A STUDY OF THE USE OF COLOR IN THE ART OF
HENRY MATISSE, WITH SPECIFIC ATTENTION
TO THE WORK OF 1908-1917

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INTRODUCTION

In the painting of Henry Matisse (1869-1917), color is an essential factor. His awareness of the functions of color has a major place in critical studies of his art. Matisse was concerned with the problems of color in pictorial composition, and he was aware of the potentiality of color as an autonomous pictorial element. Evidence of his interest in color appears early in his artistic career and is seen throughout his stylistic development. From 1908 there is a consistent growth in his treatment of coloristic effects. And it is from 1908 through 1917 that the development of his use of color as a dynamic agent is most concentrated.

The purpose of this study is to clarify the functions of color in the work of Matisse especially during the formation years from 1908 to 1917. The essay is divided into three chapters. The first explores Matisse's interest in color as a part of his artistic milieu. In this chapter, Matisse's use of color is described as it develops in his artistic career. Also, contacts which influenced his interest in color are cited. In the second chapter, the mechanics of coloristic effects in the works from 1908 are studied as an extension of Neo-Impressionist color theory. The third chapter illustrates aspects of the functions of color in Matisse's works through analysis of
selected paintings from 1906-1917. In this section specific attention is given to the works from the period 1908. The conclusion summarizes the results of the inquiry and raises questions for further study.\textsuperscript{*}

\textsuperscript{*}Adequate color reproductions are difficult to find. Whenever possible reference for good color reproductions are given. The plates included in the text are merely indications of the original color. Color analyses have been made from some of the original works. Therefore it has been possible to make more accurate statements about the functions of color in the paintings.
CHAPTER I

MATISSE'S INTEREST IN COLOR AS PART
OF HIS ARTISTIC MILIEU

The major role of color in the paintings of Henri Matisse may be associated, in part, with a prevailing interest in color which permeated the artistic milieu of Paris during the early years of Matisse's career. It may be traced in scientific studies in the physics of color and in the adaptation of these studies to the arts. One example is found in the work of M. E. Chevreul whose studies concerning the simultaneous contrast of color are perhaps his most influential. These studies first appeared in published form as early as 1839 in De la loi du contraste simultané des couleurs, et de l'assortment des objects colorés, considéré d'après cette loi... but their influence continued into the twentieth century.

The interest in color is found also in systems which were developed for using color in painting; for example, the formal theories of the Neo-Impressionists Seurat and Signac. And evidence of this interest appears in the significant role which color plays as a formal element in painting at the end of the nineteenth century. Such diverse paintings as those of the Symbolists, the Nabis, the Impressionists, the Neo-Impressionists, and the Fauves are all, to a large extent, dependent on color for their pictorial effect.
The interest in color correlates with the importance of it in nineteenth century theory and painting. The stress upon color is evidenced in the writings of Ruskin and the paintings and writings of Delacroix. But the understanding of the role of color by the artists of the nineteenth century differs sharply from the generation of Matisse. The difference is basically one of emphasis. In earlier work emphasis is on emotional and associative or symbolic values; whereas, in work from the turn of the century it is on color as a physical element, an autonomous substance capable of causing physical effects apart from symbolic references.

His General Stylistic Development

The use of color as an autonomous agent was a primary interest of Matisse. His understanding of color as an independent element is responsible for the manner in which he used color. The hues of his paintings produce a glowing effect which is independent of symbolic associations or natural references. From the beginning of his artistic career evidence of his understanding of coloristic effects is apparent. For example, in the Sideboard and Table of 1899, the hues of the still life are only slightly related to the colors of the objects represented. The fruit in the compote is painted with bright red, orange and green spherical shapes and large grey and black patches are used for shadows. Another example of his understanding of color as an independent pictorial element occurs in the Study of a Nude of 1900 in which the knee cap of the model is colored green, red and
black. In both paintings the areas of brightly and arbitrarily colored natural forms emit a dynamic effect of brilliance.

Later in his development, after his early "Fauve" experimentation (1904-1906) when Matisse no longer used such incongruous colors, the luminous effect emitted by his colors is still the most significant aspect of his use of color. In the painting *Le luxe II* of 1907, the figures are painted in a "naturalistic" pink and the sky, a flat blue. Although the hues are "realistic" the effect of the colored section—the pink figure adjacent to the blue sky—is that of a glowing spot. The vibrant effect of this spot, as in the earlier examples, is independent of any reference to "real" colors. In a black and white reproduction of *Le luxe II* the area of related pink and blue hues appears more brilliant than the remaining canvas. The area is a dynamic area on a dull ground. This brilliant area appears in the black and white reproduction as a sharp contrast between the light pink and the dark blue, a contrast between the darkest and lightest hues of the painting.

Although the interest of Matisse in color is characteristic of the artistic milieu of Paris, his use of it is unique. It is his special use of colors that is responsible for their brilliant effect. The distinct quality of this effect may be seen in comparisons of paintings by Matisse and Monet.

Matisse's *Sideboard* and *Table* of 1899 can be compared with Monet's *Still Life* of 1869; both are done in the "Impressionist" manner. In the *Sideboard* the fruit in the still life area is painted
with large patches of complementary colors. This area of complementary hues is adjacent to an area of grey and black. Both sections are brilliant. In contrast, the neutral colors, grey and black, are omitted from the painting by Monet. Here, regular spots of hues occur over the entire canvas. Also, there are occasional patches of juxtaposed complementary hues. The effect is that of tiny bright spots scattered over the picture surface; whereas, in the Matisse painting, although the brilliant effect is confined to an area, the hues of this area emit a common glow. The difference may be illustrated by comparing the difference in brightness of a pebbled or beaded white paper with that of a slick or smooth one. The first appears as a dull matt finish; the other, as a shiny surface.

Again, a similar difference may be seen in The Houses of Parliament\textsuperscript{10} of 1906 by Derain and the Trees at Collioure\textsuperscript{11} of 1905 by Matisse. Although both are "Fauve" paintings, differences in the use of color are apparent. In the Derain painting, the hues in themselves are brighter in value and intensity than those of the Matisse. In the Derain, the houses of Parliament are colored a rich blue; the sky is painted ultramarine with white clouds; the water, a strong yellow and green and the ships are painted purple and cadmium red. On the other hand, in the Matisse, the trees are painted grey and black with earth green and brown leaves. The ground, sky, and figures are loosely brushed with pastels of yellow, pink, red-pink, and mint green. Yet in this painting the hues of the yellow, pink and white ground on the far left next to the black and grey tree trunk appear brighter than
those of an area of equal size from the Derain canvas.

The use of color by Matisse as an agent activating the picture surface with an unusual brilliance may be traced throughout his artistic career. Yet, when we analyze his development of the potentiality of color as a dynamic agent of his paintings, we find it falls into two general periods; paintings done before 1908; paintings done after 1908.12

In pre-1908 works, isolated brilliant areas of related hues appear. For example, in the Study of a Nude of 1900, the black, green and red of the left knee cap are a luminous spot. This glowing colored area appears brilliant in contrast to the surrounding green, black and flesh of the leg. Again, in the Open Window (plate I) of 1905, similar brilliant areas appear around the window. These dynamic spots are made up of juxtaposed complementary colors, as seen in the right window frame painted with an orange and a blue stripe or in the plant colored with red and green daubs. Although these brilliant spots are scattered over the surface, they are still isolated by areas which appear dull in contrast. The blue-green area of the left wall, the dark blue window frame at the top, or the yellow-ocre-pink area of the sea do not appear as brilliant as the spots of complementaries. But in the majority of the work from 1908, the entire canvas emits a glow afforded by the dynamics of interdependent hues. Here is the major difference in the functions of color in the works before and after 1908. This difference can be illustrated in a comparison between the Dinner Table of 1896, and the Harmony in Red.
of 1908. In the Dinner Table, the dynamic brilliance afforded by
certain color relationships is limited to isolated areas such as the
compote of fruit and the bouquet of flowers. In contrast, the colors
in the Harmony in Red cannot be isolated into specific areas of
brilliance.

In this painting, all of the hues appear as part of the same
dynamic surface. The crimson wall of the room and the blue window on
the far wall and the chair seat and brown table top in the foreground
are united on one luminous plane. Their unity on one surface may be
attributed in part to the distortion of the perspective. But primarily
they are related on one brilliant plane through the dynamic interaction
of their hues. The hues affect one another so that the blue window,
the crimson wall and the ocre chair, although of different values,
together activate one brilliant effect. Thus the work done from 1908
may be distinguished from that done before 1908 by the effects pro-
duced by the hues.¹⁷

His Contacts with Other Artists

Matisse's use of color was influenced, in part, by direct con-
tact with the work of other artists of his time. For example, evi-
dence of the influence of the Impressionists can be found in early
works such as the Dinner Table¹⁸ of 1896, and the Sideboard and Table¹⁹
of 1899. Both of these works are painted with the broken and
flickering brushwork of the Impressionists; and both, to some extent,
use juxtaposed complementary hues to obtain their effects.
Matisse recalled a specific trip he took in 1896 to Brittany with his neighbor Émile Véry who had adopted the Impressionist manner. Matisse noticed that Véry could get more brilliance from his primary color than Matisse could from his old master browns. According to Matisse, the awareness of the intensity of primary hues had a significant influence on his use of color.20

The Neo-Impressionists were active in Paris in 1904, which perhaps explains Matisse's experiments with their methods in the summer of that year.21 An example can be found in the painting Le luxe, calme et volupté22 of 1904, the methodically placed blocks of color are evidence of an influence of Neo-Impressionist technique. Matisse, no doubt, adopted this technique because of his interest in obtaining the dynamic effect of the colors. However, by the end of the summer, he had rejected their method of painting, finding that it confined his use of color.23

The group of young painters known as the Fauves had been friends since Matisse first entered the studio of Gustave Moreau in 1892, and the group continued to grow through 1900. The public was made aware of this new generation of painters in 1901 when Matisse, with other future Fauves, exhibited at the Salon des Indépendants. From 1901 on they exhibited sporadically in small groups. Thus, it may be assumed that the young artists who were to become the Fauves were incubating the Fauve aesthetic long before Vauxcelle gave them their name in 1905 when the group as a while (Matisse, Manquin, Derain, Marquet, Jean Puy, Voltat, Freize, Rouault) exhibited at the Salon d'Automne.24
Matisse observed that it was his change to large color patches that led directly to the method of the Fauves. This change in method he attributed to his reaction against the tiny-dot method of the Neo-Impressionists. And it was Matisse's use of this method of bold colors in large flat patches that established the precedent for the innovations in his use of color which occurred between 1908 and 1917.
Notes to Chapter I


2. Chevreul's optical laws were influential in the twentieth century primarily through the color theory of the Neo-Impressionists.


6. In most of the paintings from 1906 Matisse used hues which referred more exactly to the colors of natural objects.


8. Loc. cit.


11. Trees at Collioure (Arbres a Collioure), New York, Mr. Robert Lehman Collection; colorplate 6, ibid.

12. The distinct change in Matisse's approach to color occurring around 1908 has been cited by other studies of his work; such as the monography by Alfred H. Barr Jr. and the essay by Frank Anderson Trapp, "The Paintings of Henri Matisse: Origins and Early Development: 1890-1917," unpublished Ph. D. dissertation, Harvard University, 1951.

14. The Open Window (Fenêtre ouverte), Paris, private collection; colorplate, Barr, op. cit., p. 72.

15. The Dinner Table (La dessert), Hollywood, Mr. and Mrs. Edward G. Robinson Collection; colorplate, Art News Annual XXIV (1953), 40.

16. Harmony in Red (La chambre rouge; La dessert-harmonie rouge), Moscow, Museum of Modern Western Art, colorplate 4, Crespelle, op. cit.

17. An exception would be Matisse's paintings of the twenties in which the use of color to achieve an even brilliance over the entire surface is suppressed.


23. Teriade, loc. cit.


25. Teriade, loc. cit.
CHAPTER II

THE MECHANICS OF MATISSE'S USE OF COLOR

Matisse's understanding of color caused him to use it in a manner that is both a departure from and an extension of the methods of his contemporaries. Further investigation of his use of color can lead to a theoretical analysis of the functions of color in his work. Such an investigation is facilitated by considering the works of Matisse in the light of the theory of the Neo-Impressionists. This theory is especially applicable because it was a color theory which predominated during the formative years of Matisse's artistic career. This Neo-Impressionist color theory, which will be explained shortly, played a significant role in the work of most of the artists of the period, and Matisse was no exception; although, as has been stated before, he adapted the theory to his individual purposes. The importance and influence of this theory is readily accessible in theoretical writing of the period. An added advantage, aside from that of having original material from which to work, is that these formulations also provide a working vocabulary to use in an analysis of Matisse's color.

Neo-Impressionist theory is particularly acceptable as a point of departure for a consideration of Matisse's use of color. One reason is that for a short time he was directly involved with the
methods of Neo-Impressionism. It was during the summer of 1904 that
he worked with the Neo-Impressionists Signac and Cross. At that time
specific influences of Neo-Impressionism appeared in the work of
Matisse. Yet, by the end of the summer he had departed from their
methods.

Ne-Impressionist Theory

Seurat developed a theory of Neo-Impressionist color as a
formula for applying Chevreul's studies in the physics of color to
painting. Also, he wanted to adopt Henry’s symbolic line and color
and Dove's studies of the principle which he called the mélange
optique. Some of Seurat's assumptions about the nature of color in
painting are relative to this study. Seurat's formulations provided
the basis for Neo-Impressionist theory; although Signac reworked
Seurat's ideas in an attempt to clarify them, he did not change Seurat's
basic assumptions about the effects of colors. Rather, Signac's
alterations deal chiefly with the scientific explanations of the
effects.

The Neo-Impressionist understanding of color reflects two basic
assumptions about color: there are three intrinsically related dimen-
sions of color (value, intensity, hue), and there is an effect of
juxtaposed colors apart from symbolic associations experienced by
the viewer.

The three dimensions of color may be illustrated by the color
solid as it is described in the Ostwald System. Value refers to
the lightness or darkness of a color. It is illustrated by gradations on the vertical axis of the color solid from the light top to the dark bottom. Intensity (amount of saturation) refers to the brightness or dullness of a color. It is illustrated by gradations on the horizontal axis from the bright periphery to the dull central core. Hue refers to the name which designates the color, such as red. It is demonstrated by a horizontal cross section taken from the widest point of the cone, which becomes a "color wheel." On this color wheel are arranged the primary hues (red, yellow, blue). They are at equal intervals around the periphery dividing the wheel into thirds. Other hues which are various combinations of two primary hues appear. They include the secondary colors: violet between red and blue, green between blue and yellow, and orange between yellow and red. Hues which are directly opposite each other on the color wheel are called complementaries.

The dynamic effect of juxtaposed colors can be demonstrated by turning to certain experiments of Chevreul himself. In these experiments he used four equal sections of unglazed grey paper; two, a deeper shade of grey than the other two. They were arranged so that a section of deep grey and a section of lighter grey were adjacent. The arrangement of the four sections can be described as o, o', p, p'. O' appears lighter. O and p appear deeper than p'. That is, o' and p are affected so that the contrast between the two appears stronger as a result of their juxtaposition.
When the same experiment is applied to sections of chromatic colors a change in hue occurs. In the contrast between green and indigo the green inclines to yellow and the indigo to violet. The complementary hue of one color affects the other color and conversely. The complement of green is red, and the complement of indigo is a yellow tinged with orange. Also, with black or white the black or white section appears tinged with the complement of the adjacent hue.\(^9\)

It may be concluded that the effect of adjacent hues is twofold; both colors become deeper or lighter than before (a change of intensity); both colors are affected by the complement of the other (a change of hue).\(^10\) These two aspects are interrelated. The green appears tinged with yellow and, therefore, lighter; the indigo appears tinged with red and, therefore, deeper. The contrast of value and intensity is increased by the change in hue. This effect is described by Chevreul as the simultaneous contrast of colors.\(^11\)

The simultaneous contrast of complementary colors refers to a unique effect. Both colors become more brilliant, decreasing in contrast of intensity. In fact, both hues appear equally luminous. Also, there is no change in hue. However, the law of simultaneous contrast is still applicable as can be illustrated by using the complementary hues red and green. Since red is the complement of green, the red will be tinged with additional red augmenting its intensity and vice versa. Here the contrast is of value and hue. However, the similar brilliance of the two colors which are directly opposed in hue and value should be distinguished from intensity which is
inextricably related to hue and value. Chevreul spoke of a "remarkable brilliancy." Brilliance is used to distinguish the effect of a complementary contrast from the brightness or intensity of a single hue.

The effects of simultaneous contrast is not a result of a change in the physical composition of the color. Rather, it is a visual phenomenon dependent on changes on the retina of the viewer. The colors seem to emit the effect themselves; they act as autonomous dynamic agents.

The Neo-Impressionists attempted to explain the two assumptions concerning color: that there are three dimensions of color, and that there is a special effect of juxtaposed hues. By using the laws of physics their theory became more precise. And, through the use of these laws the Neo-Impressionists were able to develop a consistent system from their empirical observations.

Color is explained by the Neo-Impressionist by use of prismatic light. The colors of the spectrum are scientific "truth." Since the prismatic colors do not vary, their dimensions are not variable. As a result, these dimensions are predeterminable or objective. For example, the prismatic hue yellow is always the same shade, always the same high value, and always the same bright intensity. By using the spectrum as the scientific standard, the hues are limited to six colors. They are the three primaries (red, yellow, blue) and the three secondaries (green, violet, orange). They may be graphically illustrated by Seurat's "color disc" or wheel which is almost
identical with the Ostwald color wheel. Like Ostwald, Seurat shows numerous hues which are made by combining any two of the six fundamental or basic hues, i.e., the six colors of the spectrum. The exception to the rule would be the combination of complements yielding grey. Grey and black are excluded because they are not found in the spectrum. They are not "true" colors and are non-chromatic. However, white, which is also non-chromatic, is included since a ray of light is white before it is broken by a prism.

The effect of juxtaposed colors is confined by the Neo-Impressionists to the six basic colors excluding black as non-chromatic. The essential emphasis is on the brilliance afforded by the simultaneous contrast of adjacent complements. The Neo-Impressionist wanted to activate the picture surface through the use of color as a dynamic agent. Since the use of juxtaposed complements causes a dynamic brilliancy, distinguished from the brightness and intensity; they stressed the importance of the simultaneous contrast of complements.

The scientific explanations of the Neo-Impressionists are artificially limiting. Pigments can not be confined to the six prismatic colors. Their characteristics (hue, value, intensity) are determined by reflected light rather than projected light. Thus, the three aspects of color may vary with the pigmented surface. For example, a pebbled surface reflects less light than a smooth surface causing a variance in intensity. Pigments do not imitate the hues of the spectrum. There is no one pigment for each primary and secon-
dary color. A red may vary from a cadmium to an alizarine crimson. Each represents a hue in itself. These colors are not deviations from a standard red pigment; rather, they reflect light rays which are similar enough for each to be called red. Since pigments are not limited to the six primary colors, non-chromatic colors such as black, white, and grey may be included on the palette.

**Matisse's "Color Theory"**

Unlike Seurat, Matisse did not apply a scientific theory to the use of color in painting. As he himself said, "Le choix de mes couleurs ne propose sur aucune théorie scientifique. Il est base sur l'observation, sur l'expérience, du ma sensibilité." Freedom from a system allowed Matisse to make significant innovations in the use of color. Like the Neo-Impressionists, he was interested in the effect of adjacent hues, such as that of the contrast of complementaries. These hues appear to emit a dynamic glow. Matisse said, "J'utilise les couleurs les plus simples. Je ne les transforme pas moi-même, ce sont les rapports qui s'en chargent." In certain paintings from the transitional period of 1906 and 1907 and in the majority of the works from 1908 on, interrelated hues activate the entire surface with a brilliant effect. Here is the innovating aspect of Matisse's use of color. It is an extension of the dynamic use of color by the Neo-Impressionists; the brilliant area includes the entire canvas in contrast to isolated spots.

Matisse was able to go beyond the theory of the Neo-Impressionists because he was not confined to the standard of the six projected colors
of the prism. Rather, the use of color in his work shows his understanding of color as a light reflecting surface. In his work hues are not deviations from a standard primary color. But each has a full capacity for brilliance through dynamic juxtapositions. For example, in the *Harmony in Red* of 1908 the yellow-brown chair and the blue-green window produce a brilliance equivalent to that of the lemon yellow and emerald green hues of the fruit dish. Also, through a variation in pigmentation the amount of reflected light is affected. In the work of Matisse, this variation appears in connection with the brilliance of interrelated hues. In the *Egyptian Curtain* of 1948 the loosely pigmented surface of the yellow ocre table aids in making it appear as brilliant as the red and green pattern of the curtain. Again, inclusion in his work of earth tones and neutral hues, which through their relationships appear brilliant, reflects Matisse's understanding of color as pigments. His colors are not limited to the chromatic hues. An example can be found in the *Magnolia Branch* of 1936. In this painting, the grey dog under the table appears as brilliant as the blue rug.

Matisse's understanding of each hue as having equal significance in his work can be illustrated by a sketch he made of his 1937 palette. In this sketch he indicates the arrangement as well as the pigment name of the various hues. The color areas on the periphery are not limited to chromatic hues arranged to facilitate the application of the principle of simultaneous contrast. Rather, they are arranged in accordance with variations in value. At the top are
yellow hues moving through the darker reds. Then follow a group of
earth colors of a lower value succeeded by the darker greens, blues,
violets and finally, black. Yet the pigments within each of these
general color areas are not arranged according to the value differences.
For example, cobalt violet deep is between ultramarine and cobalt
violet light. In the center are three portions of argent white,
presumably to be mixed with the hues on the periphery. It is apparent
that Matisse included on his palette earth hues (the siennas and yellow
ocre) and neutral hues (black).

By adopting a methodology inferred from the arrangement of the 1937
palette of Matisse and the "color disc" or wheel of Seurat,27 the
differences in the approach to color of the two artists may be seen.
On Matisse's palette white is placed in the center. When white is
added to a pigment the resultant hue is lighter than the first and is,
therefore, of a higher value. On Matisse's palette the lighter hues
are arranged on the periphery with the other hues; however, as we
have seen, they are not arranged in accordance with value gradations.
Each of the lighter hues is of equal significance as the other hues
because it can be placed on the periphery without inferring a varia-
tion in value of a single standard hue. Each remains a hue in its
own right. For example, cadmium yellow light occurs on the periphery
between strontium yellow and cadmium yellow medium; it is not arranged
as a higher value of a single yellow hue. On the other hand, on
Seurat's "color disc" white forms a uniform ring around the periphery
and the chromatic hues are in the center. Between the white and each
strong color are a range of shades varying from almost white to almost pure color. The placement of these shades is arranged according to variations in value; cadmium yellow medium is closer to the outer edge, then cadmium yellow light. This arrangement shows Seurat's understanding of lighter hues as more or less potent versions of "full-strength" hues. Whereas, Matisse considered lighter hues as "full-strength" hues in themselves.

The differences in the arrangement of hues by Seurat and Matisse show the basic differences in the theories of Neo-Impressionism and of Matisse. Seurat was confined by standard hues which approximated the "pure" colors of the spectrum. When one of the standard pigments was mixed with white the Neo-Impressionists thought of it as a variation in value of the standard color rather than a new hue. Matisse was not limited by certain chromatic colors used as a standard. For this reason he was able to use non-chromatic hues and similar hues of different value as entities in themselves.

As has been seen, Matisse used color as a dynamic agent emitting an even brilliance over the picture surface. This usage reflects his understanding of each hue as a pigment in its own right. Blacks, browns, whites, and earth tones appear in dynamic juxtapositions with chromatic hues. In Neo-Impressionist theory the dynamics of related hues is confined to two hues, or complements. The brilliance of the simultaneous contrast of complementaries is explained as an extension of the general principles of simultaneous contrast. That is, since a tinge of the complement of one adjacent
hue is superimposed on the other, with complementary colors each
acquires a greater strength of hue increasing in "intensity."28
Yet in the work of Matisse, colors which are not exact complements
are juxtaposed in dynamic relationships. Thus, the brilliant surface
of a painting by Matisse can not be explained as an increase in the
strength of each hue because the juxtapositions are not confined to
two complementary hues. However, the dynamic effect of the colors
in a Matisse is like the effect of adjacent complementaries. It is
apparent that the brilliance of adjacent hues is not wholly dependent
on the hues acquiring an "extra amount" of their own hue. Matisse
expanded the dynamic effect of the adjacent complementaries. Matisse
was able to accomplish this extension because he was not confined by
the law of simultaneous contrast.

The dynamic relationships in the work of Matisse can be
diagramed in terms of three colors. These colors divide the color
wheel into thirds (three 120 degree angles) instead of halves. Three
colors related by the "120 degree angle" may be seen in the Bathers29
of 1909. These hues are yellow ocre with pink, cobalt blue, and
brick red.

By the inclusion of three colors in the relationship, the
dynamic area is no longer limited to two hues which are polar con-
trasts in value and intensity. For example, in the Bather the brick
red and the cobalt blue are polar opposites in value and intensity,
but the third color, yellow ocre with pink, is of a value and inten-
sity between the two extremes. The significance of the use of a
third, middle value hue as part of the dynamic relationship can be illustrated. In a comparison of black and white reproductions of La Parade\textsuperscript{30} of 1887-1888 by Seurat and the Harmony in Red\textsuperscript{31} of 1908 by Matisse, a major difference is seen. Both are arranged so that the variations in value and intensity form a black, white, and grey pattern. But in the Neo-Impressionist work, only adjacent shapes of directly opposing value and intensity form a simultaneous contrast. In this painting the white lights on the dark ground, the black musician on the light ground, and the tree on the light ground are the areas of greatest value contrast and they appear as the areas of greatest "intensity." These areas of extreme value contrasts, because of their size, overpower the contrasts of complementaries. The adjacent complementary contrasts are limited to minute dots. These dots are so small that they are blended together by the eye and appear as a grey (complementary colors when mixed equal grey). Seurat has sacrificed dynamic color relationships in order to maintain an organization of value areas. Similarly, brilliant areas made up of large sections of complementaries would appear as areas of polar value contrasts isolated by grey.\textsuperscript{32} In either case, the black and white contrasts are isolated in a duller grey field. On the other hand, in the Matisse, colors of intermediate values and intensities are included on the dynamic surface through the "120 degree angle" relationship. For example, the yellow ocre sienna chair seat is as brilliant as is the alizarine crimson room and the sea green window. In comparison, La Parade as a whole appears dull in contrast to the brilliant glow of the Harmony in Red.
Two of the colors in Matisse's "120 degree angle" juxtaposition establish a polar contrast similar to exactly complementary colors. The effect of these adjacent colors is the same as that of exactly opposing complements. This ambiguous usage of complementaries is seen in the *Pineapple and Anemones* of 1940. In this painting mint green leaves are adjacent to the alizarine pink wall. It is the intermediate hue of the cadmium yellow-orange table top that functions as the linking color. As has been pointed out, this color represents the grey value. Yet this color is as brilliant as the "complementaries." It is the hue of this immediate color that provides the link between one 120 degree angle "complementary" and the next. Here is the way Matisse expanded the dynamic surface to include all the colors. The middle hue can function as two hues simultaneously. The cadmium yellow sienna appears more cadmium yellow when isolated with the alizarine pink; it appears more sienna when isolated with the mint green. It is either the light or the dark value relative to the color with which it is contrasted. In a black and white reproduction it is the middle grey. But seen in color it appears to partake simultaneously of the intrinsic qualities of two different hues. The third hue in this way can have two sets of adjacent "120 degree angle" colors. Thus, the dynamic surface can be expanded in a number of directions, like links in a coat of mail.

How does the "third hue" acquire the qualities of two hues? In some cases Matisse has loosely brushed two layers of different pigments together as in the cadmium yellow sienna table top of the
Pineapple and Anemones. But this is not always true, as the alizarine crimson room of the Harmony in Red. Sometimes the transitional hue is a black, grey, or white. Chevreul's description of the simultaneous contrast with black or white is applicable here. The black, white, or grey acquires a tinge of the complement of the hue with which it is isolated. With both an ambiguous reading occurs, as seen in the Magnolia Branch. On this painting, the grey dog is the middle hue between a blue green and an alizarine crimson. But there are dynamic paintings from the 1908-1917 period in which black or white are imposed on the other colors acting as a pattern (the Still Life After de Heem of 1915, 1916, or 1917). And there is a painting of two values where no intermediated hue is required. It is the Red Studio of 1911.

It seems that, although the middle color of the "120 degree angle" juxtaposition is the important link, its mechanics as an ambivalent multifunctional hue can not be analyzed. Thus, the most important aspect of Matisse's "color theory" can not be formally explained, perhaps because it was not formally conceived.
Notes to Chapter II


6. Rewald, op. cit., pp. 79, 100, 84. Charles Henry was a French scientist and esthetician who published "Introduction a une esthétique scientifique," La Revue contemporaine (August, 1886), pp. 441-459; Application de nouveaux instruments de précision a l'archéologie (Paris: 1890); Cercle chromatique . . . (Paris: 1889); Rapporteur esthétique (Paris: 1888). He believed that certain pictorial lines and colors corresponded to specific emotional responses. Heinrich Wilhelm Dove was a German physicist who published Darstellung der Farbenlehre und optische Studien (Berlin: 1852). He observed that small sections of color appear to mix together when seen from a distance and he attributed this phenomenon to "optical blending" or the melange optique.

7. The terms value, intensity, and hue, which are used to describe the three dimensions of color are adopted from Arthur Pope, The Language of Drawing and Painting (Cambridge, Massachusetts: Harvard University Press, 1929); other systems of color use different terms but the qualities they describe remain the same.


10. Ibid., p. 10.
11. Ibid., p. 7.
12. Ibid., p. 16.
16. Ibid., p. 82.
17. Ibid.
18. Ibid., p. 79.
19. In actual practice in particular paintings, such as the Une Baignade of 1883, Seurat used earth tones as well as chromatic hues; Ibid., pp. 80, 82.
20. Much, op. cit., plate V.
24. Egyptian Curtain (Intérieur au rideau égyptien), Washington, Phillip's Collection; colorplate, Barr, op. cit., p. 238.
25. Magnolia Branch (La branche de magnolia), Baltimore Museum of Art, Cone Collection.
26. Escholier, op. cit., p. 99. Although the 1937 palette is not the only palette used by Matisse, the artist considered it typical enough for publication. For a discussion of Matisse's palette see C. R. Morie, "Matisse's Palette," Art Digest VII, No. 10 (February 15, 1933), 26.
27. Loc. cit.


32. See the early "Pauve" paintings of Matisse, such as the Woman With a Hat of 1905 (plate II).

33. Pineapple and Anemones (Anonas et anemones), New York, Mr. and Mrs. Albert J. Lasker Collection; colorplate, Barr, *op. cit.*, p. 236.


35. Still Life After de Heem (Nature morte d'après de Heem), Chicago, Mr. and Mrs. Samuel A. Marx Collection; colorplate, Barr, *op. cit.*, p. 170.

CHAPTER III

ANALYSES OF SELECTED WORKS FROM 1906-1917

Matisse's development of paintings in which the brilliance of interrelated color is a dominate element is gradual. Although it is from 1908 to 1917 that Matisse experimented most diversely with color, aspects of his experimentation may be seen in earlier transitional works.

Through analyses of selected paintings, it is possible to explore features of Matisse's use of color. These features fall into general periods. In the transitional paintings from 1906 to 1908, aspects which will be developed later begin to appear. The works from 1908 to 1911 illustrate solutions to the problem of maintaining a flat decorative surface pattern while at the same time alluding to "real" volumes in space. In the paintings from 1911 to 1912, two new approaches to this problem are evident. Although in the paintings from 1912 to 1916 Matisse's use of color is suppressed, in the work of 1916 and 1917 black and brown are included as part of the brilliant surface of interrelated hues.

Transitional works of 1906 and 1907

In certain paintings from 1906 and 1907 Matisse begins to use color as a means for organizing the surface of the canvas. A change
in his use of color may be seen in a comparison between the Young Sailor I\textsuperscript{1} of 1906 and The Young Sailor II\textsuperscript{2} (plate III) of the same year. The figure and the ground of Sailor I are painted with lightly brushed pastel hues similar to those in the background of the Woman with a Hat\textsuperscript{3} (plate II). And, these hues model the figure with a chiaroscuro of lighter and darker hues. In Sailor II the sailor is flatly colored with hues which stand out against the pale pink ground. The figure seems to be a cut-out on a pink wall. The yellow ocre face and hands and the light pink shoe provide the only transition into the ground. The seated figure is flattened through the use of forms which emphasize the two dimensional picture plane. These forms are a schematic chair with only two legs and no seat, and a chair back belonging to another chair.

On the other hand, the colors in Sailor II are divided into two value planes, the light ground and the dark figure. The decorative surface is enhanced by the graceful lines of the figure, and the canvas is as devoid of spatial illusion as wallpaper. The color relationships provide contrasts of hue, but they are not dynamic contrasts. There is no unique brilliance. The colored shapes unite the picture into one decorative surface, unlike Sailor I in which color is used to suggest volumes of a three dimensional environment.

The color relationships in the Pink Onions\textsuperscript{4} of 1906 (plate IV) are not limited to the simultaneous contrast of complementary colors. Rather, brilliant areas are established by adjacent hues which are not limited to complementaries. For example, the blue pattern on
the pitcher and the black vase next to the pink onion are dynamic juxtapositions which are as brilliant as the red-orange onion adjacent to its green stem, indicating a complementary contrast. The complements divide the color wheel into a third rather than a half. The slightly off "complementaries" and the use of both black and white in dynamic juxtapositions indicates forthcoming relationships of three hues.

In the *Pink Onions*, the ground and the still life are united in a two dimensional pattern by the parenthetical repetition of line and color shapes around the white pitcher. The green area in the background is repeated by the green onion tops, by the lines which indicate the edges of onion tops and onions, and by lines indicating the sides of the pitcher. These curved lines are counterbalanced by the vertical lines of the straight onion top, the vases, the patterns on the pitcher, and the smaller onion tops. Like the tension created between the circular and the straight patterns, there is also a tension between two perspective systems. The diagonal line of the table edge suggests a one point perspective. But the objects on the table do not appear in a one point perspective. They are in a "ladder" perspective; a perspective system in which the viewer climbs a ladder the height of the back wall and sees each object full face. The use of a ladder perspective is not exclusive to Matisse; it may be found in Byzantine mosaics, as well as in paintings by Beckman. However, the way Matisse incorporates it into paintings which suggest space through the use of two systems of perspective is unique. By having
two perspective systems space is de-emphasized, and the lines indicating spatial recession appear as an important part of the two dimensional pattern. Thus, the illusory space and the lines of the decorative color shapes are integrated on a two dimensional surface. Yet the color dynamics are developed only as bright spots and do not emit an even brilliance. For this reason, color dynamics do not aid in the integration of the picture surface.

The *Brook With Aloes*\(^7\) of 1907 (plate V) alludes to perspectival depth while maintaining an integrated flat surface pattern. The color organization is the essential factor in unifying the flat pattern and the illusory environment. It is based on what appears to be a balance of secondary colors; the sienna-orange earth, the green grass, and the violet specks in the foreground. But these secondary colors are sprinkled with cobalt blue plants and sky. Thus, when all the hues are considered, the balance is destroyed. The blue unites in one plane the sky in the background and the plants in the foreground. The dynamic "120 degree angle juxtaposition" appears in the adjacent hues of the cobalt blue sky, the orange-sienna earth, and the earth green tree. However, this use of three dynamically related hues is not consistent throughout the picture. The hues appear to be on the same brilliant plane and to decrease in contrast of intensity and value. This effect is accomplished by the loosely brushed earth tones which have a greater light reflecting surface. The effect of the decrease in contrast may be illustrated by a black and white reproduction in which the blue sky is not discernable from
the sienna earth. The hues do not unite the illusory and decorative element through a brilliancy afforded by dynamic color relationships. However, the hues do appear to be on the same tonal plane (i.e., of similar value and intensity), and in this way emphasize the two dimensional plane. Also, the repetition of the same blue in the background and in the foreground aids in resolving the illusory and the decorative into one surface pattern.

The *Blue Nude* of 1907 (plate VI) is also composed of secondary colors to which blue has been added. The flesh and orange-sienna hues of the nude figure are balanced by the green and violet hues of the foliage in the background. These colors roughly establish the "120 degree angle." However, they are not in juxtaposition; the figure is separated from the background by the blue foreground. As in the *Brook With Aloes*, the figure and the ground are united on one plane by the blue. The canvas is further unified by linear rhythms which occur in the figure and are repeated in the ground.

Although in certain works of 1906 and 1907 color is used extensively, it is only partially developed as an organizing dynamic agent. However, premonitions of the "120 degree angle" relationship characteristic of works from 1908 can be seen. Also, color is used with other compositional elements to unify the two dimensional picture plane. And earth tones are applied so that they appear to be of the same value and intensity as the other hues.
The Paintings of 1908, 1909, and 1910

The works from 1908 through 1910 give evidence of a consistent effort to develop decorative surface patterns which at the same time allude to volumes in space. In Matisse's earlier attempts, the illusion of tactile forms in space is accomplished by perspectival devices like those seen in the Pink Onions of 1906; such as, the receding diagonal line of the table, and the highlights on the onions. Similar devices are used in the Sculpture and Persian Vase of 1908 in which the recession is defined by diagonals into space, such as those of the table; and little emphasis is placed on the decorative plane.

Again in the Still Life in Venetian Red, of the same year, the allusion of space is achieved by the diagonal edges of the tablecloth. Yet in this painting, equal emphasis is placed on the surface pattern. The frame is too small for the tablecloth and its objects, the head of the figurine and the corners of the tablecloth are cut off. And the back of the cloth is tilted up, pushing the three dimensional objects to the surface. But it is not until the Harmony in Red of 1908 that the integration of three dimensional volumes and decorative patterns is achieved through the use of color as a dynamic agent in conjunction with other compositional devices.

The two dimensional pattern of the Harmony in Red is integrated through a brilliant surface of interrelated hues as well as through a pattern of balanced shapes. These hues allude to an environmental
three dimensional space as well as creating a two dimensional space through their dynamic relationships. For example, the greens and blues in the window infer an aerial perspective. Similarly, the lines in the composition essential to the composition of the two dimensional plane also imply a three dimensional space, as may be seen by the three diagonal lines suggesting a recession into an illusory space, the edges of the chair seat, the window frame, and the edge of the table. However, these allusions to a "real" space are quite different from those in the earlier Dinner Table of 1896. In the Harmony the unity of the two dimensional space, afforded by related hues, is of primary importance. Although the greens and blues of the window suggest spatial recession, because they are as brilliant as the "warm" hues, they appear on the same plane. The window could be a painting on the wall. Also, lines of the composition, although they hint at a possible recession, have a main function of emphasizing the decorative surface. These diagonal lines indicating a recession are parallel and do not have alternate converging lines which might meet at a vanishing point. Rather, these lines firmly establish a rhythmic pattern across the picture. On the other hand, the pictorial space of the Dinner Table is primarily an illusory space created by a use of color and line such as that seen in the color gradations and diverging lines of the still life and table.

Whereas, in the Harmony an illusory space could only be fully developed if the colors of the table were of a lower value so that the objects would appear as solid forms on top of the table and if
the canvas were five inches longer on the left so that the vanishing point would be within the picture frame creating a stage-like box.

The colors of the Harmony are not of full strength. That is, they are not applied straight from the tube with the exception of the primary and secondary hues of the fruit dish. They are hues which might appear dull as independent colors, but they appear bright through their relationships. They are subtle earth browns, blue blacks, and pinkish reds. Blue patterns appear on the red ground. They consist of the blue brown of the women, the window, and the scroll motif of the wallpaper. Yellow together with tiny spots of primary and secondary hues are the colors of the fruit. Brown, ocre, and yellow appear in the window frame and the chair. The colors are off shades of yellow brown, blue-green, and a strange pinkish red. They are combined hues which are neither one nor the other but a scrumbled layer of one on top of the other. Thus, they may be seen as either ocre or sienna.

The color juxtapositions are those of the "120 degree angle." They are yellow and blue, green and violet, blue and red, red and yellow and orange and green. All are discordant relationships and have not been extended to include a third hue but are still limited to two adjacent hues.

There is one exception: the hues of the window frame and wallpaper motif are united by the color of the wall. They form a triad of adjacent hues at the "120 degree angle," blue-green, orange-brown, united by alizarine pink.

The "red" of the wall as the central hue of the three hue juxtapositions provides a subtle transition between color ares of
two hues. For example, the alizarine pink room unites the areas of orange-brown window frame and blue-green window with the blue wallpaper motif forming the triangular juxtaposition of orange-brown, alizarine pink and blue. The painting is, in effect, a harmony made possible by red.

The Still Life with the Dance of 1910 emphasizes the decorative surface and, like the Harmony in Red, also alludes to volumes. Yet, it presents a more complex compositional problem. The two dimensional surface is composed of shapes which alternate between patterned areas and areas of solid colors. These areas do not correspond with receding and projecting forms in space. The cloth in the foreground and the receding floor are solid pink, and the tablecloth in the foreground and the picture in the background are patterned areas. In fact, a patterned background area is complemented by a patterned foreground area, and a solid background area is complemented by a solid foreground area, in contrast to the Harmony in Red in which the solid area of the red room corresponds to the receding background.

Other compositional devices aid in integrating the two dimensional and the three dimensional. The corner of the table projects into the room, and we are carried into the picture by the pink cloth by the nearer edge of the table. The boxes also suggest recession by showing both pairs of the diverging line of a two point perspective. These forms creating a perspective recession also contribute to the two dimensional decorative plane as part of the design of alternating
solid and patterned areas. Through the predominance of this alternating design, the areas which indicate projecting or receding shapes in a "real" world are linked tightly together on a two dimensional plane.

The color juxtapositions of the Still Life With the Dance are not the dynamic ones of the "120 degree angle." The painting is dependent on relationships between colored shapes and patterns for its integrity rather than on dynamic relationships between hues.

Another problem related to that of integrating volumes and patterns is that of how to place a figure which appears solid in a spatial environment while retaining the primacy of the picture surface. In the Girl With a Black Cat of 1910 (plate VII), although the figure is frontal, it does not appear merely as a flat cut-out like the figure in Sailor II (plate III). Rather, the color relationships in this painting create a dynamic two dimensional surface. The color area of the blue, pink, and black figure and the area of the red and green background are united on one surface by the green highlights on the face. The highlights adjacent to the pink face repeat the simultaneous contrast of the ground emphasizing the fact that the figure and the ground are on the same plane. And the highlights together with other devices such as the receding line of the chair seat also emphasize the volumetric quality of the figure. She is a volume in space as well as part of the two dimensional surface.

The Bather of 1909, a study for the compositions The Dance and Music of 1910, brings the problem of the figure in space to a
simple solution through the use of color. The hues of the composition are three: brick red hair, yellow ocre-pink flesh, and blue ground with lighter blue areas around the legs. These light blue areas, leading from the frame into the picture, provide the only diagonal recession into an illusory space. The two dimensional space is integrated by the dynamic juxtapositions of the three hues at the "120 degree angle": yellow-ocre pink, cobalt blue, and brick red. In fact, the freely drawn black contour line is the only color area which is not part of this dynamic relationship. But as a calligraphic pattern imposed on the colored areas, it further emphasizes the two dimensional surface.

Although there is an indication of a recession into space, the primary emphasis is on the dynamics of the two dimensional plane.

The figure is a volume in a "real" environment, as indicated by the receding lines of the blue shapes around the legs; but it is primarily a color area in a two dimensional plane.

The color relationships of The Dance\textsuperscript{18} and Music\textsuperscript{19} are the same as those of the Bather. In both canvases the figures are placed on a two dimensional plane integrated by dynamic juxtapositions of hues. The only illusion of an environmental space is created by the "cold" blue-green ground of the two paintings which could indicate a use of aerial perspective. However, the ground is brought to the same plane with the warmer hues by its dynamic juxtapositions. The three hues, as in the Bather, are scumbled sea green grass, rich ultra-marine sky, and deep salmon pink figures. The only difference in the colors
of the two paintings is the color of the contour lines. In the Music the figures are etched in a black pencil-thin line; whereas, in The Dance the figures are brushed in a brown line which appears as part of the salmon colored figures.

The tight contour line of the figures in Music isolate the figures whose arms and legs are drawn tightly against their bodies. On the other hand, the contour line of the figures of The Dance, in keeping with the movement of the dancers, relates them to each other. Also, as part of the dynamic surface of related hues, in contrast to the line of the musicians which is super-imposed on the color area.

The musicians and the dancers are figures on a brilliant surface created by three colors of the "120 degree angle." The arrangement of the figures changes with the change in subject matter from the counterpunctual march of the musicians to the frenzied circling of the dancers.

The musicians are isolated individuals while the dancers are participating in a group. However, both musicians and dancers are in an irreal two dimensional space, and this irreality is further emphasized by a "ladder" perspective seen in earlier works such as the Pink Onions (plate IV).

It is apparent that in certain works from 1908 through 1910, unique solutions to the problem of the integration of decorative surfaces and volumes occur. This integration is accomplished in the Harmony in Red through an innovation in dynamic color relationships.

By using adjacent colors of the "120 degree angle," an even brilliance
is afforded. All of the receding and projecting color areas are brought to the same brilliant surface. In the Still Life With the Dance, although color is not used as a dynamic agent, another solution is apparent. By alternating patterned and solid colored areas, receding and projecting forms are united in a highly decorative two dimensional pattern. The figure paintings of this period present different solutions to the problem. The figure is placed in a dynamic two dimensional space where only vestiges of an illusory space can be found.

The Paintings of 1911

During the year 1911 Matisse continued to develop solutions to the old problem of real "form" indicated in an environment and sustained on a two dimensional picture plane. Comparing the Goldfish and Sculpture22 of 1911 (plate VII), now in New York, with the Still Life with Goldfish23 of the same year (plate IX), in the Moscow Museum, different solutions are apparent. Both canvases have scumbled surfaces. In both the perspective is approximately consistent with one vanishing point, although the New York Goldfish is seen from the front and the Moscow Goldfish from above. And in both perspective is de-emphasized; in the New York Goldfish by the lack of a pair of diverging lines and in the Moscow Goldfish by the table top which is seen from above pushing the objects to the surface. Here the analogous qualities end.

The colors of the New York Goldfish are of equal brilliance. The fish bowl, the vase and the dish, and part of a painting on the
wall are a blue-green, a color created by the scrumbling of green on blue, which appears blue next to the green leaves and green next to the blue room, joining them in one sea blue-green color. It is the common color which unites the other hues in juxtapositions of three. And these juxtapositions are those of the "120 degree angle": red, sea blue-green and earth green; ocre, sea blue-green and red.

In contrast to the New York Goldfish, the color dynamics of the Moscow Goldfish are focused in the dynamic area of red-orange fish and blue-green water, a simultaneous contrast of complementaries. Around this bright spot yellow ocre and violet may be seen in the table.

The green leaves which spread over the hues of the table, bowl, and fish do not act as part of a three hue (yellow ocre, green, violet) contrast. Because the leaves are the wrong shade of green, they are part of a patterned network which covers the surface. And this network appears as a light-colored pattern superimposed on a dark background. That is, the hues are on two planes, a light projecting plane and a dark receding plane.

The colors of the New York Goldfish create an even brilliance over the surface while the colors of the Moscow Goldfish organize the two dimension surface in terms of a light-dark contrast with a bright focal area. These two approaches to color composition occur in two major canvases of 1911, the Blue Window24 (plate X) and the Red Studio.25

The Blue Window barely indicates three dimensional forms in an illusory space. The studio seen through the window appears smaller
in scale than the objects on the dresser, and the trees outside overlap slightly and could indicate a spatial recession. There is a highlight applied lightly on the vase alluding to roundness. However, the forms are flattened out and pasted on the picture surface. The table top is a light blue rectangle. Lines which might indicate a recession, those of the base of the statue, are slightly divergent. And the darker blue mat under the flower vase is also in a reverse perspective. The trees appear as flat cut-outs, and the pincushion is also a cut-out without enough body to hold its pins. The pin tray is a yellow circle, and the lamp sits on a topless box. The box is a square rather than a cube. The studio outside is a child-like house, its side and front are both plainly visible.

The organization of the picture surface is classically precise. The vertical and horizontal lines of the dresser and the window establish a grid. The vertical lines are repeated in the tree trunks. And the objects on the dresser pick up the rhythmic march of verticals across the surface. Also, the colors are repeated in rhythmical sequences: the yellow pincushion, pin dish, studio, statue and pin tray; the green jar, flower vase, and lampshade echoed in the green scrumblings out of the window; and, the red flowers, scrambled cloud, and box edge complete the procession of alternating hues.

The colors in the Blue Window no longer have flat evenly pigmented surfaces as in the Harmony in Red. Rather, they are modulated as seen in the green superimposed on blue areas, the pink cloud dry brushed over the blue sky, green flecks brushed over the yellow
pincushion, green strokes scratched on the lampshade, and highlights applied lightly on the statue. The areas of modulated blue vary according to the adjacent hue. For example, the light blue next to the pink cloud and the darker blue next to the red flowers. Although the hues are isolated by the blue, the unity of the picture plane is dependent on the blue. It appears that the different blues in the juxtapositions vary according to the hue needed for an over-all dynamic surface.

The equal brilliance of all the hues is made apparent by the fact that the color which would be most intense, the red of the two flowers, appears no brighter than the other colors. The adjacent hues at the "120 degree angle" are yellow ocre, blue green, and cadmium red. The only color not adjacent to the blue is the earth-purple box. It is adjacent to the red border which in turn is adjacent to the blue dresser. To illustrate the mutual dependence for brilliance of adjacent hues of the "120 degree angle," it is only necessary to block out the red borders of the purple box, and the purple will recede into obscurity. The black pin heads on the yellow cushion and the black tree trunks adjacent to the blue foliage are of the same brilliance as the chromatic hues. (A similar use of black occurs later in the works of 1916 and 1917 in which black appears in larger quantity.)

The Red Studio was done in the same year as the Blue Window. A spatial recession is indicated by pencil thin diagonal lines or edges of shapes, and by the diminishing sizes of the objects. But the vanishing points for these lines tend to be higher up the further
back in the room they are. The canvas propped in the corner and the
studio wall have a vanishing point outside of the picture, while the
point for the table is on a line with the top of the grandfather
clock. The chair seat has two vanishing points, one divergent and the
other convergent. The converging lines meet at a point outside of
the picture on the right directly opposite the far end of the table.
Again, what appears to be most logical in terms of an illusory space
has been denied. There remains only an allusion to a perspectival
recession.

The colors are isolated in a brick red field as the colors of
the Blue Window are isolated in a blue field. But unlike the Blue
Window, the color shapes are not stabilized by a compositional grid.
They are scattered around the edges of a bare red floor. When the
objects indicated by these color shapes are seen with the thinly
etched diagonal lines they appear in a spatial environment. But if
the viewer steps back, the lines are gone. When the lines are con­
sidered, the viewer is led into an illusory space by the table top.
Without the lines, the objects appear as flat shapes on a two dimen­
sional surface. However, the random sprinkling of these forms on
the surface forces the viewer to place them in a recessional box-space
in order to organize them psychologically. It is the continual
shifting between the flat surface pattern and the three dimensional
space that gives the Red Studio its unique dynamics.

The color of the Red Studio is organized on two planes, the
light shapes against the red field. There is one dynamic color area
composed of several hues: the green ivy adjacent to the black vase. The brightness of these juxtapositions may be attributed to the simultaneous contrast of a hue with black. The even brilliance of this dynamic spot may be illustrated by a black and white reproduction in which the black vase and the green ivy tend to merge into one glowing area contrasted with the red ground. Also, the other white shapes appear as light areas on a contrasting dark ground.

In the Blue Window, the surface is structured with classical control and its dynamics may be attributed to dynamic color relationships. Whereas, in the Red Studio its dynamics are achieved by an ambivalent reading between the two dimensional and the three dimensional.

The paintings of 1911 show two different approaches to a unity of the picture plane through color. Examples are found in the Blue Window and the Red Studio. In the Window colors are related by the "120 degree angle" with a single hue (blue) always providing the third hue. In the Red Studio, colors are related by a simultaneous contrast of two adjacent hues, white objects on a red field.

In the winters of 1911-1912 and 1912-1913, Matisse made trips to Morocco. In the landscapes painted during these years color is fully exploited. Barr has said that in the Moroccan Garden of 1912, "... almost no bright hues are used but the sumptuous glow of the color is perhaps unsurpassed in Matisse's entire work." In this oil painting, the pigments are loosely scrumbled resembling watercolors and the surface reflects light with the brilliance of a
watercolor. Matisse obtained in this canvas maximum brilliance from earth tones. Premonitions have been seen in earlier pictures, e.g., *Brook* with *pines* of 1907. But, unlike the earlier painting, the earth tones of the *Moroccan Garden* are produced by loosely brushed layers of different colored pigments. Both colors of the dynamic color relationships seen are: grey-black in the clouds adjacent to the pink of the sky and the blue of the foliage, the violet of the flowers and the green of the leaves adjacent to the blue of the foliage, the yellow ocre of the earth adjacent to the blue foliage together with the burnt sienna of a tree trunk. These relationships are those of the "120 degree angle." The blue of the foliage provides the third hue in each of the three-hue juxtapositions. The "sumptuous glow" of the entire canvas is made possible through the scumbled surfaces and color relationships.

The *Moroccan Garden* is composed of decorative arabesques which are stabilized by the vertical lines of the tree trunks. Overlapping planes together with the diminishing sizes of objects allude to a real world environment. The flowing lines and color shapes are in contrast to the strict control of the *Blue Window*. However, like the *Window*, the color relationships of the *Garden* are united by a single blue hue. Unlike the *Window*, the hues are not taken straight from the tube, but are loosely brushed mixtures of earth tones. Also, the use of black as a part of the dynamic surface first seen in the *Blue Window* is used more extensively in the *Garden*. The large section of black obtains a maximum intensity through the use of scumbled pigmentation.
The use of color in the landscapes of the Moroccan trips, such as the Moroccan Garden, is an extension of the method used in 1911 and seen in the Blue Window. Compositionally the Moroccan canvases are more freely conceived in contrast to the austere classicism of the earlier canvases, but the dynamic color relationships of the Moroccan Garden are identical with those of the Blue Window.  

After the landscapes of the second Moroccan trip, Matisse returned to a generally somber palette. For this reason, the work of 1912 to 1916 will not be considered as part of the development of his use of color. In general, the paintings show Matisse's continued interest in the surface pattern of a painting and the representation of volumes in space. Both aspects of this experimentation are at the expense of his color. Examples are found in the portraits of Madame Matisse of 1913 (plate XI) and Yvonne Landsberg of 1914. Matisse's interest in figure which appears to be part of a two dimensional, as well as a three dimensional, space is evident. The decorative lines emphasizing the two dimensional plane around Yvonne Landsberg are explained by Matisse as "lines of construction which I put in around the figure in such a way as to give it greater amplitude in space."  

Also, evidence of this experimentation can be seen in paintings of still lifes. The painting of 1915 called The Still Life With Lemons Which Correspond in Their Forms to a Drawing of a Black Vase upon the Wall is a good example. The three dimensional lemons are made to appear as two dimensional objects through the repetition of the shapes seen in the drawing.
The Paintings of 1916 and 1917

In 1916 and 1917, Matisse renewed his interest in color while working in Paris and Issy-les-Moulineaux. The most significant development in his color is the use of black color sections which are equal in size to those of the other hues.

Variation on a Still Life by de Heem is dated either 1915, 1916, or 1917. The verticality seen in this painting had been dominate in Matisse's paintings since late 1912 and 1913. But in the Still Life, Matisse employed other devices of analytical cubism; such as sharp angles, transparent planes, and passage (the blending of one plane into another), in a unique integration of color. By comparing a black and white reproduction of the Still Life with a Braque still life of 1910 or 1911, it is evident that Matisse had successfully adopted the cubist's method for placing the objects in reference to a three dimensional reality while at the same time organizing them on the picture plane.

The colors of the Still Life are those which Matisse had used in earlier paintings such as the Harmony in Red; they are ocre, cadmium red, and sea green, with the important addition of large black and grey areas. The black areas appear to radiate a light of their own; for example, the black vertical line down the center and the black area behind the red mandolin. In this painting, Matisse used two value planes of color, one dark and one light. The hues all appear luminous; the light greens, red, and ocre are contrasted with the dark black affording the brilliance of a simultaneous contrast of hues with black.
In the Moroccans of 1916 (plate XII), the composition is divided into three parts. These parts are linked by an interlocking black. In this painting the black is of a similar value as the violet, green, ocre, and blue. The forms have been abstracted and flattened on the surface, and black has become part of a one value surface pattern. Matisse remarked that he was using black as a "color of light." Black in this painting has become brilliant. As part of the low value surface pattern it is in juxtaposition with small sections of high value hues, such as cadmium red and white; again a simultaneous contrast.

In the Moroccans, Matisse has emphasized the two dimensional picture surface by using abstracted forms. These shapes have been abstracted to the extent that their real world reference has been almost eliminated. For this reason, the black need not be read in reference to a spatial recession, but rather, it enhances the abstract surface pattern. In the Moroccans black is part of a one tone surface pattern which as a whole is contrasted with the lighter hues. In the Still Life black is the only dark of the two value contrast.

In the Piano Lesson of 1916 or 1917 (plate XIII), grey appears as a luminous hue. The black grill of the music stand like the grey is on the dynamic plane with the other colors. This is accomplished by the network of black lines allowing for the grey to show through; hence, a simultaneous contrast occurs. The only solid black area is between the alizarine pink piano top and the almost white blue vertical strip, the same juxtaposition as in the Moroccans. The
chromatic hues are divided into two areas of complementary contrasts, blue and orange, and green and pink. The white figure in the background and the brown statue in the corner are of a lower value and intensity, perhaps to solve the problem of what to do with the corners. The only vestige of three hues related by the "120 degree angle" is around the candlestick. The candlestick can be either green or yellow. Adjacent to the pink and black it appears more green, and adjacent to the blue-grey and black it appears more yellow. Johannes Itten, in his analysis of this picture, makes this statement about the ambivalent hue of the candlestick, "Chromatically, it is an augmentation of the green into yellow-green." The yellow-green of the candlestick is the middle hue of the "120 degree angle juxtaposition." This is perhaps the first glimmering of Matisse's use of black and grey in juxtaposition with adjacent hues of the "120 degree angle." That is, black is used so that it has the same potential range of dynamic relationships as any other hue.

The Table of Rose Marble of 1916 or 1917 is as classically controlled as the Blue Window. A raw umber ground, green ivy, and a dusty pink table with a black wicker basket are perfectly balanced; the weight of the off center table leg is countered by the basket. The irregular shape of the table controls the ground without making awkward "pie-shapes" in the corners. The table top is tilted up and becomes part of the two dimensional surface pattern. Because of visual cues such as ground and trees, the table is easily placed in a "real" environment.
The color of the table is somewhere between yellow ocre, cadmium orange, and alizarine crimson pink. The surface is loosely brushed over with a bright white-blue-grey. At the bottom where there is less grey on the pink, the ivy becomes an earth green, providing a transition from umber ground to pink table. The leaves on the table are leaf green. The color juxtapositions are those of the "120 degree angle," ocre-grey-pink next to green and ocre-grey-pink next to dark brown.

In the Table the dark brown is used as a fully brilliant color without the help of a scrambled surface. In the Piano Lesson, black is used as a color of the "120 degree angle." In both, the hues received their color status in juxtaposition to Matisse's other color relationships. Unlike the black in the Moroccans or in the Still Life After de Heem the dark hues of the Piano Lesson or the Table do not appear as the low value of a simultaneous contrast.

In conclusion, the paintings of 1916 and 1917 show Matisse's experiments with the possibilities of using a dark hue as a dynamic color. During this period Matisse used black as a color in two ways: one, as the darker color in a contrast between two values, as seen in the Variations on a Still Life by de Heem or in the Moroccans; and second, as an interrelated color of the same brilliance as the other colors, as seen in the Piano Lesson. Here Matisse has used the small area of black on the piano as part of a three hue relationship without abstracting forms to the extent of destroying the real world reference. And in the Rose Marble Table Matisse has developed a predominately
brown canvas in terms of his related hues. In summation of this last period of Matisse's early color development, it may be said that he was experimenting with dark colors and their potential as fully brilliant hues.
Notes to Chapter III

1. Young Sailor I (Le jeune marin, I), Norway, art dealer.


3. Woman With a Hat (Femme au chapeau; Madame Matisse), San Francisco, Mr. and Mrs. Walter A. Haas, frontpiece, Alfred H. Barr Jr., Matisse His Art and His Public (New York: The Museum of Modern Art, 1958).

4. Pink Onions (Les oignons roses), Copenhagen, Statens Museum for Kunst, J. Rump Collection; colorplate, Barr, ibid., p. 76.


7. Brook With Aloes, Houston, Mr. and Mrs. John de Menil Collection.

8. Blue Nude (Le nu blue-souvenir de Biskra), Baltimore Museum of Art, Cone Collection.

9. Sculpture and Persian Vase (Sculpture et vase persan), Oslo, National Gallery.


11. Harmony in Red (La chambre rouge; La dessert-harmonic rouge), Moscow, Museum of Modern Western Art; colorplate 4, Crespelle, op. cit.

12. The Dinner Table (La dessert), Hollywood, Mr. and Mrs. Edward G. Robinson Collection; colorplate, Art News Annual, XXIV (1953), 40; in the La dessert of 1908 Matisse repeated the theme used in the La dessert of 1896. The two paintings show two different conceptions of the theme.

14. The painting was begun in Paris in the Spring of 1908 as the Harmony in Blue and repainted in 1909 as the Harmony in Red.

15. Still Life with the Dance (Nature morte a "la danse"), Moscow, Museum of Modern Western Art; colorplate 7, Crespelle, op. cit.

16. Girl with a Black Cat (Marguerite Matisse: Jeune Fille au Chat), (collection unknown).


19. Music (La musique), 8' 5 5/8" x 12' 9 1/2", ibid., p. 248.

20. Matisse said,

"...these three colors gave me my luminous accord, as well as purity of tint. It should be noticed that the forms are modified according to the reactions of the adjacent colors. For the expression proceeds from the colored surface grasped by the spectator in its entirety..." George Duthuit, The Fauvists Painters (New York: Wittenborn Schultz, Inc., 1950), p. 58, quoting Matisse; San Lazzaro refers to an incident which occurred when he was making a reproduction of the painting Music. "When Matisse painted the canvas he had 'waited for a certain blue' the "middle hue" needed by the harmony of the picture to be specially prepared for him by a German factor of chemical products. And he wanted me to use the very blue he had used in painting the picture for a reproduction." (Gualtieri di San Lazzaro, Painting in France trans. Baptista Gilliat-Smith and Bernard Wall (London: Harwell Press, 1949), p. 45).

21. Music and The Dance were commissioned in 1909 by Sergei Shchukin as decorations for the stairwell of his house. They are the first large paintings which Matisse did explicitly as decorations. Their unique simplicity of color and form and their emphasis on the two dimensional plane may be attributed, in part, to the fact that they were intended from the beginning as large "murals."

22. Goldfish and Sculpture (Poissons rouges), New York, Mr. and Mrs. John Hay Whitney Collection; colorplate, Barr, op. cit., p. 164.


25. Red Studio \((\text{L'atelier rouge}; \text{Le panneau rouge})\), \textit{ibid.}, p. 163.

26. Matisse said in retrospect about his Moroccan landscapes,

\begin{quote}
'The voyages to Morocco helped me accomplish this transition \textit{from Fauvism} and make contact with nature again better than did the application of a lively but somewhat limited theory, Fauvism.'
\end{quote}

(E. Tériade, "Matisse Speaks," \textit{Art News Annual}, XXI (1952), 143, quoting Matisse.)


29. Zervos has said,

\begin{quote}
Sans cette toile les fruits et tous les autres objets sont fondés dans l'harmonie colorée de l'ensemble.
\end{quote}


30. Madame Matisse, Moscow, Museum of Modern Western Art.


33. The Still Life With Lemons Which Correspond in Their Form to a Drawing of a Black Vase Upon the Wall \((\text{Nature morte de Citrons dont les formes correspondent à celles d'un vase noir dessiné sur le mur})\) --H. M.; Still Life With Bowl and Book; reproduced in Barr, \textit{op. cit.}, p. 397.

34. In 1916 and 1917 Matisse painted two types of pictures; one type shows his concentration on creating an illusory space, the other, on the decorative picture surface. Since these types occur simultaneously it is difficult to date the works of 1916 and 1917. For example, Mme. Matisse, herself, cannot remember which of the
paintings, the more naturalistic Music Lesson or the more schematic Piano Lesson, was painted first. (Barr, op. cit., p. 193).

35. Variations on a Still Life by de Heem (Nature morte d'après de Heem), Chicago, Mr. and Mrs. Samuel A. Marx Collection; colorplate, Barr, op. cit., p. 170.

36. Moroccans (Les Marocains); colorplate, ibid., p. 172.

37. Ibid., p. 173.

38. Piano Lesson (La lecon de piano), New York, Museum of Modern Art; colorplate, ibid., p. 175.


40. The Table of Rose Marble (La table de marbre rose); colorplate (?), Diehl, op. cit.
CONCLUSION

Like his contemporaries, Matisse was interested in color as a pictorial element apart from emotional associations or symbolic connotations. He was aware of the special luminous effect of certain hues in juxtaposition. Because he was not limited by laws based on scientific studies, from 1908 he was able to consider the entire picture surface as a possibility for dynamically related hues. The brilliance of the works from 1908 becomes apparent when contrasted with earlier works in which the bright areas were isolated in a "grey" field. To do this Matisse had to break away from the pre-conceived idea that a dynamic relationship was limited to exactly complementary colors.

Matisse included a third color in his dynamic juxtapositions. By including this color of medium value, he brought the "grey" of the ground onto the brilliant surface. Since this hue was of an ambivalent nature, it provided the link between one "120 degree angle" juxtaposition and the next. Thus, the entire surface was activated.

Matisse used interrelated hues so that shapes of different values and intensities became intertwined in a luminous surface. The concentration of Matisse's experimentation with this special use of color is between 1908 and 1917. During this period he explored different aspects of this use of color as an integrated element which provided a brilliant picture surface.
This study raises questions for further investigation. Perhaps the most significant problem would be an investigation of the principles of perception which explain the phenomenon of the "brilliant surface" which is beyond the normal intensity of any single hue. Another related investigation would be the development of a vocabulary which would adequately describe the functions of the "middle color." This would lead to the development of a practical theory based on Matisse's method of expanding the dynamic area. Also, further investigation of the work done after 1917 might reveal a systematic use of the methods explored in the different experiments seen in the 1908-1917 period.
ILLUSTRATIONS
PLATE IX
PLATE X
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