that as 'teaching-in' its function is to help artists invest their artworks with significant content based on familiarity with the materials and techniques of their craft and with their intellectual heritage.

References

1. L. Rothschild, *To Keep Art Alive: The Effort of Kenneth Hayes Miller, American Painter (1876-1952)* (Cranbury, N.J. Art Alliance Press, 1974) p. 71.
2. A. Jaumotte, On Conditions for Creativity and Innovation, *Leonardo* 9, 315 (1976).

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PERCEPTION OF PERSPECTIVE PICTORIAL SPACE FROM DIFFERENT VIEWING POINTS

Rudolf Arnheim's article in *Leonardo* 10, 283 (1977) strikes me as remarkable for its insight into Tintoretto's painting and for its presentation of the difficult idea of rotation in pictorial space. Perhaps there is a simpler reason why this effect is not commonly experienced by viewers. While the various patches of pigment of a painting indicate how the surfaces of the depicted scene are arranged, the perspective according to which all the patches are oriented specifies not only the spatial layout of the scene but, by implication, also the location of a viewer in the context of the depicted scene. Gradients of size and texture that constitute perspective in the real world specify one's distance from the horizon, up and down, and other facts about one's own location in space. That is, perspective information has the property not only of defining the layout of surfaces in space but also of defining, by implication, the location of the viewer of these surfaces: if the viewer changes location, the perspective must change also. In a picture, the artist's rendering of these gradients similarly implies the location of a viewer. I call such a viewer, located in the context of the artist's depicted scene, 'the proprius'.

When one views a picture, one locates oneself spatially by the perspective information of the picture rather than by the perspective information of the room where it is hung; that is, one becomes the proprius. But a picture provides only a limited amount of real-world information; for example, parallax is absent, as well as other visual information that one obtains by changing one's viewing point of real objects. Hence viewers of a picture must supplement the proprius with a contribution of imagination to make it complete.

Unimaginative viewers require more detailed information, such as found in trompe l'oeil and photo-realist pictures, before they are able to interpret picture-space. More imaginative viewers need less detail, but in either case there is no confusion between picture space and real space. Viewers may suspend their contribution of imagination at any time. Thus, while the proprius in the picture space of Tintoretto's painting should rotate when one moves physically from the vanishing point to the center line, as Arnheim describes, there is no reason why viewers should maintain their contribution of imagination during this change in viewing point. Unless one chooses to adopt a special investigative attitude, as Arnheim has done, the pictorially implied proprius is simply dropped out of one's awareness.

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THE STRUCTURALISM OF CLAUDE LEVI-STRAUSS AND THE VISUAL ARTS

I found Art Brenner's Note in *Leonardo* 10, 303 (1977) an informative development of a topic that has been occupying an ever increasing number of writers, including myself [1], concerned with the analysis of art as communication; however, there is a point I wish to clarify, and one I find puzzling.

Regarding his implication that the analysis by Vazan and myself in *Leonardo* [2] represents an intellectual justification for conceptual art and related movements, this is simply not the case. We state in the Introduction with reference to Vazan's work: 'In the beginning was the act, the artistic act.' What we developed in the text was not a justification, or even a critical method, only an interpretive perspective. Again, we wish to disassociate ourselves from those conceptualists who contend, as Brenner states, that labelling is tantamount to validation.

I found it puzzling that in a discussion of Lévi-Strauss and art no reference was made to his *The Savage Mind*. A number of anthropologists, and I am one, consider it to be his major contribution, not only to the human sciences, but to the structural approach to art, which is poignantly discussed in the first chapter. By focusing on the *Mythologiques* (Lévi-Strauss at his most speculative and ambiguous), and the *Conversations*, Brenner failed to include material that would have augmented