An Experimental Investigation of Spatial Representation in Oil Painting

Roberta Jean Cameron
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AN EXPERIMENTAL INVESTIGATION
OF SPATIAL REPRESENTATION
IN OIL PAINTING

A Thesis
Presented to
the Graduate Faculty
Central Washington State College

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Art

by
Roberta Jean Cameron
July 1966
APPROVED FOR THE GRADUATE FACULTY

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

Throughout the history of oil painting, painters have been confronted with the creation of illusion on the canvas. This involved the problem of referring expression to the two-dimensional context of the picture plane. No intentions or skills, however, can make spatial representation truly complete. "In the physical space of the observer the picture remains a flat surface" (2:229). Therefore, instead of attempting a representation which is condemned to be incomplete, the painter deliberately invents or uses certain innovations.

Artists past and present have been involved in searching for these solutions to spatial representation. Some have solved the problem by use of simple innovations while others have used complex methods. Some periods have stressed three-dimensionality while others have stressed two-dimensionality. At certain periods spatial relationships were disguised by other expressive factors, such as ornamentation; at other periods spatial relationships were the most prominent aspect of the composition.

But, regardless of the variety in the ways of solving the matter and in the variety of emphasis placed upon it, spatial representation has been a vital factor in most
significant oil paintings of every period. It is both the source for expression and the source for pictorial structure. It is often the means by which individuals excell in their personal expression.

I. THE PROBLEM

Statement of the problem. The purpose of the study was (1) to investigate concepts of spatial representation and to study the spatial means used to achieve them; (2) to integrate these concepts and means with a series of oil paintings; and (3) to present conclusions that would suggest modifications in the candidate's painting techniques.

Importance of the study. In oil painting it is not difficult to achieve some type of depth dimension. This can be obtained through the use of scientific perspective; however, perspective alone is not the complete answer to spatial representation. Although it is a valid means, it is only one among many possibilities. It is important, therefore, that the painter be aware of other concepts and means of spatial representation since these innovations may lead to new sources of expression.
II. DEFINITIONS OF TERMS USED

**Closed and open form.** Two interpretations of a self-contained structure: (1) tectonic, (2) a-tectonic (23:124).

**Equivocal space.** A type of overlapping when an element has the qualities of both spatial planes (21:116).

**Figure-ground.** Refers to the association existing between figure and ground forms with figure forms usually enclosed or having some limitation of size and shape.

**Form.** (1) Objects or parts within a work of art; (2) the total character or structure of a composition.

**Kinesthetic.** Series of eye movements around and across an object (17:25).

**Linear.** Use of line as an element of pictorial structure.

**Painterly.** Use of merging mass and shape as an element of pictorial structure.

**Pictorial structure.** Refers to oil painting composition, the whole that is made of structural elements.

**Plane.** Refers to even surfaces which produce the pictorial structure.
Space. The interval between pre-established points (16:109).

A. Two-dimensional. Measurement as to length and breadth but lacking in thickness or depth.

B. Three-dimensional. Having thickness of depth as well as length and breadth.

C. Decorative. Limited to length and breadth.

D. Plastic. Involving length, breadth, thickness or depth.

E. Shallow space. Limited illusion of three-dimensional space, similar to a stage setting.

Spatial concepts. The two basic types of space available to the painter: (1) two-dimensional space, (2) three-dimensional space.

Spatial indications, spatial methods, spatial means. Refer to the innovations used to achieve spatial concepts.

Stereoscopic. "... ability to see objects from two points of view at the same time" (17:25).

III. LIMITATIONS OF THE STUDY

The main body of this thesis is a series of oil paintings developed from the investigation of spatial representation. The paintings were produced between August, 1965 and July, 1966. No effort was made to relate paintings to specific spatial concepts or means, but there was an
attempt to consciously and subconsciously incorporate spatial means in various ways and combinations. Each painting was developed independently of the others. The opportunity to use intuition and freedom of direction were important aspects of the investigation. The subject matter and expression produced in the paintings are inseparable from the use of space.

The study consists of approximately twenty-five paintings. Selection of paintings for use in the thesis was made according to the amount of success achieved in the work.
CHAPTER II

REVIEW OF THE LITERATURE

I. INTRODUCTION

The solutions given to spatial representation in oil painting are numerous. In fact, to an extent each painter manifests his own solution. "Art is the product of organisms and therefore probably is neither more nor less complex than these organisms themselves" (J:vi). The literature pertaining to spatial representation, however, suggest some basic principles concerning the use of space in oil painting. Although much has been written regarding these principles, only a summary of the significant data is included. The literature reviewed was selected to be representative of the material related to the study.

II. SPATIAL PERCEPTION

Literature reviewed on spatial perception indicates that perception of space on a two-dimensional picture plane is governed by laws of visual perception. These laws emphasize that perception is not a mirror of reality but an activity involving the eye and mind. Scott (22:110) states, "Perception involves the whole pattern of nerve and brain responses as well as the visual stimulus." To this Arnheim (2:viii) adds, "All perceiving is also thinking, all
reasoning is also intuitive, all observation is also invention." Ocvirk (16:109) takes a similar position: "All spatial implications are mentally conditioned by the environment and experience of the viewer. Vision is experienced through the eyes, but interpreted with the mind."

Many explanations of visual perception are given in reviewed literature. Arnheim (2:214) states visual perception causes spatial illusion on a two-dimensional surface since the viewer, rather than comprehend the surface as being split up by shapes, will perceive the shapes as resting in front of the plane. This results in the development of several planes, and therefore a third dimension. Ocvirk (16:109) suggests that this perception of space is experienced while viewing a two-dimensional surface because the viewer unconsciously attempts to organize its separate parts so that they can be seen as a whole. "... man explores object surfaces with eye movements in order to make mental recognition of them." Kepes (10:21) states that "any optical differentiation of a picture surface generates a sense of space." He explains this in his theory of space perception:

One experiences space when looking at an articulated two-dimensional surface mainly because one unconsciously attempts to organize and perceive the different sensations induced by the optical qualities and measures as a whole, and in so doing is forced, ... to impute spatial meaning to these relationships (10:20).
The importance of spatial perception to the painter is presented by Arnheim in the introduction to *Art and Visual Perception*:

The relevance of these views to the theory and practice of the arts is evident. No longer can we consider the artistic process as self-contained, mysteriously inspired from above, unrelated and unrelatable to what people do otherwise. Instead, the exalted kind of seeing that leads to the creation of great art appears as an outgrowth of the humbler and more common activity of the eyes in everyday life (2:viii).

III. INTUITIVE AND CONSCIOUS ORGANIZATION OF SPACE

Literature on spatial representation stresses the significance of both intuitive and conscious organization of space. Graham Collier in his book *Form, Space, and Vision*, describes the intuitive organization of space:

... most of us have an instinctive or intuitive tendency to organize the placing of objects or marks in empty space, to create a seemingly "right" and organic grouping within the space available; ... we tend to see relationships between marks or objects on a piece of paper or space, even though such marks or objects have no direct connection to each other (5:73).

Rasmussen expresses a similar attitude toward the necessity of intuitive response to space representation:

Because of the complexity of all these factors it can readily be understood why the intuitive senses must play the greater part in creating a work of art; an intuitive sense of rightness must be used in volume placement, space-interval timing, and coordination of all the forces into a form that is vital and complete (17:55).
IV. SPATIAL ILLUSION AS EXPRESSION

According to the literature reviewed it is natural that methods of spatial representation are deeply related to expression. Lowry (14:155) comments in The Visual Experience, "Regardless of whether the aspects [methods of creating] manifest themselves as instinctive reaction or as conscious concerns of the artist, they are inevitably a part of what he is expressing...

Ocvirk states the expressive potential of spatial representation:

Space like other qualities in art, may be both spontaneous or premeditated, but always results as the product of the artist's will. If an artist has an impassioned will to make things so, they will usually be so, despite inconsistency and defiance of established principles (16:113).

V. CONCEPTS OF SPATIAL ILLUSION

The writings on spatial representation suggest that there are two major concepts of spatial illusion open to the painter, two-dimensional and three-dimensional. Ocvirk (16:110-111) explains these two concepts as plastic space and decorative space. Plastic space employs illusion of the third dimension, both deep space and shallow space. Deep space uses the third dimension to the extent that it denies the picture plane except as a starting point. Shallow space is an intermediate spatial position bordering on either
decorative space or deep space. Here the depth dimension is limited to a stage-like space.

Decorative space involves space dimensions limited to length and breadth. In this concept the painter adheres to the reality of the two-dimensional picture plane. Space organization is across the picture plane rather than in it. Regardless of how well organized, decorative space rarely appears perfectly flat in an art work.

VI. METHODS OF SPATIAL ILLUSION

In the literature reviewed, methods of spatial illusion refer to the innovations used to achieve two-dimensional and three-dimensional space. Other names given to these innovations include spatial indications and spatial means. It is difficult to classify these methods.

Artistic methods of spatial representation are so interwoven and interdependent that an attempt to isolate and examine all of them would be impractical and inconclusive. The illustration of all spatial means would be an interminable task and leave the reader with the feeling that art is entirely "formulaistic" (16:112).

Most authorities reviewed, however, attempt to analyze the most prominent methods of spatial illusion. Arnheim (2:213-250) refers to contrast and gradation of size, converging parallels and diagonal action, transparency, atmospheric perspective, and advancing and receding color as means of space representation.
Size, position, overlapping images, sharp and diminishing details, converging parallels, linear perspective, reverse perspective, atmospheric perspective are a few traditional spatial means mentioned by Ocvirk (16:109-123). Emerson (8:29-34) deals with similar methods but in a more sculptural sense.

Contemporary methods of space illusion emphasized by Ocvirk involve the fourth-dimension, time or movement. He describes Cezanne’s use of "the most characteristic viewpoint" and the Cubist’s "juxtaposition of views" (16:122). He summarizes "with the synthetically-designed picture, or one which divorces itself from analytical observation of the model," spatial order therefore comes into existence as art of art’s sake (16:124).

Spatial methods are viewed by Rasmusen (17:25) in relation to kinesthetic and stereoscopic vision. Kinesthetic is associated with linear perspective while stereoscopic vision is related to contemporary use of movement as pictorial space.

Scott (22:119) sums up eight distinct devices for indicating depth on a two-dimensional surface:

1. Contrast and gradation in size.
2. Converging parallels and diagonal action.
3. Position in the picture plane.
4. Overlapping.
5. Transparency.
6. Diminishing detail.
7. Atmospheric perspective.
8. Advancing and receding color.

He also mentions the bivalent use of space indicators. This he explains is a contemporary attitude toward space. "We can call this new idea the concept of equivocal space" (22:119).

In Cezanne's Composition, Loran considers spatial movement, recession, and overlapping of planes as methods used to control deep space. Loran stresses the use of plane relationships which represent spatial movements. Dynamic planes (rotating), overlapping planes, planes of volume moving in space, two-dimensional movement, two- and three-dimensional movement, rising and falling movements, linear rhythm or movements, tension between planes, tension between axes, and tension within the object are among those mentioned.

Berkman in Art and Space, gives a thorough account of the chronological development of spatial means. His analysis begins with the use of tiered space organization and the development of the cube as a spatial indicator. He continues with Alberti's investigation of one point perspective and the Renaissance space. As he approaches
the contemporary period he discusses spatial means applied to Analytical Cubism, Synthetic Cubism, and non-objective painting.

Methods of spatial representation are presented by Wolfflin (23:14-16) as they relate to the development of art styles. He describes five major styles of art, each with varying concepts and means of spatial organization:
(1) development from the linear to the painterly; (2) development from plane to recession; (3) development from multiplicity to unity; (4) development from closed to open form and (5) development of the absolute and the relative clarity of the subject.

VII. ARTISTS OF MODERN SPACE REPRESENTATION

A great number of artists are discussed in the literature for their contribution to modern space representation. Cezanne, Picasso, Braque, Kandinsky, Mondrian, Duchamp, Balla, Chagall, Dali, and Klee are among those mentioned.

Art historians generally agree that Paul Cezanne is the father of modern art since he has strongly influenced contemporary art. Collingwood, in writing on the change which came over painting at the close of the nineteenth century, stresses Cezanne's contribution:
Every one in the course of the 19th century had supposed that painting was 'a visual art'; that the painter was primarily a person who used his eyes, and used his hands only to record what the use of his eyes had revealed to him. Then came Cézanne, and began to paint like a blind man. --So with his interiors; the spectator finds himself bumping about these rooms, circumnavigating with caution those menacingly angular tables coming up to the persons that so massively occupy those chairs and fending himself off with his hands (6:144).

Loran sees Cézanne's contribution to contemporary art in his genius of space organization. Cézanne emphasized that "the picture, regardless of the exigencies of the subject represented, must remain faithful to its own structure, to its fundamental two dimensions" (13:131). Space was transposed from reality and unfolded as something which was new. Other characteristics of Cézanne's space organization are: (1) that a well-organized painting must be a self-sufficient and closed unit within a specific frame; (2) that the arrangement of volumes in space and the control of negative space have a profound importance; (3) that slight form and space effects of color planes are subservient and subsidiary to the larger structural planes (13:Ch. II, Ch. XV.).

Matisse was also an innovator of space organization. Like Cézanne, Matisse was interested in translating reality into absolute terms of painting. Rousseau, in Matisse on Art, points out that Matisse broke free from traditional uses of shaded color as well as Impressionistic uses. Matisse introduced to his canvases brilliant color which produced
two- and three-dimensional space illusion in clear, sensuous contrast. In combination with brilliant color he also introduced emphatic pattern which lessened relationship to reality but had more "sensuous appeal to the eye, like ornament or decoration" (21:1-10). These factors produced a new directness in painting.

Another leader in contemporary space representation was Piet Mondrian. Mondrian "sought to order space in a perfectly measured relationship of color and line" (10:105). He wished to use

.. . the most economic use of the plastic forces to bring out a dynamic balance from the receding and advancing of color planes and lines on the picture surface (10:108).

Berkman, in Art and Space, cited Picasso as completing Cézanne's intuitive search for the functional picture plane:

Picasso's space is not derived from mathematics (as with the masters of the past), but from a realization that the world is a visual field, revealed through the mind (consciousness), where all existence is translated into images which reflect one's awareness of life and the universe in which it transpires (3:184).

In "What Abstract Art Means to Me," Willem de Kooning makes a statement concerning his expression of space:

That space of science-the space of the physicists-I am truly bored with by now. . . . The stars I think about, if I could fly, I could reach in a few old-fashioned days. But physicists' stars I use as buttons, buttoning up curtains of emptiness. If I stretch my arms next to the rest of myself and wonder where my fingers are—that is all the space I need as a painter (15:52).
Albers, Rasmusen, Ovirk, Kepes, Berkman and many others have investigated the spatial properties of art elements. From their work it is definite that each element has some spatial properties and that these properties, when combined, produce abundant possibilities for spatial representation. The position, number, and direction of these elements result in an infinite number of possible spatial means. As Kepes (10:24) states, "Each unique interrelationship yields a unique spatial feeling." In an additional statement he elaborates on this point:

Since each shape, color, value, texture, direction, and position produce a different quality of experience, there must arise an inherent contradiction from their being on the same surface. The contradiction can be resolved only as they have the appearance of movement in the picture-plane (10:20).

Art elements having spatial properties described in the review of literature include line, shape, movement, light, color, texture, and value. To deal with the properties of each art element would unduly extend this study but a resume of the literature would be incomplete without reference to a few of these.

Josef Albers' Interaction of Color emphasizes the properties of color. In his research Albers found color to be "the most relative medium in art" (1:10). He explains
that color is rarely seen as it physically exists. This means there is no limit to color deception. One and the same hue can evoke innumerable readings. He states that spatial illusion created by color depends upon the proportions in which colors are mixed. He also states that spatial illusion is dependent on the reverse ground, and on the character of the color boundaries. In addition, he comments that the consonance and dissonance of color, size, and extension and recurrence, affect spatial illusion.

Kepes also elaborates on color as a space indicator. He explains that when different color-surfaces are viewed on a picture plane a muscular adjustment is required to bring the different rays into focus. "These adjustments are registered as different sensations, and, associating their qualities with respective colors, create spatial sensations" (10:34).

Loran discusses Cezanne's use of color as an important device for spatial control. "Color is used so that it appears to remain flat and related to the picture plane," thus avoiding the hole effect of linear perspective, (13:17).

The spatial properties of texture are analyzed numerous times in the literature reviewed. Oovirk (15:121) states that "clear, precise, bold textures appear to advance, whereas fuzzy, dull, or smooth texture recede." Hans Hoffman,
Jasper Johns and Jackson Pollock are only a few mentioned that developed space through texture.

Shape is another element described as having potential spatial properties. Objects which are solid or massive relate to the depth dimension while transparent, volumeless shapes become two-dimensional. Moreover, shape is influenced by value, color, intensity, and detail (16:119). In addition, the structural skeleton of shape has space potential. Arnheim (2:Ch. IX) defines structural skeleton as implied lines that exist within the shape. These lines are important spatially since they produce direction, weight and tension.
CHAPTER III

THE INVESTIGATION AND RESULTS OF THE INVESTIGATION

I. MATERIALS USED IN THE INVESTIGATION

Oil base paints were used exclusively, with no materials added for textural or other surface qualities. The painting medium consisted of linseed oil, copal varnish and turpentine mixed in equal parts. The painting surface was heavy weight canvas stretched and primed with gesso or rabbit skin glue. No limitation was set as to size or shape of canvases. Tools included standard brushes and palette knives. Rags were also used extensively in applying and removing oil paint.

II. THE RECORD OF THE INVESTIGATION

The investigation started in August with the painting of "Number One." This painting of 75 inches by 76 inches was the largest work completed in the study. The actual size of the canvas seemed to increase spatial tension. Spatial tension was also heightened by the use of warm and cool color planes.

In October the investigation resumed with the painting of two rectangular canvases 32 inches by 38 inches. The subject matter of both consisted of three figure forms
grouped around a table-like shape. The subject matter was chosen for the expressive potential and the spatial problem it created. As painting progressed on these canvases intuitive and conscious responses toward space representation contradicted one another. A statement by John Canaday was recalled:

Art cannot be created solely by any set of rules. However, the knowledge of rules can be an advantage for sensing what lies beyond—the inexplicable something that accounts for the greatness of a great work of art (4:8).

This statement clarifies the correlation between these two approaches. Regardless of the importance of objective techniques, subjective spatial expression must be allowed.
In these paintings the figure-ground pattern was explored as negative and positive space organization. At the conclusion of painting several months later one canvas "Table of Three" represented the figures as positive space and the ground as negative space. The other canvas was eliminated since the surface texture was not suitable to develop the desired space representation.

Photographs were taken when paintings were considered complete. Details of paintings were taken in certain instances to point out spatial means, surface quality, and the use of art elements.
FIGURE 2
TABLE OF THREE

FIGURE 3
DETAIL OF TABLE OF THREE
A third painting involving similar subject matter was started late in October. "Dining," a small painting of 27 1/2 inches by 32 inches, was completed within two weeks. The space concept was third-dimensional; however, surface textures used in both the figure and ground kept the depth dimension within limits. The use of rose madder in both figure and ground served to shorten the depth dimension.

FIGURE 4

DINING
In mid-October the fourth canvas, "Figure and Interior," was started and near completion two weeks later. The subject matter developed from a photograph which suggested an interesting movement of space. The planes which developed from the interior forms suggested in the photograph were painted to express spatial tension, yet related as a unit by the use of color.
The plane on the left projects forward while also receding to unite with planes that form the depth of the shallow space construction. From here spatial movement is directed forward to the right by advancing color and open forms. Here the figure is encountered as part of the movement since the colors that compose it are related to those of the projecting ground. The central placement and advancing color of the chair direct movement back toward the center. The simplification of form and the looseness of painting technique enforce the limited depth quality of the work.

The sixth canvas, "Seated Figures," was started in November. This rectangular painting of 35 1/2 inches by 47 1/2 inches began as an experiment using color intuitively. Colors were applied to the canvas without conscious consideration of form or space. After development of a color pattern the structure was interpreted into figure forms. Then these forms were established within the area of most intense color pattern, additional color was used to bring the negative area forward.
FIGURE 6

SEATED FIGURES
"Waiting Figures" was also started during November. In this painting forms resolved into spatial organization more successfully than in earlier paintings. Areas were simplified into color planes which contrasted with the figure forms. A shallow spatial concept resulted from the ambiguous use of similar colors and shapes to represent figure and ground. As in "Table of Three," a linear pattern over slightly modulated color was used.

FIGURE 7
WAITING FIGURES
FIGURE 8
DETAIL OF WAITING FIGURES
In "Figure One" the form is resolved as partially a negative shape due to the transparent zinc-titanium white overglaze. In contrast to the transparent shapes other areas are heavily painted. The figure is woven into the surrounding space through related values of reds and yellows.
A figurative approach seemed to intuitively dominate the study. "Figures In Exterior" was developed subjectively from spatial planes previously painted on the canvas. Figures were placed in an uncommon arrangement in the lower left corner. To preserve a spatial relationship between the ground and the figure complementary color relationships were employed.

FIGURE 10

FIGURES IN EXTERIOR
FIGURE 11
DETAIL OF FIGURES IN EXTERIOR
During the study several small canvases were painted. Some of these, such as "Number Nine," "Model," and "Iris," were kept for the study while others were not retained.

FIGURE 12
NUMBER NINE
"Model," as the title indicates, was painted from a model. Though some additional painting was done, most of the structure was completed within twenty minutes. The quick study produced a spontaneous organization of figure-ground relationship.

FIGURE 13

MODEL
In the painting "Iris," depth dimension was produced by exaggerated perspective. However, space remained quite shallow in that the ground was painted flatly in intense color.

![Figure 14: Iris](image)

In March, April, and May several paintings were done involving similar subject matter, the standing figure. This subject matter offered an opportunity to investigate spatial tension. "Two Standing Girls" is one of the paintings from this sequence. It contains directional planes and color interaction which develop a sense of spatial tension.
FIGURE 15
TWO STANDING GIRLS
In the progress of painting, several possible conclusions emerged: (1) the approach to spatial representation must be primarily subjective; (2) an awareness of spatial perception and spatial means could strengthen intuitive use of space; (3) expression was the vital factor in the method of spatial representation; (4) there was a necessity for a consistent use of elements in the development of spatial means.

In June and July the two final paintings were completed. "White Figures" is a study of figure-ground relationship in which the figure becomes negative while the ground becomes positive. This approach to figure-ground relationship is a contemporary trend found in both Pop art and Op art movements.
FIGURE 16

WHITE FIGURES
The last painting, "On Green," was an arrangement of figures placed on a rather flatly painted ground. However, variation in figure size and color relationship produced depth dimension. The figure on the right was made to fall back by diminishing the size and color intensity of the lower proportions. The oblique direction of the figure also served to place it in the middle plane.

As a result of the development of the last two paintings, several others were eliminated from the study. The main factor leading to this decision was their lack of expression.
CHAPTER IV

SUMMARY AND CONCLUSIONS

I. SUMMARY

From the review of the paintings it would be reasonable to assume that the hypothesis of the study was affirmed. Yet it would be pertinent to assess the degree to which it was affirmed. To investigate the concepts and means of spatial representation was a valid factor in the modification of the candidate's painting techniques. However, the emphasis was not only on the utilization of spatial means, but also on the ability to comprehend them and yet remain subjective. The formulas of spatial representation must be respectfully related to the instinctive or subconscious response to space.

The differentiation between successful and unsuccessful paintings was generally a subjective matter. In relation to this study the relative success of each painting was influenced by the following factors:

1. Conscious consideration for various spatial means investigated in the research.

2. Conscious application of spatial means (shape, color, texture, light, line) to create pictorial space and expression.

3. Consistant use of selected spatial means throughout the form.
4. Development of interaction between spatial means.

5. Use of spatial tension for the development of dynamic equilibrium and inner contradiction.


7. Sincerity of expression in spatial representation.

II. CONCLUSIONS AND SUGGESTIONS FOR FURTHER STUDY

The correlation of intuitive and formulistic facilities concerning spatial representation was a result of this investigation. It is easier to realize the importance of one or the other, but to become competent in utilizing both is a paramount matter. In some of the paintings instinctive and learned concepts opposed each other and inconsistency resulted. However, as the study progressed and paintings were completed and analyzed, a more unified attitude toward space developed. Perhaps it is when learned concepts become as intuitive as instinctive responses that the artist is best equipped to express his aims.

A study of this nature leads to an unlimited variety of possibilities for further research. It would be profitable to pursue study in oil painting emphasizing the spatial properties of elements of structure. Or it might be rewarding to thoroughly explore the works of one or of a group of artists, and from there develop a series of paintings which
might consciously and subconsciously combine with the painter's personal expression to produce a new use of space.

As a final inference from this study, any exploration of spatial representation must emphasize that formula cannot be allowed to quench the creative spirit. "Art is a product of man's creativity and is always dependent on individual interpretations and responses (15:112-113)."
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