The Origin and Use of Compositional Geometry in Christian Painting

by

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March, 1994

A thesis presented to the Faculty of Graduate Studies and Research in partial fulfilment of the requirements of the degree of Master of Arts in Religious Studies

Painters of Christian subjects in the late Middle Ages and early Renaissance developed a complex system of geometry which they used to order the various elements in the image They did this because they were convinced that the æsthetic dimension of their work resided in the *structure* of the work More specifically, the artists of the late Middle Ages and the Renaissance believed that the particular æsthetic experience which *geometric* compositional structure provides corresponded to Christian mystical experience. Thus a work of art that combined geometric structure, naturalistic style, and Christian imagery could provide an experience analogous to that of Christian revelation.

This paper traces the development of this idea from its origin in the Old Testament tradition, its formalization in Greek thought and its full flowering in early Christian painting.

Les peintres de sujets chrétiens à la fin du Moyen-âge et au début de la Renaissance développèrent un système de géométrie complexe qu'ils utilisaient pour organiser les différents éléments dans l'image. Ils procédaient de la sorte parce qu'ils étaient convaincus que la dimension esthétique de leur œuvre se trouvait dans la structure de l'œuvre Plus explicitement, les artistes de la fin du Moyen-âge et de la Renaissance croyaient que l'expérience esthétique particulière fournie par la composition géométrique de la structure correspondait à une expérience mystique chrétienne. Donc, une œuvre d'art présentant à la fois une structure géométrique, une style naturel et une réflection chrétienne pouvait fournir une expérience analogue à une révélation chrétienne

Cet exposé retrace l'origine de cette idée depuis son origine selon la tradition de l'Ancien Testament, à travers sa formalization dans la pensée grecque jusqu'à son plein épanouissement dans les premières peintures chrétiennes.

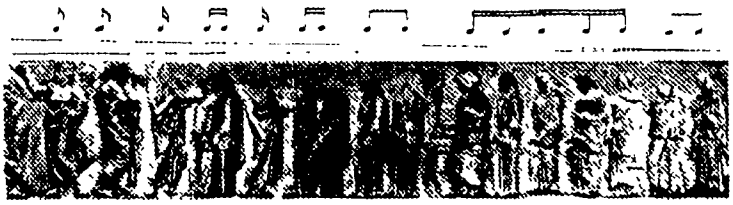

Fig. 1 right side of east face

Fig. 2

Fig. 3

Fig. 4

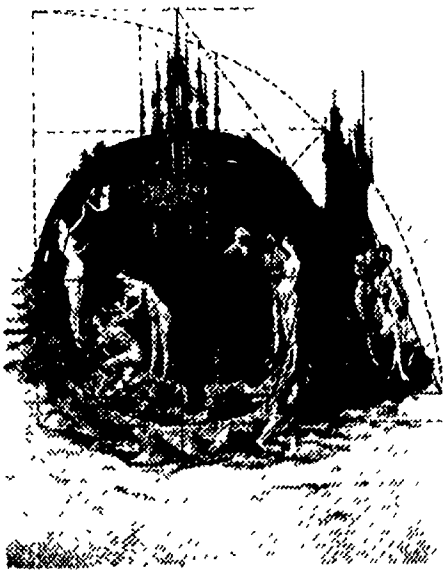

Fig. 5

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Introduction

> There is a real inspiration, proceeding not from the Muses, but from the living God, a special impulse of the natural order whereby the first Mind gives the artist, when it pleases, a creative impulse transcending the limits of reason and employing as it elevates every rational energy of art. Man of his free will can obey or destroy such an impetus. This inspiration which descends from God, the author of nature, is as it were a symbol of supernatural inspiration. For an art to arise which shall be Christian not only in hope but in fact, truly freed by grace, both forms of inspiration will have to be united at its most secret source.[1]

Many artists throughout history have used geometry to compose the pictorial elements in their paintings. Although the geometry was often complex and difficult to combine with the imagery, the practise was universally accepted by artists up until the middle of the nineteenth century and persists in some quarters to this day. It is curious that such an important aspect of the

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[1]Maritain, Jacques, Art and Scholasticism N.Y.: Books for Libraries Press 1971. p. 54.

creation of a painting is rarely discussed in much depth in surveys of art history. Beyond the occasional overlay of a triangle on its base to illustrate a stable classical composition, or of a few curved lines to emphasize rhythm and movement in a romantic painting, writers on art generally shy away from the subject. It is as though most non artists are convinced that these devices are purely technical, only there to ensure that the main expression of the work is not hampered by careless placement of the subject's components.

Full appreciation of the subject of a work of art was traditionally understood to be dependent upon the breadth and depth of one's cultural and historical knowledge. The style of a particular artist or period might dictate the use of straight lines, rectangular structures or triangles sitting solidly on their bases rather than the more dramatic and rhythmical curved lines and intersecting circles, but these choices were seen as subordinate to the choice of content which carried the burden of expression. Nevertheless it is clear that the choice of a compositional device can either enhance or destroy the expression of the subject. Badly composed paintings are easily recognized because they lack force and clarity of expression just as badly composed novels lack coherence and badly composed music disintegrates into noise. While one can accept this as so obviously true as to be redundant, the fact that structure can be so crucial to expression does pose interesting theoretical problems. At what point for example, does

the subject relinquish expression to the composition, and what would be the nature of expression that emanates from composition?

Certainly it is important that a harmony exist between composition and subject. Analysis of all forms of art on this basis has long been standard practise.[2] But even this sort of analysis presupposes that certain types of abstract patterns are more suitable than others to a given subject, and it follows that the abstract pattern therefore must be able to convey a coherent and significant expression in and of itself, independent of the subject. It is only in the last hundred years or so, however, that certain styles of painting have become devoted to experiments along this line, attempting as it were to derive expression from form alone. Throughout most of history artists have sought to *unite* compositional structure with a subject so that together they may elevate the expression of a work to a level unattainable by either on its own

One of the best examples of this more traditional marriage of form and content is Christian painting of the late Middle Ages and early Renaissance. It might be supposed that for an audience of the faithful the artist need be concerned only that the image conform to the biblical details of the subject. It is difficult to imagine that

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[2] There are many works that discuss this topic in relation to the structure of the work itself, but even in the highly individualistic contemporary scene the subject occupies much of the speculative writing on the visual arts. Contemporary theorists of artistic expression, however, such as Rudolf Arnheim or Herbert Read, usually base their analysis on the psychology of art

anything but the simplest ordering of the image would be required. Yet, curiously, it is at exactly this time that complex compositional geometry established itself solidly as an essential component affecting the expression of a work of art. The reason for this has to do with the conviction that there is an essential relationship between mathematics and the divine. Samuel Eggerton, for example, notes that ;

> Even before the twelfth century, the early church fathers suspected they might discover in Euclidian geometry God's very thinking process. In other words, geometry, along with arithmetic, astronomy, and music, sister arts of the quadrivium, was believed to speak the language by which God first inscribed his natural laws of the universe.[3]

It will be my contention in this paper that it is precisely this link between pure mathematics and divine order that created the possibility that the structure of a work of art might in itself carry meaning of ontological significance. Furthermore I will show that in Christian painting of the late Medieval and early Renaissance periods the compositional geometry fuses with the Christian subject raising the expression of the work to a level that transcends the individual possibilities of each.

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[3] Eggerton, Samuel Y. Jr , The Heritage of Giotto's Geometry. Ithica: Cornell University Press 1991. p 288.

The first chapter of this paper will explore the origin in the Classical world of the idea that mathematical order relates to ontological understanding. The idea grew from the assumption that nature was a reflection of divine order, an assumption which was reinforced whenever empirical examinations of nature revealed its mathematical underpinnings. Thus mathematics, the ultimate instrument of rationality, also appeared to reside at the heart of nature itself. The Greeks of course, paid homage to this phenomenon with their statuary and architecture, both of which exhibit a mathematical understanding of harmony.

The theory of formal composition that developed at this time will be shown to relate to ideas that appear in the writing of Plato. Plato is most useful to this project because the hierarchical structure of his ontology appeals to the early Christian theorists during the Roman period and greatly informs the evolution of a Christian æsthetics. This transition will be the subject of the second chapter.

The third and final chapter will show that in medieval and Renaissance Christian art the possibility of a concordance of artistic form and ontological truth existed because the revelation of Being itself came in formal terms. Heidegger talks of this as the "working of truth in the world" and says that the particular manifestation of

truth that occurred in Classical times and in early Christian times allowed ontological understanding to take on a particular form.[4]

I will conclude that truth worked itself in the Classical and Christian world in a way which allowed for the development of an expressive mechanism which could be interpreted as a manifestation of ontological structure. That mechanism was compositional geometry and in this paper I will show that it was used by painters of Christian subjects to infuse their work with a quality of transcendence, a quality that would connect the viewer with the idea of Being.

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[4]Heidegger, The Origin of the Work of Art, in Hofstadter and Kuhns, Philosophies of Art and Beauty, Chicago: The University of Chicago Press 1964, pp 698-99.

Chapter 1

The Greeks

In the western tradition one begins to talk about art in terms of its having discernible æsthetic properties only with the advent of the Classical Greek period. This is not to say that the art of the Egyptians or of the cultures of the Tigris-Euphrates valley does not possess beauty, only that these cultures lack a theory of beauty that would allow them to articulate the feeling that rises above an appreciation of the merely decorative. On the other hand it is quite clear from even a cursory look at man's earliest attempts to draw and paint, the cave paintings at Lascaux for example, that individual artists were always capable of responding to qualities of elegance and sensuousness in pure line and colour. It was left to the Greeks to recognize that such responses to qualities neither descriptive nor decorative in drawings, pottery, and sculptures suggested that a

deeper emotion was being stirred by these objects and the decorations on them. It is from this period on that the artistic products seem to provide the viewer or user with an experience of pleasure that cannot be attributed to any particular quality of decoration, form, or function of the work. We must be careful, however, not to attribute to the Greek artists intentions that they clearly did not have. No sources that I have come across would go so far as to say that the Greeks thought in terms of separating the æsthetic properties of a work from its descriptive, functional or decorative role. In fact quite the contrary is true according to Carpenter.[5] The efforts of the vase painters of the geometric period, for example, reveal that their considerations in decorating these vases were somewhat more prosaic than the pursuit of a "pure" æsthetic feeling. Any of the standard art historical works of the period will tell us that the stylistic elements such as the uses of pattern, or the method of painting hair, were derived from Minoan, Egyptian or other eastern civilizations that preceded and overlapped this phase in the development of Greek art. As such they had become part of a tradition which, because it passed down through time without any significant change, carried with it a feeling of permanence and progression through time. The act of

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[5] Carpenter, Rhys, The Esthetic Basis of Greek Art, Bloomington: Indiana University Press, 1959.

first making the vase form and then of decorating it involved the artist or craftsman in this seemingly timeless progression.

It is evident that these early Greeks were concerned with three basic qualities in the vases they made. The basic shape of these vases seems to have been determined not only by the function that that vase would perform, but also by the desire that the shape should be pleasant to hold and to look at. The form of the vase was intended to enhance our experience of it as relating to cosmic order. Carpenter makes it clear that the artist's concerns were related to those of the philosopher and only the form of expression of cosmic ideas differed.

> It is the good craftsman's business to seek out the right form, which is the true and perfect species type for the kind of object which he is making. And beauty and intellectual fitness will attend to his discovery, because the true and primal types are god-made.[6]

Secondly, the painting that was applied to the vase was clearly meant to convey a literal meaning either in the narrative manner of Egyptian wall painting, or simply as a singular illustration of an event in history or myth.

Finally, the way in which the decoration was applied to the shape so that both the illustration and the form on which it was

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[6] Carpenter, The Esthetic Basis of Greek Art, p. 110.

applied retain their integrity while complementing each other points to a level of æsthetic sophistication that is rarely achieved in the world of art.

As Carpenter pointed out, the form of a vase was determined by a set of principles of proportion that were thought to relate to a cosmic or "ordered" unity. The Pythagoreans in the sixth century had determined that musical harmony could be obtained by adhering to a set of numerical ratios. They believed furthermore that these ratios were not determined by man, but were discovered in nature and were therefore evidence of the true cosmos. In following the canon of his art the artist was in fact bringing his work closer to nature, making it true to the founding principles of nature. The artist was not the *creator* of art but its *discoverer*, and by extension a seeker after the ultimate order of all things.

The vases that were done during the Pythagorean period indicate that their makers were sensitive to the order and harmony of nature and were prepared to follow a canon in setting the proportions of their vases. Some of these vases, for example, have a height-to-width ratio of 1:1 (they fit into a square) while others, more interestingly, have a height-to-width ratio of 1:.0618. This ratio, not the only irregular ratio used by vase makers, is derived by dividing the smaller by the larger of any two adjacent numbers in a

summation series.[7] This ratio, Hambidge points out, also reveals the order of the distribution of leaves on a plant, and is better known as the "golden section". The form of the vase thus relates through the canon to nature and the artist in making the vase participates in the natural order. The golden section ratio occurs throughout the history of art and we will deal with it in more detail later, but for the moment we should notice the relation between craft, mathematics, and nature which emerges at this time in this minor art form.

It would be logical to assume that if the shapes of the vases corresponded to a canon, then the painting on the vases should also conform to some sort of ordering principle. Although the mathematical basis of such a canon has never to my knowledge been discovered, many scholars who study vase painting have noted the apparent presence of numerical rhythms in the images. Swindler, for example, in documenting the extensive range of expression and description, as well as the subtlety of composition in Greek vase painting, notes at one point that:

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[7] Hambidge, Jay, The Elements of Dynamic Symmetry, N.Y.: Dover 1967. p.3.

> Behind the beauty of his (the vase painter's) designs certain mathematical ratios appear to lie, the character of which has not yet been finally determined.[8]

The evidence of these early works would seem to indicate that that the Greeks were developing a uniquely sophisticated view of nature and the role of human being within nature, a view that will elevate and give pronounced significance to the requirement that the experience of beauty be dependent upon the presence of mathematical symmetry.

That beauty was central to a Greek's experience of his culture is beyond question. A standard art history text, such as Gardner's *Art Through the Ages*, begins its section on the Greeks by focusing on exactly this:

> The order of both nature and reason, said the Greeks, is both beautiful and simple, and the beauty of things is one with our knowledge of them ....[9]

Thus a dialogue is set up that is still going on. There is nature on the one hand, somewhat mysteriously presenting glimpses of her natural order, and man on the other hand, catching

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8 Swindler, Mary Hamilton, Ancient Painting From the Earliest Times to the Period of Christian Art, New Haven: Yale University Press 1929. p. 190.

9 Gardner, Art Through the Ages, 8th. ed., Orlando: Harcourt Brace Jovanovitch 1986 .p. 126

these glimpses and speculating upon the ultimate form of nature. We are both part of, and apart from nature, linked eternally by our rational capacity which passionately seeks its completion in the inclusive understanding of the order of all. This struggle gives forth all that is great in human history, and echoes of the trinity of man, nature, and understanding, reverberate through history from the Christian Trinity to the three poles of Hegelian dialectic. Art too results from this dialogue and the æsthetic principles that the Greeks develop will necessarily be formed around an understanding that order and beauty are one.

Among the pre-socratic philosophers, the Pythagoreans were the ones who most forcefully linked the experience of order, through music, to an experience of the divine. The Greek understanding of the human soul at this time, given in the Orphic mysteries, is similar to that found in the Genesis stories. Just as in choosing to be human, Adam and Eve place themselves in a condition of sin and condemn themselves to an eternal struggle to reunite with God, so the soul, in the Orphic tradition, is imprisoned for its sins in the body and eternally seeks liberation. But for the Pythagorean Greeks, it was music that had the power to liberate the soul, and the soul of music is numerical order. The Greek love of mathematical order and logic naturally found a voice through music which was based upon rhythms and harmonies. The complex formal relation between mathematics and musical

composition which descends through the western tradition originates with this convergence of passions in the Hellenic Greek culture. Here we see the first clear statement of the essential link between form and content that is the basis of any significant theory of art. Music to be *good* must be ordered, and if its order is inspired by cosmic harmony then music can move the soul. Music's advantage over other art forms, especially painting which is our concern here, is that in music form and content cannot be separated. That is why, down through the ages, music has been considered the purest art form. Other art forms present more problems; in the late modern period some visual artists have sought to overcome the problem by eliminating literal imagery in the hope of bringing painting closer to music. But in ancient times the possibility that a form of art could echo or even unite with cosmic order and thereby elevate human experience to a near divine level had not yet been fully explored. Ideas about the absolute interdependence of order and soul, and the function of art in bringing the two together in human experience are clearly articulated for the first time in Plato's dialogues.

In the Phaedrus[10] Socrates draws us into an understanding of love of beauty as love of truth that is as profound as one is likely to

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[10] All references to Plato's dialogues are from The Collected Dialogues of Plato, (Princeton: Bollingen Series, Princeton University Press 1961) trans. Hamilton and Cairns.

find anywhere. After dispensing with the baser qualities of love which cause it to be confused with desire, and discussing with Phaedrus the various evil consequences of desire (238-243), Socrates introduces the divine aspect of love, stating that "If Love is, as he is indeed, a god or a divine being, he cannot be an evil thing ...." (242e). After having gone to great lengths to show that love is a form of madness, an abandonment of one's rational capacity, he now introduces the possibility that through a divine connection this form of madness can be a higher form of knowledge than any provided by judgement. Similarly it is the divine madness of the poet which elevates the work of mere skill to the level of "passionate expression"(245a). What distinguishes passionate expression is its revelation of what Socrates seems to take as a universal soul through the divinely inspired work of a particular soul. Even though the poet and the imitative artist rank quite far down on the scale of seekers after beauty, nevertheless all individual souls have the possibility of seeking beauty or succumbing to desire, each at their own level of existing. It would seem that Socrates is saying that even the most common of experiences presents an opportunity for both the evocation of desire and the revelation of beauty. It is up to the charioteer which horse he will reign in and which he will give its head (246).

What we glimpse through the works of the poet is a glimmer or fragment of the eternal truth of creation. The individual soul for

a moment reunites with an event that is both timeless and continuous, that is both complete and ever forming in each moment of its existence. A later dialogue, the Timaeus, tries to explain how this could be, how the universal soul is formed. Timaeus is given reign by Socrates to expound upon the nature of the soul, and by extension the nature of creation. The picture that emerges is one of concentric circles of various diameters, counter-rotating at speeds that ultimately assure balance and harmony. The result is a permanent order that is dependent upon the delicate balance being maintained. Timaeus continues to describe the sub-categories of creation using precise mathematical ratios so that order becomes central to his vision of the physical universe (solar system) which corresponds to the soul, both having the same center and being completely integrated (33c-40e). It is only later that the earth (a perfect circle concentric with the known universe) becomes populated with animal life including human beings. It is important to note that the soul precedes human life and is not dependent upon it. But it is human beings that introduce the possibility of knowledge of the soul and the path to that knowledge is through two human capacities; the passions (or the divine inspiration of the poet), and the intellect (the rational process engaged in by the philosopher). In exercising these two capacities toward the Good we choose to direct ourselves to the center of creation where the soul and the known universe become

one. In other words, the actions of particular souls towards reunion with the universal soul brings us into contact with divine order which is geometric or mathematical (Gorgias 508a-c). Thus the intellectual activity of doing mathematics or geometry possesses a divine component which is also open to a passionate apprehension. The poet and the philosopher, having followed different paths, find themselves side by side in the apprehension of the divine.

The art of painting began to achieve greater significance as it responded to the necessity for the divine to be revealed in a form that allowed for thoughtful contemplation rather than as a consequence of action. Jane Harrison in Ancient Art and Ritual describes three stages; life, ritual and art, through which experience must pass in order to become worthy of reflection.[11] The formalizing stage of ritual, which gives order or form to carefully selected but common experiences, shows us that the roots of art are clearly and necessarily in life. But the immediate and active components of ritual which usually had a practical end eventually give way to the more formal ritualization of moral dilemmas which constitute Greek drama. As Harrison points out, when this happens, those of us who formerly were active participants are now passive observers. We are given to contemplate two things; the moral dilemma which guides us towards knowledge

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[11] Harrison, Jane, Ancient Art and Ritual, London: Williams and Norgate 1913, especially chapter 5.

of the good, and the form of the drama which is integrated with the apprehension of the good. We are distanced, as Harrison says, by the fact that the two senses that are now required are sight and hearing, both of which react to sources removed from us. Thus positioned we are able to contemplate the working of the divine within formalized human experience.

The importance of the role of contemplation was first indicated by Pythagoras. He claimed that the philosopher, who comes to an experience only to observe and contemplate it, has the truest experience because it is a disinterested experience.[12] This particular aspect of art is more extensively dealt with by Aristotle who formalizes the ideas of Plato, and by extension Pythagoras. He concluded that the æsthetic experience, at least in the "static" arts of painting and sculpture, is produced by qualities that are intrinsic to the work. Aristotle indicates that the static arts, and to some extent poetry, affect us through the intellect. Art of this sort is profound to the degree that it resonates with the order of nature, an order which is open to the understanding through empirical investigation.[13]

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[12] Pythagoras, (Laërt. Diog. VII 8) in Wladyslaw Tatarkiewicz, History of Æsthetics vol. -1 Ancient Æsthetics, The Hague, Paris: Mouton 1970. p. 88.

[13] Aristotle, Poetics, 1452b 15 - 1454b 20 in The Basic Works of Aristotle, (N.Y.: Random House 1941) ed. R. McKeon. pp 1466-1470
A concise comparison of Plato's and Aristotle's æsthetics can be found in Warry, J.G Greek Æsthetic Theory, London: Methuen & co. 1962 chapter VI *Mimesis and Rhythm* p. 100.

Plato differs however, in holding open the possibility that some aspect of the divine, a quality exterior to the work, might be revealed through the contemplation of a work of art.

The distinction between active participation and disinterested contemplation is another area where Aristotle and Plato differ. Plato is important to our discussion because he allows for the possibility of a mystical experience through music, dance, and drama. These areas encourage the intellect to lose itself in an ecstatic union of form and content brought about by physical participation in the art form. Such activity involves no contemplation and leaves no object behind. At least this was the case until the twentieth century when action painters such as Jackson Pollock turned the act of painting into an experience of this kind. The fact that individuals and museums revere the "paintings" they leave behind, even if they can be seen as examples of an æsthetic of negation, would probably have been a source of amusement to Plato more than anything else. While Aristotle accepts that this is how the arts of music and dance operate, he suggests that in the static arts of sculpture and painting æsthetic properties are intrinsic to the work and therefore should properly be understood as responding to a contemplative attitude. He is important to our purpose because he formalizes the idea that beauty is self evident (as is God); thus he sets up the possibility that quiet contemplation is above participation.

Warry makes a distinction between intellectual and romantic beauty in Plato, the former being limited to the apprehension of what we might refer to as "particular orders" and the latter which consumes all of our human capacities in experiencing the sublime.[14] Intellectual beauty is revealed through contemplative processes and corresponds to the position arrived at by Harrison above. The second form would correspond for our purposes to the Christian experience of the Divine through revelation. Romantic beauty for Plato is the higher of the two experiences of beauty because it involves us in acting towards the experience of the sublime. In fact such experiences should be seen as the ultimate aim of all human action. The best artistic expression of this is the drama or tragedy because through the actions of the characters which display various human weaknesses, the near impossibility of the resolution of human action in order and harmony is presented in such a way as to clarify our perception of what is *not* possible, or should I say: what is possible only in the realm of the divine (only out of situations of extreme discord can true harmony be seen). Such forms of artistic representation of the divine, although essentially contemplative, focus on the necessity for human *action*. The apprehension of mathematical order in geometric structures, on the other hand, can never of itself produce an experience of the

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[14] Warry, J.G. Greek Aesthetic Theory, London: Methuen & co. 1962 Introduction.

sublime because such an experience of order does not engage sufficient human faculties.

THE "STATIC" ARTS

The static arts are concerned only with the form of beauty in particular objects and as such constitute only one of three faces of the pyramid that culminates in the experience of the sublime (the other two being goodness and truth). One could think of painting and sculpture as a sort of "carrot before the horse" or perhaps the purpose that keeps the idea of harmony before us as we become increasingly mired in the confusion of life experience. Both goodness and truth are related to action, requiring that they be sought, but beauty in the static arts is just there requiring only that it be recognized. This then is what Warry refers to as intellectual beauty and in its purest form it is abstract.

> Seeing and hearing, as long as their objects are abstract and mathematical and free from any material associations are intellectual pleasures, and such pleasures only become tainted when the abstract form which gives rise to them receives some concrete embodiment.[15]

This statement of the nature of intellectual beauty is significant in that it seems to be at the heart of our understanding

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[15] Warry, Greek Æsthetic Theory, p. 36

of æsthetic beauty down through the western tradition. It reappears, for example, in Kant's emphasis on "disinterested pleasure" as the basis of his æsthetic theory, and it certainly is the foundation of Clive Bell's and Roger Fry's theory of modern non-objective painting written at the beginning of this century (see footnote #30).

The crucial aspect of this understanding of æsthetic (intellectual) beauty is that our appreciation of it be "... dissociated from any aspect of our will".[16] In this way the experience of the work of art is an experience of pure truth. The only reason that it is not an experience of the sublime is that the experience occurs in the apprehension of a particular thing rather than in the context of the full experience of life. In the Philebus Socrates talks about the complexities of music and the relation of these complexities to the single note (16c-18d). The single note represents a stage of innocence or beginning and the subsequent recognition of increasing complexity represents the movement into a more intricate musical context that parallels life's experience. Socrates here makes clear the principle that art cannot dissociate itself from life and that a life properly lived is a quest for the knowledge of the good. Once a particular art form recognizes its mathematical or geometric base it must make that the foundation of its increasing

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[16] Warry, Greek Æsthetic Theory, p. 44

involvement with the rest of human experience. Jaeger summarized the pertinent passages from the Republic in which Socrates presents his explanation of the relationship between pure logic (mathematics) and experience in the following way:

> The mathematical disciplines are closer to true reality, but touch it only in sleep, as it were—they cannot see it with their eyes wide open. ... We now know the meaning of the ratio between the various stages of reality and of knowledge which Plato earlier gave to illustrate the purpose of his paideia. It is this. Reason is to opinion what being is to becoming. And as thought is to opinion, so true knowledge is to the evidence of the senses, and so mathematical reason is to the shadows of visible objects.[17] (Republic 534a-b)

Socrates is talking about the dialectical process but we might reasonably broaden this model to include what might be called non-verbal forms of dialectic. In fact he introduces this possiblity in the last sentence by indicating that visible objects once apprehended are drawn towards an ordering principle of which mathematics is the purely formal representation. Mathematics on its own has no meaning and no purpose, just as the evidence of the senses experienced as isolated autonomous fragments of reality have no meaning. The quest for pure form or the essence of creation itself

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[17] Jaeger, Werner, Paideia, New York: Oxford University Press 1943. vol. II. pp. 311-312

that characterizes much of contemporary art would seem to represent a retreat towards innocence, and consequently a retreat towards meaninglessness. Leonard Baskin once stated that "It is only through an act of gigantic self deception that one can experience the meaning of the act of creation."[18] Baskin is one of many voices in contemporary art that cry out against art that has folded in on itself, deriving its meaning only from its own internal structure.

Warry discusses the pure aspects of geometric form in its relation to the arts in the same way:

> The soul emerges from innocence into the conflict of experience. Here it tries to impose on experience the formal harmony which it apprehended in innocence ....[19]

Thus the struggle that is life begins and it begins from the fundamental apprehension that order is both the first and the last revelation. Any experience that does not reveal order at its base is an experience leading away from the good; the black horse must be reigned in! The arts then participate in this voyage by constantly and sometimes mysteriously revealing the order that lurks behind the image and draws us toward a sensation of the beautiful. There

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[18] Rodman, Selden, The Insiders, Louisiana State University Press 1960. Chapter 14, *Leonard Baskin; Poet of Death.* p. 94.

[19] Warry, Greek Æsthetic Theory, p. 37.

can be no such thing as an art of chaos, or an art that exists apart from the experience of life in general. The eyes and the ears, as Harrison says, apprehend from a distance the images on the vases, walls, and friezes and the songs that tell of history and myth. But the deeper meaning is hidden within the image, giving it form and at the same time pointing beyond. How exactly does this work and what is the nature of the marriage between form and content in Greek art?

MATHEMATICS AS A FOUNDATION FOR ART

Socrates' discussions of the mathematical rhythms of music give some indication of the direction we must take in pursuit of the answer. Music is different from the static arts in that it involves us in a progression of rising and diminishing intensity interspersed with periods of calm and even monotony. Music parallels the experience of life and in compressing and focusing that experience heightens our awareness of life's rhythms. In drama the progressive rhythms of music are elevated by the addition of moral content and given a beginning and an end. The experience becomes self contained but not static. There is a similar transition that can be seen in the organization of the imagery on friezes. Like music the frieze follows a progressive linear development and like drama it has a beginning and an end and contains literal content of either a moral, historical, or mythological nature. But unlike the other two

the frieze is a purely visual medium and contains no actual movement. In music you have no choice but to follow the progression, you cannot stop the music and contemplate a single note, or change the rate of progression. Music is an art of time, not space; the listener is drawn into a kind of movement that is beyond his control. In drama, an art of both time and space, the action and the actors move forward to the desired conclusion; as Jane Harrison pointed out, the members of the audience are engaged in contemplating an event that is also beyond their control. If a frieze is to engage you in a similar way to music or drama, it must employ more subtle measures to entice you into its patterns and rhythms. After all one is not a captive audience in front of a frieze, nor is one compelled to view it at a predetermined and uninterrupted rate, nor even in the desired order. In fact one can contemplate one figure and nothing else if one so desires. A frieze is almost a static art, but not quite.

The east side frieze on the Parthenon provides us with an example of how an apparently static art employs the structures of music to heighten our experience of its subject. (see fig.1) The subject is the gathering of the citizens of Athens for the Panathenaic procession which took place every four years. The people, horses and chariots gather on the west side in a somewhat chaotic fashion and set off in two directions, toward the south and north sides where the procession becomes more orderly. As they

round the bends on each end of the building heading for the center of the east side the rhythmical pattern becomes more pronounced. The movement from each end toward the center gathers intensity at the same time as it becomes more deliberately paced. At the climactic point the presentation of Athena's *peplos* takes place surrounded by fourteen Greek gods, seven on each side. The pace of the viewer's progress toward the center is carefully controlled in different ways on this final facade of the frieze. Coming from left to right, the first three or four figures are more widely spaced, indicating a leisurely but steady pace. The flow compresses and intensifies through the use of groupings of three, four, and five figures which become more tightly arranged as you move toward the climactic point. From the other end of the east facade and moving from right to left, the spacing of figures remains even but the increasing inclination to arrive at the center is regulated by the ir clusion of standing figures that turn against the flow, controlling the pace.

Charles Bouleau has provided the musical analysis of this side of the frieze but has, I think mistakenly, seen it a a crescendo followed by a diminuendo flowing from left to right across the whole face of the east facade.[20] It should in fact be seen as a double crescendo moving from each end toward the middle controlled by

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[20] Bouleau, Charles, The Painter's Secret Geometry, New York: HBW 1963. pp. 32-33.

the use of "visual weight". Visual imagery can be given "weight" by artists through the use of larger sized elements, intricacy of detail, compressed activity, and in painting, colour. In this frieze the use of "visual weight" to control the flow corresponds to the use of notes that are tied together and played louder in a composition. The spacing and size of the gods that occupy the center of the east side are also given musical designations in Bouleau's analysis. It seems quite appropriate to employ the rhythms of musical progression to control the flow of movement in a visual work that is meant to be read as a linear development. Music after all is the only art that expresses its moods and passions through pure form unencumbered by literal representations. The divine harmony that mathematics echoes can be artfully revealed in the controlled harmonies of sounds linked intricately together through time. In the Panathenaic frieze we have an example of one fully developed art form being used as the formal foundation for another. Without the visual rhythm that the musical intervals provide there would only be a collection of disconnected figures and the viewer would feel no inclination to move around the frieze at all.

The use of melodic composition brings more to the experience of the work than simply the ordering of the progression of figures. Whatever content the music possessed is transported to the visual image. Through music the "shadows of visible objects" are linked to the pure order of mathematics and hence are brought

closer to "true reality". Music's power to arouse the passions to an appreciation of pure harmony and thereby awaken the soul to reason and the divine are precisely what the visual artists want to harness in the arrangement of figures on the frieze. Considering the importance of music in the relationship of man to the divine (see Republic 526-531d) it should hardly be surprising that visual artists should make use of harmonic principles in their work. By these means the artists are able to elevate our experience of the subject which typically involves both human and divine figures to a higher level through involving both in the silent and invisible rhythms of the heavens.

Heraclitus in the fifth century had indicated in his oracles that the order of the cosmos was based on reconciliation of opposites and that the "hidden harmony was better than the visible".[21] This aspect of harmony, that it is more profound when hidden, was one part of the Pythagorean tradition that Plato inherited. It indicates the possibility of a mystical experience of order through an apparently chaotic representation. Pure form in itself is silent and opaque, but as Harrison pointed out with reference to ritual and drama, the purpose of art is to permit us to contemplate the presence of the divine within experience. The hidden order in drama, music and now pictorial imagery carries

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21 Heraclitus, in Ancilla to The Pre-Socratic Philosophers, Kathleen Freeman, tr. Cambridge, Mass : Harvard University Press 1948 p. 28. fr. 54.

the possibility of the audience's intuiting an order (divine element) behind the subject. Otherwise the divine remains distant and unattainable, and existence is cold and meaningless. Through art the divine is in some way present to us. Carpenter comments on the connection between form and content in the same way:

> It would be childish to claim that any very extensive spiritual experience is derived from thus travelling around on the lines of a picture. If we concentrate on the purely formal element, the result is extremely trivial. But if all these effects of acceleration and retardation, continuity and disconnection, intric te volution and open sweeping progress be encountered and scarce-consciously performed du' ıg our contemplation of the objects presented by the picture, the triviality vanishes. The things in the picture take to themselves the emotional qualities which are latent in the pure forms.[22]

Although Aristotle struggled all his life to bring Plato down to earth so to speak, his view of how art functions in relation to principles of order remains consistent with the basic ideas of Plato. There are indications that Aristotle too appreciated that painting could elevate the experience of the viewer to a level beyond the merely rational. His championing of the painter Polygnotos for example, is due to the ability of Polygnotos' work to inspire the

[22] Carpenter, p. 37.

moral character of Athenian youth. This quality in Polygnotos' painting could be attributed to his ability to capture feeling and expression on the faces of his subjects, but for Aristotle is was more likely due to his "... compositions which had a certain grandeur of style and completeness."[23]

Aristotle makes the same distinction as Plato does between ultimate experiences that require action (goodness) and those that don't (beauty). Beauty is the realm of the static arts and its underlying principles are "order, proportion, and limit". These are also the " .... fundamental causes of existence"[24] and are best exemplified in the pure order of mathematics which mysteriously reflects the ground of being.

> Art comes into existence when, as a result of empirical apprehension, a universal judgement is applied to instances classifiable in virtue of their similarity.[25]

Thus we could say that for Aristotle art comes into being when, to at least a limited degree, the universal ground of being becomes apparent in the particular. For an artist who wanted to make his subject reflect the universal ground of being, it would seem logical that the best way to do so would be to place his

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[23] Swindler, p. 202.
[24] Warry, p. 87.
[25] Warry, p. 92.

representation of a particular subject within a mathematically ordered format. This is doubly effective because for Aristotle (and for Christianity) the perception of order is the result of an irrational urge, and the goal of the rational capacity in man is an irrational apprehension of the divine. Hence the æsthetic experience one has in front of a work of art is due not to its representational qualities but to the fact that our irrational urge to seek order in the particular is satisfied mysteriously. It is but a short leap to recognize the potential for mystical experience through art. Direct apprehension of the divine through imagery was the goal of medieval icon painters and remained one of the aims of the more sophisticated artists of the Renaissance period. We must first see though how the artistic devices and perceptions of the Greeks work their way into the art and thought of the early Christian artists and theologians.

Chapter 2

Order in Early Christian Æsthetics

ORDER AND NATURE IN ANCIENT LITERATURE

The theory of art developed by Plato differed from that of Artistotle in one essential way. Plato held the imitative arts in low esteem because their imagery was thrice removed from the ideal. Being imitations of particular aspects of nature which were themselves particular and therefore imperfect manifestations of the ideal, artistic images were believed to be too remote from the truth to be of any importance. Nevertheless in stressing the transcendent quality of mathematics Plato opened the door to the possibility that if an artistic image is mathematically ordered it might provoke a revelation of the transcendent dimension through a representation of the particular. Plato's æsthetics allowed for the future inclusion of a mystical quality in the experience of art. A work of art might

refer beyond itself and serve as a conduit between the ideal and the real.

Aristotle on the other hand maintained that the æsthetic experience one has in the face of a work of art can be due to nothing other than the properties that are contained within the work. Art causes us to feel pleasure because it is well designed or well ordered. Its beauty is present in the work and not the result of any reference to a transcendent ideal.

The two conflicting positions concerning the potential for art descended through history from the Hellenic Greek period to the Roman virtually intact and still unreconciled. As we enter the early Christian era the Aristotelian thesis that art presents a self-evident and self-contained example of the beauty of nature remained intact alongside a Platonic theory of art that resembled a vessel perfectly formed, perfectly understood, but empty. Plato's idea of how art functioned was more open to the addition of an enriched spiritual content and just such a content lay waiting in the wisdom of the Old Testament vision of nature and God.

The idea that the non-rational or inspired mind could make contact with transcendent elements in nature and even prophesy is conspicuous in ancient literature and its appearance in Plato's dialogues, notably Phædrus 242-247, is one example of many influences that flowed among Hebrew, Greek, and at the same time early Christian, literature. If the belief than one could experience

the transcendent realm from a position in nature was widespread at the time, the idea that images could facilitate such experiences was clearly not accepted. Similar stories in Wisdom (13) and Isaiah (44) caution against the worship of man-made objects and images. Isaiah especially records the act of an artist creating an object in his own image, using measure and craft which parallels the act of God in creating man. But the artist pursues his art for his own gain and is ultimately blinded by his self absorption. The danger that the image itself would become the object of worship or that artistic imagery could summon to mind feelings that one is only supposed to have in the presence of God inhibited the ascendancy of the visual arts until the rise of Greek civilization.

The addition of the Greek focus on the rational capacity, however, introduced a new potential for art to connect with the transcendent realm by other means than ecstatic madness or divine revelation. The fulfilment of this potential was dependent upon the rational capacity finding an analogous quality in nature that would draw the mind into an understanding not wholly dependent upon logic or empirical method. Not surprisingly ancient literature, and not just Hebrew literature, provides ample evidence of just such a quality in nature and a corresponding human capacity for understanding. Archeological evidence shows that as far back as 2000B.C. the idea of a cosmic order (Dharma, Rita) was central to the beliefs of the people of the Indus valley. The Hindu religion

consists of rituals and behavioral paths which if followed lead one into contact with this eternal order. These ways do not involve the practise of logic or empirical investigation, but lead one to understanding through the development of a right attitude.

In Hebrew literature Isaiah notes that in worshipping idols it is the eyes that no longer see and the heart which no longer understands, implying that without the understanding provided by the heart, or perhaps the intuition, man's rational capacity is limited to technical knowledge. We could perhaps say that it is the attitude of the subject which permits the heart or intuition to provide a deeper knowledge of the truth of nature. The Old Testament is replete with suggestions that nature's order is evidence of God's hand and is there to be discovered if only the right attitude is adopted. References in Isaiah (43:19) and Genesis (6:12) to God's creating "paths" or "ways" which in Noah's time had been destroyed by the blindness and selfishness of man implies that such ways exist to be followed provided one's heart is open to understanding. This is one of the central themes of Old Testament literature; that the "order" of nature is just below the surface but invisible to all but those with the appropriate attitude. Throughout his trials Job, for example, maintains the right attitude and so is comforted by his true knowledge of the order of nature, and that God is in control even of Behemoth and Leviathan. At one point in Wisdom 11:21, the writers seem to indicate that even God is

subject to the principles of cosmic order which he himself created.[26]

References to God's creation as "good" are numerous in the Old Testament, from the first statement in Genesis 1:31 and continuing through to Ecclesiastes 39:21. Ecclesiastes 1 in particular describes all creation as being infused with the wisdom of God. That God's wisdom can be equated with divine order would seem to be beyond question. The initial Divine intervention, described in Genesis, is after all an act of creating order out of chaos, and upon completion the result was deemed good because it was ordered. Isaiah (45:18) repeats that God creates "no chaos" and in fact is the order that man can find in the chaos that results from having strayed off the path.

We have seen that order is fundamental to ontological understanding in both Greek and Hebrew traditions. Nevertheless the means by which ontological order is revealed vary depending upon whether one sees it as being wholly immanent or wholly transcendent. This distinction is important not only for religion and philosophy, but for art as well if we are to understand art as another form of mediation between an individual and the ground of

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[26] This passage concerning God's forbearance with the Egyptians implies that even God was restrained by the order which he had imposed upon creation:
"But even without these, they could have dropped dead at a single breath, pursued by your justice, whirled away by the breath of your power. But no, you ordered all things by measure, number, weight.
The Jerusalem Bible, Garden City, N.Y.: Doubleday 1968.

his being. If the former is the case then art is unnecessary, and if the latter is the case then art is impossible. What is necessary is a form of understanding which can encompass both the immanent and the transcendent without diminishing either, and for this we must turn to the writings of the early Christian fathers.

ORDER AND THE CHRISTIAN GOD

Although the idea that God is both the creator of history and an active participant in history is central to Hebrew thought; the imagery of the Old Testament gives primacy to the *transcendence* of God. Even though God makes an appearance in history from time to time it is forbidden to look upon his face for fear that to do so might either diminish God or elevate man. The paradox of how one can keep the immanent and the transcendent from diluting each other while at the same time allowing for their essential interconnectedness remained unresolved until the coming of Christ who shifted the balance in favour of the immanent and opened the door to more complex theological speculation upon the nature of the Divine.

Christ was, and is for Christians, at once wholly immanent and wholly transcendent. The full meaning of Christ's appearance in history can be understood only if one accepts that these two mutually exclusive states of being become reconciled in the reality of Christ. The difficulty facing anyone trying to apprehend this truth

is indicated by the struggle of the Church itself which for centuries tried to develop a clear doctrine which reconciled these two polar opposites. That God was essentially transcendent was the position of the neo-platonist stream of thought that descends into Christian theology through Clement of Alexandria, Origen, Plotinus and Augustine. God's essential immanence was the legacy of Paul who offers the first example of a truly Christian mystical experience out of the Hebrew tradition.

Each of these positions contains an essential truth about the nature of God and both must contribute to any true apprehension of God's relation to nature. The significance of Pauline thought arises from Paul's Jewishness out of which comes his belief that mysticism must be rooted in concrete experience. This interpretation of the form of mystical experience corresponds to the position developed by Evelyn Underhill. In explaining what she means by a mystical experience she offers a definition of the word "apperception" which stresses the importance of aquired cultural and intellectual background.

> By apperception is meant the fact that there are in all our experiences two distinct factors. There is first the the apprehension, the message, which comes to us from the outside world; secondly there are the ideas, images and memories already present in our minds, which we involuntarily combine with the message, and by which we

> develop, modify, or explain it. Now this mixture of perceptions and memories obviously takes place in all mystical experience.[27]

Paul's subsequent teaching is also replete with the wisdom of the Old Testament, and in the later letters, e.g. Corinthians, Philippians, he presents a vision of Christian participation in the divine order through selfless apprehension of the individual's unity with the whole, e.g. 1 Corinthians 12, that calls to mind Plato's description of the particular soul's struggle to reunite with the universal soul. Commenting on this fundamental element in Paul, Underhill says that;

> Hellenistic thought, always congenial to the mystical temperament, has here added something to the loftiest intuitions of Judaism, and interpreted anew the gospel of Divine Fatherhood proclaimed by Jesus.[28]

One cannot help but think of Paul's apperception of the inclusive unity of the spirit as overcoming exactly that "existential estrangement" which Tillich wrestles with in Christian existentialist terms. But Tillich's offering of "ultimate concern" is disquieting in contrast to the wealth and conviction of Paul's neo-platonist and Hebrew inspired revelation. Paul's mystical theology

[27] Underhill, Evelyn, The Mystics of the Church, N.Y. Schocken Books, 1971. p. 19.
[28] Underhill, p. 51.

in offering a fusion of Hebrew transcendentalism and anthropocentric neo-platonism precipitated changes in western thought that ultimately affect the foundation of Christian æsthetics and produce some of the richest art experiences in human history. It is the idea that there is somehow a concordance between the human capacity to receive mystical experience and the structure of what is revealed by the experience itself that stimulates the development of Christian art. The key resides in Underhill's definition of the term "apperception" which is here applied to a spiritual revelation but could also be used with regard to an æsthetic experience. If we are to understand an individual's mystical experience as revealing an inclusive unity of the transcendent and the immanent, then it must be shown that the development of Christian æsthetic principles follows the same structure of experience. If the true experience of a work of art is similar to the mystical experience of divine revelation, then this similarity must be due the the fact that western æsthetic principles were developed at the same time as Christian theology was evolving.

Of the early Greek Church fathers, the one who made the greatest contribution to the development of Christian æsthetics was the 4th century neo-platonist, Basil of Cæsarea (329-379). Basil's thought develops largely along the lines that we have outlined here. His admiration for Greek culture is well documented and along with the other Cappadocian fathers he

recomended the study of Greek literature and poetry to all Christian scholars. But as Jaeger comments, the importation of Greek cultural form into Christian scholarship was regarded as more than just the benign implementation of a tool of learning.[29] Even at this early stage the idea that structures of thought were powerful and possibly subversive instruments troubled many of the early Christian fathers.

Basil's writing on æsthetics also suggests a synthesis of Greek cultural form and Hebrew and early Christian doctrine. In determining what constituted the beautiful, Basil favoured the idea that the the most beautiful art occurred when all the component parts of a work functioned in harmony to produce a profound sense of unity. Seen in this way, art mirrors the Greek and the Jewish vision of nature, which is essentially the position of neo-platonic æsthetics. Just as God (according to Genesis 1) looked upon his creation and found it good because it worked in harmony, so the artist looks upon his work and makes his æsthetic judgement on the same basis. Nothing in the work is superfluous, nothing out of place, everything is appropriate to the functioning of the whole. There is a sense of efficient unity that seems to reside at the core of the æsthetic experience. It is the achievement of this quality in a work that twentieth century formalists take for the whole purpose

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[29] Jaeger, Werner, Early Christianity and Greek Paideia, Cambridge, Mass.: The Belknap Press of Harvard University Press 1962. pp. 75-82

of art; it is what Clive Bell for example refers to as "significant form".[30]

THE STRUCTURE OF REVELATION AND THE CHRISTIAN EXPERIENCE

The golden age of Greek Patristic thought begins with the "Christian Platonists of Alexandria". Origen, building upon the thought of Clement of Alexandria and writing some 150 years before Basil, had described the individual's true experience of his own Being as dependent upon his ability to distinguish the true from the false. The purpose of Christian education was to develop precisely this human capacity to recognize the presence of the divine in nature and more importantly; in the individual self.[31] The significance of this for Basil and for later Christian æsthetics was the introduction of the subjective element. If there is something inside each individual that either mirrors or is a part of the divine soul, then to a large extent any direct experience of the divine is an act of recognition. Furthermore, if all of Creation is evidence of divine wisdom, then our true objective experience of any element of nature is part of a three-way mystical experience: it reveals at

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[30] Clive Bell and Roger Fry developed a theory of modern formalism in which any literal or descriptive content in a work of art was represented as interfering with the purity of the æsthetic experience which was understood to arise from the apprehension of "pure form". This theory came to dominate 20th century formalism and an illuminating comparison can be made between an art devoid of any cultural and historical content and the "existential estrangement" which Tillich describes as afflicting modern man. The two seminal articles by Fry and Bell are reprinted in: Hospers, John, Introductory Readings in Æsthetics, New York: The Free Press, Macmillan1969. Chapter 3

[31] Jaeger, Werner, Early Christianity and Greek Paideia, pp. 64-69.

once God, the Divine creation, and ourselves as the instrument of revelation. This is the "inclusive union of the transcendent and the immanent" to which I referred earlier.

In a religious sense what we experience when nature in all its appropriateness is revealed to us, is the mind of the Creator:

> We walk the earth as though we were visiting a workshop in which the divine sculptor exhibits his wondrous works. The Lord, the creator of these wonders and an artist, calls upon us to contemplate them.[32]

But this revelation of the mind of the Creator is especially profound because it is also our own minds and history that are revealed as being fully integrated in the divine mind or divine project. This is the human or subjective contribution Underhill described as being essential to mystical experience. The religious mystic brings to his experience a full understanding of his own current and historical place in nature. It is this understanding that enriches the mystical experience and gives it meaning.

In an æsthetic sense what we experience when the inner coherence of a work of art is revealed to us is the mind of the artist. According to Basil, the work of art can be experienced as beautiful only if the arrangement of its component parts is appropriate to the

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[32] Basil of Cæserea, Homilia in Hexaëm., IV 33 c (PG 29 c. 80). tr.Tatarkiewicz , History of Æsthetics - vol. II Medieval Æsthetics , The Hague: Mouton 1970 p. 23

purpose of the work and *if this appropriateness is perceived by the viewer.* Art would seem to function in the same way as the mystical expereience of nature. There is a three-way communication between the mind of the artist, the work, and the viewer who recognizes the significance of the work. The great theologian Athanasius puts it this way:

> In his works, the artist is recognized, even if he himself is not seen. Thus they speak of the sculptor Phidias: through the harmony and proportion of their parts, his works revealed the artist to those who looked at them, even though he himself was not there.[33]

It is quite apparent that the Greek fathers were engaged in developing a theory of art that parallelled the theory of nature that had come to them from Plato. If nature was evidence that the mind of God was divine harmony, then art was evidence of the ordered mind of the artist. Basil even referred to God as the "artist" who created nature. One can certainly appreciate that a conflict with Christian theology would have been inevitable if æsthetic theory had developed this line of thought without some restraint. Subsequent theological controversy concerning the use of icons indicates that this definition of both the artistic process and the means by which

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[33] Athanasius, Oratio contra gentes, 35 B (PG XXV, 69) tr. Tatarkiewicz, History of Æsthetics vol. II p. 23.

the work of art conveys its message had come to resemble too closely the activity, and worship, of God. After all if art is to be perceived as being beautiful, and if only God can create beauty, then what does that say about the artist?

Basil was not alone in recognizing this problem. Initially he attempted to solve it simply by claiming that there were two kinds of beauty, one which belonged to the temporal world and the other to the divine. This is the kind of solution typical of a neo-platonist but inadequate once neo-platonism had to include a developing theology of Christ. Christ represents a very real descent of the realm of the Ideal into the mundane existence of human beings and once and for all challenges the absolute separation of things human from things divine. Basil's division of beauty into two types indicates a qualitative difference, but how could this be so? How can the experience of beauty that one gets in the face of a work of art not be an experience of real beauty?

The confusion that this question presented to the early Fathers can be seen by contrasting the following words from Basil with his previous statement on the two kinds of beauty:

> The veneration offered to a portrait is transferred to its prototype. For what a likeness is in imitative art, the son of God is in nature.[34]

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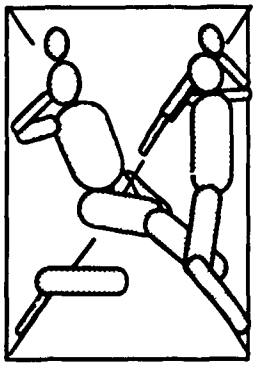
[34] Basil, Liber de Spiritu Sancto. VIII (PG 32 c. 149) tr. Tatarkiewicz, History of Æsthetics vol. II. p 26.

If the portrait of a person presents an opportunity for the viewer to see the real person in the same way that Christ presents us with an opportunity to see the real God, then the beauty experienced through art is the same as the beauty that only God can create. About a century after Basil's death, the pseudo-Dionysius (5th century) extended this line of thinking and established an æsthetic position that remained influential through the Middle Ages and right up to the modern period.

The particular position established by Basil, when applied to the representation of divine figures, led inevitably to the iconoclastic controversy, but when applied with purely æsthetic considerations introduced the possibility of a deeper and richer artistic purpose. The possibility that a work of art which represented nature could act like a window to the mind of the supreme "artist" who had created nature meant that works of art could be more than they appeared to be on the surface. It did not mean that one had to worship them, but it did mean that Underhill's term "apperception" might be applied to the experience of art. It would be many centuries, however, before this possibility was realized by artists themselves.

A good example of this is the painting of Herakles discovering his son Telephonos in Arcadia, from the Pergamene school. (see fig. 2) If you don't focus on the subject and just let the overall image



form itself into a pattern, you can see the diagonals of the rectangle surfacing. This rather simple method can in no way be compared to the more complex ordering of music and even of the Greek friezes that was described earlier. There is no evidence that the artists at this point were doing anything more than trying to arrange the image so that it would look pleasing to the eye.[35]

Nevertheless while artists experimented with different methods of organizing images, philosophical and theological speculation on the nature of expression in the visual arts kept running up against the same dilemma. Augustine (354-430) wrote extensively on the arts of music. poetry and drama, but when he approached the topic of painting and sculpture he retreated to essentially the position of Plato: that the visual arts being thrice removed from the truth were of little value. In spite of this Augustine provided the basis upon which the art of painting would later be elevated to a very high rank indeed.

Augustine's thought on the visual arts can probably best be understood in in the light of his contemporary, Dionysius the Areopagite. The pseudo-Dionysius, representing the continuation of the Eastern line of thought after Basil, had resolved the latter's

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[35] This work is illustrated in: Gardner's Art Through the Ages, 8th. ed. N.Y.: Harcourt Brace Jovanovich 1986. p. 209.

dilemma in favour of the absolute divinity of beauty. Particular manifestations of beauty were in no way diminished by being visible to the human eye, or even by their being the result of human action. All beauty, no matter where it was found, emanated from absolute Beauty which is transcendent and divine. Beauty as an ideal in the Platonic sense is a focus for human action and we are drawn toward it as we are toward the good, which for the pseudo-Dionysius was synonymous with beauty. The artist recognizes that beauty is not a property of the object found in nature, but a quality toward which the object may point. Fragments of absolute beauty exist all around in nature *and are not diminished by their being fragments*, just as Christ's divinity is not diminished by His being made man. The function of the artist is to clarify and refine the images from nature so that the absolute may be more readily seen.

> The ultimate nature of all beautiful things is a simple and supernatural element common to them all and manifested in them all. The law of life is that it has its true and ultimate being outside it. The true beauty of all beautiful things is outside them in God. Hence all great art (even when not directly religious) tends toward the supernatural or has a kind of supernatural atmosphere.[36]

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[36] Bolt, C.E. Dionysius the Areopagite on the The Divine Names and Mystical Theology, N.Y. :Macmillan 1957. p. 96, fn. 1.

The pseudo-Dionysius' contribution to the development of Christian æsthetics rests in the clarification of how the element of mystery operates in the experience of art. While representing fragments of nature, all art points beyond nature to the mysterious ground of being itself, or in Christian terms, to God. The true experience of the work of art is not just of the image or object as it appears before the viewer, but is a cognitive experience of a transcendent quality, made possible by the work. But to talk of art and of the activity of the artist in this way requires further explanation. After all we are talking of objects created by human beings. How can such objects connect us to the Divine?

Discussing how the sculptor creates a sculpture, the pseudo-Dionysius describes how one gains access to the simple truth of things through a kind of positive negation.[37] The artist balances his confidence in the positive potential of his art to reveal some aspect of the truth with his sure knowledge that in one sense God is the negation of all things. This delicate intellectual balancing act echoes down the ages in the declarations of virtually all great sculptors, that the act of sculpting is an exercise in finding the figure which already exists in the stone. The reluctance to take credit for the art derives from the understanding that all art will be diminished to the extent that it is understood to be totally a product of human

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[37] Ibid. The Mystical Theology, Chapter 2 pp. 194-195. Also Fn. 1, p 195.

artifice. This leaves the artist, however, in the position of being a kind of seer, a person with strange powers who produces works of mysterious origin. Such a description of art and the artist would satisfy neither the pseudo-Dionysius nor Augustine.

Augustine accepted the Greek position that the foremost human capability was the rational capacity for deriving knowledge from logical deduction. Consequentlty he returned the discussion to the properties that an object of art must possess in order to stimulate æsthetic experience. Rather than say merely that some objects in nature stimulate sensual response, Augustine resurrected the idea that the experience of beauty is an act of recognition of a quality that is in nature but also transcends nature. Unlike the pseudo-Dionysius, however, who would not entrust divine comprehension to any human capacity, Augustine reintroduced the Platonic idea that order and unity are properties of divine harmony and therefore subject to rational comprehension. Augustine found harmony, whether in nature or in man-made objects, to consist in the balancing of similar and dissimilar parts, and the logical agent of this harmonizing activity is number.

> Behold the sky and earth and sea, and all in them that shines above, or creeps below, or flies, or swims; all these things have forms, because they have numerical dimensions. Remove these, and the things will be nothing. From whom do they derive but from him who created number? And

> number is a condition of their existence. And the human artists, who make material objects of all forms, use numbers in their works. So if you seek the strength which moves the hands of the artist, it will be number.[38]

As long as it remains an experience of the senses, the æsthetic experience cannot elevate us to the contemplation of anything divine; but if the senses only refer the stimulus to the mind and it is the understanding that realizes the experience, then we have the possibility of a meeting of minds along the lines hinted at by Basil and Athanasius, and in the form that Underhill says is necessary for a true mystical experience.

True to his neo-Platonic inclinations, Augustine indicated that it was the soul or spirit that the mind encountered in the æsthetic experience, but he cautioned against assuming that we might somehow raise ourselves to the level of the divine. While the artists who create the objects of beauty are conduits for divine soul, the objects themselves must not be seen to be in any way divine. Both Augustine and the pseudo-Dionysius agree that beauty is a dangerous thing — it can seduce us into total subjection to its earthly manifestations, or it can stimulate us to contemplation of the absolute which is its source.

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[38] Augustine, De libero arbitrio, II, XVI, 42, in Tatarkiewicz II, p. 60.

> The eyes delight in fair and varied forms, and bright and pleasing colours. Suffer not these to take possession of my soul; let God rather possess it, He who made these very things good indeed, yet is He my good, not these. ...
> What numberless things, made by various arts and manufactures, both in our apparel, shoes, vessels, and every kind of work, in pictures, too, and sundry images, and these going far beyond necessary and moderate use and holy signification, have men added for the enthralment of the eyes .... But I, O my God and my Joy, do hence also sing a hymn unto Thee, and offer a sacrifice of praise to Thee who dost sacrifice for me, because those beautiful patterns, which through the medium of men's souls are conveyed into their artistic hands, emanate from that Beauty which is above our souls, which my soul sigheth after day and night. But as for the makers and followers of those outward beauties, they from thence derive the way of approving them but not of using them. And though they see Him not, yet is He there, that they might not go astray, but keep their strength for Thee, and not dissipate it upon delicious lassitudes.[39]

THE LINK BETWEEN CHRISTIAN REVELATION AND THE USE OF COMPOSITIONAL GEOMETRY IN ART

The problem of reconciling the appearance of beauty in the physical world with its transcendent origin continued to trouble the thinkers of the early Middle Ages. No one wanted to say

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[39] Augustine, The Confessions, X, xxxiv. in Oates, The Basic Writings of St. Augustine, Grand Rapids, Michigan; Baker House 1980. vol. 1 pp. 173-174.

outright that things that were beautiful possessed some divine attribute. The theological and philosophical problem of attributing divinity to man-made objects, and by extension to their creators, would seem to be insurmountable. Nevertheless, time after time, successive thinkers were brought to the brink of this abyss only to back off on realizing the enormity of what they were about to say. But all of the early writers on the subject who followed Plato, from Basil, Athanasius, and Dionysius in the east to Augustine in the west, had one thing in common: they all thought that the æsthetic experience was in some way a recognition of a transcendent quality in a particular object.

Augustine's contribution to the solution of this problem drew upon two sources which were lifelong influences on his thought. From Plotinus he extracted the idea that God is beyond space and time, not diffused through nature but relating to nature in much that same way as Plato's Idea relates to its object; and from Cicero he drew his confidence in the power of human wisdom to overcome the existential separation of Idea from object. In attempting to reconcile the influences from Cicero and Plotinus Augustine laid the foundation of medieval thought on the subject; as Panofsky says, he replaced ".... the impersonal world soul of Neoplatonism with the personal God of Christianity...."[40] This was

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[40] Panofsky, Irwin, Idea, Columbia: University of South Carolina Press 1968. p. 37

precisely the shift in thinking that was necessary and which had not been made before. The Platonic Idea: a notion of perfection that was essentially a philosophical postulate and not present in any real sense, now came to be equated to the Being of Christ who was both a God and a real person. Once Augustine made this connection the whole structure of Greek thought could be directed toward the acquisition of Christian wisdom. There could be no reason that the individual human soul could not ring with the harmony of the universal soul, providing they were "in tune" with each other. In a similar way the rhythm of the soul could be in concert with the rhythm of the work of art and produce an æsthetic experience that is not parallel to, but coincident with the greater harmony between soul and God.[41] Thus Augustine indicated that the immanence of the Idea in artistic representation could present the same form of experience as one has of the God who is both immanent and transcendent.

The mystery of art was much more extensively discussed in relation to music, because music had been long understood as an art form that was essentially mathematically structured. Earlier in this paper I indicated that the mathematical and hence intellectual form of music had been thought to be uplifting because it echoed the proportions of the universal soul. In substituting the Christian

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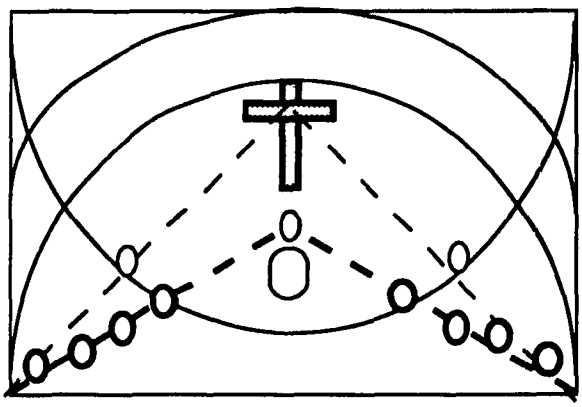
[41] Augustine, The Confessions, X, xxxiv. in Oates, vol. 1 pp. 174.

God for the Platonic universal soul, Augustine reinforced and greatly substantiated the ancient idea that God was not only order, but a form of intellectual order which could become manifest in numerical relationships. The idea developed by Augustine—that art conveyed its deepest expression through the concordance of its form with its regilious subject—lay dormant in the thought of the medieval writers and artists until the more sophisticated æsthetics of the 11th and 12th centuries began to distinguish between inner and outer qualities of artistic objects. Nevertheless it is clear from even a cursory glance at some of the mosaics of the early Middle Ages that artists were attempting to arrange their images using the square, circle and Pythagorean triangle; shapes that were thought to relate to the mystical order of the universe.

A very early example should suffice to indicate the general trend.

The mosaic in the apse of Santa Prudenziana in Rome, completed about 417 and entitled; *Christ Enthroned in Majesty with Saints*, is clearly formed around two overlapping triangles. (see fig. 3) Both triangles have their base coincident with the base of the mosaic. The first rises through the heads of the two



standing women to find its apex at the intersection of the vertical and horizontal aspects of the cross. The second slopes more gently enclosing the seated saints and finding its apex in the center of Christ's forehead. These two most obvious structural elements are readily apparent, but there is a more subtle geometrical structure that adds to the harmony of the image while also conveying a sense of the mystical properties of the subject. If you place a compass point at the same intersection of the cross with a radius half the base of the triangles, you can trace an inverted arc that begins and ends at either edge of the image where the sky (heavens) meet the earth. This arc is indicated in the image by the heads of the two standing women and the heads of the innermost two saints. If you then take the same radius and place the point of the compass at Christ's feet you can trace an arc that encloses the heavens and parallels the arc of the top of the mosaic.

This interplay of geometrical elements reveals a sensibility that recognizes that the structural elements of the image can also contain material that is both symbolic and allegorical. The inverted arc echoing the heavens and drawing the saints up into the divine realm, for example, allows for an imaginative interpretation of the work that challenges the intellectual and intuitive abililities of the observer at the same time, drawing one toward a deeper understanding of the subject than the subject itself can provide. The geometrical structures in the work are thus not meant to be

experienced for themselves, that is æsthetically, but as a supporting element to the spiritual meaning.

These developments in visual imagery reflect contemporaneous developments in the theory of art during the period just after Augustine. In the dialectical interchange between theory and practice it would seem that practice had in this case begun to surpass theory. Setting the pattern for early medieval thinking, Boethius (480-525) firmly indicated that in talking about beauty as it relates to the organization of a work of art, we are discussing only the surface qualities of the work and not anything more profound than that. In his discussion of music on the other hand, he separated the music we hear from the silent music which is the harmony of the transcendent realm, indicating that the transcendent qualities of the latter could be experienced only when one leaves sound behind and attends to the harmonies of the inner soul, or alternately, the cosmic music of the universe.

> His (Boethius') conception of music, which extended over cosmic and human music, was not a theory of music, but a universal theory covering material as well as psychic harmony, the harmony of the cosmos as well as the harmony of art, harmony grasped by thought as well as by perception.[42]

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[42] Tatarkiewicz, Wladyslaw, History of Æsthetics vol. II Medieval Æsthetics, The Hague: Mouton 1970. pp. 81-82.

These ideas of Boethius were echoed by Cassiodorus and Isidore of Seville and represent a return more or less to the original æsthetics of Plato. All three accepted the Platonic separation between the absolute and the immanent. All three suggested that art could reveal the transcendent realm only through allegory. It was left to the artists to extend allegory to geometrical structure itself; the evidence of the mosaic of Santa Prudenziana in Rome indicates that the idea had already occurred to some.

These three thinkers had the effect of solidifying the main body of Augustinian thought on æsthetics and thus assuring the continuation of neoplatonic influence into the Middle Ages. The more subtle implications of Augustinian thinking were thus securely contained until they could resurface during the Carolingian renaissance, and especially just after in the work of Johannes Scotus Erigena (ca 810-77).

The Carolingian renaissance represented the culmination of a period during which several trends in European society combined to greatly enrich the arts. The well documented effects of developments in trade, commerce, medicine, law and education, as well as increased cultural diversity and relative political stability, mark the beginning of the modern period in western history. These events presented increased opportunities for artists, as well as

enriching the stylistic resources that they could draw upon in their work. The thoroughly ornamental art of the Germanic tribes indicated a more pragmatic attitude to questions of beauty and inspired a move toward a more decorative style in the art of painting. In addition to a multitude of natural elements, the northern people also brought an elevated sense of the unknown which, when linked to a strong tendency toward symbolism, made their intricate images powerfully expressive among the initiated. The marriage of these elements in northern art with Augustinian æsthetic theory and Christianity formed the foundation of what eventually became the Italian Renaissance; but it was Erigena who in the late Middle Ages most effectively consolidated these diverse influences.

The feeling for the eternal and unchanging which was already present in the sensibility of the northern artists fits easily into Christian structures of thought on the nature of the transcendent. The old distinction between the beauty of form and eternal beauty resurfaced in an environment that would allow for some advance in the theory of how art can mediate the dialectic between the two. In the early Carolingian period however, the Augustinian (Platonic) belief that art could lift spirits only so far before one would have to choose between the material and the eternal, remained the common position. Following both the Germanic influence and Platonic theory, the highest form of material beauty was held to be

nature which was God's work and therefore a superior form of beauty to art. This suited the Germanic inclination to decorate with detailed and intricate natural imagery, and influenced other artists to observe nature more closely and move away from the abstracted images of the early middle ages.

While the artists were focusing their attention on nature's decorative resources, the Irish monk Johannes Scotus Erigena was tackling the old problem of how to reconcile the two forms of knowledge: knowledge of the immanent and knowledge of the transcendent. Working at the court of Charles the Bald, John was asked to translate the *Divine Names* of the Pseudo-Dionysius, and therein found the key to a renewed discussion of the relation of God to nature and the role of the intellect in the understanding of transcendence. Erigena is commonly described as the only truly original thinker of the period and the ideas that he developed were important for an understanding of the advances made in the art of composing pictures.

We recall how the Pseudo-Dionysius had stressed the importance of the mystical aspect of the experience of nature, saying, like Plato, that each particular element of nature contained within it the reflection of the Divine. Erigena accepted that nature is fundamentally divine in that all things created participate in the Logos. But he resisted being labelled a pantheist by at the same time insisting upon the apparently contradictory position that the

temporal is separate from the divine. The divine cannot descend and become real but does participate in all aspects of creation through the Logos which is the Divine rationality that permeates everything, both immanent and transcendent. That the Logos was understood to be rational is clear from the earliest writings of the Old Testament, but in Erigena's case he stressed the importance of the rational capacity of human beings, indicating that there is no clear distinction between revealed knowledge and rational knowledge; the latter being merely the human capacity which attempts to clarify and participate in the former. It was not much of a leap for artists to realize that if everything in nature was to be revered as evidence of the Logos, then those things produced through human design which have no function save the glorification of God ought to especially shine with divine wisdom.

> This conception of the creative act entails a correlative notion of the nature of created things. A manifestation of the divine light, the world would cease to be if God ceased to radiate. Each thing is therefore a sign, a symbol, wherein God makes himself known to us. In Erigena's own words: "There is nothing, in visible and corporeal things, that does not signify something incorporeal and invisible" (V,3;865-866). This statement could be said to be the charter of medieval symbolism, not only of theology and philosophy, but even in the decorative art of the cathedrals.[43]

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[43] Gilson, Etienne, History of Christian Philosophy in theMiddle Ages.

The possibility for each individual to participate in the Logos through the exercise of his own rational and even creative capacity, even by directing it toward the understanding of the temporal world, was a tremendous stimulus to the great humanist revolution in the arts which followed.

The structure of Erigena's thought parallels the Trinitarian Christian understanding of Creation in that there is the one undifferentiated origin of all things, the differentiated realm corresponding to Plato's realm of the Ideas in which the Logos is operational, and the temporal realm in which we all function using our human capacities. In addition he offers a final return to oneness in which all differentiation dissolves into the original unity (shadows of Hegel appear on the horizon). Life in the temporal realm is enlightened by knowledge which is in part revealed and in part discovered through human rationality.

Erigena makes no clear distinction between the two forms of knowledge because for him, part of the revelation of knowledge of the Logos is that it takes the same form as knowledge gained through empirical and logical method. In other words, the acquisition of knowledge from either source draws us into an understanding of the simultaneous unity and distinction of the

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London: Sheed and Ward 1955. p. 120.

immanent and transcendent and the role of the human mind in the recognition of that reality.

> John Scotus emphasises the fact that man is the microcosm of creation, since he sums up in himself the material world and the spiritual world, sharing with the plants the powers of growth and nutrition, with the animals the power of sensation and emotional reaction, with the angels the power of understanding: he is what Poseidonius called the bond, the link between the material and the spiritual, the visible and invisible creation.[44]

These reflections represent an attempt to reconcile philosophically the divergent ideas that first surfaced in the writing of Basil. More than ever the factor of recognition surfaces as an essential element in the acquisition of significant knowledge of the transcendent. This systematic understanding of the inclusion of human being in the transcendent reality presents an opportunity for renewed effort on the part of individuals to facilitate the recognition of the divine from a position in the temporal world. The timing was right for the art of painting to establish a position in the process.

Since the advent of the Carolingian period the Frankish influence on the arts had allowed for painting in the western

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[44] Copleston, S.J. A History of Philosophy, vol 2. *Medieval Philosophy*, Garden City, N Y Doubleday 1962. p. 144.

empire to distance itself from eastern Byzantine influence. This process had begun with the Council of Chalcedon (451) some 300 years earlier. As a result of Chalcedon the west had continued to balance Christ's divinity with his very real humanity. The New Testament accounts of Christ's human qualities were therefore emphasized as part of the mystery of the Divine—human encounter that he represented. In art, the Biblical images represented increasingly adopted naturalistic and humanistic features. The problem of whether paintings of divine persons were themselves divine was left behind in favour of a didactic role for the arts, with the philosophical system of Erigena providing the necessary direction. While not divine in itself, painting served to draw the onlooker into a devotional attitude which is properly satisfied only in the contemplation of the divine. This was essentially the point of view expressed at the second Council of Nicaea (787) which concluded in response to the 8th century resurgence of iconoclasm, that images were appropriate objects of reverence, but not of worship.[45] Thus Erigena and others could stress that one should approach art with a disinterested rather than a covetous or worshipful attitude. Only then could art reveal its true worth.

The appearance of painted images was undergoing a change at this time that corresponded to the greatly revitalized intellectual

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[45] Deanesly, Margaret, A History of the Medieval Church, London: Menthuen 1973. p. 75.

atmosphere that permeated the period. The naturalism introduced by the Franks and similar northern peoples suited the near-pantheist themes in the ideas of Erigena and others. The art of painting absorbed these influences and the stiff symbolic representations of the earlier middle ages began to give way to a greater realism in pictorial imagery. Representations of human beings gained form and showed emotion, and were increasingly depicted in natural settings which demonstrated that the artists had carefully and lovingly observed details of flora and fauna. The attention paid to such details made the work more interesting to the common man and increased the didactic potential of the paintings. The appeal of familiar natural elements and the skill of their depiction eased the viewer toward recognition of the deeper meaning represented by the Christian subject. The "naturalism" of these works encouraged the viewer to think of the divine events as having taken place in real time just as the coming of Christ signifies to believers the presence of the Logos in the world. For a work of art to fulfill its Christian didactic purpose all that remains is that it also provide for an experience of transcendent mystery, just as the mystery of Christ is part of his reality. The images in paintings must be presented in such a way as to provide for an experience of the "invisible creation", to use Erigena's words. It is clear from what has already been said that the invisibe creation is founded in "order", which translates in human terms into "number", the

visual forms of which are geometric shapes. If geometric shapes were to be used in this way in paintings they would have to do more than simply organize the images into neat uncluttered patterns; they would have to engage the mind in an experience that elevated it to the contemplation of things slightly beyond its grasp. Just as the linear rhythms of musical harmony were used to order the images in Greek friezes, thereby relating the subjects to the harmonies of the gods, so now geometric shapes could be used to give divine mystery to static images.

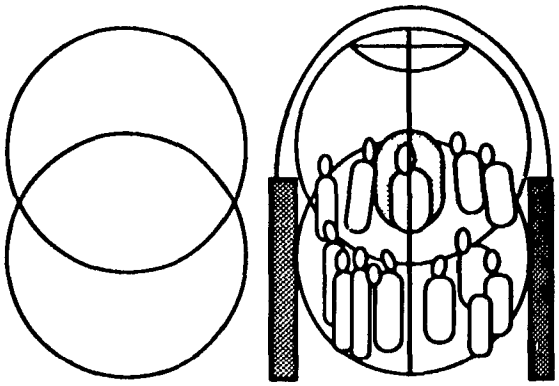
Chapter 3

Compositional Geometry and Christian Art

Plenty of evidence exists to indicate that certain simple geometric shapes were already being thought of as relating to divine order and that these shapes were being used in the design of buildings as well as paintings. There is an illumination taken from the Bible of Charles the Bald of the King and his court that probably was done while Erigena was in residence. (see fig.4) The organization of his image shows that the artist (unknown) was beginning to move in the direction of a more sophisticated use of geometry than the simple ordering of elements of the composition. In this painting the artist has made use of two intersecting circles, one above the other. The circle had long been recognized by artists and philosophers as representing the totality of the universe, the all encompassing. Even in philosophical writing we can recollect Plato's universe consisting of concentric circles.

But in this case we have two circles intersecting and it is interesting to consider the symbolic possibilities of this arrangement given the place and time of its conception.

Echoing the philosophical system of Erigena, the two circles can be understood to represent the two interconnected worlds: the world of man and nature, and the world of the Logos. In this case the two overlap, the common area representing the bond that links the material and the spiritual. In the painting the artist has placed all the figures in the lower circle, those of the courtiers are in the inverted half moon at the bottom, and the king and his immediate retinue within the space shared by the two circles. The king is thus represented as having a special role as the divinely inspired guardian of the material world.



The message that the artist intended to convey is reinforced by this quite evident use of geometric forms that in themselves have a certain content which allows the geometry to function at a level beyond the simple ordering of the image. This secondary function of the geometry is nevertheless important because it insures that the viewer will recognize the prevalence of order in the image. In this case the subsidiary elements in the picture are

scaled and placed according to the geometry of the two circles. The distance between the two points from which the painted drapery at the top of the picture is suspended, is equal to the radius of the two circles. In addition the semicircular arch resting on the two columns which form the borders of the painting corresponds to the top half of the upper circle. The simple harmony of the image makes it accessible because it is not confusing to the eye or to the mind. Once drawn into the picture the role played by the geometry subtly shifts towards a more substantive union with the subject and elevates the whole expereience of the picture to a level above mere representation of the subject.

The use of geometry in this particular work is quite advanced for its time. Most of the illuminations of this period had not moved beyond the use of diagonals and the occasional triangle. But this work foreshadows a period of increasing complexity in the use of geometry as artists became more literate and the ideas of Plato, preserved in Augustine and reintroduced through the efforts of Erigena, became common currency in the early stages of the Italian Renaissance.

The *Psalter of Blanche of Castille*, completed sometime during the twelfth or early thirteenth century, while Chartres Cathedral was being built and Aquinas was writing his great theological *Summa*, provides some insight into the development of more intricate geometric compositional techniques. H.O. Taylor in

his work entitled The Medieval Mind,[46] eloquently describes how the various elements that we have been following in this paper come together at about this time resulting in the synthesis of "... philosophy, theology, and the profoundly felt and reasoned piety"[47] that marked the Scholastic period. He further describes the intensity of the desire of human beings to realize their most profound understanding in tangible form.

> But those human energies which are informed with mind, realize themselves in ardent or rational thought, or in uttered words, or in products of the artfully devising hand. All this clearly is expression, and corresponds, if it is not one and the same, with the passing of energy from potency to actuality which is its end and consummation. Thus love, seeking its end, thereby seeks expression, through which it is enhanced, and in which it is realized. Likewise, impelled by the desire to know, the faculties of cognition and reason realize themselves in expression; and in expression each part of rational knowledge is clarified, completed, rendered accordant with the data of observation and the laws or necessities of the mind.[48]

In order to reflect the most profound understanding of the artists, works of illumination could not rely on illustration, even

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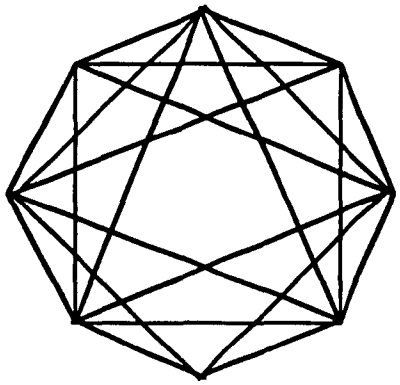
[46] Taylor, Henry Osborn, The Medieval Mind, London: MacMillan 1930. especially vol II ch. 35; "Methods of Scholasticism".

[47] Taylor, II p. 317.

[48] Taylor, II p. 316.

symbolic illustration, to attain this level of expression. Both symbolism and illustration are after all secondary expressions of a primary message that originates elsewhere, and therefore, echoing Plato, untrue, and certainly unworthy of the loving attention described by Taylor.

In the *Psalter of Blanche of Castille*, the artist has painted thirty-two medallions depicting scenes from the Old and New Testaments, all composed around triangles and squares derived from connecting the points of an octagon inscribed in the circle of the medallion itself.[49] This marriage of the circle, the triangle and the square provides the medallions with a mystical reference to the Pythagorean numbers, specifically the number 7. We recall that according to Pythagoras, the harmony of the planetary spheres of which there were seven, corresponded to the seven notes of the scale. According to Villard de Honnecourt, an architect of the period, and later reaffirmed by da Vinci, the perfectly proportioned human body can be inscribed in a square, the hands and feet touching the four corners. From this is derived the symbolic number four for man's earthly body, which when



[49] Eight of these medallions and their compositions are illustrated in Bouleau, The Painter's Secret Geometry, p. 58-59.

combined with the symbolic number three (trinity, triangle) for the human soul, gives the number seven. Thus the sphere (circle) of each medallion gives forth the octagon (two intersecting squares), from which are derived the squares and triangles which give form to the image.

The subject of the first of these medallions is the "...*Astronomer* holding up the astrolabe to show the reckoner the elements of his calculations": Bouleau speculates that is the artist paying homage to the mathematics which adds a level of profundity to his illuminations.[50]

To a great degree this love of geometrical order in pictures was due to a renewal of interest in the ideas of Aristotle, as revived in the work of Aquinas. We recall that Aristotle had made a distinction betweeen what he referred to as the "static" arts as opposed to the arts that could be described as "progressive" such as poetry and music. One feature of the static arts was that they are unable to move one, that is to inspire enthusiasm, and as a result are responsive only to a contemplative attitude. As such we might say that the static arts are more likely to stimulate a disinterested appreciation than the other arts and are therefore more reflective, more resembling of pure philosophical speculation; the love of wisdom for its own sake. Warry indicates that exactly such a

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[50] Bouleau, p.37

conclusion may be drawn from an examination of Aristotle's *Poetics* .[51] The philosopher implied that the static arts operate primarily by stimulating our *rational* capacities. We may infer from this that the elements of a work of static art that make it beautiful are properties of the work which specifically address man's rational capacity, and that it is therefore possible to understand what makes it beautiful. We can now suggest that the complex geometry increasingly used by late medieval artists in support of Christian imagery was understood to relate to those subjects in much the same way as the Logos relates to nature. For an exposition of this point we must now turn to Thomas Aquinas.

Aquinas' æsthetic principles, which are developed only in conjunction with his broader interests, occur throughout his writing and demonstrate a move away from the the more mystical ideas of the Pseudo-Dionysius toward a revival of the ideas of Aristotle. His definition of beauty, for example, which appears in the *Summa Theologiae* draws the same connection between the object of beauty and man's rational capacity.

> Beauty and goodness in a thing are identical fundamentally, for they are based upon the same thing, namely, the form; and this is why goodness is praised as beauty. But they differ logically, for goodness properly relates to appetite .... and therefore has the aspect of an end. .... On the other

[51] Warry, Greek Æsthetic Theory. p. 98. also Chapter VI,"Mimesis and Rhythm".

> hand, beauty relates to a cognitive power, for those things are said to be beautiful which please when seen. Hence beauty consists in due proportion, for the senses delight in things duly proportioned, as in what is like them—because the sense too is a sort of reason, as is every cognitive power. Now since knowledge is by assimilation, and likeness relates to form, beauty properly belongs to the nature of formal cause.[52]

There are two aspects of Aquinas' definition of beauty that are of interest to us here: the idea that beauty relats to formal cause, and the idea that appreciation of beauty is an act of recognition. In saying that beauty properly belongs to the concept of formal cause Aquinas refers us to the idea of "essence" in Aristotle.[53] A work of art may be said to be successful to the degree that the efficient cause realizes the final cause, that is, to the degree that the artist is able to realize his idea in the work. The completed work, whether successful in these terms or not, contains within itself its formal cause, that is, its essential nature. Any blank canvas presents the artist with infinite possibilities, or potential formal causes, one of which rises to stimulate the imagination of the artist to form an idea for its realization. To the degree that the form given to the idea remains true to the essence that gave rise to the idea, the

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[52] Aquinas, S.T. - Q.5 art. 4, reply to obj. 1, in Pegis, Anton C., Basic Writings of Saint Thomas Aquinas, N.Y.: Random House 1944. Vol 1. p. 47

[53] For Aristotle's concept of fourfold causality, see Metaphysics I. 2 3, 983a

work may be said to be great, indifferent or poor art. The skills of the artist are therefore understood to be in the service of the artist's cognitive powers, and great art by presenting our rational capacities with a focus for pure disinterested contemplation gives the contemplative mind access to profound formal causes.

The second aspect of Aquinas' definition that is of interest is the factor of recognition. The work of art is first noticed by the senses; then, to the degree that it provokes interest, it is apprehended by the mind. In order for this second stage to be attained the work must provide the mind with something that it can recognize: order and proportion. The work provides the mind with the possibility of recognizing itself and to the extent that the work stretches the limits of the mind's self-recognition; it raises our experience to the level of apperception. The apperception described by Aquinas and Aristotle however does not refer us to mystical experience in the sense that Underhill used the word, but to the pure understanding of the essence of man's rational capacity. Nevertheless for Aquinas, this understanding does refer us to a transcendent quality in human experience.

Although Aquinas, through his teacher Albert the Great, assimilated and represented the philosophical position of Aristotle, his Christianity would not allow him to abandon the idea of transcendence. His far-reaching definition of beauty reflects the medieval understanding that to "see" goes beyond sensory

perception and encompasses the use of intelligence and imagination. This is why he is able to indicate that beauty is not just seen, but apprehended. We have further understood that in order to apprehend something the mind must be presented with the object of apprehension in a form compatible with its understanding. Consequently the factor of recognition comes into play in the act of apprehending beauty. The possibility that the experience of art could be essentially relational, that is residing in the interchange between subject and object, contains the dangerous prospect that beauty could be relative, that is, dependent upon the condition of the subject. Ever since the concept of relation had been introduced into the discussion of beauty by Basil, theorists and especially Christian theorists had recognized the consequences of accepting this position. Aquinas was no different and firmly held that a thing is beautiful because of properties that it itself contains.

> .... every effect which is not a proportioned result of the power of the efficient cause receives the similitude of the agent not in its full degree, but in a measure that falls short; so that what is divided and multiplied in the effects resides in the agent simply, and in an unvaried manner.[54]

If beauty and "the good" are essentially the same but conceptually different, as Aquinas holds, then to accept that beauty

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[54] Aquinas, S.T - Q 13 art. 5 Obj. 3 in Pegis, Basic Writings ..., Vol 1. p 119.

is relative to the subject is to ultimately accept that God is relative to the subject. No Christian, and certainly not Aquinas, could possibly accept this. Consequently Aquinas holds that beauty retains its objective state, but its revelation is dependent upon the presence of an appropriate subject. An appropriate subject is one in possession of the faculties of apprehension suitable to the recognition of beauty in an object. And only man, says Aquinas "....takes pleasure in the beauty of sensible things for its own sake."[55]

In Art and Scholasticism Jacques Maritain offers the following comment on this aspect of Aquinas' thought:

> Beauty for him begins to exist as soon as the radiation of any form over a suitably proportioned matter succeeds in pleasing the mind, and he is careful to warn us that beauty is in a manner relative,—not to the dispositions of the subject in the sense in which relativity is understood nowadays, but to the peculiar nature and end of the thing and to the formal conditions in which it is involved. And however beautiful a created thing may be, it may appear beautiful to some and not to others, because it is beautiful only under certain aspects which some discover and others do not see: ....[56]

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[55] Aquinas, S T. - Q. 91 art. 3, reply to obj. 3, in Pegis, Basic Writings ..., Vol. 1. p. 875.

[56] Maritain, Jacques, Art and Scholasticism. N.Y.: Books for Libraries Press 1971. p. 24.

The image that emerges is one of man wandering the earth in the presence of beauty but unaware of it until a moment of recognition causes him to see it as central to all his experience, much as the man of no faith wanders in darkness until a moment of revelation causes him to recognize the presence of the Logos in all things.

We might say then that art represents a sort of revelation in a minor key, in which the essence of beauty is revealed in a controlled and contained experience. Aquinas' characterization of the essence of beauty was similar to that of Augustine and the Neo-Platonists in that he understood beauty to be grounded in proportion, and proportion to be a quality of particular elements of the natural world and of the relation of the natural world to the spiritual realm. Correctly understood, each particular element of the natural world would be seen to be in harmony with itself, with the rest of the natural world, and with the spiritual world. An experience of the inclusive totality of material and spiritual harmony however, would fall into the category of a religious revelation, which in the Aristotelian terms that Aquinas upholds, consists of a vision of the form of all creation conforming to its essence. Art is of course unable to provide such a sweeping revelation of ultimate truth, but it is able to trigger this form of intellectual, or intuitive activity. It is precisely this idea of the form

of something conforming to its essence that provides the key for a more substantial use of geometry in the creation of art.

Aquinas understood that everything has its proper proportion and that that proportion could be different for each thing.

> Beauty of Spirit is one thing, and beauty of body another; and yet another thing is the beauty of one body or another.[57]

It follows, for example, that individal persons have their own proper proportion which conforms to their own essence, or soul (in both the Christian and the Platonic senses). If, as Aquinas says, the simple requirement for beauty is that the shape or form of a thing conform to its essence, then the potential occasions of beauty are infinite. A painting for example, or any work of art, is simply an object designed specifically to be beautiful, that is; to conform to its essence.

But in what, we might reasonably ask, consists the essence of a work of art?

Aquinas provides several indications which taken together give us one of the more complete understandings of the nature of the work of art that we have encountered so far. At its most fundamental level, the work itself consists of arrangement, order

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[57] Aquinas, De div. nom. c IV lect 5. in Tatarkiewicz II p. 260.

and shape. These elements of artistic form are subordinated to the aim of the artist which is to imitate nature, not simply the outward appearance of nature, but the "intelligence" of nature, that is its purposiveness. In imitating the apparent purposeful activity of nature art must go beyond mere description and involve the viewer in a more comprehensive intellectual activity. Art, as Aquinas and others have said, provides a cognitive experience of a truth of nature.

All of this could be described as part of the formal aspect of a work and precedes the actual choice of subject. The subject serves to draw us into the work while conferring upon our aesthetic experience a certain imaginative, historical, or social tone. Thus the subject provides a conceptual framework for our experience of the essence of the work and by extension, the essence of nature itself.

Aquinas summarized the formal objectives of a work of art in the following way:

> Beauty demands the fulfilment of three conditions: the first is *integrity*, or *perfection*, of the thing, for what is defective is, in consequence ugly; the second is proper *proportion*, or *harmony;* and the third is *clarity* - thus things which have glowing colour are said to be beautiful.[58]

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[58] Aquinas, S.T. in Tatarkiewicz II p. 261

These three qualities must obviously be understood to extend beyond the mere choice of a glowing colour, and in fact should be seen to include the subject of the work as well. In the execution of a painting the artist is confronted with an infinite range of choices concerning the form and appearance of the final product and all these choices must be made in the service of the subject. The clarity that Aquinas refers to is a clarity of expression which is dependent upon the harmony attained between form and content, in fact we might say that in a truly great work, the fusion between form and content is complete and one would be hard pressed to locate the source of expression in one or the other.

FORM, CONTENT, AND COMPOSITIONAL GEOMETRY; THE FINAL SYNTHESIS

The task of the artist seen in this light appears to bear certain similarities to that of a builder or architect. In fact Alex Colville once remarked that the art of painting should be correctly understood as relating to the building arts.[59] By this I assume he meant that the picture is assembled around a framework from familiar components, and if done well the result is a seamless whole. It should be no surprise that during the late Middle Ages the most advanced use of geometric principles for the purpose of

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[59] Alex Colville, *The Splendour of Order* Cygnus Minerva Films and Film Arts.

creating and enhancing great works appears in the practice of the builders of the Gothic cathedrals. A builder may have used geometry simply as a tool to derive the elevation of a building from a ground plan or, as the preponderance of evidence suggests, he might have proportioned the whole of a building around a geometric form because of its supposed mystical properties. There is little doubt that medieval masons were given to secrecy and to a romantic attitude regarding the practice of their trade and that this attitude extended to the painters of medieval illuminations. Nevertheless, the evidence of the notebooks of Villard de Honnecourt with their numerous examples of of the human figure and face, and of animals and mythological creatures proportioned according to triangles and squares, is evidence of their conviction that natural proportion was harmonious with geometric principles.[60]

In an article that adds much to our understanding of how medieval masons and artists used geometry to ensure that their works had both structural and æsthetic integrity, Frankl draws our attention to the debt these artists owe to Plato.[61] Much of the mystical interpretation that medieval artists attached to certain geometric shapes and to geometry in general can be traced to Plato's expression of the idea in the *Meno* and the *Timaeus* that all

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[60] See, for example: Frankl, Paul, The Secret of the Medieval Masons. *The Art Bulletin*, March 1945, Vol XXVII, no. 1 pp. 46-60

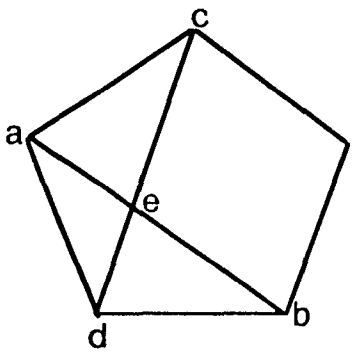
[61] Frankl, p. 58.

learning is a form of reconnection with a universal order that eternally exists at once within and without us. Frankl goes on to discuss the form of our remembrance, recalling that in the *Timaeus*, Plato had attributed cosmological significance to the five regular figures that can have three dimensions: the tetrahedron, cube, dodecahedron, octahedron, and icosahedron. To the dodecahedron he attached the most significance, it being the form attributed to the universe, or heavens. The others were equated with the elements, respectively: earth, air, fire and water. We have seen in the examples of medieval painting so far that the triangle, cube and in the last example from the *Psalter of Blanche of Castille*, the octagon, have all played a significant part in the organization of the images. These three forms are two-dimensional representations of three of the five forms having cosmological significance according to Plato.

The proportions set up by the use of these basic shapes, and the lines and shapes that are derived from them, provide the image with an inner harmony that was clearly thought to reflect the harmony of the cosmos, or in Christian terms to reflect the rationality of creation itself. We could expect, given the associations accorded to these forms by Plato and handed down through Christian scholars, that the form most artists painting Christian subjects would be anxious to employ would be the pentagon; the two-dimensional shape from which is formed a dodecahedron. Such

was of course the case and Bouleau indicates exactly how important knowledge of the construction of the pentagon was to Medieval artists.

> ... (the pentagon) aquired outstanding importance at this time. This was because its elements have a certain mutual proportion which was then looked on as divine; a strange mysticism was attached to it; the rather complicated operation of tracing it with the compasses was one of those secrets of the art that were jealously guarded and were given an often exaggerated importance. This was natural, for the drawing of the pentagon was bound up with the famous *golden section.*[62]



The golden section was mentioned in chapter two with reference to the proportions of some vases done during the Pythagorean period. At that time we pointed out that this ratio was observed to bear a certain relationship to natural forms and was thought to be evidence of the divine hand operating in nature, evidence of the mathematical foundation of divine order.

The ratio itself can be expressed quite simply as a point on any line that divides the line so that the lesser segment is to the

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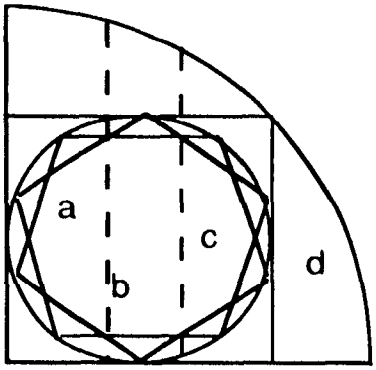
[62] Bouleau, pp. 63-64.

greater segment as the greater segment is to the whole line. There is also a quite simple geometric method for finding the point on any given line and this method was the jealously guarded secret that Bouleau refers to. The relation of the golden section to the pentagon has to do with the five diagonals of any pentagon which intersect each other at precisely the golden section points of each. In the illustration the point 'e' indicates the golden section division of both 'ab' and 'cd'. This feature seemed to confirm that the five-sided figure was indeed related to divine order and spurred the more scientifically minded (like da Vinci in the later Renaissance) to empirical studies of nature which seemed to prove the truth of the original Pythagorean speculation.

A significant example of the use of the pentagon occurs in the series of paintings entitled; *Tres Riches Heures du duc de Berry,* composed by the Limbourg Brothers in the early 15th. century. (see fig.5) This was the family prayer book of the Duke, who was the brother of the King of France and of Philip the Bold of Burgundy. The section of the book dealing with the life of Jesus begins with an illustration of *Earthly Paradise,* the composition of which makes use of a circle inscribed in a square and two concentric pentagons inscribed in the circle.

Major elements in the image are contained within verticals derived from the intersection points of the pentagons. For example, the two dotted lines in the illustration form the edges of a central



fountain in the painting. The scene in the garden consists of the main events of the temptation; Eve taking the apple from the serpent (a), Eve tempting Adam with the apple (b), and God telling them both that they must exit the garden (c). The first three events occur within the circle and the particular positionings are determined by lines derived from the intersrections of the pentagons. The boundary of the circle is clearly evident in the painting as the details of the garden conform exactly to its circumference. The gate of the garden coincides with the vertical of the right had side of the square, which is also a tangent of the circle. This line forms the back of the gate which is drawn completely within the sect'on 'd'. Also within this section are the figures of Adam and Eve again, this time with fig leaves and looking sorrowfully back through the gate towards the interior of the garden.[63]

In this particular case the structure of the painting works on several different levels. Upon first looking at the image the most obvious element is the circle which is clearly evident in the painting of the details of the garden; in fact the circle completely encloses paradise. The recognition of this triggers in the

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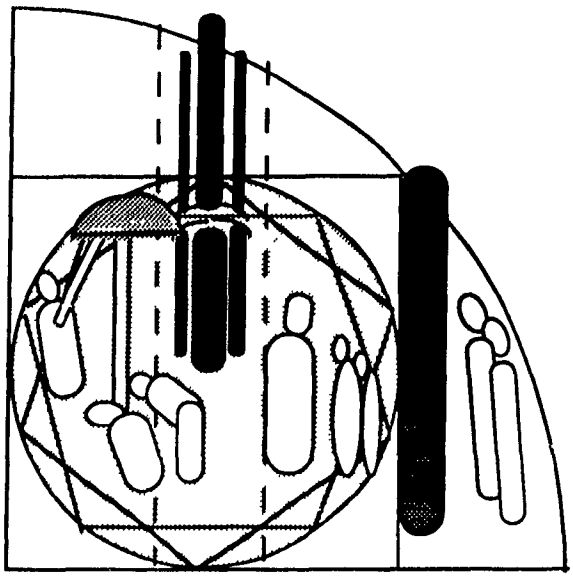
[63] A complete illustratiion of this geometry and explanation is given in Bouleau, pp. 63-65



imagination the realization that an ordered format underlies the image. Following this initial realization the subtle positionings of other objects determined by the pentagons should register at a subconscious level, satisfying the basic human need to find order. The fact that the tightly ordered inner harmony of paradise is so evident poignantly emphasises the predicament of the expelled Adam and Eve. One senses their isolation all the more because of the geometry; they are excluded from the ordered universe of the garden.

At the beginning of this chapter I indicated that Plato's emphasis on the relationship of mathematics to cosmic order left open the possibility that an image structured according to mathematical principles might provoke a revelation of a transcendent dimension. In this painting the feeling of unity and harmony on the one hand and separation and isolation on the other are conveyed by the image whether you know the story or not. This particular aspect of the expression of the work requires prior knowledge of neither the subject nor of the possible symbolic

meanings implied by the structural shapes. Yet this feeling that one gets from simply looking at the work is entirely consistent with the intended meaning conveyed by the subject. If one fully understands the story, the hidden structure provides a dimension to the expression that connects even the tension of expulsion and separation to an inner harmony that is part of a greater unrevealed order. You will note that the whole painting is contained within a quarter section of a circle which remains uncompleted.

Although the quarter circle, the radius of which is the diameter of the square, leaves the viewer with the feeling that the universe extends beyond, still the tightness of the structure of the image itself focusses our attention on what would appear to be a unified, self-contained event. This is a particular fragment of nature and of human experience that contains its own inner harmony which is not diminished by being momentarily and eternally separated from the greater harmony beyond. As such we might say that the painting presents the viewer with the possibility of *an experience of a transcendent quality revealed through a representation of the particular.*

Interestingly enough this is accomplished by means that are entirely consistent with Aristotle's æsthetics as well. The message conveyed by the work, even at the deepest level, is due entirely to properties that are contained by the work itself. Even so, these properties of the work are effective in the way I have described

precisely because they trigger recognition of properties of nature that exist beyond the work.

An image such as this would seem to fulfill all the requirements of "apperception", as defined by Evelyn Underhill. Certainly the painting is a message from the outside world which in order to be fully appreciated, invokes all our capacities to understand at the highest possible level. It does so, as Underhill's definition requires, by stimulating "ideas, images, and memories already present in our minds". If we can extend this act of recognition to include a quality resident in the underlying structure of a work (or of nature), then we might better be able to understand how an apperception translates into a mystical experience. This quality in a work touches that part of our mind that retains a memory of the possibility of unity and harmony. In a Christian sense it touches that part of us that links us to divine possibility. If our imagination rises to the complete challenge of the picture we are unavoidably led to a contemplation of the immanence of transcendence.

This particular painting is only one of many possible examples that could be used to show how far the art of painting had come by the end of the middle ages. The artists of this period were fully cognizant of the wealth of ideas and understanding that had filtered down to them from the Jewish tradition, and from Plato and Aristotle, through the Christian theological writing of their

immediate predecessors. While this knowledge and understanding was greatly valued, it was universally held in balance with a profound and real sense of mystery. It was the artists' role to present through their paintings a feeling for the precarious balance between the real and the possible that was human existence. At this time and through the Renaissance the two poles of this balance were being stretched by the debate within Christianity about the nature of Christ How could one be both divine and human without diminishing one's divinity? The possibility of the transcendent even momentarily becoming immanent infused the artist's experience of nature with greater relevance and stimulated a move towards naturalism in art while concurrently insisting that it convey a sense of the universal and the transcendent. The highest achievement of art was its ability to bring together all of these forces into a single image, an image that given the right frame of mind of a viewer, could elevate his imagination to its limit; to put one in touch with divine possibility.

Epilogue

The emergence of painting in the Middle Ages and the Renaissance as a singularly effective medium between the mind of the Creator and the mind of man issues from its unique function in human experience in providing an object of disinterested contemplation capable of producing an immediate experience of ontological completion. This is clearly a tall order but the possibility was held to be attainable because at that moment in history the structure of human intelligence was thought to mirror the form of intelligibility of the Divine.

Old Testament accounts of interchanges between man and God, and of God's attempts to form and order nature, fed into the Greek tradition and became refined in the Greek understanding of the cosmos as fundamentally mathematical in structure. This way of thinking about things transcendent fed into early Christian theology and allowed the developing comprehension of the Logos to take on

formal properties inherited from the Greek and Hebrew traditions. In this way the working of Divine Mind in nature came to be accessible to human understanding through a similarity or concurrence of the structure of intelligibility between the two. Throughout the Middle Ages the discovery of practical applications for mathematics as well as the empirical observation of mathematical order in nature underscored the conviction that God's presence in nature was disclosed mathematically.

If the mind of God was essentially mathematical then the use of mathematics not only to make a painting look more like nature (perspective), but to *order* the image in the same way God ordered nature itself was to elevate the experience of the painted image to an experience of the first principle of nature. The painting became a window through which the viewer glimpsed the nature of Being itself. The experience was "uplifting" because that is what it in fact did; it lifted the attuned mind up into the realm of the Divine. One could say that painting thus construed had the effect of drawing one into an experience of ontological inclusion.

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