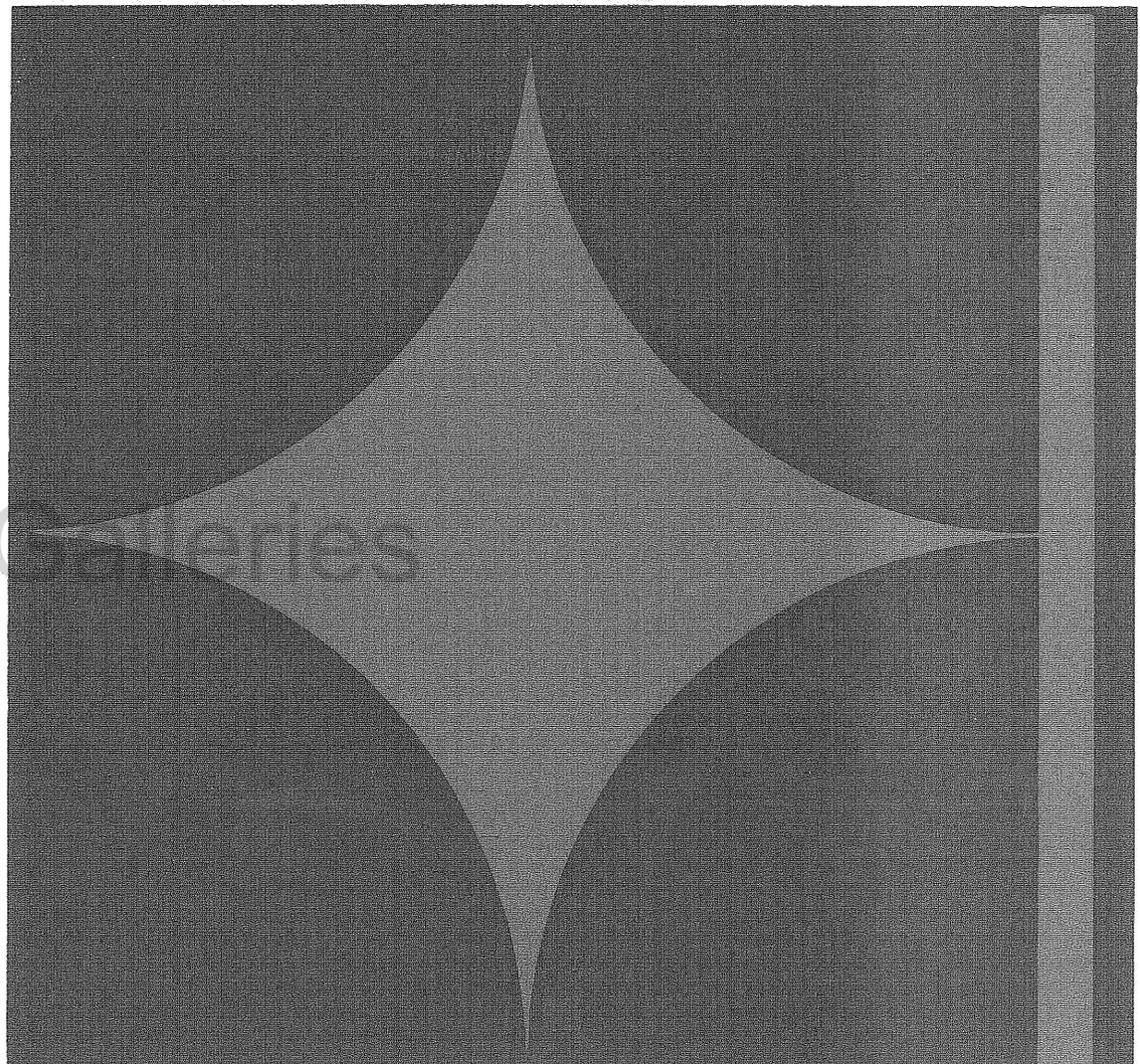
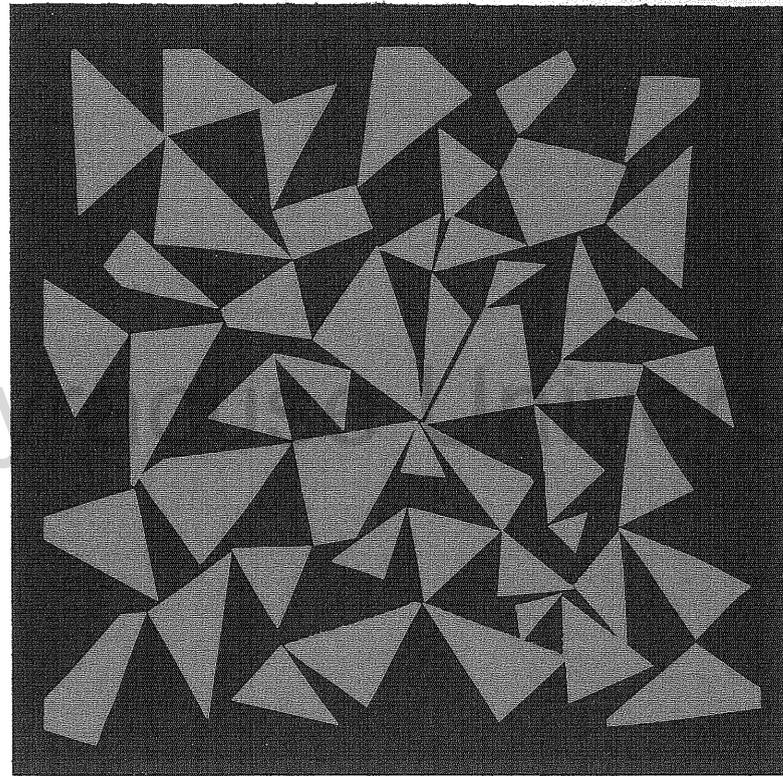
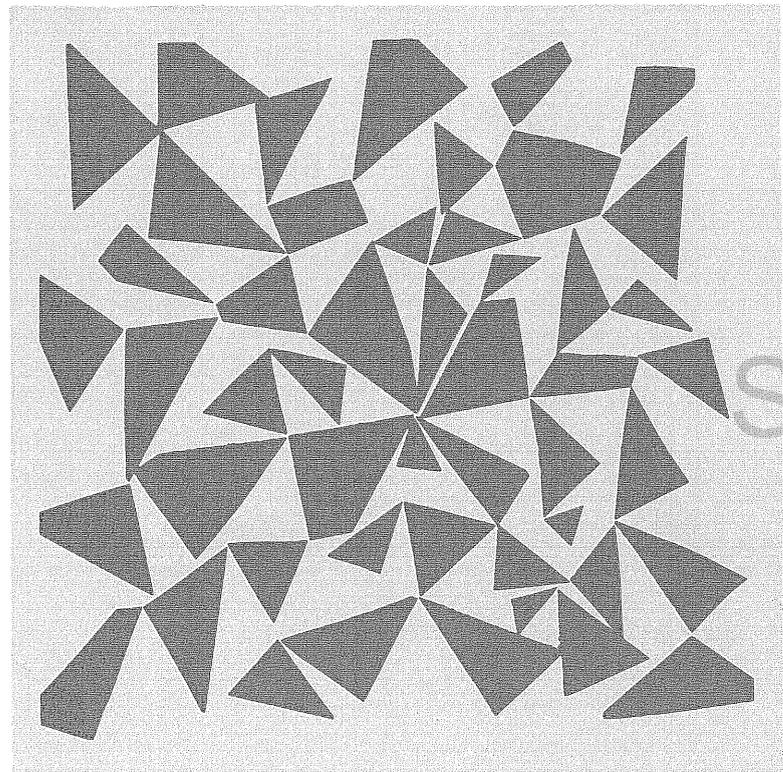


Syracuse University Art Galleries





ity Art Galleries

Syracuse University Art Galleries

ONOFRIO CHARLES GIORDANO STUDIES IN COLOR

AN EXHIBITION OF COLOR CHARACTERISTICS

INTRODUCTION BY LAURENCE SCHMECKEBIER

SPONSORED BY THE NEW YORK STATE COUNCIL ON THE ARTS

ASSEMBLED AND PUBLISHED BY
THE SCHOOL OF ART | SYRACUSE UNIVERSITY
SYRACUSE | NEW YORK | 1965

Syracuse University Art Galleries

CHARLES GIORDANO'S STUDIES IN COLOR

BY LAURENCE SCHMECKEBIER | DEAN
THE SCHOOL OF ART | SYRACUSE UNIVERSITY

Giordano's Studies in Color is one of a series of exhibitions organized by the School of Art of Syracuse University under the auspices of the New York State Council on the Arts for circulation among schools, colleges and public institutions in New York State as an educational service. Two of these are based on Josef Albers' "Interaction of Color," a book of exercises in color perception developed by Professor Albers and his students and published by Yale University Press as "a record of an experimental way of studying color." The third exhibition is composed of original designs by Professor Charles Giordano of Syracuse University.

Color is without doubt one of the most illusive and fascinating areas of study in the history of our theoretical knowledge. Human beings must learn to see just as they must learn to walk, yet it is odd that the perception of color remains the most challenging, difficult and misunderstood problem of man's vision. The rewards of its successful resolution are among the most refined and exhilarating of aesthetic experiences.

As a subject for analysis, color has been the concern of the greatest philosophers, poets, artists and scientists, from Aristotle to Leonardo da Vinci, Newton, Goethe,

Schopenhauer, Helmholtz, Seurat and Albers. Indeed the greatness of Josef Albers, like that of Goethe, lies not only in his creative sensitivity as an artist, but in his reversal of the traditional theory-to-practice procedure to an emphasis on the actual experience of visual perception. "A color is almost never seen as it is—as it physically is," he says in his introduction to "Interaction of Color" but is relative, and requires "through experience—by trial and error—an eye for color. This means, specifically, seeing color action as well as feeling color relatedness. . . . And experience teaches that in visual perception there is a discrepancy between physical fact and psychic effect."

Thus it is that Josef Albers has become a major influence in the development of the new Modern Art. As a teacher he has affected generations of students at the German Bauhaus, Black Mountain College and Yale University, but also as an artist, writer and poet, his exhibitions and publications have constantly stressed the ideal of visual articulation through color. The positive and enthusiastic response by critics, patrons and the public to the Museum of Modern Art's, "The Responsive Eye" and other so-called "Optical Art" exhibitions in New York and throughout the country indicates the depth and broadening horizon of a new generation of artists.

Certainly Albers would be the last to claim the contemporary enthusiasm for color as his unique contribution. Indeed a specific course in the study of color and light in its scientific, historical and psychological aspects has been an integral part of the freshman

Syracuse University Art Galleries

foundation program here at Syracuse University for many years. As elsewhere, Albers' activity as visiting artist on our campus during the summer of 1958 served to strengthen that tradition. Giordano's personal interest and dedication to the problem of color have developed his course into one of the most famous and effective of the Syracuse undergraduate art program.

The larger aspects of this new collaboration of art and science in the study of color, particularly as related to the creative work of the younger generation, present a number of exciting possibilities in the field of educational research. These are already indicated by historical precedents which demonstrate that the results are not necessarily conditioned by the restrictive hand of tradition or mechanized science but challenge man's highest creative faculties in all areas of artistic endeavor.

Such collaboration worked to the mutual advantage of both artist and scientist. The Impressionists and particularly Seurat were deeply immersed in the writings of Chevreul and Helmholtz. The research of Karl Böhler and David Katz was closely associated with the exploitation of color by the German Expressionists of the 1920's. Even the art historians and critics were involved with both aspects as seen in the historical studies of Erich van der Berchen on Venetian Painting and Max Doerner on painting techniques. In fact, it was the exciting complex of ideas in three years of experimentation that developed the "Modes of Color Perception" into a doctoral dissertation by Laurence

Schmeckeber at the University of Munich and opened an endless variety of historical studies in the fine arts.

The objective in this type of collaboration is not scientific truth but artistic expression. Science indeed becomes the means of liberating the creative spirit and in the education of the artist and his public, this is certainly the most essential as well as illusive objective.

A brilliant scholar, a productive artist and an educator, Onofrio Charles Giordano represents the scientific, historical and artistic sophistication of the younger generation. Born in Boston in 1931, he received his Bachelor of Science degree from the Massachusetts College of Art where the researches and teaching of Albert H. Munsell had been a tradition. He served as a graduate assistant in the School of Art of Syracuse University from 1960-1962 receiving his master's degree in Fine Arts at the end of that time. He was appointed instructor in 1962, then became assistant professor in 1964 teaching design and art education and developing his special interest in color and light.

As an undergraduate at Massachusetts he received the annual Faculty Award for outstanding achievement in 1957 and in 1958 won the coveted Cox prize as the top student in his class. In 1963 he served as coordinator of the New York State Educational Television series of art appreciation programs entitled, "Art: Images of Man," and has conducted numerous workshops in creativity and color for regional and state educational associations.

Syracuse University Art Galleries

He has exhibited his own work as a designer and painter in regional shows and has been active in various experimental film projects developed with the Syracuse University Audio-Visual Center as part of his doctoral program. Chief among these is a 16 millimeter color film, "Primavera," which is a poetic and symbolic interpretation of the life of Joan of Arc.

This exhibition is frankly didactic in concept and purpose. It begins with a series of studies of color in which nature is used as a source of inspiration and color is considered not as a mystery but as a phenomenon: hence the fascination of color contrasts and refraction of light in an oil slick, the color intensity of an apple, or the textured iridescence of a feather, a weed or autumn foliage. There follows a group of studies of the color systems as revealed in the work of the physicist, the physiologist and the psychologist as well as the artist.

From the possibilities of color as suggested in nature to the attributes as revealed in the structural systems of the human apparatus and environment develops the third area of visual and aesthetic invention. Each area involves a degree of creative vision—the genuine artist cannot see with a passive eye—but this latter group of paintings belongs more purely in the realm of what has been called "perceptual abstraction." Stylistic labels notwithstanding, they are concerned with the visual phenomena of value change, color space, vibration, optical contrast and mixture, and color "temperature" yet are genuine works of art, fascinating in their vitality and endless in their aesthetic variability.

The study of color, its characteristics and interaction, as presented in this exhibition is one that takes time to observe and absorb. Each presentation is in itself a work of art which physically and psychologically cannot be perceived except in time. Hence the immediate and all too frequent reaction, "I like it" or "I don't like it" is one of minor significance. The primary objective is the perceptive experience and the greater visual sensitivity which that experiences develops.

The changing concepts of the modern artist often oblige readjustments on the part of the educator. The argument—by now almost a traditional one—that one must forget what one knows in order to be "pure" and creative no longer holds. This exhibition demonstrates the need and excitement of sustained effort so that knowledge contributes to growth rather than inhibits it. In a world whose scientists search desperately for the spark of creativity and whose artists struggle for intellectual clarity, the study of color offers a uniquely integrated educational challenge.

LAURENCE SCHMECKEBIER | DEAN
THE SCHOOL OF ART

The School of Art wishes to express its gratitude to the New York State Council on the Arts and especially to its associate director, William Hull, for their generous encouragement and sponsorship of these exhibitions and their cooperation in the publication of this catalogue.

1. COLOR IN NATURE

Nature can be a source of information and inspiration, and through it we can gain clearer ideas of harmony as well as dissonance. In these Ektachrome enlargements which include plants, feathers, and oil slick are found contrasts of value, saturation, and temperature. Nature provides an endless array of chromatic patterns.

2. PRIMARY HUES

There are many types of primary or elementary colors. In light, the physicist recognizes red, green, and blue as being irreducible. When dealing with pigments or dyes, as in the graphic arts, the most effective primaries, termed subtractive, are magenta, cyan, and yellow; the traditional primaries, red, yellow, and blue, are a variation of these. The psychological primaries, include red, yellow, blue, green, white, and black, because each of these makes a distinct psychological impression. Countless color systems have been formulated since Sir Isaac Newton's classic experiments of 1666. Each of these systems is valuable and contributes to an effective study of color.

3. SUBTRACTIVE MIXTURE

Different proportions of the subtractive primaries, magenta, cyan, and yellow will produce almost every hue of the spectrum. Although objects in themselves are not colored, they are capable of reflecting some light waves and absorbing others. The

following breakdown explains how the hue GREEN is produced: White consists of red, orange, yellow, green, blue and violet; the blue pigments absorb red, orange and yellow; yellow pigments absorb blue and violet; the remainder is green.

4. CHROMATIC LIGHT

When red, green, and blue lights are mixed, the results produced from these additive primaries are always lighter, as opposed to the mixtures of the subtractive system which reduces light. Red and green lights additively combine to form yellow, red and blue produce magenta, and green and blue yield cyan. When all three are combined in correct proportions the result is white. Where the mixture is blocked by an opaque object, as in the example on the right above, chromatic shadows are produced. Usually, the shadow is the opposite color of the chromatic light source. Chromatic light can define as well as dramatize form as in the example of the glass pitcher photographed with three colored lights, each differing in quantity as well as quality.

5. COLOR ORGANIZATION

Present day color systems vary widely in intent and application. However, most of them are similar in that they recognize three distinct attributes of color. Hue, the color family name; value, the quantity of light reflected; and intensity, the strength of the

hue. Here, the hue red has been arranged in a random pattern without regard to value or intensity. In the top example, the center of the design constitutes the darkest section from which value radiates vertically, and intensity grows out left and right from the center. All of the many thousands of variations of color can be similarly arranged.

6. COLOR TEMPERATURE

In addition to the properties of value and chroma, hues also possess a wide range of temperature contrast. Generally, the color wheel is divided in half; the reds, oranges, and yellows being the warm section; the green, blues and purples being cool. However, these are not fixed designations and each of these hues often changes from one area to the other depending upon such factors as intensity and value of adjacent hues.

7. AFTER-IMAGE

The phenomenon of after-image is due to the law of successive contrast. The retina of the eye becomes fatigued after viewing any hue for a sustained period of time. The cones in the retina which are responsible for the perception of hue differences become inoperative and the complementary hue is then seen. This is a psychological experience and cannot be photographed. Staring at the center of a diamond figure in the upper square for at least thirty seconds and then shifting attention to the lower blank square

will cause the pair of complements to reverse themselves, the background will become blue, the figure orange.

8. SIMULTANEOUS CONTRAST

Any color will change its appearance when the background against which it is seen is changed. In these examples, the same color red has been printed against nine different hues. Because of relative contrast, the darker backgrounds make the reds look brighter. Against the cooler backgrounds, the reds tend to appear warmer. Juxtaposed to a color of strong intensity, the red will appear to be desaturated. One of the first men to recognize this phenomenon and to investigate it in a systematic manner was M. E. Chevreul. His book, *THE PRINCIPLES OF HARMONY AND CONTRAST OF COLORS*, published in 1835, was widely read by the Impressionist painters.

9. VALUE CHANGE

One gray and one green, each repeated against a different background will appear to change. When placed against a blue background, the yellow content of the green becomes more apparent; against yellow, the blue content becomes more noticeable. This is another example of the dynamic quality of color, and explains why the study of color demands more than a knowledge of color systems alone.

10. QUANTITY

In addition to specifying hue selection, "color schemes" should also denote the essential qualities of value and intensity. Equally important is the "power-value" of the hue, the proportion of area which each hue occupies. In these designs the colors remain the same and of constant strength. Reversal of the space each hue occupies changes the character of the design.

11. COLOR SPACE

Atmospheric perspective and chiaroscuro (light and dark) are examples of the manipulation of values to achieve form, space, and dimension. As objects recede into the distance they tend to become lighter and less distinct. This coupled with the fact that cool colors are retiring is the basis for these designs.

12. VIBRATION

When a pair of complements or near complements are juxtaposed, the eye has difficulty focusing on these advancing and receding colors. Cool colors at maximum intensity tend to focus in front of the retina and therefore appear to recede; warm hues focus behind the retina and appear to advance. Simultaneous viewing of these hues results in apparent intensification of each hue and sets up "vibrations" so that even in a design utilizing hard edges, soft and fluctuating boundaries are perceived.

13. OPTICAL MIXTURE

Illusions of space sometimes results from the use of complements used at full intensity. In addition, a “fluttering” effect may occur when equal area is given to each. A change of focus from one point on the design to another will result in optical neutralization of both hues. The retina retains an image for a short time after the stimulus has been removed. Persistence of vision causes one hue to be visually superimposed over the other when focus is shifted, thereby dulling each hue where complements are used.

14. NEUTRAL COLORS

Because of the phenomenon of successive contrast, neutral colors tend to take on the attributes of the complement against which they are placed. When white, black, or gray are used in a predominately cool design, for example, they will be seen as being slightly warm. Neutral colors therefore rarely remain neutral since they are seldom seen alone.

Albers, Josef, INTERACTION OF COLOR, Yale University Press, 1963.

Chevreul, Michel-Eugene, THE PRINCIPLES OF HARMONY AND CONTRAST OF COLORS, Translated by Charles Martel, London, 1912.

Goethe, Johann, Wolfgang, von, THEORY OF COLOR, Translated by Sir Charles Eastlake, London, 1840.

Hemholtz, Hermann, von, TREATISE ON PHYSIOLOGICAL OPTICS, New York, 1925.

Homer, William Innes, SEURAT AND THE SCIENCE OF PAINTING, The M.I.T. Press, 1963.

Katz, David, THE WORLD OF COLOR, London, 1935.

Leonardo, da Vinci, TREATISE ON PAINTING, Translated by Philip McMahon, 2 vols., Princeton, 1956.

Munsell, Albert H., A COLOR NOTATION, Baltimore, 1961.

Ostwald, Wilhelm, COLOR SCIENCE, part I and II, London, n.d.

Schmeckebeier, Laurence, DIE ERSCHINUNGSWEISEN KLEINFLACHIGER FARBEN, Leipzig, 1932.

Seitz, William C., THE RESPONSIVE EYE, The Museum of Modern Art, 1965.

Syracuse University Art Galleries

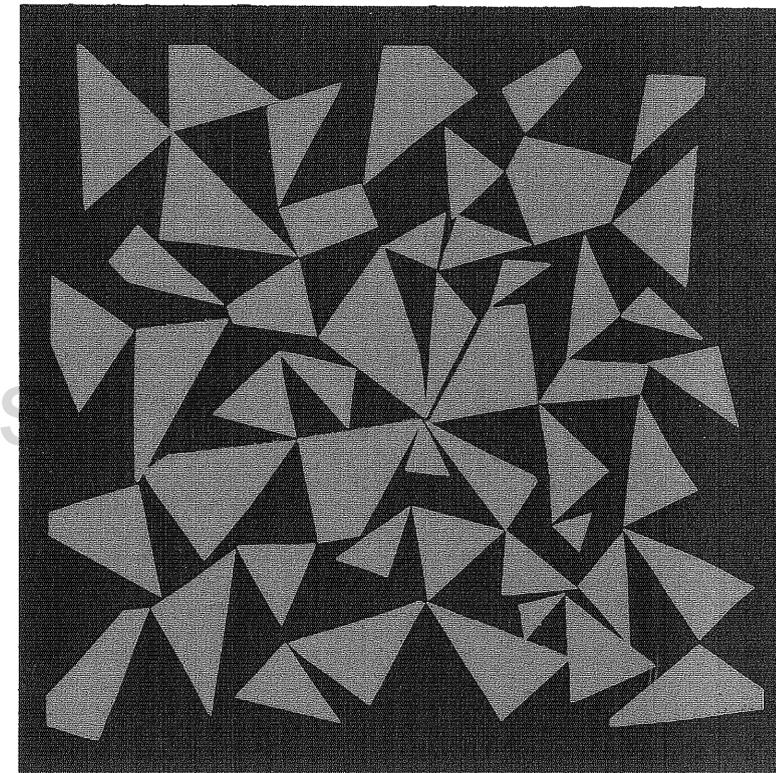
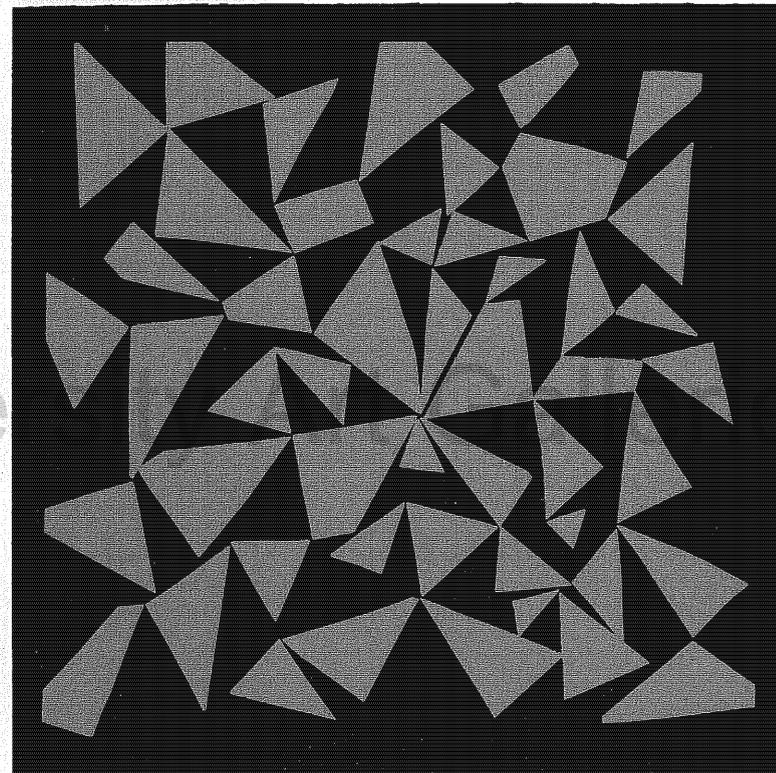
NOTES ON THE COLOR PLATES

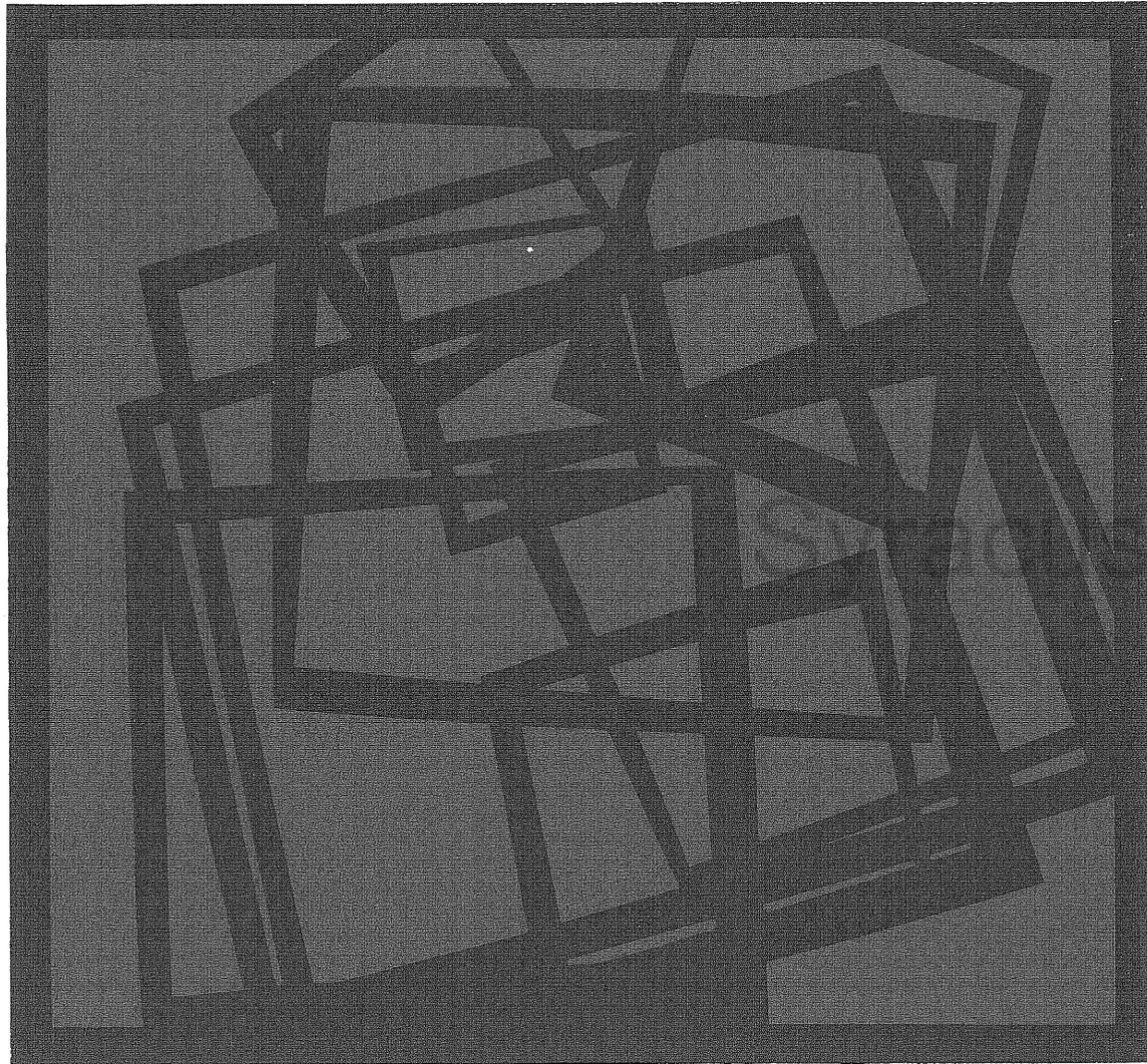
Front Cover: AFTER-IMAGE See caption #7.

Inside front and back covers: SIMULTANEOUS CONTRAST, See caption #8. Note that a single color (orange) is used in each of these four plates, but that the value and intensity change in each case due to influence of the second color.

Back cover: VIBRATIONS See caption #12.

Syracuse Unive





e University Art Galleries