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# Chapter 3: Aspects of ancient and modern understanding of color

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# III.

# ASPECTS OF ANCIENT AND MODERN UNDERSTANDING OF COLOR

## THE EVOLUTIONARY ASPECT OF COLORS

The Four Elements theory can be the starting point for understanding how Greek painting, and for that matter all Greek art, took form. First a generalization: space divides easily into four parts, e.g., the cardinal directions, whereas time lends itself into division by three, e.g., past, present and future. But in the special case of the four elements as primary components of the planetary organism, an evolutionary sequence, that is, a time factor, is implicitly spread out in space. This sequence corresponds to the major stages of cosmic evolution, whether one is thinking on the exoteric level of modern science or on the modern esoteric level of anthroposophy. This latter level is more closely parallel to the thinking of the Greeks.

Just as fire, air, water and earth are notations for four dynamic processes, so they also suggest—in that order—an approximate picture of the origin of the universe, that is, from warmth—even if one insists on this as a kind of primal energy which, by means of a "big bang", released a tremendous heat—cooling down into gases, condensing into liquids and finally partially solidifying. To this order of events correspond the colors of two phases of the physicality series (Illustration 12 B-D): air and earth, provided one thinks of the color sequence referred to in terms of visual density: white, yellow, red, black. Two directions of thought connect with this observation and must now be pursued. First, has the assignment of the four canonical colors to the four elements any scientific validity in regard to earth origins? Second, what did the Greeks themselves think about the idea of an evolution of the elements?

The first question is complicated and would require specialized scientific knowledge that I do not have (even with this it might not be answerable). Nevertheless, the following circumstance is noteworthy. In the Antikenmuseum in Berlin there is a large wall display of 100 small rectangles, each a sample (Figure 2, Figure 3) of a different kind of marble that occurs within the confines of the Roman Empire, thus

documenting marbles of a relatively large portion of the earth of which the locus of ancient Greek culture is a part.[1] Looking at the display, one can sense how quintessential the four colors are, for with hardly any exception all the samples show white-yellow-red-black alone or in wonderfully patterned mixtures. These fragments from the earth's body retain, as in a pictorial atlas, information about the interweaving mixtures (as in Empedokles' *krasis*) of the four elements during the formation of the present physical earth. Surely the four basic processes express themselves in these colors and even the few exceptions in the display are blackish with a greenish tinge. Black and yellow in certain quantities can result in a dull green. Obviously not everything about the mineral realm needs to be explained in this way but the basic phenomenon remains.

The second question: the speculation of the early Greek philosophers took place amidst unquestioning acceptance of divine guidance of world and man.[2] Thus, they could hardly have hit upon Darwinian conceptions. In fact, because Presocratic thought had mired itself in the problem of One and Many, Empedokles saw himself obliged to deny the four elements any development at all.[3] But that did not stop him from proclaiming a cyclical sequence of processes; if the postulations made so far in this study are valid, this will at the same time implicate also *a progressive dominance of the four colors* assignable to the four processes. And, indeed, a Greek conception of a four-stage development (or at least unfolding) of human consciousness is at the very least as old as Hesiod's Four (Five) Ages. The sequential quality of these was in effect also as far as the individual human being was concerned, who as an organism had to go through the Four Ages of Man. The four-stage idea was particularly developed in the fifth century, as we have seen, and Empedokles' Four Elements theory appears *malgré lui* to be an example of evolutionism with the label "cyclical". Practical work with classifying Greek artistic creativity has, moreover, produced a four-stage framework: the scholarly guild accepts that Greek culture went through four great stages of consciousness: Geometric, Archaic, Classical, Hellenistic. In dealing with the theoretical background of this periodicity (see Introduction, paragraph 10) I discovered that the macrocosmic series is better suited to illuminate the sense of changes in the figural canon (sculpture). The microcosmic series seems better to elucidate the experience of composing scenes in color (including black and white). For the painter must constantly confront the ambiguous non-material tensions of his medium—in contrast to the sculptor who has a definite physical form before his eyes.

Summary: my answers to the two problems posed at the beginning of this chapter are necessarily hypothetical; for the questions derive fully from our modern consciousness which is literally saturated with the idea of evolution in a physical-material sense. So my suggestion that a possible periodicity of colors might be taken into account in studies of the physical evolution of the planet is at worst harmless and at best perhaps useful. It may be noted that sondage photographs from outer space are offered to the public in color.

In regard to the second question: since the concept of physical evolution of our universe and its denizens was not invented, or at least legitimated, until the 19th century, the ancient Greeks could not have had views on this. Nevertheless, in their mythology a spiritual evolution of the universe is implied in stories of Chaos and generations of the

gods—with whom human beings became deeply involved. The final descent of men from that sphere into full earth consciousness after the Age of Heroes has been vividly re-imagined by Roberto Calasso. The four elements qua divine beings naturally cannot be excluded from this evolution of consciousness; but it must be emphasized that an intellectual awareness of physical qualities in the elements was only gradually being activated by the Presocratic philosophers, physicality being perhaps more important to some than to others. In any case, since most of them were looking for a single element to explain world-structure—and this had to be in the most theoretical sense as they were not given to observation based on experiment—it would be too much to expect that anything remotely like our ideas of physical evolution could have occurred to them. Only Empedokles put the four elements together in a sequence and he was committed to the concept of their cyclical behavior—as well as of their quasi-divine nature.

## COLOR USAGE AND MICROCOSMIC PERIODICITY

The foregoing discussion was intended to illustrate on the basis of a specific concept: evolution, how difficult it is for us to stand back from the current cosmology of a non-rhythmical sequence of physical happenings, so as to empathize with the Greek conception of rhythmically recurring states guided cosmically (by the Four Elements as divinities). In that light let us now examine the attitudes of the vase painters—taking particular note of Attic ones—of the Protogeometric-Geometric age. They seemed to be fascinated with black as an overall coloration, and this in turn pulled them toward a confrontation of dark with light (Figure 4, Figure 5); it is as if they needed to impress upon their consciousness from several sides the density of earth substance. How could they have known that this would be the starting point for an unparalleled development lasting almost a millennium! At any rate their preference for black (just as in Homer there is little consciousness of chromatic colors) is in harmony with the first principal element: earth of the psychological and moral/mental series (Illustration 13 E). When toward the end of this age they took up figural representation, they employed silhouettes (Figure 6) and thus paid attention to the perhaps most irreducible aspect of having a body: the ability, the necessity, to cast a shadow, to cut off light by one's mass. Thus they experienced the mineral realm, the substance of earth, from yet another aspect. This procedure, however groping at times, involved—again inescapably—some consideration of *illuminated* air, which alone makes the shadow-casting figure perceptible to the eye. To represent this, painters were pleased to rely on the basically buff/brown ground color or at times yellow slip which was a consistent part of the long tradition[4] in their land, and this is in effect the microcosmic color for air *at that stage* (Illustration 13 E). This color is typical for most ceramic schools, continuing into the Archaic period. In the general dark-light contrast that resulted, the contour line, to clarify the "shadow" figure, arose naturally and became a tradition. The interest in figures that began in earnest about 800 B.C. must have hastened the already existing experimentation with dark-light aesthetics.

If "Geometric" style is the beginning of Greek "art", then one must grant that aesthetic considerations, with selective use of pre-existent traditions, shaped the development.

In the next great time-block, the Archaic period, artists sought to achieve a better understanding of what existed *inside* the contour line, that is, the whole aqueous system of living beings. The need to consider the inner reaches defined by the contours was felt by both sculptors and painters at this time and both began by making incisions on the surface of the figure—Protocorinthian painters thereby inventing the blackfigure style (Figure 7). This device, of course, was not enough in either medium. The sculptor could and did go to in-depth modelling of the shape, whereas painters continued and refined a device already hinted at in some later Geometric painting, namely, the buff or yellow "atmosphere". Additionally they began filling up the borders to the frieze with disembodied elements of the natural sphere most typical of watery systems, that is, plants and flowers (Figure 8). This gives the inner—one might almost say literally the digestive—source of the liveliness of the figures through "filling ornaments". Obviously, that conventional expression is rather barren if it only expresses a notion that these artists were obsessed by a need to "fill space": we can give space here a meaning much more precise (atmosphere) than the abstraction generally meant by that word (perhaps necessarily so) in the modern mind. Some added white on figures or flower motifs at this time provided contrast in a visual enhancement. It is doubtful that the inner force of this color played any part in this usage.

## CLARIFICATION OF COLOR RELATIONSHIPS

At this point it will be well to take stock of the color usage described in its relationship to Four Color theory. In the Geometric scenes black as an indication of bodily substance is the dominant color and yellow as an indication of air is the secondary color. While the slip is sometimes literally yellow, as in certain Corinthian examples, it is more generally buff, a combination of yellow with some red. At this stage in the four elements scheme (Illustration 13 E) yellow does stand for air and red for water (thus atmosphere). In the earlier Archaic period this color usage *continues*. However, applying the Empedoklean dictum that each of the four elements rules in turn, we observe in Illustration 13 F that at this stage (the Archaic) air and water have reversed their coloration. Yellow now represents water and red, air. One's first thought might be: the atmosphere now has more water in it. Perhaps, but the emphasis on water has its own justification, for, as I will show elsewhere, sculptors were emphasizing the aqueous aspects of the body, and vase painters were celebrating the world of flowers. Nevertheless, there is a kind of disparity or incongruity in the situation, for the depiction of air at this stage should emphasize red. It is, therefore, almost uncanny in its implications that, as Attic vase painters set about to achieve dominance over Corinth in pottery export, they actually corrected this disparity. In the words of R.M. Cook,[5] in Athens "about 580 B.C. the color of the surface deepens from buff to orange and this with the rich black of the paint sets a new standard for Greek potteries." Moreover, as the artistic pace in the Athenian

Kerameikos quickened, the tendency to go in the direction of red (and so to give full expression to the correct coloration of air in black figure painting) is highlighted by the occasional use of "coral red", as in the famous Dionysos cup of Exekias.[6] Yet orange remained the Attic norm, no doubt on the aesthetic premise that anything approaching pure red is too strong in combination with black—and more difficult to "read" in a scene of figures.

## THE EMERGENCE OF REDFIGURE STYLE

Toward the end of the Archaic period (circa 525, see Introduction, chronological chart), preparations for the shift to the next major period became tangible—a period in which a real animation of the figure with unheard-of implications would take place. Archaic sculptors had already introduced a very quiet degree of animation through the Archaic smile, a device not available to painters, who were therefore thrown back on refining the technique of incision to an ultimate degree of virtuosity: one learns from the glittering, sparkling patterns imposed on black garments, faces, hair, etc. how worthy and spirited the bearers of these lines are (Figure 9): on an Attic blackfigure amphora in the British Museum which illustrates this mastery of the graving tool we see another use of white paint: a traditional one known in Egyptian painting to indicate the flesh of women, in this case of the Amazon hard pressed by Achilles. Presumably the Egyptians chose this color for naturalistic reasons, in any case also a possible factor here. But I see it more as another decorative use of white as a contrast to the generic black of male figures and parallel to the display of decorative incisions.

By the beginning of the last quarter of the sixth century, the most progressive artists had obviously reached a climax in the expressivity of the blackfigure style. The game of draughts depicted on the Vatican amphora of Exekias (Figure 10) is a virtuoso display by the artist of isometric compositional tensions. Adding to this now the color factor: lustrous black and the less well preserved but still luminous orange, we may experience with some astonishment, perhaps, a reduction of the compositional tension previously ascertained; for the figures now appear to be bathed in comforting warmth. If this is a subjective reaction on my part, it derives from having seen countless scenes showing divine and human beings together—with the underlying implication that a divine order provides the necessities and guidance for life—even amidst the horrors of war. Even more evident is this warmth in the family scene on the opposite side (Figure 11), where private rejoicing is the actual theme. Through a conscious focus on color we can begin to experience more fully—across the centuries—the truly human quality in Late Archaic painting. The precondition for this is the attempt to recover Greek color theory.

The implications of this become even more compelling when we realize that a (perhaps younger) generation of vase painters would not rest on the laurels of a system which, after all, was literally giving way under the weight of new insights about the physical world demanding to be addressed. And so the genius of the Attic school revealed

itself in the simple but drastic device of reversing the reddish and black components of the composition, as if the world were turned inside out (Figure 12a, Figure 12b). And, indeed, so it was; for the whole of the red/orange animation that as atmosphere literally hovered over and pressed against the now overwrought figures was suddenly sucked inside the contours and thereby necessarily expelled the now inadequate blackness to the outside—excreted it, one might almost say. The fundamental condition of the Classical period was set in place: air (red), as basis of the psychic life—as well as water (yellow) as basis of organic life—was now (in mixture) literally inside the human figure and could begin to create the aerated man (breath-man)—and we have moved to Illustration 13G for our orientation. The figure can begin to inhale—a function for sculptors especially to show—and gain an incipient consciousness of being responsible for its own acts. Thus, the immediate preconditions of contrapposto, drama, democracy began to be met. In a single word, there is a kind of deep ensoulment, revealed and co-created by the drama of color usage.

A change of such dimensions cannot, in my opinion, be passed over as an accidental experiment in technique (see also n. 18). The timing also speaks against such a trivializing explanation—though not against its being an experiment. Indeed, the so-called bilingual vases suggest that there was a conscious weighing and comparing of the possibilities and suitability of a new mode of expression—radical in its consequences but extraordinarily conservative in that no immediate outward change in theme or format was involved, as we can ascertain on an amphora in Munich attributed to the Andokides Painter (Figure 12a, Figure 12b). On both sides Herakles lies on a couch and hears the words of his mentor, Athena (whose helmet extends into the border). He holds a wine cup and beside his couch is the traditional table with cakes and napkins. Nevertheless, there are differences in the conception of the two friezes. The blackfigure side is a description of the encounter, with Hermes standing behind the goddess and the prominent figure of a boy ladling wine from a standard jar at the right side of the couch. Above all, the space is literally festooned with branches, leaves and fruit of a grape vine—under which Herakles seems to duck his head. On the redfigure side a strong simplification has taken place. There are now only two figures and the couch appears longer. The vines have been "pruned" so that they serve only as a grace note. Herakles sits up straighter and is so much larger and more prominent that his head now overlaps the border and Athena is correspondingly diminished—and has lost the dominance she had in the blackfigure version. Although elegance persists, the emphasis is on the very moment of encounter between two figures without distractions. Now Herakles occupies center stage and the divine world recedes, as it were.

This enhanced presence of Herakles qua functioning organism allows him to be seen as the immediate ancestor of a generation of attempts by vase painters to explore just that organic aspect of the human being in terms of athletic performance or its equivalent. However, this is primarily a form factor, and discussion of it is best deferred to my study of sculpture. Here I will note only that in early redfigure painting, that is, in the artistic experimentation of the Protoclassical period, a vital role was played by advances in the ability to represent natural form, not least through the enlivening effect of orange-colored athletic figures.

In a certain way the new color situation of the redfigure style clarifies an important relationship. In the macrocosmic series yellow is the color of air (Illustration 12A) surrounding the earth and inhaled by its creatures and hence quite rightly the color of Geometric pictorial friezes. And in the microcosmic series yellow again characterizes air (Illustration 13E), making this color doubly appropriate in these friezes. In the liquefaction stage (corresponding to the Archaic period) of both series (C, F) air is red and, as already noted, red/yellow (orange) surrounds the figures of the developed blackfigure style. But again, in both series, yellow now signifies water—and it is precisely the nature of the human aqueous system that Archaic artists were exploring. Thus, one might conclude that a certain wavering between red and yellow, or better, mixture (*krasis*) of them, would in any case be almost inescapable. When the new pottery style was born about 530/525, this mixture went inside the contours—an improvement logically in that the liquefaction functions of the organism indicated by the yellow component of the mixture were now more properly *within* the confines of the actual body of the figures. But there was a double value in this in that already in this Protoclassical transition, as noted above, the dominant element of the Classical period is being represented by the red component of the mixture (Illustration 13G), so that *physiological* aeration as well as psychic animation are also present within the contours. This is a fortunate revelation of the mighty changes in the (microcosmic) status of the human being that underlie the formation of the Classical period. These changes were of such tremendous import and so decisive for—among other things—the outer behavior of the Greeks that they require recognition on the periodic scale by a special term: Protoclassical.

The role of black throughout the changes discussed above remains to be set forth. Its prime function of representing earth density was, of course, very well fulfilled in the Geometric/Archaic periods, since precisely that function needed to be understood by artists in their efforts to grasp physicality. By the time of the black-red inversion, however, artists had apparently grasped this to their satisfaction, then took it upon themselves to imbue their dense but static figures with psychic sensibility. Representation of the human body obviously gained in plausibility through the color switch, but at the same time the total picture lost visual plausibility, because a pure black could never be the color of the atmosphere—except on a moonless night, which would negate the picture; yet the solution to this lies in the overall impression made by the redfigure scene (Figure 13). The new psychic dynamism of the figures can be understood as the actual source of illumination—that is, self-illumination by its own new-found consciousness—made all the more intense by the surrounding darkness. A darkness, however, that is now meta-physical, that is, present on the vase surface but impossible to justify by any obvious intention of the artist to make the total scene more realistic. The loss of a plausible natural atmosphere in redfigure implicates a loss of the fundamental carrying factor of the Archaic world, for in that atmosphere had appeared the gods and their guidance. The *internalization* of this carrying function on vases pictorializes the new sense of self-responsibility visible in cultural achievements and must have been at once exhilarating (as a release) and disconcerting. The rise of the redfigure style signified

a slow but irresistible dissolution of the Archaic "life style" in favor of new impulses which did not come to a fully viable synthesis until about 480.

It is worth developing these considerations a little further on the basis of an amphora which stands as the centerpiece of the Berlin Painter's oeuvre (Figure 13). The traditional border above the scene is retained and forms a bridge between the handles, also decorated with leaves. Inconspicuous rays mark the joining of body and base of the vessel. Otherwise the tendency already noted in the Andokides redfigure scene has gathered such momentum that here the figures of Hermes and Dionysos, with a delicate faun between them, float in a sea of blackness. But they are not quite deprived of all support, for they are placed on a narrow border of running spirals truncated to just their stances. Actually they seem to stand on a tiny floating platform. In the whole concept this platform plays a vital role: it is needed to lend credibility to the weight-shifting in the limbs of the two figures, particularly of Hermes, whose heel is raised high above this simulated ground. Without this support the dynamically balanced limbs of the figures—a flurry of arms and heads moving backwards and forwards—could work only as a dream fantasy. But that is precisely what the painter's efforts are *not* about: he wants to create the maximum effect of flesh and earthly reality in these bodies.

This intention makes the contradiction of terms here all the more inescapable. Black, the foundation of earthly substance—literally matter in the blackfigure style—cannot possibly mean substance here, and so it takes on a character that is not explicable in the old physical terms.[7] At the least it becomes mysterious and elevated, for by absorbing light (itself a non-physical entity not really definable even by 20th century physicists[8]) it enhances the light-reflecting quality of the figures so that they appear to glow, as it were, in this darkness.

Further thoughts on the mysterious qualities of black will be offered later on the basis of the spectrum; but even at this point certain inferences can be drawn. In this extraordinarily concentrated and self-confident composition the Berlin Painter has created one of the first expressions of what can be called Classical ideality. In using that debatable term for the first time in this study, I define it very sharply. This finished conception of red figures against black has first and foremost a paradoxical quality which opens it to realms of human feeling that resist definitive interpretation; and second, the concentrated composition has a paradigmatic quality, a refinement that would make any effort to change its economy idle. In both these respects it stands as a worthy counterpart to an early fifth century play concentrating on only two characters whose destinies are interlocked in a complicated way, and who, with all their contemporary sensibilities, are placed against a mythological background with its otherworldly implications which it is not amiss to see as metaphysical.

Can we not see in these phenomena a beginning of Classical consciousness of the difference between the literal and the metaphorical[9]—whereby I understand this not in any purely intellectual sense but in a wider spiritual sense?

It should by now be clear that the complex interactions of the four colors and four elements can be *experienced* as dynamic unity, but can be thought about only if the individual strands are disengaged and considered one by one. What, then, is the role of white in the ceramic development? No Greek ceramic center in Archaic times used a

truly white-ground color or slip, even though brownish or yellowish tints occur in a few places "for which reason it is better to speak of light-ground ceramics."[10] A more detailed examination of that class of ceramic decoration, which in principle did not use the human figure as motif, is not a pressing need in the light of the four elements. However, in Athens exactly at the time the color of atmosphere was forced out of the background of the pictorial frieze, experiments with substituting white in this position did occur. Yet in the Four Elements theory, white is no more possible as representation of air than black. White is *par excellence* the noetic color (with the one exception that in the macrocosmic combustion stage: Ill. 12A, it is assigned to water).

It is important to discuss this proposition in more detail, since the history of Attic ceramics can reveal the actual steps by which white became an important part of the vase painter's palette. Joan Mertens[11] has traced the beginnings of use of a white ground in Athens to Nearchos who ca. 560 introduced a frieze on the lip of a kantharos to set off a tongue pattern. This seems not to have had any issue for another generation when painters, especially Andokides, began to incorporate white into subordinate parts of the decorative scheme. In view of this second start about 530, it is appropriate that Mertens dealt with the subject on the basis of the accentuation of specific features of shapes on which white was used. Continued experimentation of this sort makes it clear that the application of white at first did not rest on a specifically spiritual insight as had the change from black to red figures: it was motivated more by attraction to its shape-enhancing potentiality as it expanded (to cover even the usual pictorial field) than by concern with the psychic effects of its combination with blackfigure human forms.

Thus the prolific workshop of Nikosthenes produced oinochai with standardized floral motifs in black on white backgrounds, filling the main parts of the neck and body. When human or animal figures occur, their mannered style gives them away as "studio props". This practice spread in the last quarter of the fifth century to various other shapes (kyathoi, skyphoi, etc.) and even to plaques. It is hardly too harsh a judgment to say that all of this constituted a decorative backwater created by those artists who did not want to give up the old blackfigure depiction of the world. A few experiments were made also on the shape perhaps best suited to narrative depiction, the krater (Figure 14), using more ambitious narrative scenes and redfigure ornaments. In such cases the painter had to come to grips with the psychic implications of white as background to shadow-figures and, probably, found the results wanting, for not much came of this. Mertens speaks perceptively of this type of experimentation: "...it makes particularly clear the *unrealness* (emphasis mine) of dark flesh against a light (sc. white) background".[12] The trouble was not with either color but with the combination of black, which had been canonized as the epitome of physical density in its combination with atmospheric orange, and of white which, however striking as a background, has *no* physical implications: it refers either to the realm of the ego (*nous*, fire) or else signifies emptiness.

I have already proposed a profound significance in the use of black as background to red figures; contemporary experiments with white as a substitute for a red background to black figures at first yielded no such impressive results. But even painters who confined their efforts to decorative effects contributed something to their age by introducing white at all, for the color eventually was noticed by the progressive artists

who were developing the redfigure style. In a 1972 paper Mertens revealed, on the basis of some fragments attributable to Euphronios, what must be a transitional stage between the decorative style and true white-ground: a blackfigure satyr confronts Dionysos in outline technique with shading in warm hues. In his consciousness Euphronios must have carried the undifferentiated density of blackfigure forms, the breath of life and realistic tonality of redfigure forms and the phantom quality of outline figures against a white background. Even though he and other practitioners of the real white-ground technique continued to use red and yellow of the four color palette, often with delicate washes, the reference to another less physical level of reality is apparent in a subtler, vaguer, emotionally more rarified milieu brought about by the white, and in the (restrained) subject matter and composition of this new genre. The very use of a circular field by the Brygos Painter to depict a delirious Maenad diverts us from physical reality (Figure 15). The tondo of cups became the preferred locale and, often, two figures on an ample background of white seem to be removed from physical space into a realm which I will characterize for the moment as insubstantial. This prepared the way for the classic use of this technique on grave lekythoi. In the second phase of outline cups the use of solid color areas in matte becomes characteristic (Mertens 174), perhaps as a corrective to too much non-physicality in the effect of earlier cups.

The foregoing reconstruction is an attempt to allow the inner nature of colors to speak and, if it is convincing, we are justified in assuming that something similar probably took place in major painting. In the white-ground style the four color system was strengthened virtually to a kind of contrapposto unity by the legitimation of white as an equal force in the long term hegemony of black, red and yellow.[13] This new unity, perhaps around the beginning of the Early Classical period, may also have worked as an incentive to explore other colors. In order to make that statement—as well as my allusion to black on Protoclassical vases as metaphysical and white as indicating an insubstantial realm—understandable, it is necessary to make a considerable detour at this point. For this reason I must defer any discussion of white-ground lekythoi and related phenomena until later.

The diagrams I have used so far as an implementation of a Four Elements/Four Colors theory based on written sources and vase painting (by implication also major painting, as I hope to show) have served relatively well up to this point. But it is impossible to go further without being able to see the four color system itself in a larger framework that can elucidate the nature of that system relative to the other colors. For one is virtually forced to conclude that there was no scientific interest among the Greeks in any but the four colors before the fourth century, and even then—and thereafter—not much. On the other hand artists had been dealing with an extended range of colors, particularly with blue, in a pragmatic way from at least the seventh century. A reason for this situation will be suggested.

Attempts on the part of present day art historians to explain Greek color on the basis of the so-called Newtonian spectrum are subject to the severe limitation of Newtonian thought in general: it is confined to treating color as a purely physical phenomenon. Yet everyone knows that color exists not only in that sphere, but has psychological and even moral dimensions as well.

Having found no help from that quarter I turned to Goethe's work on color. In the end this proved to be not only suggestive of an explanation for the Greek preoccupation with the four colors, but also richly evocative in realms he opened but did not go into. Thus, my results seem to have application not only to the Greek situation but beyond it. I hope to have made the reasons for the detour mentioned above evident to the reader.

## THE OTHER COLORS

The point of departure for expanding the four color system is the fact that Goethe rejected Newton's conception of color out of hand and through his own experiments with the prism acquired a quite differently structured understanding of the phenomena of color. The defenders of Newton's conception (which has since become largely a matter of mathematical calculations) against Goethe habitually point to pragmatic achievements in color science—really staggering technical innovations. Thus, in order to master the basics of materialistic color science today one must virtually study mathematics and physics. By the same token, in order to grasp the basics of Goethe's color theory and—with appropriate adjustments, as we shall see—of the ancient Greek color system, one has to get some direct or indirect experience of the prism (this may require some guidance).

Then, just as Goethe intended, one *experiences*, one *sees* the actual coming into being of colors, their *phainetai eon* (φαίνεται ἐών) instead of contemplating thought-pictures of wave lengths. A reverse paradox in this situation is that one can also experience the prismatic phenomena—at one remove—through such technical inventions as color slides and photographs—which would probably not have come into existence without the Newtonian mind-set. I shall take advantage of this by presenting, in a separate section (see Appendix B, *Color Technicalities*), guidance from a friend who has spent years developing just such visual aids and explaining authoritatively what they show. This allows me to proceed in the knowledge that any reader wishing to understand my discussion of the larger aspects of Greek color has the information necessary to do so within the covers of this book.

Up to now we have regarded the Greek sense of color as the basis of a probably coherent theory of color which apparently was never thought out systematically, that is, we have investigated ancient references to four basic colors: black, white, red, yellow in connection with Greek ceramic tradition and with available testimonia. Obviously, in order to do this we have had to deal with the so-called subtractive (fixed) colors, that is, pigments. At this point it is worth emphasizing that the Greeks were necessarily more restricted to those in their color experience than we are. For modern technology has more than accustomed us to the additive color mixtures (called by Goethe *werdend*, incipient), such as are found in movies, television, etc. The Greeks, however, could experience such mixtures virtually only through natural occurrences, particularly the rainbow. E. Keuls[14] calls attention to the fact that Aristotle designated the three "frequencies": green (πράσινον), red (φοινικούν) and violet (ἀλουργόν) as the main colors

of the rainbow, quite in accordance with the three additive colors of modern color science. Yet I cannot find the slightest indication that the Greeks at any time were familiar with the use of the prism or any other means of studying or even registering spectral phenomena.[15]

Despite this, since it was maintained as a truism that the chromatic colors arose through *krasis* (mixture) of black and white, one can suppose that either through some mystery tradition[16]—or else quite spontaneously—the Greeks recognized what Goethe established through countless prismatic experiments, namely, that the atmospheric colors arise through the interweaving of light and darkness in certain well-defined circumstances under appropriate conditions. About the same time as the Four Color theory was being given expression more or less consciously (as in the Hippokratean school)—a theory that in the light of prismatic phenomena is quite intelligible and defensible—the formula black + white = color became so deep-rooted in Greek thought that the interchangeability of white with light and black with dark probably seemed obvious (but was not used as a point of departure for reasoning about color problems).[17]

If therefore, all that concerned the four color system simply remained below the threshold of conscious theoretical interest, there are even fewer indications that the other side of the prismatic spectrum (of Goethe) embracing black, white, blue, violet was part of any systematic thought procedure, even though again the *implications* of this other side were understood in the practice of painting. We are confronted here with a mystery of the first order; insistent questions arise. How could the Greeks—and for that matter peoples who preceded them—have such a sure understanding of the nature of colors when this is intellectually only possible through knowledge of the prism? And how, in these circumstances, are the origins of the pigment colors, as belonging more specifically to earth substance, to be related to the atmospheric colors as manifestations in the sphere of air?

An answer to the first question is perhaps to some extent inherent in the Greek conception of the Four Ages as this is given in the *Erga* of Hesiod (who, however, distorts this somewhat by inserting an Age of Heroes as a separate entity; that he did so may suggest that he was embroidering in an 8th century manner on an older tradition). The general meaning of the myth seems clear; humanity lived at one time quite intimately with the gods (in a divine order) and was directly guided by them. Gradually, however, the gods gave up this supervision and thus forced humanity to stand on its own feet, regardless of what bitter consequences might ensue for it. Thus, much that had previously been simply handed over by the gods was no longer offered and had to be consciously and laboriously re-acquired. A feeling for the attraction of this view of things can still be found in the Age of Reason; J.G. Herder writes in his *Ideen zur Philosophie der Geschichte* (V. Buch I. Teil, VI.Kap.): "A divine management was certainly operative for the race of men from the time of their first appearance, which was thus launched on its way with the least trouble. But the more human faculties came to be exercised, the less they needed to be subject to this assistance....."

An important part of the Hesiodic myth is the connection of the Four Ages with four appropriate metals in the following order: gold, silver, bronze, iron. Obviously each metal has a hue. Gold could be described as yellow, though perhaps more accurately

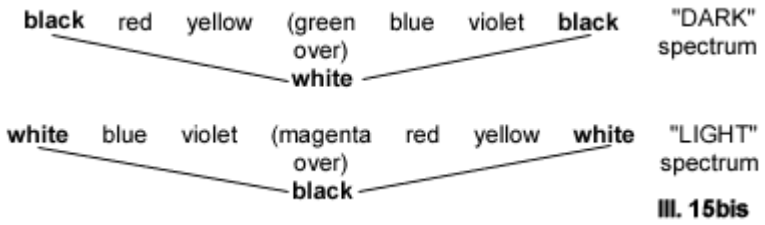
described with Plato's τὸ λαμπρόν, (see Chapter II, *The Ancient Sources*, Plato, paragraph 7). Silver is naturally connected with white,[18] bronze is certainly in the red/brown frequency and iron is black in the *Erga*. Since Hesiod's tale is beyond any doubt a moral one, an earnest conversation with his countrymen, it serves incidentally as a prime example of the way the macrocosmic metals with their colors are interwoven or interfused with microcosmic (psychological and mental/moral) associations. My intention here is to point to an existential quality in the Four Elements/Four Colors theory, not to extract any specific historical content from the myth.

The second question articulated above is on all counts too difficult to discuss in a general way. I have worked out an hypothesis by extending the logic of the laws of optics as I understand them. Since this hypothesis does take account of modern viewpoints as well as of what seems to be inherent in using the Four Elements/Four Color theory as a model, it is unavoidably technical and seems best relegated to the Appendix (see Appendix C, *The Four Elements and the Origin of Fixed Colors*) for readers interested in the scientific implications of the subject.

## THE TWO SPECTRA OF GOETHE'S COLOR THEORY

It is at this point incumbent on me to explain in my own words (that is, in addition to those of J.H. Hetzel, see Appendix B, Color Technicalities) how I conceive of the interconnection of the two spectra derivable from Goethe's work, because that interconnection has led me to establish particular values for the various colors according to their connotation as macrocosmic or microcosmic. These values are presented in chart form in Illustration 16.

First of all, strict logic indicates that no prismatic scale, including Newton's, can appear without the cooperation of both light and shadow. In the case of Newton's experiment the wall of the dark chamber around the hole through which he admitted a light ray furnished the darkness necessary to allow the "refracted" colors to appear on the opposite wall. Nevertheless, he deduced from this experiment that colors existed purely in the form of bundles of rays constituting the light. Goethe's first contact with color theory did not happen to take place in the *camera oscura* ; in his haste to use a borrowed prism he simply put light rays through the prism onto the white walls of the room he was in. To his surprise—for Newton had said that colors were contained in the light—nothing happened.[19] No color appeared on the wall. Only where he encountered a shadow on the white did it appear. In systematic experiments he then examined how colors appeared when there was more white than black on the surface and vice versa. In this way he discovered a polar reversal in the order of the *same set* of colors that appeared in these two circumstances. Furthermore, he found that by manipulating the prism he could either keep these colors intact or—by approaching the two innermost colors in the series—mix them and create a third, new color: green where dark predominated and magenta where light predominated. These relationships can be visualized in the following way:[20]




**Ill. 15bis**

This polarity corresponds quite exactly with the world view of the Greeks, who preferred to deal with polarities in all phenomena. The relation of dark and light as well as the relation of specific colors to each other was on their minds from the first Protogeometric pots to Aristotle's speculations. And it was exactly that portion of Goethe's spectrum corresponding to the popular concept of "earth colors" that most concerned them, particularly so in the earlier periods; whereas the other part of the spectrum with the blue and violet corresponding to the popular concept of "heavenly colors"; increasingly attracted their interest in the later periods.

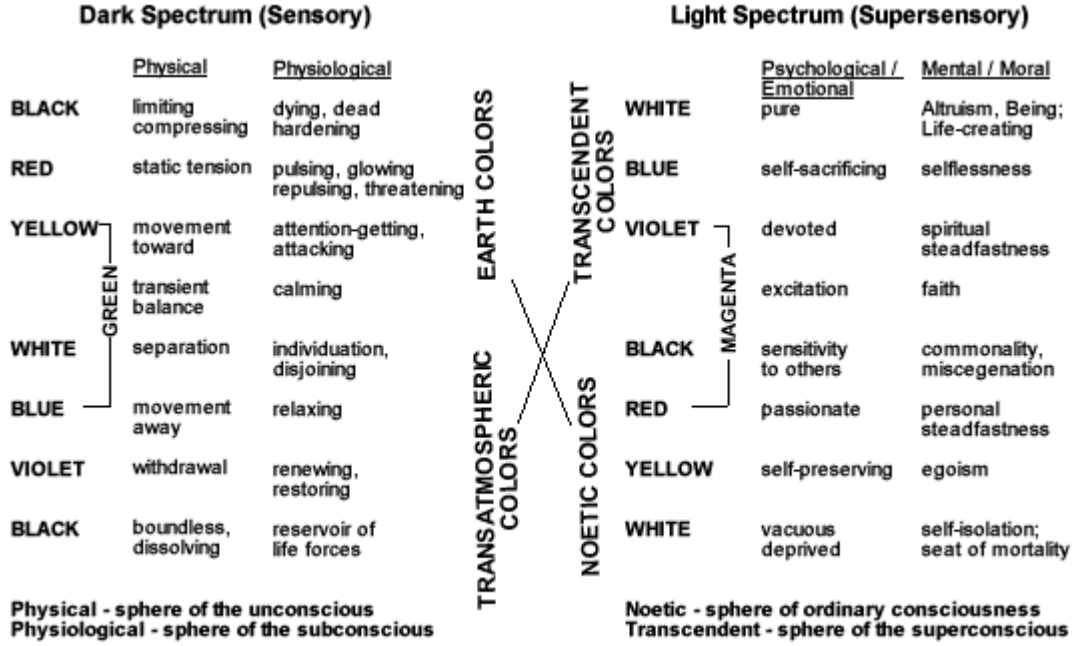
To repeat, for absolute clarity: the famous four colors of the Greeks are in effect one half of the Dark spectrum of Goethe: black, red, yellow, white

The white in this case is the "trench" between the two pairs of colors of the whole spectrum and as such plays an important role. For, although the Greeks at all times freely used yellow and also, when appropriate, the blue poised across from it, they seem seldom to have bridged the white gap between them to mix up a green; in fact, they may have been more interested in mixing black and yellow to produce a dull olive, as in certain ceramic fabrics, and this would have a different expressivity than true green. This downplaying of a radiant green helps to define their relationship to nature. Their subject was first and foremost that part of nature which is the human body and which in its nurture subsumes the green of plants and the oxygen produced by trees; it must not then have seemed necessary constantly to refer to all aspects of the environment literally, as in various other (later) cultures. Nevertheless, since green is a mixed color, not a primary, traces of blue left on stone, particularly on statues, might in some cases be the blue component of an original green (see below), but blue might simply represent a local color.

The nature of black and white *as colors* in the four color system remains elusive. There is no other way the spectrum as a whole can be called up by the prism except that dark (sc. black) and light (sc. white) are played off against one another.[21] Modern color science, ignoring this, applies the adjective "achromatic" (colorless), which has a proper use in optics, irrationally to black and white. Artists of virtually all periods have wholeheartedly used black and white as colors of the utmost expressivity and, as we have seen, some Greek thinkers regarded them as the only true colors or, more precisely, the original colors (*Urfarben*). The use of black and white as stand-ins for dark and light must lie behind this and by that token Ill. 16 can be read as the relationships of pigmentary colors reflecting, reduced from, the atmospheric colors.

## AN ATTEMPT AT A HOLISTIC INTERPRETATION OF COLOR MEANING

My experiences over a number of years in studying the prismatic laws and applying them to the interpretation of works of art of all periods have led me to make a visualization of the relationships I found; this is in the form of the schema given in Ill. 16. My debt to Goethe as a point of departure is fundamental. Yet I have proceeded to derive the fullest consequences of his rather generalized, really incipient, thoughts from the spirit of his work, that is, the insight into polarities, applied here in the most radical fashion. The more uncompromisingly one applies the concept of polarities to colors, the more generously they yield up the nuances of their expressivity, which nevertheless remains inexhaustible. The nature of the case then admits of, even requires, characterizations of color quality by single keywords or phrases. This makes it apparent that Ill. 16 cannot be justified by a long verbal disquisition (although a few features of it will be explained in due course) but rather by use of it in understanding the prismatic experience and by applying it to the (largely non-verbal) appreciation of the choices of artists in the coloration of their works. This in turn implies that artists have always intuitively understood the lawful potencies of macrocosmic/ microcosmic color handed down from earliest times. This occurred normally in terms of conventions individually administered but agglomerated into larger units recognizable as workshops and schools. In effect, many of the concepts offered in Ill. 16 have long been intuitively understood by critics as well as artists; hence the more precise placement of these concepts suggested here could be an incentive to further methodical refinements.




Ill. 16

*How to Read this Chart:*

The characteristics of physical colors are adapted from the concepts of statics and dynamics inherent in the four elements. The characteristics of physiological colors transfer the physical characterizations to the basic organic (vegetative) realm. On the human plane reactions are subconscious but can instantaneously release motor activity as in the case of red and yellow traffic signals (emotions are not necessarily involved). On the supersensory level the order of the colors is reversed and their effect—as a given of nature or acculturation—arises in the personal (soul) sphere. On the mental/moral level one encounters a fluctuating relationship of the personal factor and the social (ego) factor. The latter includes the highest moral concepts traditionally associated with religion and philosophy, hence transcendental.

The color values proposed here, based on the principle of polarity, are representative central concepts. Nuances arise from mixed hues and from (situational) interaction of hues.

At this point at least a few explanatory comments to Ill. 16 are in order. Atmospheric green, induced by manipulation of the prism to combine yellow and blue over white ground is similarly produced in painting by mixing blue and yellow pigments on a white support, as in watercolors. From this fact it can be seen that the invention of oil paints was a distinct step toward materiality, since the white support is not necessary, even though white as a surrounding color has much of the same effect. The preparation of green pigment directly from natural substances, such as minerals (whose color implies an earlier evolutionary process: see Chapter III, *The Evolutionary Aspect of Colors*, paragraphs 2–3) is a further step in this direction. The corresponding color in the Light spectrum is the delicate hue magenta induced by mixing violet and red over a black ground. If one imagines black paper used as the support for mixing violet and red watercolors, the delicacy of magenta can be easily comprehended. Add to this the indication that in their normal state all the colors of the Light spectrum are especially delicate in that they embody non-material qualities.[22]

This can perhaps be grasped in the case of the blue and violet of the Light spectrum which I have designated as transcendental colors in contrast to blue and violet of the Dark spectrum which are called transatmospheric; these latter (as atmospheric colors) actually owe their darkness (shadedness) to the backdrop of cosmic darkness against which they are apprehended by our eyes. To put it another way, they conduct the vision from the light-filled earth atmosphere toward the darkness of the surrounding universe. Thus this blue and violet are not so much in the earth's atmosphere as at its very edge, its boundary; it is as if blue were the inner skin and violet the outer skin of that boundary. For this reason they have always been felt as drawing our sight outward and away into the distance. Thus the expression "transatmospheric" is an attempt to do justice in a completely neutral way, with no overtones, to the physical/ physiological phenomenon just described. By the same token the diagonally positioned blue and violet of the Light spectrum, having reference exclusively to the sphere of Being (the moral sphere), do most decidedly have overtones; they are indeed transcendental in that they transcend all other realms known to mankind. Therefore, at one time blue is purely

physical (sensory), at another time it is supersensory, the criterion being how it is positioned in relation to light and dark.

Again I emphasize that *all* the colors of the Dark spectrum are to be understood on the purely physical/physiological level and are therefore highly suited to be grasped in exactly the way that modern color science does grasp them. It is historically inevitable that the Dark spectrum would be discovered by a materialistically oriented science and used as a basis not *only* for defining the sensory nature of color but even of refining that definition in the direction of a sub-sensory (purely mathematical) system of color science. So suitable for this is the Dark spectrum that it has been hailed as the only existing spectrum (to which, of course, Goethe reacted violently) and no lengths have been too laborious to go to in order to defend this assumption.[23] Obviously this is controversial ground and the challengers also have exerted—and do exert—themselves to a corresponding degree. It is also notable that Greek thinkers—even Plato—immersed themselves in exactly the earthiest part: the "earth colors" of the material spectrum, for they did, among other things, lay the basis for a coming western science of the material.

Yet those very same Greeks almost certainly could not have experienced difficulty in conceiving that the colors of the Dark spectrum can become totally (and chiastically) inverted and back-lighted and thereby more delicate. Such colors, in any case, can dialectically have a connection only with mental values (yellow and red as the truest colors of the innermost *nous*) and with spiritual values (blue and violet as belonging to the sphere of the divine). By this reckoning green refers principally to the transience of the physiological sphere, just as it is in fact the color of every blooming landscape. If used metaphorically, it could then refer to transient beauty or to the peacefulness of organic well-being. The other special prismatic color, magenta, has logically to be the link between the noetic and the spiritual spheres, just as green is the link between the materials of earth and the animating forces that descend to nature through the transatmospheric boundary.

On this basis it is not surprising that Goethe considered magenta, which is used here to translate his term *Purpur*, to be the ultimate intensification—*Steigerung*—of red (vermilion); the combination of the highest noetic color, red, with violet, which in low saturation offers a delicate atmosphere of spirituality, creates a bridge from the mental to the divine sphere. But at a price, for this color alone in the light spectrum is not backlighted by white but hovers over black, which holds it down to mortality.

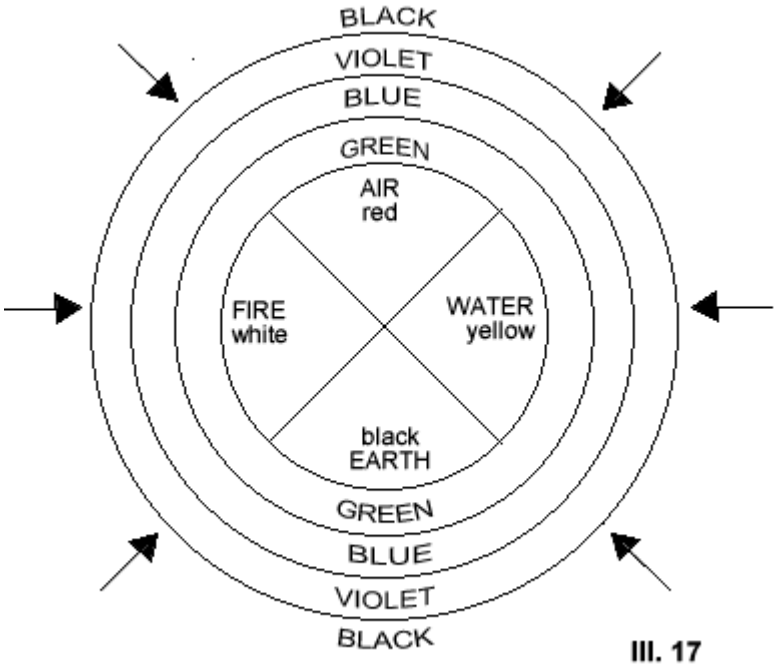
Finally, in order to make the concept of the transcendental quadrant of the spectra comprehensible to the maximum degree, I refer again to the idea that the Greeks probably could have accepted the concept of the colors of their four elements as capable of being chiastically inverted and backlighted, because in fact they used colors in the noetic and also the transcendental sense effectively, when that was appropriate, but without speculation. Their more conscious concern was plainly to grasp intellectually the earth quadrant of the Dark spectrum.

What they achieved in that respect became part of the heritage of a firm, rational conception of human life valued by the Roman intelligentsia, such as Cicero and the Plinys, to mention a few, and which was passed along to become, with or without the blessing of the Church, a powerful factor in the civilizing of northern Europe. It seems

possible to ascribe the earth-bound rationality of Romanesque architecture to this. Yet, when an unprecedented surge of faith swept over Europe in the so called Gothic period, it fell to architects and painters to overcome that earth-bound rationality; they did so by inventing soaring, seemingly weightless architectural forms and, to go with them, stained glass windows. Anyone who has stood in a great Gothic cathedral like Chartres has felt the unique refulgence of its lofty windows—generally dominated by blue, red and violet (on the religious significance of these colors see my discussion in Chapter IV, *Panel Painting and Wall Painting*, The (Late) Archaic Period, paragraphs 5–9) and white. One is seeing pigmentary colors literally backlighted by natural light. But is that all there is to it? The total effect is often described as a supreme spiritual experience, even in our jaded century; and the reason is that transatmospheric color is transformed into transcentental color by atmospheric light, which becomes at the same time metastatic divine light. With the chiastic spectra of Goethe this event can be explicitly described and understood, insofar as human understanding reaches. Without those spectra the experience can easily become lost in an amorphous mysticism.

## EXPANDING THE BASIC FOUR COLOR PARADIGM

In order to offer the reader the ultimate intellectual consistency I can muster, I offer below an expanded version of the basic Four Color paradigm to suggest how green, blue and violet could be related to the basic earth colors. In Illustration 12 C or the identical Illustration 13 G, which may be used as the most familiar operative form of the paradigm, the circumferential line marks the separation of all terrestrial phenomena, macrocosmic or microcosmic, from outer space. Obviously this paradigm is a drastic simplification owing to Greek concentration on only the earth color quadrant of the Dark spectrum (Illustration 16). That is, the Greek philosophers were, accurately enough, analyzing the functional (dynamic) processes that take place in the earth's atmosphere but ignoring the visual phenomena that actually result from those processes. This is another way of saying that they ignored the transatmospheric quadrant of the Dark spectrum (Aristotle makes a slight exception to this statement).




**Ill. 17**

In order for these facts to be apparent in an expanded version of the paradigm, it must be understood that the circumferential line of the basic paradigm (Ill.12C) separates the earth *plus* its atmosphere from the outer cosmos; in the new version (Ill.17) this same line actually separates the purely mineral earth *from* its atmosphere. The latter now contains the separate realms of the colors green, blue and violet which are visible to us—in what way I will mention shortly. Meanwhile, the *original* four colors are to be thought of as dynamically active under, on and above the earth's ground line and visible where appropriate. The outer circumferential line of Ill. 17 separates the earth *plus* atmosphere from the outer cosmos.

In the new version (Illustration 17) green hugs the surface of the earth, just as does the green mantle of vegetation in reality; the transitory, shifting nature of the latter can be understood through its being a combination of finely moisturized earth represented here by yellow and the cosmic light of the sun (white) penetrating through the blue sky. This circumstance is exactly reflected, as of course it would have to be, in the Dark spectrum. The outermost color, violet, is principally visible in the rainbow, since otherwise it is above the blue.

While this final schema goes beyond Greek theoretical values, it was nevertheless explored and understood to a considerable extent by Greek artists who, at first in advance of the philosophers and by mid-fifth century in tandem with them—and then leaving them behind-, worked pragmatically on into the Hellenistic period (and what I designate as Graeco-Roman painting). By that time they had discovered and used freely many, if not most, of the technical properties of color—apparently at a completely

informal level—which are now discussed routinely in art training and in textbooks on art history. But while such technicalities would apply only to the Dark spectrum (to which Ill. 17 is limited), the insights of the Greek painters reach into the Light spectrum, great art necessarily being a bridge to the divine world and the world of deepest human meaning. That spectrum, being a total inversion of the Dark spectrum, eludes the kind of abstraction which is able to pictoralize the Dark spectrum in a paradigm.

## CONCENTRATING ON BLACK AND WHITE

In view of the assumption by the Greeks generally that black and white were the two basic colors and of Goethe's research that confirms this in a certain sense, investigation of this phenomenon from another side is needed. For the rather complicated, polar way in which these colors are related may help explain fifth century painting.

Black and white not only bracket each spectrum—reversed to each other—but also appear at the center of the two spectra again in reverse positions. Having in mind this consistent polarity, if we ascertain that black juxtaposed to red in the Dark spectrum expresses (on the basis of Four Elements physics) the direction of hardening and, physiologically, ultimate death, then, at the other end of the scale, juxtaposed to violet, black will express the direction of dissolution and, physiologically, the region of amorphous life forces whence renewal of organic life can be drawn. I believe the second of these blacks makes the better sense in interpreting the background of redfigure painting. That black which is positioned at the center of the Light spectrum seems more related to the first black circumscribed above: it imposes a basically physical element—the mortality of organic life—as a common unifying factor on all living beings.

By contrast, white in the Light spectrum refers to non-physical realms: in juxtaposition to blue, white points to the transcendental region of divine forces, and in juxtaposition to yellow to the noetic realm, defined as embracing the activities of the inner life of the human being. I have labelled this spectrum supersensory, quite in the spirit of Goethe, although he did not pursue the matter (see Appendix B, *Question 3*, Eastlake translation). I believe that the chiastic interfacing of these realms with the physical side, as indicated on Ill. 16, can add to an intellectual understanding of the richness and complexity of color experience in human consciousness. Without the prism the Greek experience of this richness and complexity could not be conscious and intellectual but only intuitive and artistic. My research has suggested to me that this intuitive artistic experience of physical and supersensory colors continued through Roman times and became especially acute in the Middle Ages and Early Renaissance, after which it slowly ebbed. Now it can be recovered only by the intellectual route—to which, unfortunately, many obstacles exist in our times.

Turning back to white in the Light spectrum, we see that it can refer either to the realm of intellectual and emotional qualities or to spiritual qualities generally associated with divine beings. The polarity involved here can perhaps be proposed as that between such universal and abstract concepts as omniscience, omnipotence, purity, etc. to

characterize the spiritual side and those self-centered, separative tendencies that are virtually unavoidable in human thinking and feeling—which, in the first instance, take place within individuals (however much these can be influenced from the outside). The white in the central position of the Dark spectrum is closely related to noetic white for it too has a separative function in separating blue and yellow, two totally distinct colors. Furthermore white, as a basically non-material color, can have meaning in the Four Elements/Four Color system—which is rooted in the Dark spectrum—only if one grants the non-materiality of *nous*, as required in the Greek conception. Otherwise nothing is left in this central spot of that spectrum but emptiness. Thus it makes considerable difference to one's experience of green whether one understands it as *krasis* of blue and yellow over white or whether one takes green as a (Newtonian) primary color thus ignoring the white factor, which is thereby relegated to nothingness or emptiness. I must ask the reader to understand that this whole discussion of the single as opposed to the double spectrum is totally relevant to Greek color theory for the simple reason that that theory rests on a conviction of the role of light and dark in the generation of colors—which in turn involves and implies the two spectra even though the Greek philosophers could not pursue the problem that far scientifically for various historical reasons. Nevertheless, the implication of the two spectra is made quite concrete on the artistic side in that vase painters attained the metaphysical black of the opposite pole of the Dark spectrum when they metamorphosed the blackfigure style into the redfigure style, and they reached the noetic side of the supersensory spectrum when they invented white-ground painting.

## PRELIMINARY REMARKS ON THE MEANING OF WHITE IN THE CLASSICAL PERIOD

The foregoing discussion makes it possible to offer some thoughts about the introduction of white as a serious component of the vase painter's palette (the connection with major painting will be discussed later). We concluded that white in Archaic vase painting fulfilled largely decorative needs. It was not until the re-evaluation of black at the beginning of the Protoclassical period that a new interest in the potentialities of red and yellow (in mixture) arose.

This more conscious interest in the traditional triad had consequences, the first and foremost being that it began to pull white also into consciousness as a color with more than decorative interest. This motivated some unpromising experiments that thus conditioned a rather gradual emergence of an actual white-ground style—a style that always remained a mere satellite of the ubiquitous redfigure style. On the manner in which this took place we may cite briefly R.M. Cook.[24]

> Their (the redfigure painters') earliest ventures in white-ground work.....are in effect red-figure drawings the background of which has not been blacked in; now a distinct manner begins to establish itself.... the sharp clarity of red-figure drawing gradually gives way to

> softer effects, as the flush line of dilute paint replaces the strong relief line, even for the outline, and the flat washes of purple, brown, red, and yellow that often cover the drapery take a larger part in the design....by the middle of the fifth century the lekythos has become the usual shape.

Cook proposed that the demand for lekythoi to dedicate at graves led to the demise of the earlier white-ground style and a greater interest in "new and perishable colors and a white friable slip". The demand for a shape connected specifically with graves and making use of a white setting is actually a rather remarkable phenomenon. The discussion of technique suggests that vase painters only gradually weaned themselves away from the implications of redfigure drawing and thus only slowly became cognizant of the deeper potentiality of a white-figure scene—or even perhaps could not have realized this until their attention became specifically focussed on the subject of death. A study of the themes of the earlier, transitional stage of white-ground representations—which I have barely touched on in connection with the maenad cup of the Brygos painter (Figure 15)—would be interesting but is not strictly necessary to grasp the point being made.

Seen in this light, a classic white ground lekythos of the Achilles Painter depicting a warrior extending his helmet to a woman seated on a klismos (Figure 16) brings us into realms that are less easy to define than redfigure or redfigure-type representations. On the one hand is the rather mysterious circumstance that human beings generally appear to gain a certain dignity from the mere fact of being removed from the realm of the living. Yet here the survivor—as the lady must be in the departure scene—is portrayed as being in the same shadowy realm as the warrior, who, we may suppose, never returned physically: that is, she is shown in exactly the same outline technique against the same white background as the warrior. Both are "outline phantoms" from the physical perspective. To judge from the excellent color plate in John H. Oakley's 1997 monograph on the painter (in my sketch I have attempted to concentrate attention on approximate color relationships), the lady's upper garment, which is all she is wearing, is not treated as a real material, for its delicate greyish yellow shade seems to be contrived to appear backlighted by the whiteness of the ground. The same translucent effect characterizes the single garment of the warrior. In sum, the whole scene is completely out of one mold—a mold which can confidently be associated with the noetic quadrant of the supersensory spectrum, which the Achilles Painter has used with flawless logic.

That statement can be tested from another angle. Although the helmet is being proffered, the lady sits calmly with one arm on the chair rail while her left hand rests upon her leg. Contemplating the object, she yet makes no move to react to it, which might seem ungracious of her—if it were a physical helmet. But surely it is merely a thought-form completing the impression that the artist is depicting an insubstantial realm: fire—in its microcosmic form the realm of human consciousness. That consciousness can concern itself with material substance, as in the energy-filled forms of redfigure style; or it can concern itself with the deepest mystery in human experience, death, which is the end, the denial of material substance. The locale for coping with the mystery and pain of the separation brought about by death can logically only be the

realm of the *nous*—human consciousness—of the survivor, just as the Achilles Painter has understood.

His objectivity is so consistent (and persistent) that it actually has a matter-of-fact quality. Therefore I prefer not to bring the word "ideal" into this context. The confrontation is real, but it takes place in the only locale in which the lady can reach her beloved dead. Both figures "inhabit" the same color. That color is thus emphatically noetic white and not transcendental white. Moreover, the black outside the scene, though perhaps conventional enough at this time, cannot have the same significance as in the redfigure style, where it surrounds the figures and gives them their mysterious radiance. Therefore, it can only be the earth black of the Dark spectrum in its implication of physical death as would suit the sense of the scene it surrounds. *In toto* then this vase as a work of art encapsulates a view of life and death which is "realistic" in that it does not search for meaning beyond the phenomenon of death but rests in the painful but also contemplative consciousness of death. To try to characterize it any further might, I fear, obfuscate what the colors objectively tell us. At most I would venture to suggest that it corresponds to the High Classical dialectical balance (contrapposto): thus, if this vase suggests pessimism, it then swings over to optimism, but then back to pessimism and so forth. My analysis might tend to support the views of Chr. Clairmont[25] in regard to the interpretation of Classical Attic tombstones but that is a large, complicated subject which I leave for others who know more about it to decide.

Quite apart from the work of Classical vase painters in exploring various aspects of the expressivity of black and white—as well as of red (orange)—in combination, far beyond the Archaic level, there is another effect to which they must have contributed. For they were also inescapably involved with the physical side of these colors as dark and light. While philosophers were trying to understand how the eye registers dark and light, artists—no doubt primarily painters of major projects, but who knows how many of these were also, or had been, vase painters—were beginning to be interested in the laws of vision. For, by the end of the fifth century at the latest, they were experimenting with chiaroscuro, that is, softening of the forms contained in a lighted space through the introduction of darkening shadows. This was a realization of a more subtle aspect of the opposition of dark and light.

## HELLENISTIC PAINTING IN THE LIGHT OF THE CYCLES

The sequence of colors dominating in turn as proposed in the Four Elements/Four Color paradigms has been seen to be expressed in the actual color usage of Greek ceramic painting with scenes in the periods from Geometric through Classical (Illustration 13E–G); in the last mentioned red was dominant and white emerged as an expressive color. However, the possibility of continuing the investigation on this basis disappears in the latter part of the fourth century when redfigure painting expired. It is therefore fortunate that at least the beginning of the next cycle, the fire stage (Illustration 13H), represented by my Protohellenistic period, is well documented in major painting, also with some help

from the coloration of sculpture. These subjects will be treated in detail in the next chapter. It will be shown in my study on sculpture that at this very juncture the development of sculpture as such coincides with this fire stage—though as a re-starting after a completed cycle instead of as the culmination of a cycle. Although in painting the High and Late Hellenistic periods are poorly documented, what must have been achieved in them can be gathered from the "Graeco-Roman" paintings of Late Republican and Early Imperial times. A number of these paintings also will be analyzed in more or less detail in the next chapter in order to round out an impression of the great achievements of Greek painting in the Hellenistic period.

In view of the disparate nature of that evidence I wish to try to pull together here some theoretical factors that may help in understanding in what way white as the dominant fire color, and black—drawing the whole cycle to a close as secondary color—are represented in the Hellenistic period. At that stage the consciousness of self which had emerged in the Classical period, but under the strong constraint of "contrapposto thinking", was gradually given over to the necessity either of self-regulation (of the *nous*)—or none at all. The effective disappearance of the *polis* as a significant political phenomenon no doubt explains much, but certainly not all of this change of orientation. The soul-calm which we seem to encounter in Classical works of art disappears: often evident in sculpture and architecture, it must also have existed in major painting, some impression of which I will attempt to reconstruct in the following chapter. Something of this sentiment seems to me to inhere in the following statement of I. Scheibler:[26]

> One will not go wrong in regarding four color painting of the fifth and fourth centuries as the most consistent demonstration of the transposing into color and onto a surface of a particular form of intentionality. Not until the succeeding centuries that are more concerned with atmospheric illusionism than tangible physicality do green and blue play a larger role.

Nevertheless, of course, tangible physicality did not lose its importance in the Hellenistic period (see further discussion Chapter IV, *Panel Painting and Wall Painting: Italy*, Conclusions, paragraph 2) or actually in all of antiquity, whatever variants it took, nor did the four colors ever cease to play the dominant role wherever realistic figural representation was the principal concern of art—in ancient *or* modern times.

Finally it cannot be accidental that the Hellenistic period produced probably the most *practical* applications of fire in the realm of technology (e.g., the lighthouse of Alexandria) as well as the discovery of the curved surface of the earth and the central position of the sun (fire as the fruition of *nous*).

Parallel to this went a renewed consideration of the use of black and white as background of pictorial representation, re-playing the Protoclassical experience at a higher level. To the extent that the four elements system raises an expectation for white to be the characteristic color of the Hellenistic period, that particular color is not "obliged" to appear physically in all possible contexts (although it frequently does[27])—as was the case with the dominant colors in the previous periods. The subtlety involved in grasping the color sense of the final period is perhaps evident in the discussion of white by a connoisseur[28] of ancient painting:

> For the ancient painters, white must have been the equivalent of light, without which no system of chiaroscuro would be possible; so it became a necessary part of the painter's equipment.

To make that statement even clearer, I should like to add that the whole Hellenistic orientation to the problem of light sources could not have arisen without a previous direct consciousness of dark, that is, black. That implies that there were two significant stages in the process of understanding white: first, in the Classical period, white on the grave lekythoi (running parallel with black-ground redfigure painting) signified the illumination of the inner consciousness, but hardly any farther than the borders of the soul, as it were, in the fullest sense of the emotional life. Second, however, if I may repeat for emphasis what was said earlier (see Chapter III, *Preliminary Remarks on the Meaning of White in the Classical Period*, paragraph 7)—the tender beginnings of chiaroscuro in the Late Classical period portended the deepening of that experience in the direction of coming to terms *intellectually* with the physical laws of vision, in other words, with the struggle of light with the darkness; but there were limitations, at least in ceramic painting. A redfigure representation could have shown internal modelling but could never have cast a shadow on the black surrounding it. This stricture no doubt applies also to white-ground style.

An eventual surfacing of this struggle seems predictable from the universal assumption of the Classical philosophers that chromatic color arises out of varying combinations of black and white (see Chapter II, *The Ancient Sources*, Conclusions, paragraph 2). But on the level of what we call illusionistic art this struggle was not engaged until that stage of moral/mental maturation we know as the Hellenistic Age—and then not nearly so systematically as in the modern era. And on the highest level of all, the philosophical, this battle seems not to have been joined before Neoplatonism, by which time ancient painters had become interested in other matters.

The final results of this investigation of the coloration of Greek art: vase painting in as far as this is based on representation of figures; and wall painting (including some Pompeian) in the light of the Four Elements/Four Colors theory can be summarized in the following schematic way:

| **Period** | **Element** | **Dominant Color** | **Subdominant Color** |
|---|---|---|---|
| Geometric | Earth | Black | Yellow |
| Archaic | Water | Yellow | Red |
| Classical | Air | Red | White |
| Hellenistic | Fire | White | Black |

In concluding this chapter and leading over to major painting it will not be inappropriate to recall one of the most sophisticated results of the Four Color tradition, the Alexander Mosaic (Figure 17) reflecting a painting of the Protohellenistic period (see also Appendix A, *Mosaics*, paragraph 1). For this is truly not thinkable without the patient and consistent work of many generations of vase painters in exploring the expressive possibilities of this particular combination of colors. In the mosaic the brilliantly highlighted portraits of Alexander and Dareios lead one to think of other famous portraits. Only in the band around the headdress of Nefertiti (*EWA* 12, fig. 489) did the Egyptian artist go beyond the four color palette. What is most extraordinary is the blending of those colors to produce a skin hue which is slightly swarthy but indescribably radiant, as can be fully experienced only *in corpore*. In a portrait of this quality and sophistication, I should hesitate to think that the black was introduced only to do justice to a racial quality; it must also be physical black representing the material body, and hence predictor of mortality.[29] While the latter suggestion may in this case be somewhat speculative, it can hardly be so if applied to—far down the centuries—the self-portrait of Rembrandt in the Hague ( *EWA* 11, fig. 456) for the concept of *memento mori* was built into his era and perhaps particularly so in the consciousness of this artist.