1. AN ANALYSIS OF THE WORK OF ART

"What is it?" or "What is it about?" we hear people asking in the picture galleries. No matter how "advanced" our views, the subject matter of a painting or a piece of sculpture always in some measure engages our attention, even though it is only slightly suggested. In fact, too often it is with the recognition of the subject matter that our consideration of the work stops. Although to stop there would be regrettable, the question "What is it?" is not necessarily an impertinent one, since the recognition of objects and incidents is usually an important ingredient in the artistic experience. Much history of art is concerned with the reclarification of subject matter that has become obscure with time. But such an understanding remains only one ingredient; it is not sufficient in itself to characterize the particular quality of a work of art. If it were, a verbal description could be the exact equivalent of a painting. Clearly there are other forces in action, affecting our experience and contributing to the specific meaning of the work. These forces are visual and belong appropriately to the visual arts. But how can the visual aspect of a painting in itself have meaning? This is the basic question for discussion in this chapter.

To keep from confusing what we normally call the subject matter of a work—the identifiable objects, incidents, or suggested outside experiences that we recognize—with the more complete aspect, taking as it were, the part for the whole, it might be useful to adopt the term "expressive content" to describe that unique fusion of subject matter and specific visual form which characterizes the particular work of art. "Subject matter," then, would be the objects and incidents represented; "expressive content" would refer to the combined effect of subject mat-
ter and visual form. This rather complicated relationship might become clearer were we to compare two paintings of precisely the same subject matter, even nominally of the same arrangement, which yet provide very different experiences; two paintings which have, in other words, the same subject matter but very different expressive contents.

"The Crucifixion with Saints" (Plate I), painted by the Italian artist Perugino late in the fifteenth century, presents a subject that is hardly new to us. The very mention of the title is sufficient to evoke many feelings based on past representations we have seen or on general attitudes toward the event itself. But Perugino's painting does not simply pose a subject to which can be attached any number of different emotional connotations; it would seem to quell the possible anguish and effects of suffering which might be associated with the scene and to establish a serenity and calm, a complete relaxation of the emotional and physical forces which might be expected to operate in connection with such a subject. Perugino has at once presented a subject and a statement about it. He has made us feel in a particular way about the Crucifixion, in a way we may not before have considered. Instead of being just the repetition of a familiar subject, the painting becomes, then, the basis of a new experience. Since the particular character of this new experience seems not to be the inevitable product of the subject, it behooves us, if we wish to discuss the peculiar power of the painting, to discover on what it depends: what produces the effect of calm, of limpid clarity, an atmosphere in which contemplation takes the place of physical violence. For this we must look to the visual forms of the painting itself.

So instantaneously does a painting seem to produce its effect that it is difficult to separate the steps by which the effect is achieved, and it must be admitted that such a separation is an arbitrary one. Nonetheless, it may lead us past the simple level of subject-matter identification to the particular character we associate with this painting, a character inseparable from our visual experience.

To begin on quite a literal level, this painting shows us, in a landscape that seems to extend at measured pace directly into depth, two figures standing on either side of the Cross upon which is fixed the figure of Christ. The vista seems calm, progressing through the repetition of gently curved horizontal lines suggesting a series of planes which overlap and repeat each other. In contrast, the compact, vertical forms of the figures seem somewhat isolated. We look from the figure of St. John on the right, to Christ, to the Virgin, and back again, and yet have little feeling that these persons could make physical contact with one another. Each part of the painting, landscape as well as figures, seems to take its place in a fixed harmony, and a sense of stately measure results.

But before considering this relationship further, study for a moment the color environment of which these forms are part. The number of hues employed in the work is small and the eye quickly accepts the simplicity of their relationship. It would be difficult to say whether the painting seems warm or cool in tone, tending toward red or toward blue. The hues of blue and yellow appear to be almost equal in quantity, although the yellow is far less vivid than it appears in the solar spectrum: it is low in saturation, to use a term defined in chapter ii. As a kind of intermediate color there is a bit of green which, containing both yellow and blue, serves as a buffer between them. But of far greater power in holding our attention than this intermediary green is the vivid red robe of the right figure, St. John. Because of the nature of the hue and its high saturation, it seems equal in importance to the blue and yellow. Red, blue, and yellow, subtly modulated in value but distinct and uncomplicated as hues, achieve in the painting a kind of equilibrium. Both the distinctness of the hues and the effect of balance may be understood by studying the chart on page 70, which illustrates the fact that these colors, called primaries, contain no part of each other and as a group represent a balance of the entire spectrum. That colors provoke a direct emotional response we constantly bear witness to in everyday speech: we see red, feel blue, and speak of a dark character. Had Perugino caused his red to dominate over the other hues so that it might seem to characterize the entire atmosphere—and a very warm atmosphere it would seem—our reaction to the painting would be
very different. Instead there is an equilibrium of hues just as there is a marked clarity in the distinction of one hue from another, and this equilibrium and clarity are part of our experience of the painting.

Color, however, does more than simply characterize generally the emotional climate of the work. The hues occur in different relationships, sometimes red next to yellow, sometimes red next to blue, and in the background there is a kind of sequence ranging from yellow through green into blue. These relationships are made more complex and varied, by the modification of the hues in light and dark, that is, in value, and in saturation. Note, for example, the difference in blue between the sky, the tunic of St. John, and the robe of the Virgin. Cover for a moment the red robe of St. John with a piece of dark paper. Not only is the key of the painting basically changed, but the figures no longer bear the same relation to each other. Instead of our eye's going first to the figure of St. John and then rising to the figure of Christ, we seize at once upon the figure of Christ which pushes forward, losing all contact with the lower part of the painting. This is not just a compositional variation but a dramatic change in the way we feel about the painting, in its expressive content. Further, note the distribution of blue and yellow. The blue of the sky is carried through the lower portion of the painting in the tunic of St. John, in which it is slightly changed, and in the robe of the Virgin, in which it is very low in value and saturation. The yellow follows a more complex scheme. In the landscape it is broken up into contrasting areas of light and dark that become less marked as the yellow fuses with the green to merge imperceptibly into the blue. But this complexity prepares us for the dramatic appearance above of Christ, in whose body the yellow is freed to contrast simply and eloquently with the rival blue.

From this kind of study we might draw some general conclusions. Our eye tends to relate similar colors. Further, strong contrasts, whether of hue or of value, tend to attract our attention immediately, while gradual changes seem to lead us progressively from one step to the next. In this way our eye seems to move about the painting from color to color, from points of greater to points of lesser contrast or through marked sequences, following a pattern which may vary with regard to point of origin or concentration but not in expressive character.

The nature of this pattern, sensed as we shift our attention from one part of the painting to another, should be considered with care since, as in our gestures,

much feeling can be conveyed in the experience of movement. As we noted, our attention unites chiefly three points: the figures of the Virgin and St. John and the figure of Christ. Were we to diagram this relationship it might look like this:

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\text{Figure of Christ} \quad \text{Virgin} \quad \text{St. John} \]

How tremendously extended the vertical movement seems. While the Cross divides the painting into halves that are about equal in their attraction of color and contrast, affording the measured effect of symmetry, the vertical movement is so insistent that we cannot linger for any time on the horizontals of the landscape which cut across the painting and attempt to lure us plane by plane into depth. Yet these horizontals, especially the starkly defined bar of the Cross with the help of the contrasting inscription above the head of Christ, hold the vertical movement in check so that again we sense equilibrium rather than a dynamic continuity of force. The importance to this aspect of the organization the tiny inscription assumes by virtue of its value-contrast and shape can be tested by covering it with a piece of dark paper. That so much should depend on so small an element is indicative of the delicacy of balance which distinguishes this painting, a delicacy encouraging us to compare part with part and enjoy the justness of proportion. To a large extent, the relationships we have just observed are dependent on our perception of line, that is, the continuity of direction. Each figure seems to contain within itself a vertical line contrasting with the horizontal line of landscape and other elements. Moreover, diagonal lines, implied by our shift in attention rather than being explicit in any form, seem to go from the head of St. John to that of Christ, then down to Mary to become a part of a great elongated diamond shape completed by the suggestion of the two wedges at the foot of the Cross. It would be meaningless to point out such a shape except that
in this case its symmetry gives new reason for the sense of stability and balance we derive from the painting.

Our consciousness of a particular proportion, a sense of measure, which determines our movement through the large structural lines of the painting is dependent on a great many factors. For example, consider the shape of the painting as a whole. It is considerably taller than it is broad, though not so tall as to minimize completely the measurement of width. This is important, since the framing shape qualifies the effect of every form created within it. Suppose the construction lines remained the same but were contained within a different format:

Each of these schemes would be quite possible, but the effect of the pictures, their expressive content, would be very different. Scale also plays its part. We quickly take as a module, as a kind of measure, some identifiable object or simply a strongly marked form, and judge the rest of the space in comparison with it. Not only are we brought close to or left far from the subject, but we can feel ourselves lost in a vast expanse or painfully crowded in a confining space.

But to characterize the painting simply through its precise adjustment of vertical and horizontal structural lines within the determined format would be to ignore much of its particular effect. Although the figure of St. John may count roughly as a vertical movement with regard to the whole, it embodies in its contours and implied interior lines rhythmic movements that not only give character to the figure but bring it into a harmony with other forms in the picture. In the very simplest terms these might be seen as flattened, drawn-out curves which in themselves seem to produce the effect of slow, co-ordinated movement. Note how similar lines, sometimes depending on contrasting contours, sometimes seeming to be within the forms as a core, characterize also the figure of Christ. Since our eye is quick to relate like things, we sense the figures as existing together in a rhythmical harmony even though the figures do not lose their compactness as entities nor seem in themselves to move. Nor are these rhythms confined to the figures. Examine the trees—for example the entwining branches of the one delicately silhouetted on the right which move in quiet undulation—the long smooth curve of the road and bridge, the repeated arcs of the hills, all of which have a similarity of character, and you will see how far-reaching is the harmony that pervades this particular pictorial world.

We have made only a rudimentary beginning in analyzing in pictorial terms our experience of this picture, and of course we should not stop without studying the relationship of this panel to the two side panels that complement it (see Fig. 1). This painting is, in fact, the central portion of a three-panel altar piece, a triptych. The artist has had the problem of designing three compositions which are self-contained yet which join with each other to form a single whole. The complete work is reproduced in Figure 1. Note how the side panels modify and intensify various aspects we have mentioned of the central painting. It is well
to remember that a composition can be affected by forms outside itself, that two paintings viewed together, for example, may take on a different aspect than when viewed separately.

But before we complete this study it might be useful to test our assumptions and our procedure thus far by looking at another painting of exactly the same subject as our central panel.

Plate II reproduces another “Crucifixion,” painted by the Italian artist Carlo Crivelli, also late in the fifteenth century. The subject matter is identical with Perugino’s painting: Christ is shown on the Cross between St. John and the Virgin; the rocky landscape, the towered building, and the sea in the background are all familiar to us. Only the symbolic skull at the foot of the Cross has been added. But how different is our response to the painting. Here is no rest, no calm or contemplation. Instead we take upon ourselves the anguish and physical hurt which seem to motivate the actions of the figures. And nowhere is there escape, no point on which our attention can fix itself to bring order to our excited emotions. Yet the raw structure of the painting is the same as in the Perugino: two figures and the crucified Christ arranged traditionally in symmetrical fashion. On what, then, does this tremendous difference depend?

We have used the term color environment or color key, and much of the effect of clarity and balance in the Perugino depended on it. What is the color key of this? It is difficult even to name the colors used. For one thing, hues seem to combine with one another in many areas, as in the background that seems to modulate from yellow to green and yellow to red, or in Mary’s cape where the blue emerges in places with green and elsewhere itself moves toward red. As a result we are less conscious of defined color shapes than in the other painting. Furthermore, the hues are hard to describe; they seem to be “in-between” hues: the cloak of St. John is not quite violet yet not quite red. Characteristic of its intermediate nature, each hue is mixed with at least one other hue in the painting. Again in the cloak of St. John, even the red-violet is reduced in saturation with yellow to bring it into accord with the green and yellow of his other garments; only the white, unrivaled by vivid, saturated hues, makes a sharp contrast. While no hue dominates this painting any more than it did the work of Perugino, there is not the effect of a color equilibrium existing between well-defined entities. Rather there is the impression of slightly distinguishable color notes rising above a general tone. Both the nature of the hues themselves and the fact that almost all are used in low saturation contribute to this effect of a somber and minor harmony.

There is no one strong color note here to start the action as in the Perugino, nor one sharp value-contrast. In fact, value-contrasts of almost equal attraction are dispersed throughout so that our eye seems to move quickly and constantly over the entire painting. Unlike the other work, where details are massed and there are large restful, unbroken areas, the whole surface is broken up by the scattered knotty clouds (note how they are organized in the Perugino), the sharply contrasting plants, and the harshly defined stones—an agitated surface which enters into the excitement of the moment. Yet within this general environment there is a positive path of movement that can be roughly suggested in a pattern of lines. There are many differences between this pattern and the one we experience in the other painting of like subject. For one thing, a single line of motion may move through both figure and landscape, uniting the two in a continuously moving design. The rocks themselves twist and bend in anguish with St. John. The landscape does not proceed plane by plane into depth but seems upended by the road, which is less inclined to retreat into the distance than to enter into the swirling pattern of the picture plane, that is, the plane represented by the panel itself.

But the action that has created this pattern is more than continuous; it is rapid and violent. What produces this effect in a painting in which the figures themselves seem hardly to move? One clue comes from a study of the lines and shapes that build up the very forms of the objects. Take again as example the
figure of St. John. The vertical structure-line of the figure has little meaning with regard to the effect of the whole, because the diagonal lines of his cloak are so strong that they destroy all possible sense of a vertical compact mass. And consider the nature of the lines themselves. Every curve is flattened and broken so that the line seems to struggle to reach its destination. Furthermore, if we isolate the line of the cloak, we see that far from suggesting the balanced arc of a circle, it seems rather like the lash of a whip. And this eccentric line is repeated throughout, in the robe of the Virgin, in the rocks, and even in the body of Christ. How contrasting with this is our scheme of the St. John of Perugino. The lines of the Perugino seem to wrap themselves together into a smooth-planed volume, while those of the Crivelli disperse into the air, denying any sense of discrete volumetric form.

There is another source of this effect—the particular use of light and dark. We noted that the distribution of color and contrasts of light and dark throughout the painting was of a very different character from that of Perugino’s work. Now note how the light and shade on the figures relate to the character of this general light and dark. In the cloak of St. John by Perugino each fold has its light side and its dark, and the transition between the extremes of value is clearly defined and orderly. As a result we sense each fold as a continuous surface that we could follow with our hand as if touching a piece of smooth marble sculpture. In the Crivelli, however, each shadow is complicated with a further variety of light and shade, and the larger patterns are broken into smaller and yet smaller designs. The surface is far too complex to invite the stroke of our hand but, defying exact definition, seems to be in continuous action.

Carried away by the furious movements and knotty rhythms which, together with the strange minor color harmony, seem to characterize this painting, we have overlooked an important factor that is primary in any work of art: the proportional relationship of parts. In the first place, what is the nature of the format? Compared to the Perugino, this painting in its arched frame seems broad to the point of squatness, an effect intensified by the fact that the ground plane, the plane upon which the figures seem to stand, is elevated through the suggestion of the clifflike break in the foreground. A similar proportion of width to height pervades the Cross itself, which does not loom above us as does the slender, graceful Cross of Perugino, but remains transfixed, massive and solid, in the center of the painting. Even the plaque above the head of Christ conforms to this different proportional scheme. Nowhere do we have the contrast between length and width which contributes much to the grace and delicacy of the Perugino; the length measurements seem less long, the widths less narrow. In consequence we are more conscious of the surface than we are of the direction implied by the shape. And we have seen how important that surface is in creating the effect of the Crivelli.

A similar proportional feeling dominates both the relationship between figure and figure and between the parts of the figures themselves. Consider, for example, the area St. John inhabits marked off clearly as a rectangle by the arms of the Cross. In the Perugino, the shape is almost three and one-half times as high as it is broad, and the slim vertical figure of St. John occupies only the lower half. We
see, then, the solid form against a vast expanse of void which in itself contributes to our feeling. But in the Crivelli the shape is only a little more than twice as high as it is broad, and the figure of St. John, much larger in scale and irregular in contour, is placed close to the center. Here we do not sense the relationship between void and solid, nor do we experience the attenuated vertical movement of the Perugino. And look at the figures themselves. Even the bodily proportions contribute. The head of Perugino’s St. John relates to his height in the ratio of \(1:8\frac{1}{2}\), again a marked contrast in proportion between small and large. In Crivelli’s St. John the relationship is \(1:7\), something less than average human proportion. This would suggest that in a work of art the proportions of nature are subservient to the expressive relationships on which the artistic content depends. Proportion, like line and color, is determined in a work not by an external standard but by the expressive part it plays.

In the foregoing paragraphs we have discussed many features that seem inseparable from our experience of these two very different paintings; yet, although we have been able to distinguish the two experiences, we have not come very close to defining the qualities which make the paintings unique and compelling works of art. Even if we were to continue to analyze in this or in some other way for many more pages, some quality would still elude us. Some of us might be discouraged at this lack of finality; some might feel that, if a sure conclusion cannot be reached, the analysis is not worth pursuing. We should remind ourselves that the very capacity of an effective work to elude definition gives it power to live in our experience. And the analysis serves to broaden our experience by refining our perception of the individual work, leading us toward the definition of quality that can be completed only within the depths of our personal understanding.

In describing the difference in effect, in expressive pictorial content, of these two paintings, we have used a number of terms to describe the material elements which seemed inseparable from our experience: color, both as establishing a general key and as setting up a relationship of parts; line, both as creating a sense of structure and as embodying movement and character; light and dark, which created expressive forms and patterns at the same time it suggested the character of volumes through light and shade; the sense of volume itself and what might be called mass as contrasted with space; and the concept of plane, which was necessary in discussing the organization of space, both in depth and in a two-dimensional pattern. Towering over all these individual elements was the way they were put together, the composition, how part related to part and to the whole: composition not as an arbitrary scheme of organization but as a dominant contributor to the expressive content of the painting. It should be pointed out that had we chosen other paintings, these and other elements would, of course, be used quite differently, and we might have reacted quite differently to them. In this respect, each painting must be regarded as a new experience, and the analysis of its particular formal aspect simply as a means of characterizing its full expressive content.

Are these terms and procedures applicable also to experiences of other visual arts? Reproduced in Figure 2 is a photograph of a work created by the French sculptor Auguste Rodin in the 1860’s. Try to look beyond the artificial photographic frame and see it as an actually existing object. The figure seems to struggle up into space, reaching out into the surrounding world. It is a melancholy struggle, a struggle of longing, which we sense as our own. As in the paint-
ings, this movement can be described in terms of lines which we apprehend as underlying the forms, lines which seem to cross each other in space, twisting about in such a way as to make us particularly aware of their actual three-di-


dimensional existence. But this movement is not one great uninterrupted sweep; it does not free us to expand airily into space. Nor does it seem the movement of smoothly interacting muscles as in a gymnastic exercise. In fact, the sense of struggle seems to arise in part from the effort of the implied interior movement to free itself from the complex mass of material. This complexity, which keeps our attention somehow tied within the figure, we can describe with the help of some of the terms we have used before.

Note what part light and dark play. The polished surface is constantly interrupted by sharp ridges which catch the light, contrasting markedly with the shadowed concavities. These lights and darks become in themselves lines and shapes of broken, agitated character with much the same rhythm as the varied and undulating lines of contour. Because of this activity of contour and surface we have little sense of compact, defined volumes. Instead we move in and out through the forms, for all these ridges and contours, although they do not necessarily relate to specific anatomical features, seem to originate well within the mass.

Contrast these effects with those produced by the sculpture by Max Bill (Fig. 3). To be sure, we do not have a human figure in motion, but can the feeling of movement be resisted any more than our eye can fail to pursue the flowing lines of a streamlined car? There is no sense of struggle in this movement. Our attention is drawn swiftly through space, projected boldly into void, only to be brought back to recognize a pattern of equilibrium, delicately but surely established. And nothing conflicts with this action. Instead, every element speeds it on its way. The sequential gradations of light and dark on the smoothly polished surface create a sense of continuity of plane consistent with the fluid rhythms of the contours. The function of plane, which in a sense is the extension in breadth of the element we have called line, is important. Because of its continuity we see the various movements as modulations of a single surface: expansion and variety within a readily perceived unity. The plane contributes, moreover, along with the design of the path of movement itself, to another quality of the work quite different from the Rodin. Note the spaces between the planes, between the solid forms. They form shapes sympathetic in character to the rhythms we have spoken of. But more than shapes they suggest volumes bounded by the planes and as expressive as the planes themselves. Yet it is characteristic of these volumes that, as we move around the work, they defy exact definition although they hold our attention within the balanced form. Our attention does not remain entangled with the solid members as in the Rodin but moves instead between related solids and voids. The consciousness of space, so differently displayed in these two works, might in some respects be considered related to such compositional means as we have already studied in the paintings. Although a work of sculpture is not usually contained within a frame, we are often made aware of an encompassing volume in which it seems to exist and which gives particular meaning to both solids and voids. Sometimes this volume seems defined and enclosed like a rigid block; in other works, as suggested by the Rodin, it is indefinite and expanding yet nonetheless present.

Rodin called his sculpture “The Prodigal Son.”” When we know the title our feelings about the work are rather confirmed than changed. It was not necessary, moreover, to know it to experience the emotional content, any more than it was necessary to examine the expression on the man’s face. Max Bill called his work simply “Tripartite Unity” without attempting to define the ramifications which that unity and particular sense of equilibrium might have in our experience.

A word should be said about color, which plays its part in sculpture as well as in painting. The sculpture of Rodin is in bronze of a warm dark tone; that of Bill has the cold silvery glint of chrome-nickel steel. These colors are not a matter of chance but, like the materials themselves, were considered as expressive elements in the creation of the work. Try to imagine the hues of the two sculptures reversed. Our entire reaction would change: the Bill would probably seem heavy and plodding, while the Rodin would glitter superficially and the important depth and warmth of the surface shadows would be lost.

Consider now views of two country houses (Figs. 4 and 5): the Villa Capra by Andrea Palladio and the John Pew House by Frank Lloyd Wright. They were built in different climates some four hundred years apart and give evidence of different social attitudes, different approaches to construction, and many other causal factors. But our immediate interest is to discover how we can describe the great difference in our experience of the two buildings as they exist immediately before us.

It is tempting to say that one is very formal while the other is casual and in-
formal, but on what does such a distinction depend? Each, after all, was designed with deliberation and forethought. The fact that both buildings are composed chiefly in terms of planes arranged in parallel or at right angles to each other seems almost too obvious to mention; yet note the proportions of these planes. Most of those in the house by Wright are very long and narrow and create a strong horizontal direction of movement. In those of Palladio’s villa the two dimensions are more nearly equal; our attention is somewhat stabilized between the horizontal and the vertical; we are more conscious of the defined surface than of the direction the plane implies. And notice that in both buildings these proportional tendencies are seen also in smaller parts like windows and doors. It is impossible also to overlook the part played by light and dark in making some of these shapes more important, more attractive, than others. This leads us to the fact that these distinctions in proportion do not take us very far unless we consider the experience of moving from part to part or from part to the whole: in other words, the character of the composition.

To clarify the differences of these organizations of planes as they appear in our views of the buildings, we might make simple diagrams. It is at once suggested that the formal dignity of Palladio’s villa is dependent not only on the self-contained shapes but on their participation in a scheme of strict symmetry in which every part bears a fixed and readily perceptible relationship to every other part. A vertical axis is suggested in the very center of the façade to which all parts seem to make reference, repeating on either side exactly the same shapes and forms. Not only this, but the planes seem to be only the foreparts of simple cubic volumes which unite around a clearly defined axis in the center of the building. An examination of the scheme underlying the plan bears out this consistency of order.

The organization of the Wright house is, however, much more difficult to define. The horizontal movement is continued throughout by the overlapping planes; yet somehow these expanding parts are held together in a unified whole. There is no simple geometric shape to bound the assembled forms—in fact it is difficult to conceive of the profile of the house by itself—but somewhere within the life of these moving forms we recognize a center that seems to unify them. This is made the more complicated by the fact that these planes seem to relate also to volumes which in turn bound other volumes, as for example the deep space between the overhanging eaves and the balcony. Consequently our “center” seems to lie within the complex of these interlocking volumes. But much as in the Bill sculpture, this center of order can be experienced through the interplay of forms yet cannot be specifically defined. Our eye continues to move and search, seeking to experience to the utmost the elusive order existing within constant change. In Palladio the pleasure derives not from a sense of expansion and
change but in the justness of the harmonies and the completeness of the order in which we are invited to participate.

Compare the plans of the two buildings with the façades and you will see that there is an internal relationship that would strongly affect our experience while walking around or through the spaces of the buildings. But the special nature of such experience will be discussed later. Here we must catch up two important elements we have neglected: texture and color. They are most assertive in the house by Wright. Not only does the color of the rough stones make a pleasing contrast with the unpainted wood and unite happily with the rustic landscape, but, confined largely to areas which are vertical and supporting, the contrasting stones make more prominent the smooth horizontal planes that, moving freely into space, contribute most to the character of the building. The nature of this rich variety which demands our attention contributes much to the effect of informal intimacy we first noted in the building. Equally important to the effect of clarity and measure characteristic of the Palladian villa are the uniform coloring, broken only by the confined areas of light-and-dark pattern, and the smooth surfaces of the well-defined planes. The nicety of the regular and ordered composition depends on this polished smoothness.

Our terms and our method have proved useful in describing the experience of a variety of works ranging widely in time, in medium, and in character. In discussing the architecture both planes and textures seemed more significant than in the paintings; but had we chosen other examples, the relative importance of these elements might have been quite changed. The rough and smooth textures of paint are often of primary importance as, for example, in many paintings of Rembrandt; whereas linear continuity sometimes dominates our attention in looking at a building. But in all these works meaning became apparent only when these varied elements were brought together and considered in terms of the total experience. The various sketches throughout the text, while they may suggest the characteristics of parts, could never stand for the work itself, which, once we enter into it, seems in its complexity constantly to offer something new, some new relationship, some refinement of experience we overlooked on our first view.

2. COLOR AND PERSPECTIVE

COLOR TERMINOLOGY
In expressing our ideas about a work of art the description of color often presents a particularly difficult problem. Whereas forms can be measured and proportional schemes mathematically described, the complex nature of color is such as to encourage vague generalities and loosely comparative statements. Often these statements reveal, moreover, that color has been taken too readily for granted, simply as a handily descriptive aspect of things. All this is unfortunate, since, as we have seen, color can play a decisive role in the experience of a work of art. As a help both to sharpen our awareness of the experience and to describe it with some clarity, a well-defined color terminology is important.

Over the past two centuries we have learned much about the sensation of color, about the physical principles underlying its production, color mixture, the relativity of color perception under changing lights and in different situations, etc. With greater knowledge, the use of color and its description have constantly changed. In the practice and theory of art, various sets of terms, agreeing generally in meaning, have been devised to describe what have come to be regarded as the three basic properties of color. Although the validity of the terms depends on their interrelationship, the sets have often been confusingly combined and scrambled, encouraging the very sort of vagueness they were devised to prevent. For clarity it is important that one set of terms be carefully defined and then used consistently.

In this book we have adopted the terms hue, saturation, and value to describe these three basic properties. Although such terms will not provide the attractive
overtones of popular labels such as “peach,” “sky blue,” or “flame,” they offer the advantage of far greater specificity in distinguishing between one color or group of colors and another. Just what variety and how mature a specimen of fruit are we to take as the standard for that often referred to as the color “peach”?

Hue can be described as the property which gives color its name—blue, blue-green, red, etc.—the name, that is, by which it is distinguished from other colors in the visible spectrum. Neither white nor black nor the gradations between them have the property of hue; since white is the total reflection of all potential hues, while black, in theory, reflects none at all. For the sensation of hue it is necessary

for some of the elements in what we normally look upon as “white” light (the elements that we can distinguish when a ray of sunlight is broken up by a prism) to be absorbed while others are reflected. The sensation of red, for example, is produced by the reflection of the red element in the spectrum and the relative absorption of all others.

For convenience of terminology the hues of the visible spectrum are often diagrammed in a circle. The basis of the arrangement are the three colors that can be said to represent the entire spectrum because, as a group, they reflect all elements of the spectrum and from them, in theory, all other colors can be derived. In the mixing of pigments these three primary colors are red, yellow, and blue. They are basic in the sense that none of them can be mixed, and no one contains elements of another. Between the primary colors on the circle are placed the secondary colors: orange, green, and violet, being mixtures, as their position indicates, of the adjacent hues. An indefinite number of intermediate hues also could be added, describable as yellow-green, red-orange, etc.

Three or more separate colors, however, are not necessary in order for the entire spectrum to be represented. For example, since violet is a combination of red and blue, it lacks only yellow for the completion of the spectrum (if we think of the spectrum in terms of our primaries). Yellow is called, therefore, the complement of violet. The diagram emphasizes this relationship by placing complementary colors directly opposite each other at the extremities of the diameter of the circle.

In pigments, complementary colors mixed together will cancel each other out, creating a neutral tone of gray or black. For example, since red, in theory, represents the absorption of all hues other than red and green represents the reflection only of blue, green, and yellow and the absorption of all red, in a mixture of the two all hues would be absorbed and there would be none left to reflect. The result would thus be a neutral gray or black. The following diagrams illustrate this.

In the first, which represents white, all hues are reflected equally. In the diagrams representing red and green the shaded portions indicate the elements absorbed. If the latter two diagrams are superimposed, it becomes clear that there are no elements remaining to reflect.

It has been necessary to qualify many of the statements made above by saying “in theory” because, while this is a useful way of thinking about color, it remains theoretical since absolutely pure hues do not exist in artists’ pigments. What we call a red pigment may contain some yellow or some blue that will affect its mixture with another. For example, if a red that contains some yellow is mixed with a greenish blue, i.e., a blue which also contains some yellow, the result will not be pure violet but, because of the existence of a substantial quantity of the third primary, yellow, will be a color considerably reduced toward neutrality. Rather than trusting to labels, the artist must consider each pigment in terms of its actual color properties.
One last parenthetical note should be added for those interested in the complexity of the problem. The mixture of colored light works on quite a different principle from that of pigment. As one hue is added to another the result moves toward white, complete reflection, rather than toward black, complete absorption. The mixture of complements in light, therefore, results in a “whole” light containing the entire spectrum. But it must be borne in mind that the primary hues of light are differently designated, being variations of red, green, and blue. Light complements, then, are different from those of pigments.

*Saturation* refers to the relative purity of hues in comparison to their appearance in the spectrum. If the color seems to be the reflection in its most vivid form of the spectrum hue, it is said to be of *high saturation*. If, on the other hand, the quality of hue can scarcely be distinguished—if the color, that is, is nearly neutral—it is said to be of *low saturation*.

*Value* is a term for describing the relative lightness or darkness of a color. White represents the highest value, black the lowest. But every hue may be lightened almost to white or darkened almost to black, that is, *raised* or *lowered* in value.

All hues are not, at their highest saturation, of the same value. Yellow, for example, is much closer to white—higher in value—than is violet. If this characteristic value of a color is changed, the hue loses some of its vividness: it is lowered in saturation. If a full-saturation yellow, for example, were either lightened or darkened—moved closer either to white or to black—it would be less vividly yellow; its saturation would be lower. It is, in fact, impossible to change the value of a color without in some way altering its saturation.

But altering the value is not the only way in which saturation can be changed. It is possible, for example, for a red to become less and less red—more nearly neutral—without becoming lighter or darker or changing its hue (moving toward orange or violet). It might simply move closer to gray. Thus a change in saturation may or may not be independent of a change in value.

The relationship between these two properties can be simply diagramed as on page 72. The value scale is represented by the vertical dimension, the saturation scale by the horizontal. The hue at its full saturation is located opposite the appropriate value on the value scale: red would be about halfway, yellow much closer to the top. A horizontal line drawn between the hue and its related value of gray represents the complete span of the saturation scale, from complete saturation to neutrality. Note that this range does not take the color either up toward white or down toward black on the value scale. But if the hue is moved toward white or toward black, raised or lowered in value, the diagonal line clearly demonstrates that it must change its position also on the horizontal scale of saturation.

**Perspective and the Experience of Depth in Painting**

Possibly because a consideration of depth, the most elusive spatial dimension, is in itself fascinating, the achievement of spatial effects in painting has often been accorded more respectful awe than it merits. Actually it is difficult to draw as few as three lines within a given frame without in some measure suggesting depth. The fact that an artist has created an effect of depth in a painting is far less important than what he has been able to make us feel about the depth. Technical systems and spatial schemes are significant to the artist only in so far as they help him to embody his meaning in the form.

There is a great variety in the spatial structure of paintings. Some paintings are created in such a way as to suggest a completely unified space seen at one time from a fixed point of view. Some others suggest space by shifting our attention from one area to the next without reference to one fixed point, providing a kind of accumulative experience involving time. It would be a thoughtless error to criticize the effect of one procedure by the rules of another.
During the fourteenth century many European painters, as their paintings indicate, shared a desire to discover a principle by which a painting could be organized to suggest a single unified space. Only in the fifteenth century, however, were the rules set down for the strict systems creating what we know as perspective. Interestingly, these rules were once looked upon as serving less the creation of illusion than the articulation of natural harmonic laws of perception. Perspective for many early painters, in other words, had a content of its own.

Traditionally there are two related systems of perspective: linear perspective, which is based on the relative diminution in the apparent size of objects as they are located at greater distance from the viewing point; and aerial perspective, which is based on the apparent change in color and distinctness of objects viewed at a distance.

Although complicated geometrical schemes have been devised for linear perspective, the general principle is simple. It depends principally on two conditions: the level of our eye when viewing a scene or object, which determines the "horizon," and our distance from the object. Note how the difference in eye level can change the effect of a composition.

These diagrams illustrate a basic law of perspective, that parallel lines which lie in the same plane will seem to converge at a point on the horizon (at the eye level). This point is called the vanishing point. This is true whether we look into a space, such as a room, or at an object placed at an angle, such as a building seen from the corner.

Our distance from an object seen at an angle determines where the vanishing points lie on the horizon.

The vanishing point often exerts a kind of pull in a composition, constituting a positive force in the pictorial design even when it lies outside of the frame of the painting. Thus in its own right, perspective can create a very active or a tranquil space, supporting an effect of equilibrium or establishing a tension of unrest.

The general principles of perspective do not bind the painter by hard and fast rules but, like all other elements of potential expressiveness, are subject to the pictorial idea of the artist. Consider how different, for example, travel between the two blocks of buildings would seem in the diagrams. In the first diagram all objects are related to a single view point. We see the space all at one time, viewing the foreground against the receding background. In the second, however, where our view point is divided, we seem equally present in the distance and in the foreground; we travel constantly between the two, seeing each from its own view point. To see this second drawing as a simple spatial unity would be difficult because we tend intuitively to concentrate on one area at a time.
This shift in viewpoint is both an old and a new device. At times it can be quite dramatic. Note how different these two city squares appear. In the diagram at the right, while the square itself is seen from a high eye level, the arch is viewed from a position close to its base. The arch assumes, in consequence, a greater importance and a very different character.

In these pairs of examples it is not a matter of one being correct and another incorrect. As we have said, perspective is a tool of the artist to be used as he sees fit. It is only when some forms intrude as inconsistent with the evident content of the work that the technical device can be said to err.