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The Ohio State University, Ph.D., 1960
Fine Arts

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CLARIFICATION OF AN ARTISTIC POSITION
WITH REFERENCE TO GESTALT
PERCEPTUAL PRINCIPLES

Dissertation
Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
HAROLD LAURENCE GREGOR, B.S. in Edu., M.A.

* * * * * * *
The Ohio State University
1960

Approved by

[Signature]
Adviser
Department of Fine and Applied Art
This dissertation is dedicated to L. C. T.
ACKNOWLEDGMENTS

For their kind help and considerable effort on my behalf, I wish to thank the members of my advisory committee: Mr. Robert King, Dr. James Grimes, Dr. Frank Ludden, Dr. Morris Weitz, and, particularly, Mr. Hoyt Sherman, who acted as my adviser. Any future distinctions and honors which I may achieve belong, in a large measure, to Mr. Sherman.
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INTRODUCTION

Statement of Purpose

This essay will explore the possible relationship between certain established principles of visual perception and the problems which confront the painter during the act of painting. The significance of the relationship between the principles of visual perception and the act of painting rests upon the assumption that the primary response to contemporary art must be a visual response, rather than a narrative, associational, or evocative response.

The importance of the narrative, associational, and evocative response is not meant to be compromised. However, contemporary art is primarily a presentation of organized color relationships. A pictorial presentation

1 The established principles of visual perception alluded to in the text are principles derived from the principles developed by experimental psychology and in particular Gestalt psychology. The application of Gestalt principles of visual perception to the act of painting has been explored in depth by Hoyt L. Sherman. The publications by Mr. Sherman (see Bibliography) were heavily relied upon as directives during my exploration of the problems discussed in this essay.

2 Visual response is a recognition of the relationship established by the formal elements of a pictorial organization. A visual response precludes any preconceptions or restrictions regarding a work of art and demands pure "looking".
of color relationships is perceivable only in terms of a visual response. Therefore, the painter in the act of painting and the spectator in the act of looking must respond to a contemporary work of art in much the same manner.

If the work of art is to be fully understood, the spectator's initial response must be a visual response, just as the painter's response must be a visual response during the painting act. This essay will discuss some of the fundamental problems to which a visual response commits the painter and the spectator.

Certain solutions to the problems involving visual response will be discussed. The solutions to these problems were arrived at during my own explorations as a painter. The proposed solutions are not intended to be looked upon as the only possible solutions to the problems, but are suggested because of their success in my own explorations.

The assertion is made that these problems are relevant to the spectator, and therefore are relevant to the spectator's personal method of esthetic value judgment. However, no attempt will be made to arrive at precise definitions of any major esthetic principles. A precise definition of the nature of beauty or art is beyond the scope of this paper. The relevance of the problems to a method of esthetic value judgment will be discussed,
but only in terms of visual response.

Gestalt psychology has attempted to demonstrate visual principles by the use of diagrams and drawings. Similar demonstrations will be provided in the text to clarify salient points. The importance of the demonstrations and of the principles which the demonstrations elucidate should become manifest when the demonstrations are referred to their counterparts in a pictorial organization.

One of the fundamental restrictions to the realization of a visual response is "object centeredness." Object centeredness can be described as a predetermined reaction to a visual stimulus; or more simply, seeing what you expect to see. The problem of object centeredness or "purpose viewing" will be explored. Certain detrimental effects which object centeredness produces upon the spectator and the painter will be described and some corrective devices will be offered.

The necessity of proper visual response to good artistic shape invention will be discussed. The realization of a well-organized shape structure is fundamental to the production of a successful work of art. The problems involving good shape invention will be considered.

To provide a larger context for the problems presented, a short historical survey will be developed. The historical survey should more clearly demonstrate the
direction asserted throughout the essay.
I. ARTISTIC TRADITION

The development of painting in the twentieth century has produced difficult problems concerning artistic process and the operation of esthetic judgment. Prior to the twentieth century the attempt to resolve complex esthetic problems generally employed one of two approaches. The first approach sought to isolate a common artistic quality or value which could be maintained as a standard of esthetic judgment. The second approach attempted to locate certain prime examples (masterworks) which could be used as comparative referents. Both approaches looked to the end product for the desired answers.

The introduction of non-representational art in the twentieth century has made necessary the exploration of a new esthetic approach, which includes the end product but which greatly expands the concept. This new esthetic approach offers possibilities of resolving many of the artistic problems which have emerged. The approach includes the total aspect of the creative act as its basis for value judgment and does not search for commonalities merely in the end product.

The approach attempts to discover the apparent commonalities underlying human perceptual organization.
and to account for stylistic modifications inherent in art by referring these modifications to the effects of a shifting environment upon perceptual organization. This approach assumes the Gestalt premise that Man's visual environment has always been organized in a similar manner, only his attitude toward that environment, and the modifications necessitated by function, tradition, and patron demands have changed.

The primary concern of the painter has always been the harmonious arrangement of the pictorial elements within the limitations of a given framework. As the traditional modifying forces lessened their demands, the artistic concern with the harmonious arrangement of the pictorial elements became more explicit. A summary of this shifting artistic concern should stress the important role an understanding of perception can play in the formation of a criteria of value judgment. This criteria of value judgment is primarily restricted to "figure-ground" oriented art.

Figure-ground oriented art refers to art which attempts to integrate the figurative elements within the context of a given framework. Greek art was not figure-ground oriented, but was concerned primarily with the arrangement of the figurative elements upon a flat surface. The difference between the arrangement of the figurative elements upon a flat surface and the integra-
tion of the figurative elements within the context of a given framework is a subtle but important difference. The recognition of this difference and the significant role which it plays in the understanding of contemporary art is fundamental to the point of view advanced in this essay.

The difference involves object centeredness, artistic purpose, and visual response. The difference is perhaps the difference between a decorative pictorial construct and an integrated pictorial construct. Decorative implies a configuration in which the ground plane does not emerge in the role of figure. Integrated implies a pictorial construct in which the ground plane and the figurative elements appear at one time to be ground and at another time to be figure. Yet, the total pictorial construct will appear to be stable in its organization.

The Greek vase painter drew his linear figures in such a manner that their proportions enhanced the shape and surface of the vase. The painter was limited to a certain range of motifs and little emphasis was given to individual stylistic innovation. By choice and composition the artist clarified meaning, heightened interest by the addition of color, and differentiated the elements by contour. But the Greek vase painter did not attempt to integrate the figurative elements within the ground plane or the total pictorial construct (Illustration II).

The primary concern of the pre-Renaissance artist
was directed to the organization of the figurative elements rather than to the relationships established by the figurative elements within the total pictorial construct. The artist did not attempt to relate the shapes to the ground upon which the shapes were placed. The background color was seen as nothing more than a surface upon which line drawings were to be placed. The artist's primary aim was to decorate a surface; he was not attempting to achieve a unified pictorial construct.

Nonetheless, despite the external iconographical requisites, certain pre-Renaissance artists were able to transcend the limitations and produce complex and subtle pictorial organizations. The Medieval period can be seen as a time of constant experiment, innovation, and struggle to achieve a clear iconographical statement as well as an apparently unified pictorial construct.

One of the first explicit recognitions of the drive toward the dominance of the formally organized construct was embodied in Masaccio's Expulsion painted in 1427 (Illustration III). Here Masaccio generalized the figure of Adam and Eve to permit the integration of the figures with the ground structure of the painting. The figures became part of the ground; the ground became part of the figure. The formal pictorial construct had emerged as a dominant artistic concern. The incidence and acceptance of the dominance of the formal pictorial construct as a
painterly problem was accelerated in the Renaissance by this recognition of the ascendancy of the organizational forces over the iconographical demands.

The Renaissance acceleration of the drive to integrate the figurative elements with the surrounding ground framework emerged as a product of a basic shift in worldly attitude. Man's concern with his spiritual world shifted to an investigation of his own real environment. His recognition of this real environment necessitated clarification of his relationship to that environment.

The artistic response to the new awareness manifested itself as an attempt to perceive figurative elements in their relationship to an enclosing framework. The pre-Renaissance interest in object relationships shifted to an interest in the relationship of that object to its surrounding ground referent. More specifically, the artist attempted to establish a figure-ground integration.

Artistic development was primarily directed to the resolution of the contrast dynamics of light and shade involved in producing a figure-ground integration. In the main, color was still applied locally to satisfy "thingness" differentiation. The High Renaissance saw

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3 Color was applied to differentiate one object from another object. Little attempt was made to use color as an organizing force within the pictorial construct. The Madonna's robe had to be blue to satisfy iconographical
the resolution of these experiments in light and shade structural problems and the beginnings of a new shift to resolve the complex problem of color.

The Mannerist emphasis upon art for art's sake permitted the demands of objective fidelity to diminish in favor of the formal problems of pictorial organization. The diminished emphasis upon objective fidelity was a necessary prerequisite to the evolution of a pictorial construct primarily unified in terms of color (Illustration IV).

The High Renaissance resolution of the light and shade structural problems led to a further refinement and development of these problems culminating in the chiaroscuro of Rembrandt (1606-69). Chiaroscuro, or dark and light modulation, permitted the maximum organizational unification with a maximum fidelity to the object. The figurative elements could be solidly integrated with the ground structure and still retain their representational qualities. Chiaroscuro permitted color to be meaningfully employed as a unifying device because the dark and light structure needed little defined articulation and the figurative shapes could be modified and adjusted in favor of the organization (Illustration V).

The a la prima method of paint application employed demands; therefore, the Madonna's robe was painted blue, whether or not the color aided the pictorial organization.
by the Venetian painters was intended to heighten color effects since the resulting minimal contour articulation could provide maximum color contrast. The Venetians chose to resolve the color construct problem through the use of minimal articulation, distortion, and high value colors. The Venetians relied upon a value system, adding white to the basic hues and emphasizing the tertiary colors to establish an overall gray unifying tone. If the shape contours were left undefined, the color contrast could be more powerfully employed as an organizational device and still retain its local function of object articulation (Illustration IV).

Poussin (1594-1669) exemplifies a third approach to the resolution of the color problem. Poussin directed himself to a more specific goal of classic idealization and could not distort the figure with the ease permitted by Rembrandt's chiaroscuro or the Venetian method of high value and a la prima paint application. Poussin resorted to the use of color positioning. Throughout the painting he juxtapositioned, defined, and delicately balanced areas of flat color, usually in the form of draperies, maximizing color energy in certain locale areas. The locales mutually balanced and intensified the overall hue strength, amplifying the color tone. The drapery shape could be most easily adjusted to enclose the required amount of color (Illustration VI).
The seventeenth and eighteenth centuries saw the continual experiment, refinement, and struggle to adequately solve the problem of color and still maintain a close allegiance to the represented object. Color was still employed primarily as an enhancement of the dark and light structure, rather than as the dominant unifying force.

Delacroix (1798-1863), inspired by the British painters, was among the first to attempt an explicit color organization. Delacroix minimized the object to such an extent that the referent was at times indiscernible or extremely vague. He employed the chiaroscuro of Rembrandt, the color tones of the Venetians, and the color positioning of Poussin to attempt a structure unified primarily by color. Direct, active, hazy, sometimes specific and defined, Delacroix was still hampered by the demands of object fidelity (Illustration VII).

Cezanne (1839-1906) discerned that true color organization could take place only if object fidelity was minimized. Cezanne's color organization was the result of an extremely sensitive response to the object stimulus, a response which allowed him to perceptually reorganize the subject which he painted. The perceptual reorganization permitted color to act as the dominant unifying factor in the pictorial construct. In effect, Cezanne painted what he saw, but a long tradition of artistic
invention was required to produce a man who could be so true to his vision (Illustration VIII).

The distortion which Cezanne employed was little understood but readily accepted as a new pictorial freedom. Once again the explicit innovation led to an accelerated investigation of its applications.

The Post Impressionists, the Nabi, the Fauves, and the Cubists each investigated the color problems which had challenged Cezanne. To maximize the effects of color, the experimenters began to minimize the object referent until in 1910 they entirely relinquished their adherence to the object. The object was eclipsed in favor of the requirements of the formal organization of the pictorial construct.

The twentieth-century shift to purely painterly problems gave the artist complete freedom from the earlier demands of objective fidelity, but the acceptance of this freedom lost the artist a major part of his audience. For a time, even the critics were reluctant to include non-representational art within their mode of esthetic judgment. The critics vainly sought the explanation of their dilemma in the end product. The inability of the end product to supply all of the desired answers quickly led to a recognition of the creative process as a potential source of explanation for non-objective art, and possibly all figure-ground oriented
art. However, several factors tend to block the spectator's recognition of creative process and its significant role in esthetic judgment. A discussion of the factors which block viewer response is hoped to clarify the importance of perception during the artistic and esthetic act.
II. BLOCKS TO ARTISTIC VIEWING

Object centeredness and figure-ground. A fundamental block to visual response is manifested in the phenomena termed "object centeredness." Object centeredness is a predetermined reaction to a visual stimulus, or simply seeing what you expect to see. The detrimental effects of object centeredness arise from the violation of basic visual principles which are fundamental to the painting and esthetic act. Object centeredness or "purpose viewing" affects all phases of creativity and is extremely difficult to overcome. Therefore, its implications and applications cannot be overemphasized.

The kite example (Figure 1) may make this "purpose viewing" more clear. Figure 1 may be looked at in three ways. First, it can be seen as a volume, a sort of sail. Secondly, as a sort of kite with its tail to the lower right. Thirdly, it can be seen as a flat, black four-
sided shape. Generally, viewer response is in terms of volume or object because the shape is assumed to be a depiction of something or is looked to for "thingness" quality. For the artist to operate most effectively, he must see the shape primarily in terms of flatness.

Purpose guides response, and seeing a sail or a kite demands a certain set or attitude upon the part of the perceiver. Therefore, perceiving a shape as a sail or kite tends to exclude the enclosing field or ground around the shape because the viewer wishes to act upon his thingness perceptions. Looked at as a shape, the effect of the enclosing ground plane upon that shape can be more readily seen. Perception of the shape and its relationship to the surrounding ground becomes more important than the thingness quality of the shape. The subordination of thingness viewing to relationship viewing is essential to a visual response.

To operate successfully, the artist should vigilantly heed the emergence of established ground-shape relationships. To maintain a shape response to the perceived object while engaged in the painting process

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4"Thingness quality" refers to the strong desire to see a familiar object in an unfamiliar shape configuration. The viewer tends to seek an associative image in the configuration to secure his relation to that image.

5Enclosing field or ground refers to the largest apparent homogenous area within the pictorial construct. Ground and field will be used as synonyms.
is extremely difficult since normal everyday visual response is usually thingness or object centered.

In the process of painting, object centeredness manifests itself in several ways which are detrimental to pictorial organization. One common effect of object centeredness may be seen when the figures or shapes in a painting appear to "float". Since the same forces which segregate a shape from the field also integrate the shape with the field, a shape which floats has violated the dynamic balance of these integrating forces. Usually, the cause of this violation is object centeredness during the painting act.

The painter, perceiving a shape which appears out of context and which seems to float, seeks to integrate the shape within the ground structure of the painting by changing the shape or color of that shape. The painter will endeavor to make corrections upon the floating shape (thus, looking only at the object) and will never quite seem to integrate the shape within the ground structure. The more intent he becomes upon changing the shape or "figure", the less aware he becomes of the important role the ground structure plays in segregating

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6Since the discussion is directed to painting, figure and shape are used interchangeably to designate an area which appears isolated from a larger enclosing area (field or ground). More precisely, an inhomogeneity in an homogenous field.
the figure.

The enclosing ground dynamically affects the figure. A small change in the ground structure is equivalent to a large change in figure size or intensity (Figure 2).

![Figure 2]

Therefore, the painter reduces the object centered drive when the construct is allowed to emerge as a product of the ground structure rather than as a set of related figures. Simply, pictorial resolution is more easily achieved when the corrections are referred to the ground components rather than to the figurative elements.

Perhaps another example will make this operational principle more clear. Figure 3 can be seen in three
ways: as a solid black square with a white stripe across it; as two separate triangles on a white field; or as the end of a box. Each way of seeing depends upon the viewer's purpose and expectation. Generally, the shape will appear first as a square and secondly as two separated triangles upon a white field.

The unit forming forces which govern seeing are extremely strong in the simple square shape. The kite example (Figure 1) forced the viewer to make a kind of square out of the shape, but did not give the viewer the square shape at the outset. Since the viewer will attempt to integrate a shape into its simplest, most unified form (a circle is the simplest most cohesive shape), the square is more readily seen than the more complex triangle arrangement. The forces in the square are evenly distributed and the direction of the forces are uniformly toward the center. The proximal arrangement of the two triangles allows the unit to become a square more easily than two separated triangles, because the eye continually searches for the largest related ground referent.

However, the spectator is readily aware that the two black triangles can be isolated if the white stripe is responded to as a white ground. Thus, because there is not a defined field larger than the square (the page would be the next largest defined field) to which the
square can be related, the figure oscillates between becoming a square (with strong integrating forces) and separating into two triangles (with a strong ground referent).

The artist makes continual use of the figure-ground ambiguity phenomena when organizing his pictorial construct. However, the artist may set certain traps for himself if he does not carefully attend to the role each unit plays within the total pictorial construct.

Often, the artist tends to see the shape as playing only one of its roles since prior purpose or set has demanded the intended role to be dominant. When this prior purpose type of object centeredness occurs, the painting will usually lose the clarity of its large shape structure and appear forced or stilted. The viewer feels as though he were forced to look at the object in a specially directed way, and the complex of secondary closure possibilities remains disrupted.

Illustration X can be seen as an example of a well-resolved shape structure. Although the individual parts are ambiguous (Figure 3), the overall construct seems to be pictorially solid. Just as the white stripe in Figure 3 may be seen as either a figure or a ground, the light rectangular-like shapes at the top of the painting in Illustration X may be seen as separate shapes, or as part of a ground structure underlying the surrounding
shapes. Each part plays an ambiguous role, yet each part, when focused upon, appears to be solidly integrated with the surrounding ground area.

The continual tension and interest arising from a solidly resolved pictorial construct is a result of this ambiguous shape character. For the construct to emerge in such a complex fashion, the painter must constantly maintain and be aware of the visual balance of figure and ground. If the relationship is not clear, if the spectator cannot determine the figure-ground function of the parts, the painting appears unresolved and unsatisfactory.7

Object centeredness and paint application. Object centeredness has important effects upon the in-process application of paint. If the artist, when applying paint to the surface, looks at the place he is applying the paint, or focuses upon the end of the brush, he cannot be aware of the overall effect of the mark he is making. The applied splotch of color may satisfy a local need,

7An unclear figure-ground relationship can sometimes be advantageous to the construct if the lack of clarity adds tension. Illustrations XI and XII depict examples of pictorial constructs which maintain a balance of the linear elements and allow the designated ground to equivocate. The viewer finds the lines consistently opposing their indicated relationship to the surrounding ground. The lines or figurative elements actually become the ground plane, and the background area attempts to relate as a figure. Miro expertly employs this "double ground" method.
Illustration XII
but will appear out of place within the total framework of the composition. In effect, the artist loses his awareness of the large ground structure.

In Figure 3, the square shape was most readily seen as a unit segregated from the white background because there was no defined limitation to that background. The square was more easily separated from the page as a unit rather than related to the larger ground of the page.

Generally, the painter will increase the solidity of a pictorial organization if he seeks to provide each shape with an apparent enclosing ground referent. Ultimately, the largest ground referent becomes the picture frame surrounding the painting. If the largest shape does not imply the picture frame, the central area of the painting has the appearance of being pasted on top of the enclosing rectangle. The largest shape, like the square in Figure 3, will seem to close toward the center of the painting instead of accounting for the outside referent of the frame. The painting will appear segregated and tend to lose its dark and light dynamics.

By dark and light dynamics is meant the appearance of a generally dark area and a generally light area in the painting construct which acts as the polar extremes.

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8Close and closure are here modified to include related units which appear to form groups. Wertheimer applied closure merely to the phenomenon of linear continuity.
between which the color value will fluctuate. If the hue strength of a color is stronger than the whiteness pole, the color will appear out of context, since the dark and light dynamics are the stronger organizing forces. If the hue is darker than the established dark pole, the color will appear to be a hole in the surface. The dark and light dynamics are the primary contributing factors to the maintenance of the plane.

To avoid losing the large ground referent, the artist must avoid the tendency to look directly at the point of brush contact and instead look past the painting to allow his area of attention to encompass the total surface. In other words, the artist must attempt to become field directed, rather than object centered. Illustration XIII provides an example of a large ground referent which closes from the ground of the frame.

Object centeredness while the artist is in the process of paint application presents still other restrictions to the proper resolution of the pictorial construct. The artist who looks at his work to determine the position of the next brush stroke generally conceptualizes the effect prior to the performance. Although such preconception is nebulous, if the preconception is an incorrect one, and the artist centers upon the end of the brush, he will decrease his chance to note the error of judgment. Had the artist been aware of the total
field, he could have more easily noticed the adverse effect created by the application and shifted to a more satisfactory locale.

Moreover, if the spot of color was not the needed amount, the artist reduces his opportunity to see the appropriate size increase or decrease required. He will stand back from the painting to see the effects of the newly applied mark and look at the mark rather than the total construct to see if the mark has had its proper effect.

As stated earlier, a small change in the ground structure is equivalent to a large change in the figure. If the spot of paint is given attention rather than the surrounding ground, the spot becomes figure and any apparent discordances will seem to arise from the improper location, size, or color of that figure. In some cases, the spot may actually be the trouble area, but more often the proper correction can be more readily determined if seen as a product of the ground structure.

When the artist consistently attends to the figure as a corrective device, the painting usually becomes broken up, fractionated, and spotty because the corrections are placed upon a continually diminishing ground. If the applied spot does not satisfy the desired correction in the construct, and if the artist continues to focus upon that spot, he will attempt to add another daub on top
of the first spot. The daub of paint then becomes a figure and the spot becomes the nearest enclosing ground. The painter slowly becomes embroiled in an infinite regress of spots and dots, all unrelated and similar in size.

There are several corrective devices available to extricate the artist from the dilemma. Three of these corrective devices will be discussed. The artist may add a few large areas of white, re-energizing the painting by supplying a new potential ground; he may scrape over the colors with a palette knife to re-establish possible large shape definition and create a uniform tone; or he can arbitrarily over paint the smaller shapes with a single color to re-establish some big, simple shape referents, which will oppose the more complex areas.

The first two devices are generally more effective than the latter, because the latter affords a method little different from the approach which involved the artist in the original dilemma. The object centered artist will tend to be extremely wary when he begins to cover the smaller shapes with a uniform color since he is not quite sure how far he should progress. The use of white, however, affords such a violent contrast that the painting regains a certain energy, and the artist can readily see the significance of his
Scraping affords a new overall mid-tone of gray upon which the black and white dynamics may be reset, the shape structure redefined, and the color areas re-established. Of the three, scraping is the most destructive method, and, therefore, the most difficult to initiate.

Object centeredness and color. Still another artistic problem which is related to object centered viewing is the inability of the artist to establish a unified color field. A disrupted color field results when the color appears to remain local. The color appears restricted to certain closed shapes, and it never quite seems to transgress the boundaries of the enclosing shapes. The color seems to be a patchwork

The addition of white resets the whiteness polar extreme, and the eye assumes an opposite darkness extreme. The color is given a wider scale upon which to fluctuate.

Illustrations XIV, XV, and XVI respectively are examples of the in process use of the devices of whiting, scraping, and re-shaping.
and the viewer has difficulty perceiving the large
groups of colors as related units or locales. Factors
other than object centeredness are involved in this
color dilemma, but object centeredness plays an important
role.

When the artist focuses upon particular color areas,
neglecting the field structure, he denies the underlying
dark and light dynamics. He tends to see the colored
shapes relating merely as colored shapes. The hue
strength will seem to articulate and relate each shape
because the artist expects the hue closure to occur.
Yet, the different colors within the construct will
appear to vie for dominance. The artist will usually
try to force one of the colors to maintain a dominant
role and may employ two detrimental methods to effect
this required single color dominance. He may either
attempt to differentiate through increased intensity or
he will make extremely subtle differentiations in value.

Two visual principles are involved when the artist
resorts to the use of the two detrimental corrective
devices. The first principle states that a slight change
of intensity is equivalent to a large change in value.\(^\text{11}\)
This principle explains the artists need to differentiate
through intensity. When the artist looks to a specific

area, diminishing his ground attentiveness, he begins to see the particular area as being more strongly segregated than the other areas. To compensate for the seeming lack of segregation in the surrounding areas, he will increase the intensity or energy in the immediately surrounding shapes. Slowly, the painting will reach an equivalent saturation at every point, and the energy, being the same at every point, will cross-cancel and cause the painting to look "dead."

The second principle states that the difference of stimulation between an enclosing and an enclosed area, if it is a mere color difference, has much less power to produce a segregation of these two areas than a very small difference in intensity\textsuperscript{12} (Figure 5). This principle accounts for the drive to resolve the construct by subtle value differentiation. When the artist employs

\textsuperscript{12}Ibid., p. 126.
this corrective method, he does so because he has focused upon a specific area and is able to see very subtle differentiations which the viewer, more aware of the large context, will not notice.

The artist, focused upon a small area, can readily see the subtle differences because his ground referent has been reduced. A small value change in a small area will appear to have a more powerful effect than actually occurs because, in part, the artist's purpose was to effect this difference. The purpose for the corrective action was to create differences, and the artist making the small correction, and attending closely to that correction, will see it much more vividly than the spectator, who looks at the total organization. Once again, the artist finds himself making more and more subtle value differentiations, and the painting breaks into small locales of dark and light areas, with the attendant loss of color meaning. The painting will appear to be fundamentally black and white with a few arbitrary colors mixed into the schema.

Object centered viewing offers limitations to every basic category of artistic activity. Although extremely difficult to overcome, the artist who is aware of its stifling effects can more readily realize the source of his problems and direct himself to the most effective corrective devices. He can force himself to look past
the painting surface. He can work quickly while applying the paint; keep the palette clearly differentiated in large puddles of paint; constantly check the apparent clarity of the large shapes; and take care that he does not find himself breaking every spot of color with another similar or opposite color.

The artist can simultaneously work on three or four paintings to afford an external source of contrast. The paintings should clearly differentiate as separate units. Color reproductions of works of art, similar to the paintings in process, will offer the artist a source for comparative analysis. Pushing the applied color past the edge of the more defined shapes helps to increase inventiveness, because the artist must then continually redefine the shapes. If the enclosing shape is ill-defined, the color contrast will be most effective. Color is instrumental to shape and if shape invention is restricted by object centeredness, the color construct will not emerge as a unifying force.

The consideration of object centeredness and its detrimental effects to shape invention necessarily points to a discussion of the problem of shape and shape invention in painting. Certain principles guide the invention of shape and certain visual cues direct the realization of a good shape structure. These principles and cues, when understood by the artist and spectator, tend to
indicate the most advantageous approaches by which a unified construct can be realized and criticized.
III. PROBLEM OF SHAPE IN PAINTING

Shape invention. A primary tenent, basic to any creative act, suggests that the potential of invention is greater when the initial structure remains nebulous. Articulation forces segregation, and segregation decreases contrast and choice. Equality of stimulation produces cohesion; inequality of stimulation produces forces of segregation if that inequality entails an abrupt change.\textsuperscript{13} The longer the artist is able to resist committing himself to a defined shape structure, the greater will his potential be for correct segregation in terms of the total construct. Timing is of the utmost importance.

Figure 6 appears to be an overall pattern with little open ground

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\textsuperscript{13}Koffka, \textit{op.cit.}, p. 126.
differentiation between the parts. All of the marks are approximately equivalent in energy, size, and shape, yet none of the marks are exactly the same. The differences in the markings afford a wide range of possible groupings, but none are so insistent that a dominance is perceived. The homogenous plane has been titilated but not violated.

Figure 7 shows three blobs on a white background. The blobs appear completely separate from the ground and segregated from each other. The shapes are well-defined, their contours set. The homogenous plane has been sharply violated. Such sharp differentiation directs the closed ground

Figure 7

closure forces from the contour to the center of the shapes and decreases awareness of the ground around the shape. The artist will tend to avoid disruption of such violent spots and attempt to regain the plane by adding still more blobs, usually articulated by strong intensity. Eventually, the dark will overwhelm the light, and a new dark homogenous field will be created upon which the white areas will play the disrupting role.
A high degree of skill is required to properly place fully saturated colors on the surface without disrupting the plane and segregating the shapes. Therefore, when beginning a painting, a loosely organized, ill-defined, nebulous ground (Figure 6) offers the greatest potential for invention. Since all the forces are nearly equal, change can readily occur, and the construct can emerge as a product of the ground structure. If the definition occurs too rapidly at any point during the process, the painting will appear to separate into locales, and the large implied shapes will lose their construct meaning.

Still another visual principle strengthens the case for the initial use of an open construct. A saturated figure on a highly intense ground maintains maximum articulation and segregation. Low intensity provides the greater unifying forces (Figure 8). Therefore,

Illustration XVII depicts an example in which the method of direct positioning was successfully employed.

Koffka, op.cit., p. 253.
if the artist, in the initial stages of the painting, limits himself to middle or low intensity colors, he will more easily maintain the homogenous plane. As the color construct emerges with the shape construct, the artist may apply colors of greater intensity to more clearly articulate desired areas.

Applying fully saturated colors at the outset provides a maximum of articulation and has an effect similar to the blobs in Figure 7. The top level of color energy is immediately reached and unless the amount and position are correct, the structure will easily segregate. If colors of equally high intensity are used throughout the painting, their similar energies will cross-cancel, and the painting will seem to be heavy or dead.

Closure. Earlier in the text, allusion was made to dynamic forces which tended to either strengthen or destroy the unity of a given shape or shape structure. The effective control of these shape forming forces is of prime importance to the painter, since his ability to recognize and deal with them determines the success of his organization. The forces may be divided into two categories: external and internal forces. There are those forces within the eye and cortex which attempt to produce the simplest and most organized configuration (internal), and those exterior forces which prevent or constrain the stress toward simplification (external).
A circle forms the most cohesive shape because the external forces are equivalent to the internal forces. A circle is the most economical of all shapes. Its circumference is equidistant from a center and is as evenly distributed as possible, and the interior mass has a homogenous distribution.

Any disruption of the contour disrupts the forces of internal-external equilibrium so that these forces will attempt to return the circle to its most simple state. If the disruption is a violent one, the internal-external forces will attempt to dissolve the shape entirely. The artist seeks a limited unbalance in these forces so that his work will be vested with an energy of internal and external conflict.

Figure 9 demonstrates a circle with a disrupted contour. A 30° arc has been removed from the circumference. The viewer looking at the mark would normally see it as a closing circle. He would fill the gap because his strong internal organizing forces demand that he complete the circle in the most logically economical
fashion. The viewer feels a certain tension when the
direction indicated is not fulfilled. He could not close
the shape with a segment but would fill the gap with
an arc, responding to the principles of good continuation;
i.e., any initiated action will tend to be continued in
the initiated direction. (Good continuation merely
states the laws of inertia in terms of vision. Con­
tinuation is the primary cause of perceived "movement"
in a painting.)

When the circle is reduced to an arc of less than
180°, the viewer finds the demand of circular continuity
destroyed. His first reaction is to make a half circle
or an ellipse from the configuration. The semi-circle
type shape is demanded because the initiated action (the
arc) is not strong enough to indicate a logical con­
tinuation of its shape. The most economical, or most
simple direction demands the formation of a semi-circle
or an ellipse (depending on the viewer's set).

But all of these broken shapes insist upon some kind
of action from the viewer. The viewer is compelled to
respond to the internal-external forces of organization
to produce the simplest, most economical, and logical
configuration permitted by the stimulation.

Another example may be more convincing (Figure 10).
The group of stars we commonly refer to as the big dipper
could possibly be seen in several different configurations.
We could close it in many ways. But we see it as the dipper with a handle because we reduce it to its simplest, most stable grouping, excluding the three stars making up the handle.

Figure 10

How does the painter take advantage of these principles of perceptual organization? A pictorial construct of well organized shapes, appears to be well organized because the internal organizing forces inherent in the viewer are stimulated and directed to more strongly unify the external forces explicit in the construct. A strongly unified field will look as uniform as possible. The artist gives the viewer a direction but not the destination: a stimulus but not the result; the text without the conclusion. In short, the artist allows the viewer to participate in the organizational effort. Without viewer participation, art would lose its meaning, function, and value.

To achieve maximum participation on the part of the viewer, the artist must exploit the factor of closure,
disclosed in the circle demonstration, and closely obey the principles of good shape and good continuation. The closure factor is the most powerful tool the artist must command to construct an organized schema. The forces which govern closure may be directed by the effective use of several devices. One of the most important closure forming forces concerns shape size and apparent shape size.

**Shape size.** The problem of shape size is somewhat isolated from the other closure factors because the problem of constancy is involved. The problem of constancy will be considered in terms of its effect upon shape size variation. Shape size variation is fundamental to sound pictorial organization. If there were no variance of shape size in a painting, many compensating devices would be required to offset the resulting checkerboard ambivalence. The energy would tend to equalize at every point, and the painting would seem boring. Yet, a successful painting can be produced with every shape very nearly similar.  

16 Shape size, in itself, has nothing to do with closure. There is no reason to group shapes of similar

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16 Klee was able to keep every shape very nearly similar in his painting, Table of Colour (in grey major), (1930). However, the secondary closures are extremely varied and obvious, compensating for the lack of primary shape variation.
sizes any more than there is to group shapes of different sizes. Yet the factors of closure, proximity, overlap, and continuity can be aided by variation in relative size. The reasons are well formulated. If a figure appears segregated from the underlying ground the figure will arise as the smaller unit, the ground will appear to be the larger unit, or simply, the figure will tend to be as small as possible. A visual response seeks the largest ground as a referent. A variation in relative shape size presents a wider potential for varied groupings and for figure-ground equivocation. Size differences give an unequal distribution of energies, and more easily allow certain field parts to dominate in a figurative role.

![Figure 11](image)

Figure 11

The checkerboard is a dynamic arrangement because it constantly equivocates as the viewer attempts to isolate the figure and ground constituents. However, the

continued ambivalence disrupts the overall figure-ground meaning. The total framework does not securely designate an area as ground or figure. A painting must have this quality of secure figure-ground designation to maintain its large stability. When a painting is broken into equal-sized shapes, unless the secondary closures imply extreme shape variation, the resulting configuration will remain lifeless.

The factor of constancy involves the desire to see things as they should be seen, and not as they really are. When looking at a square box, unless the viewer is lined up in exactly the right position, he will not see a square image, but probably a five-sided shape. Nonetheless, the viewer would respond that he had seen a square box.

We desire to see the normal, the most stable configuration, the most simple organization we can resolve. We tend to assume this normality, not experientially as much as organizationally. The normal becomes the most frequent because of its normality, and not because of its frequency. Rarely do we see any true rectangles, squares, triangles, or circles in our everyday visual environment.

Yet, we ascribe these geometric qualities to the objects we see because the visual organizational forces tend to reduce phenomena to their simplest configurations. We desire to assume the constancy of certain size re-
relationships within our environmental world. Perceived orientation and shape depend upon each other since the final equilibrium will be attained by all the participating visual forces. We need to assume the constancy of size in our environmental world in order to function. We expect certain objects to be equal in size, others to be different in size; but we do expect an order in perceived size relationships, despite the variance of the actual retinal image from the real object perceived.

The dependency upon size constancy is an extremely strong visual force and a force which is often detrimental to the artistic process. The artist will tend to make all of his shapes the same size, differentiating the field units by any other available means than size differences. He will resort to heightened intensity, articulated overlap, or heavy lines as differentiating devices, instead of changing the size of the shapes themselves.

Shape size is a powerful differentiating device which is strongly effected by the viewer's set. Figure 12
can be seen as two unrelated shapes or as two views of the same shape. Figure 12b could be seen as a rotated view of 12a if the assumption were made that the two shapes were rectangles. Constancy demands and the viewer's set allows the tridimensionalizing forces to overcome the real stimulation in favor of the more logical accommodation. If the artist allows his set to demand this normal accommodation, he may fall into the "similar shape-size trap."

Color constancy involves the artist in much the same kind of problems as shape-size constancy. The visual organizational forces demand or assume a logic from the surrounding phenomena. A white piece of paper will look less white in a dark part of the room, more white next to the window. The spectator, nonetheless, would see the paper as being white in either situation. The spectator would assume that the color of the paper had not changed, when phenomenally the color had changed. If the paper were placed against an extremely white wall, it might look gray, but still the viewer would assume the whiteness of the paper.

The color qualities of perceived field parts depend upon gradient stimulation. Gradient stimulation refers to the relative degree of lightness and darkness within a particular field. An object which is lighter or darker than the particular field extremes will appear much
lighter or much darker (Figure 13b). If an object is placed in a field whose extremes are greater than the object itself, the object will tend to assume the color or tone of the field (Figure 13a).

Therefore, color is only color in relation to the surrounding field. The general background will determine the level (tone) of the field and this field will appear as neutral as conditions permit. Neutral level or tone is considered here as a visual summative factor. The spectator will tend to summate all of the various energy factors within the pictorial organization. He does so to establish a relative central level of energy which will lie between the polar extremes determined by the darkest, the lightest, the brightest, and the strongest hue saturation in the pictorial organization. Visually the spectator wishes to reduce the pictorial organization to the most simple organization so that the neutral level can act as a fulcrum for visual reference.

This neutral level will have the effect of an overall
ground of color. The figurative units will relate and shift levels to accommodate to the neutral ground. However, if the shift of accommodation is too great, the figurative unit will segregate rather than integrate. The accommodation may tend to integrate or segregate the figurative units more clearly, or less clearly, depending upon the saturation and luminosity of the figurative unit.

Color constancy is far less persistent than brightness constancy. The spectator will be much more aware of the affects of a bright hue than of a neutral hue. Color constancy tends to make all hues appear in the same neutral level. Constancy will tend to make the "hueness" of a color attempt to accommodate to the neutral field (Figure 14b), whereas, the brightness component will

a) saturated figure intense ground
b) low saturation figure, low intensity ground

Figure 14

attempt to separate from that field (Figure 14a). A painter cannot control luminosity (brightness) by manipulation of reflected light, but must rely upon hue saturation and whiteness to give him brightness contrast.
Since brightness segregation is more easily accomplished than hue articulation, a painter may begin adding white to every color to strengthen hue articulation or may apply fully saturated colors to segregate shape areas by brightness. In so doing, he raises the level of the neutral ground to the whiteness or brightness end of the gradient scale.

The intensified units will at first appear highly segregated, but as the level (tone) is increased, the articulation of the segregated units will rapidly fade. The articulation fades because the nearer the point of maximum brightness or whiteness saturation the neutral level lies, the more easily will the intensity factor accommodate toward the neutral level, instead of away from that level. Since the hue component will be bleached by the addition of white, the painting will become chalky, close in value (all-over whiteness) and lose its unit intensity.

The artist increases the potential for hue articulation if he keeps the neutral level within a range close to the center of the dark, light, and bright gradient. At the middle level, the "hueness" aspect is strongest and the saturation or brightness contrast can be the most effective. The constancy demand will be most easily surmounted because at the middle level the "hueness" aspect can be most easily integrated with the dark,
light, and bright polar extremes. The hueness aspect will not "have" to relate to a single polar extreme but can identify with them all.

The desire for intensity articulation may be a result of the shape size difficulty previously mentioned. If the shapes in a painting are similar, the most powerful alternative for articulation will be an increase in intensity. The addition of an extremely bright color probably will appear out of context. The artist will add a second bright spot to compensate for the first, and the painter will tend to become involved in the level raising process described.

To effectively use intense color, the implied position of the neutral level must be exactly balanced between the polar extremes of maximum brightness, lightness, darkness, and hue saturation. If this balance is achieved, the hue component will identify with the neutral level, and the brightness component will identify with the maximum brightness level. A maximum energy will be derived from the configurational unit because the integrating forces are balanced, yet their energies are dynamically interacting. Illustration XVIII is an example of a pictorial organization in which the neutral level is balanced at a point close to the center of the gradient scale.

Constancy principles contribute to the justifi-
ocation of the painter's insistence upon planear organization. The artist constantly seeks to maintain the planear dimension of his canvass because in this fashion, maximum color contrast may be achieved. Color contrast (the effect of one color upon another) occurs only when two surfaces appear to lie on the same plane and fails to appear when the two surfaces do not lie on the same plane. Of course, the other factors of spatial organization significantly effect the contrast phenomena, but the maintenance of the plane, regardless of any organizational or subject matter conflict, is extremely important to the production of a schema dominantly organized in color. The painter who attempts to model in volume in favor of plane modulation shifts his construct to a value system rather than a hue organization. The shift to a value organization tends to decrease apparent color relationships and introduce a quality of "deadness" or "atmosphericness" to the painting. The color will also tend to look arbitrary or local.

Coincidence of edge. For the sake of maximum contrast, the device known as coincidence of edge can be heavily relied upon to simultaneously articulate shape and realize color contrast. Coincidence of edge visually implies the contour tangency of two or more shapes. The shapes appear to touch each other and seem to be in the same plane. If the viewer assumes the two shapes to lie
in the same plane, he can more readily respond to the effects of hue contrast. If he sees the planes as overlapping, the response tends to be either in terms of intensity or dark and light. In Figure 15, if the spectator sees an arm, he is no longer aware of the color contrast but sees an arm in a spatial dimension by means of dark and light contrast.

Figure 15

Coincidence of edge is extremely difficult to maintain since the tangential arrangement of the contours produces maximum equivocation of the enclosed areas (Figure 16). The viewer will attempt to ascribe a

Figure 16

dominant position or thingness quality to one of the
shapes because of the desire for secure spatial location. If the viewer is incapable of forcing the overlap, the tension of potential equivocation increases the surface energy in the construct. Therefore, coincidence of edge, to be effectively employed, requires the viewer's awareness of his own constancy drives. If the viewer expects to see the overlap, or forces the shapes to overlap, he will not see the inherent color relationships which the coincidence of edge device produces.

The spectator's drive for a secure spatial definition is extremely strong, and the tenuous forces which govern color can be easily overridden by the need for overlap definition. A full appreciation of color requires sensitivity on the part of the viewer because he must tune himself to his own visual response. The artist can give the directives, the stimulation, and the context, but the ingredient of dynamic viewer participation in the painting process is extremely essential to a complete realization of a work of art organized in terms of color.

Because the contemporary painter is primarily interested in color organization, volumetric painting has been rejected so that the plane may be more easily maintained. This principle of contrast was certainly known to the artists in the past. El Greco's drive to maintain the plane is self-evident, and the color effects he
achieved are superb. If the artist allows himself to become trapped in volumetric modeling, he loses color contrast because the constancy effect forces the spectator to a strong awareness of the dark and light construct. The color forces will tend to segregate rather than integrate, and the color will tend to become local or decorative.

Nonetheless, a color organization must be supported by a strong dark and light structure. This dark and light structure is in a large measure a product of another important visual closure device, apparent overlap. Apparent overlap is the fundamental visual cue upon which depth judgments are made.

**Apparent overlap.** Apparent overlap is a primary factor for the differentiation of near objects from those far away, or of a figure from its ground. If a shape appears to lie on the surface of another shape, the viewer assumes the nearness or figurativeness of the top shape and accepts the ground function of the underlying shape. The figurative shape will appear to be more solid than the ground shape because that is the shape we are "concerned with", the shape we are looking to for thingness definition, the shape which satisfies the action response.

If the artist can manipulate this overlap device so that individual shapes may appear to alternate in
their figure-ground role, he can create a range of tension in the construct. The spectator's basic desire to assign a secure thingness meaning to each shape is thwarted as the shape structure equivocates before him.

However, a painting is not merely an optical illusion. Figure 17 seems to constantly equivocate because the overlaps are not securely located. The overlaps in Figure 17 are assigned by the viewer as he lends figure meaning to the light area and ground meaning to the dark (or vice versa). But notice that the area which is assigned figure meaning appears as a more solid unit structure than its opposite ground section, which tends to appear as a plane in back of the figure. The artist trades upon the apparent overlap phenomena to create interest and tension, but he must carry the operation a step farther. The artist must give the viewer locale security.

When the viewer perceives a shape as overlapping another shape, there can be no equivocating relation-
ship at that point. The equivocation takes place when the viewer shifts locale and finds the previously perceived relationship to have been reversed. In Figure 7, the equivocation continues regardless of the viewer's set.

In Illustration XIX, each observed locale appears to be solid. The orange area to the right of the white ellipse seems to lie under the ellipse. If the viewer shifts his view to the right of the white ellipse, the orange area gains a stronger figurative meaning and appears to overlap the white elliptical shape. Yet, when the whole drawing is perceived, the orange area relates to the left side of the drawing and regains its ground meaning.

Throughout the drawing, the figure-ground ambiguity is maintained, and, therefore, tension and interest are ever present. For the artist to construct a complex system of overlaps which fluxuate in their function, a loose, gradually emerging configuration offers the greatest opportunity for correctly defining the direction of overlap.

The overlap definition can be determined within the total context as well as within the locale. Since the figure is held together by stronger forces than the ground (Figure 7), the ground, in process, is more easily changed than the figure. The longer a painting
is kept in a "ground state", the required figurative definition is more easily changed.

Overlap as a closure device is extremely powerful. If two shapes appear to overlap, they can more easily be seen as a single unit. The spectator can more easily relate them because the two shapes have converged and their proximal position will tend to close them as a unit. But overlap, alone, does not guarantee the production of a closed unit. Factors such as relative size, shape, color, proximity, and ground operate to influence the closure making forces. However, implied overlap is one of the strongest unit forming forces, and the creation of a successful pictorial construct demands the continual use of the device.

Figure 18a shows two linear shapes in which the circle appears to lie on top of the large fingerlike shape. The closure of a line (Figure 18b) reverses the overlap because a new and larger enclosed field has been created, the smaller circle shape cut in half, and the
large shape made more cohesive, simple, and continuous.

The forces of proximity, continuation, coincidence of edge, and field equality were required to reverse the strong overlap relationship. Overlap as a closure device is extremely powerful because visually we rely upon it as the fundamental determinant of our depth judgments.

The overlap of two shapes focuses attention on the boundaries of the overlapping shapes. The concern with boundaries or edges becomes extremely important as a closure device when those boundaries or edges are translated into line.

**Line.** The problems involving the use of line in a pictorial construct are complex because a line must serve a triple function. The line must function as part of the ground structure, act as a boundary or contour of a shape and each side of the line must appear to close with the opposite and adjacent shape. If any of these requirements are not realized, the line will imply a decorative function in the construct. A decorative function is certainly valid, but to perform well in such a role, the structure underlying the decorative line must be an extremely strong one.

The ground function of line is most clearly seen in Mondrian's squares, where each line not only acts as a boundary, but appears as a dark ground lying under the
large squares. For the line to appear as ground, an extremely subtle balance of shape, shape size, and color is required.

Figure 19a demonstrates a square shape with a thin line, surrounding the periphery. The thin line has neither ground nor "duo" line function, and acts merely as a contour for the enclosed homogenous space, separating it from the rest of the page.

The thick line surrounding the square in Figure 19b has a greater ground meaning, appearing as a black shape upon which the white interior shape is resting. The duo function of the line has not been resolved because the outside of the black shape merely acts as the contour for the ground.

In Illustration XX, the lines located near the artist's signature act in their triple function. The thick dark line acts as a ground for the dominant shape, the innermost edge of the line defines that shape, and the outermost edge of the line appears to be a part of
the same interior shape. Looking at the smaller shape to the right of the large central shape, the same line performs the identical definitive function. The unum-duo effect has been accomplished.

Any line suggests a certain degree of unum-duo quality, but the artist must make that quality explicit and controlled for maximum organizational stability. Good continuation is an extremely important factor underlying the apparent ease with which a line is able to serve its triple function; but the factor of good shape is the primary controlling force. If a shape does not imply or incorporate a simple closure, the line will appear merely as an edge, an arbitrary mark.

If line is always considered as the boundary of a shape, and if the interior of the shape is seen as the area of configurational interest, the temptation to draw the shape edges is diminished. Normal purposive seeing demands concern with edge viewing. We primarily identify things by contour, rarely looking to the interior shape of the thing identified. Overlap, the prime device for depth perception, is a contour function. Size differentiation, is also a function of contour seeing.

The artist, whose prime concern is the organizing of shapes, must constantly see the shape and not the line. The line is a device for segregation and contour definition. It indicates the establishment of more than
one organized area in the same region of the field. Therefore, the artist must "see" shapes as pushing together to form lines, instead of lines as marks which break the surface to form shapes.

Operationally, the artist increases his structural acuteness if he literally pushes the paint away from the center of the shape to increase the shape size, rather than attempting to change the shape contour. The shape should first imply the contour, then the contour articulation may be increased with a line. Because a line defines shape position, a "simple" ink line drawing is extremely difficult to execute. Each shape must be exactly placed on the first try. There is no margin for error.

Proximity. A more obvious, but nonetheless important closure producing factor is the phenomenon of proximity. Proximity is easily understood and probably the most obvious device to employ. The dots in Figure 20 are easily grouped in pairs of two, the dots nearest each other being grouped as a unit. Thus, the two dots form a unit closure, segregating themselves visually from
When a field contains a number of closely similar units, those which are in greater proximity will tend to be organized into units. However, the shape of the unit has a stronger unifying effect than the color. Two unrelated shapes of similar color (Figure 21b) are more difficult to close into a unit than two similar shapes of different colors (Figure 21a). This principle, in part, accounts for a painting process trap which besets many painters.

![Figure 21](image)

When trying to close two colors to form a unit, the artist may reduce the shapes to similar sizes so that the color will appear more related. If he repeats this corrective device often enough, every shape in the construct will appear similar in size, and the painting

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The dots can be grouped across the extramembral distance as well as the intramembral distance if the viewer concentrates upon the figure. However, the most simple grouping is usually seen at the first glance. Wertheimer was the first to use this demonstration to prove the proximity phenomenon (1923).
will lose its shape differentiation.

Like overlap, proximity, in and for itself, does not contain the forces of closure. Merely putting two shapes near each other does not force the eye to consider them as a unit. Factors of shape, shape size, and color, enter into the dynamics. But, in general, the artist can rely on proximal configurations to aid his closure organization.

If properly directed, the internal demand of closure can outweigh the forces of good continuation or proximity. In Figure 22, the lines which enclose space form the units, despite the fact that the unit distance between the vertical lines is 3:1. Of course, continuation accounts for the closure in this example.

![Figure 22](image)

In Figure 23, continuation is thwarted by the closure forces, which make line DC become line DB; line AB, become line AC. The artist attempts to let the stronger

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19 This demonstration was first employed by Köhler (1929), (Koffka, op. cit., p. 168).
forces of good closure dominate the weaker forces of proximal or continuous closure.

All closures are not equally good closures. Figure 24 can be closed as in 23a or in 23b. Obviously 23b is the better closure because it is the simplest closure; 23a being very irregular. When the artist attempts to force the closures in his construct, limiting the viewer's choice, he often closes the shape in an irregular manner. If the closure directive is merely suggested to the viewer, the closure can become a good closure on the
viewer's terms. The very tenuous positioning and balance of the closure forces, to maintain just enough directive without actually committing the direction, requires an extreme amount of artistic skill.

The factors of shape size, coincidence of edge, overlap, line, proximity and continuity are basic to good shape closure and are the prime elements upon which the successful organization of any pictorial construct depends. Closure and implied overlap are the only elements essential to any construct. The other principles may be violated, disregarded, and corrupted, but only if, in some manner, compensation is made for the loss of their closure producing forces. A balance must be kept. Placement of the fulcrum makes little difference, so long as an equilibrium of the forces is maintained.

Use of materials. The equilibrium of the artistic forces is an extremely tenuous balance. The disruption of this balance can sometimes be referred to the improper use of materials, especially in the production of a collage. The improper use of materials is a factor which involves object centeredness, violation of closure making forces, and spectator participation.

Certainly, any material is available to the artist but these materials contribute to an original statement only insofar as they contribute to the cohesiveness of the pictorial construct. Perhaps, the incredible variety
of artistic materials and products now being produced may lend themselves to the creation of new effects, but the basic structural demands must still be met, no matter what material is employed. The quest for an original or even startling presentation has, in some cases, been more challenging than the creation of a successful work of art.

Illustration XXI provides an example of a collage which employs materials foreign to the normally accepted range of painterly materials. The successful use of such materials depends upon their integration into the construct in such a way that the material does not lose its identity. The viewer should feel that the material was absolutely required as the best possible solution to a particular problem in the construct. The nature of the material should be reasonably obvious if its inclusion in the construct is to be justified.

The tin can lids seen in Illustration XXI presented a challenging problem. The intensity of the shiny surface could not have been matched by any kind of paint. Because a circle is a difficult shape to integrate, the circular shape of the tin can lids further complicated the incorporation of the intense colorless surface. A metallic gold paper was used as a transitory ground to effect a middle step between the shine of the tin and the dark and white construct. The shiny lids could then be
Illustration XXI
seen as a bright as well as a middle tone.

If the lids had been painted over or hidden, their specific function and meaning in the construct would have been altered enough to question their inclusion. Cardboard circles or just painted circles would have worked equally as well; but the shine and shape effect of the tin can lids, as incorporated into the schema, could not have been achieved as effectively by any other means. The lids maintained their identity as lids and yet integrated completely into the pictorial construct. The balance of material identity and construct integration is an essential requisite to the creation of a successful collage. If the balance is disrupted, the collage appears to be a pile of junk or at best seems forced for the sake of effect.

Preconceived demands which close the spectator's esthetic concept and set up qualitative demands to which the presentation must adhere, are limiting and may be grouped with the pitfalls of object centeredness. When the demands force a rejection or acceptance of a painting on other than painterly grounds, the bias of the viewer seems at fault.

The spectator's initial response should be a visual response. Once a value judgment has been made upon the pictorial construct, the other aspects of attribution, expression, meaning, biographical data, and mood may be
taken into account, but only so long as these aspects have their roots in the formal demands of the pictorial construct.

Conjectural response is certainly a valid activity, but it should not interfere with esthetic judgments nor effect the viewer's attitudes toward the pictorial construct.
CONCLUSION

The recognition of the significance of perceptual principles and their application to the painting process clearly indicates the validity of these principles as a basic structure for esthetic value judgment. Because shape is the primary unit of pictorial construct, this essay dealt mainly with the principles guiding the invention and manipulation of shape during the creative act. The creative act is a highly complex process which demands extreme discipline and constant awareness upon the part of the artist involved. The success of the end product depends upon the artist's sensitivity and his ability to act in accordance with the forces of perceptual organization which guide and restrain him during the creative act.

Artists in the past were well aware of these organizational principles and, although they probably could not explicitly state the principles, operated upon the assumption of their existence. The facts presented here are not new nor are they something to accept. There are forces which govern the conduct of the eye so that the eye may function and perceive. By taking advantage of these
forces, the artist in his painting is able to advantageously direct his or any one's perception. By understanding the organizational forces which guide his seeing, he can more readily realize his natural acuity.

The application of these principles as a guide to esthetic judgment seems only too obvious. The artist makes esthetic judgments continually during the act of painting. Each correction, each brush stroke, changes the total construct, and the artist's ability to visually respond to this changing construct determines the degree of success of the painting.

The viewer would do well to look upon the presentation with an esthetic attitude similar to that of the painter. If the viewer is satisfied with the presentation and can visually respond to the total without a demand for more obvious organization, clearer articulation, or greater realization of potential, the painting is probably satisfactory. If, on the other hand, the viewer feels the need for change, for greater realization and organization, the pictorial construct is probably lacking. A sensitivity to pictorial construct requires a long training in intense perception, a high sensitivity to subtle organizational forces, and an attitude free of preconceived demands. It requires, in short, an appreciation of artistic process in terms of visual response.

The viewer need not actively experience the painting
process to fully appreciate a unified construct, although such experience can be invaluable. Participation in the arts promotes an awareness of the problems involved when dealing with an emerging pictorial construct. The viewer can see the construct emerging, and his attempts to recognize the changing relationships which occur before him heighten his ability to appreciate the relationships found in other works.

The proper response to any form of painting should demand an understanding of the dynamics of pictorial relationships. Certainly, all of the impinging factors such as biographical data, social setting, inherent meaning, and expression are valid and intrinsic to the work of art. But the assumption here is that painting is first and foremost a visual experience, and as a visual experience the primary satisfaction rests upon the viewer's recognition of the complex relationships presented to him. A high level resolution is an inexhaustable source of energetic seeing, a continual visual treat, an unending source of satisfaction to the receptive viewer.

As an adjunct to an exhibition of paintings, this essay has attempted to explain some of the visual principles upon which the esthetic judgment of a work of art might rest. At the outset, the spectator's customary demands were questioned. The spectator was asked to approach the work of art without preconceived demands
which might unnecessarily fetter his full appreciation of the presentation. He was asked to be aware of his own object centeredness, so that he might question his perceptual assumptions. An explanation was offered of certain guiding principles applicable to shape organization so that the viewer could understand the function and use of these principles in a pictorial construct. The common violations of these visual principles were described so that the viewer might recognize and question their appearance in a presentation. Recognition of these violations was hoped to be meaningful to the viewer so that he might include the premises within his esthetic criteria.

The visual principles were probably readily understandable, but for the viewer to act upon the principles in an operational sense, he probably must make an exceedingly difficult shift in his way of seeing. He must release himself, or attempt to release himself, from the bonds of constancy and its adverse restraints to a visual response. Therefore, the effects of constancy were discussed, and emphasis was placed upon the role of constancy in viewing good shape and color relationships.

Perhaps, the explanations and diagrams seem dogmatic and restrictive to an art world which clings to the idea that personal opinion is the only "right" opinion. How-
ever, the restrictions are not engendered in the painting, but necessitated by the requirements of a common way of seeing. We all operate within the limitations of the same perceptual forces, and we all demand a similar kind of order. The method of presenting this order, the method of constructing this order, is entirely open and free. The artist may approach his work from any direction he might desire. But he cannot violate basic visual requirements and still arrive at a successfully organized pictorial construct. The well-organized pictorial construct will be the most expressive, the most satisfying, and the most lasting artistic statement.
BIBLIOGRAPHY


Photographs by Gil Millard, Columbus, Ohio.
AUTOBIOGRAPHY

My interests have always been directed toward artistic pursuits. While in grade school in Detroit, Michigan, I attended special art classes and continued to take art classes while in Mackenzie High School. I took my Bachelor's degree in Art Education at Wayne State University in 1951, and for the Master's degree, I majored in ceramics at Michigan State University. Shortly after the Master's degree was granted in 1953, I was called to complete my service obligation. In January, 1955, I was hired by the Chrysler Corporation in Detroit as a claymodeler-stylist. I served in this capacity for almost three years, and during this time, studied ceramics in night school under John Foster. In 1957, I came to Ohio State to begin work on a doctoral program in painting. The last three years have been spent at Ohio State, fulfilling the requirements for the doctoral degree.