THE STRUCTURE OF THE PERCEPTION AND EVALUATION OF ART

by

Christopher Green

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APPROVAL

Name: Christopher Green

Degree: Master of Arts

Title of thesis: The Structure of the Perception and Evaluation of Art

Examining Committee:

Chairman: Dr. P. Bakan

Dr. B. Lyman
Senior Supervisor

Dr. V. Modigliani

Dr. J. Russell
External Examiner
Department of Psychology
University of British Columbia

Date Approved: June 30/87.

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Author: ______________________

(signature)

Christopher Green

(name)

September 8, 1987

(date)

ABSTRACT

There is such a wide variety of theories concerning art and aesthetics that it has become virtually impossible to be acquainted with them all, much less make sense of them. This research constituted an attempt to integrate the basic ideas of many theories into a single comprehensible structure and test the legitimacy of the resulting model. This project was approached in two ways.

The first part of the work surveyed many theories of aesthetics and art which have been offered, mainly by philosophers, over the last 2500 years. In that review, an attempt was made to draw attention to similarities among them and point out threads of thought which seem to have woven their way through a wide diversity of ideas, despite their emergence at different times from different metaphysical orientations. It was suggested that there has been an almost continuous debate between advocates of the view that perceived excellence in art is a function of certain specified relationships among parts within the artwork and those advancing the notion that it is a function of certain perceptual qualities related to the definition or articulation of the artistic design. Another ongoing debate among aesthetic theorists the implications of which were discussed was that of the relative importance of the individual's subjective response to the work to its evaluation. Finally, the importance of notions such as complexity and novelty, which had been given only secondary mention by earlier theorists but took on new significance in twentieth century discussions of aesthetics and art, were considered.

The second part of this work was an attempt to empirically determine whether any of these notions have any bearing upon evaluations of art made by members of the general public and, if so, what degree of significance they hold and what the relationships among them are. This was accomplished by asking 215 psychology undergraduates for their impressions of three paintings, three short pieces of music, and three short poems. They were

asked to rate each work against a set of twenty-five seven-point scales, the endpoints of which had been drawn from various theories of aesthetics and art. They were also asked about their subjective experiences regarding each work. These data were then used in various theory-based groupings to predict the participants' judgements of the beauty and interestingness of each work as well as an overall evaluation. It was found that many of the reviewed theories accounted for between about 15% and 30% of the variance in people's aesthetic judgements.

The whole group of ratings was then subjected to a principal components analysis, from which emerged five factors of interest which accounted for 60% of the total variance. These five factors seemed to be representative of (I) relational properties among parts of the work, (II) complexity of the work, (III) perceptual definition of the artistic design, (IV) novelty of the work, and (V) the individuals' subjective responses to the works. In other words, the factors which emerged were related to the primary traditional considerations of art theorists. When the resulting factor scores were used to predict the participants' three evaluations of the artworks, multiple correlations accounting for nearly half of the variance were obtained.

The results were discussed with relevance to the relationships among traditional theories of art and aesthetics and possibilities for the future. It was suggested that even better correlations might be obtained if some characteristics of the individuals' past experiences and temperament were included in the regression equation as moderator variables. Such a procedure would reflect the notion that different aspects of art may hold varying significance for different individuals *vis a vis* their evaluations of art.

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PREFACE

This project began as a relatively straightforward study of the effects of lighting upon the perception of a short dramatic scene. Color, intensity, and lighting angle were going to be varied, while ratings of several aspects of the scene's impact were recorded. As I planned the project, however, I came to the realization that I had little idea of which aspects of the scene were important *artistically.* This thesis is the result of my inquiries into what broad aspects of art, as a category of human activity, lead to specific works being positively evaluated. Without first investigating the broad question, specific questions about artistic technique are little more than shots in the dark. What I have accomplished here are only the exploratory stages of what could undoubtedly become an enormous investigation into many aspects of many artforms and styles. If it seems superficial in places, it is because time and space were limited and because the investigation is only here begun. If it seems less rigorous in places than it might perhaps be, it may be because where the strictest demands of science and art diverged, I tried to remain true to art, the focus of the study, rather than science, the collection of tools which I had at my disposal.

I would like to express my deep appreciation to my supervisor, Dr. Bernard Lyman, for his help and support during this project. I would also like to thank Dr. Ray Koopman for his willingness to discuss of a wide variety of statistical techniques at any time, Dr. London Green for his editorial comments concerning the nature and history of art and aesthetics, and Ms. Jennifer Forbes for her support and editorial assistance.

CHAPTER I

INTRODUCTORY REMARKS

...it is the primary definition of mind that has to accomodate the theories of aesthetics and consciousness. — Gregory Bateson (1979)

...as far as aesthetics is concerned, the experimental psychologist or psychobiologist must concentrate on the scientific study of aesthetic behavior. — D.E. Berlyne (1971)

...any system of aesthetics which pretends to be based on some objective truth is so palpably ridiculous as not to be worth discussing. — Clive Bell (1913)

$P_n = f(P,N)$ — Kurt Koffka (1935)

...there exists some property of the central nervous system which determines aesthetic judgements. a property which is biologically derived, and which covers the whole field of visual art. — H.J. Eysenck (1957)

Biologically speaking, art is a blasphemy. — Roger Fry (1920)

...the appearance of beauty as effectually causes some degree of love in us as the application of ice or fire produces the ideas of hot and cold. — Edmund Burke (1757)

If art is only art so far as it stimulates certain reactions, the artist as such is simply a purveyor of drugs, noxious or wholesome; what we call works of art are nothing but a selection of pharmacopoeia.
— R.G. Collingwood (1938)

Art...is the becoming and happening of truth.
— Martin Heidegger (1950)

Art is a product of the untalented, sold by the unprincipled to the bewildered.
— Al Capp (1963)

A work of art is regarded as a stimulus pattern whose collative properties, and possibly other properties as well, give it a positive intrinsic hedonic value.
— D.E. Berlyne (1974)

The perceived image, not the paint, is the work of art. — Rudolf Arnheim (1974).

Criticism is easy, art is difficult.
— Philip Destouches (1732)

There are only two kinds of art, good and bad. — Clive Bell (1913)

Nothing is farther from the uneducated than the appreciation of art.
— Sigmund Freud (1904)

Art is the creation of forms symbolic of human feeling.
— Susanne K. Langer (1953)

The subject (aesthetics) is very big and entirely misunderstood as far as I can see.
— Ludwig Wittgenstein (1938).

(The limit of art cannot be attained.)

It often seems that the world of art and the world of science are light years from one another. There are ways of examining the problems of art evaluation, however, which do not preclude the use of those methods traditionally associated with science. It is not necessary to reduce art to its most minute physical substrates in order to investigate the ways of art with the ways of science, although many investigators have done just that, and earned a bad name for scientists in the arts community in the process.

Scientific methods have traditionally been associated with materialistic ontologies and objectivist epistemologies. The image of the scientist tearing a thing down, bit by bit, to get at the 'real' truth of the object under investigation is one which is deeply imbedded in contemporary Western society. Most people cannot imagine such techniques being useful in the investigation of art.

Art, on the other hand, has a long history of symbolism and spiritualism. Art has been a prime tool of virtually every religion. It has provided countless images of the relationship between people and the cosmos, people and society, people and their 'inner selves'. Artworks need not be 'about' anything, though they often seem to be about everything. Truths expressed by art have traditionally been thought to be the truths of inspiration and 'divine madness', not those discovered by the seemingly cool and calculating investigation of the scientist.

Two ways of looking at the world could hardly seem more divergent. Yet, I propose that they can look at each other, without necessarily doing mutual harm. One need not rip things down to the 'bottom level' in order to use empirical methods. One need not subscribe to the philosophies which traditionally underlie science in order to find its methods useful. Recent changes in the way scientists look at their work have made this possible (see Koch 1959, Bakan, 1965, 1972; Meehl, 1967; Gergen, 1973; Sampson, 1978; Hogan & Emler, 1978; Sarason, 1981; Manicas & Secord, 1983; Margolis, Manicas, Harre, & Secord, 1986).

Kenneth Gergen (1973) has said that social psychology can never be a science, in the conventional sense, because its "theoretical premises are based primarily on acquired dispositions. As the culture changes, such dispositions are altered, and the premises are often invalidated." Furthermore, the dissemination of the very knowledge produced by social psychological research can change the dispositions upon which its theoretical premises are based. Because of this "feedback loop", he has said that social psychology will forever be a social history, betraying as much about the investigator as the investigated.

In no field of endeavor is this idea more pertinent than in the investigation of art. There is no such thing as the 'innocent eye' to which many art theorists have made reference. We see and hear and read works of art. We form opinions. We talk about the works we have experienced with others. Some of their opinions differ from ours. Some interest us. We return to the work with new ideas, new ways of approaching it, in mind. We experience new things. We form new opinions. The cycle continues. Anything I say about a work today, may seem wrong or somehow 'off base' tomorrow.

The same is true of research conducted into what is important to people engaged with a work of art. To one person color is important. To another, 'likeness'. To another, message. Some people attend to melody, others to harmony, others to rhythm, others to lyrics, still others to their own subjective responses. None of them are right or wrong, though some may be unnecessarily limiting their experience of the work. There are many aspects of art to appreciate and even more words used to describe those aspects.

In this thesis, an attempt is made to find a way of adequately conceptualizing the various factors which are important in the evaluations which people make of painting, music, and poetry. No claims are made about the universal validity of the results or the conclusions. Nevertheless an interesting picture is presented of the kinds of descriptive statements which are concommitant with positive and negative artistic evaluations, and the relationship between the ideas of 'people on the street' and individuals who have spent their

lives attempting to develop adequate models of the process of art evaluation.

The methodology was rather straightforward. A great deal of background research resulted in the abreviated history of aesthetics and art evaluation which appears in Chapters II and III. Chapter II is an historical review, surveying from the time of Pythagoras to the time of Kant. It is divided into three sections corresponding to the Classical, Medieval, and Modern eras. There were, naturally, many shifts in emphasis regarding the purposes of and preferences for works of art during those two millennia. Perhaps more interestingly, there were a few consistently present themes which were addressed by most of the prominent individuals who turned their attention to questions of aesthetics and art evaluation. Chapter III is a contemporary review, covering the philosophical and psychological ideas of the past century. The themes identified in past thought are pointed out where they recur in more recent theorizing and some new ideas which had not received much attention in the past are also discussed.

Chapter IV is an empirical investigation into the contemporary validity of those traditional models of the art evaluation process reviewed in Chapters II and III. They are compared with the evaluative processes of individuals who have some interest in art but who are generally unfamiliar with the academic writings of the field. In general, a surprisingly good correspondence between the two was found. Chapter V contains some concluding remarks on features of the research, possible criticisms of it, and possible directions for future research on the same topic.

Before moving on, a few things should be said about the distinctions usually made between aesthetics and art criticism. Aesthetics is a term often used, particularly in psychology, in conjuction with the study of a certain kind of experience which is had in the presence of some works of art as well as 'breath-taking' natural occurrences, such as sunsets, mountain ranges, oceans, etc. The present research is only concerned with such experiences as happen in the presence of artworks, and even then, not to the exclusion of other ways in

which people might respond to art. The term is used more broadly in this work, referring, as its Greek root implies, to all aspects of the perception and apprehension of art. Criticism is a term which is often employed in reference to a specific art (e.g. literary criticism, music criticism). Again, the term is used more generally here, refering to discussion of all the various fine and performing arts, unless otherwise specified in the text.

CHAPTER II

HISTORICAL REVIEW

Speculation on the aspects of art which make it positively valued dates back to ancient times. The Mesopotamians and Egyptians both had very highly developed artistic styles which spanned thousands of years (Amiet, Noblecourt, Pasquier, Baratte, & Metzger, 1981). It is only sensible to assume that there were rules which were passed down from teacher to student concerning what features made a painting, relief or sculpture more pleasing to the eye and a musical composition more pleasing to the ear. When systematic consideration of the cosmos and the place of humans in it emerged as a specialized occupation, the nature and origins of beauty was among the earliest topics to be entertained.

There was no distinction made in the ancient world between those activities which we now call the 'fine arts' and those which are are currently considered technical skills or crafts. The Greek term, *techne*, covered painting and poetry as well a shipbuilding and politics. Similarly the term *to kalon* was used to refer to the prefered outcomes of all arts, and, for that reason, is sometimes loosely translated as 'beauty'. By the fall of Imperial Rome, two kinds of preferred outcomes had been distinguished from each other. *Pulchro* was used to refer to the perceptual 'pleasingness' which is commonly associated with beauty in its contemporary sense. *Aptum*, often translated as 'fitting', was used to refer to a more practical sort of success; like that associated with good craftsmanship. It was not until the time of the Renaissance, however, that the contemporary division between fine and practical arts was finally embraced. During the eighteenth century Alexander Baumgarten first coined the term 'aesthetics' (borrowing from the Greek term for sense perception, *aisthesis*) in reference to the "science of sensory cognition" of art (translation taken from Beardsley, 1966). Baumgarten's aim seems to have been to forge a cognitive approach to the perception of all art, though his personal emphasis was on poetry.

It is the purpose of this chapter to survey some of the more relevant highlights of the history of thought concerning art evaluation. No survey of aesthetic thought could claim to be complete, much less one as brief as that which follows. Undoubtedly I have omitted some individuals who deserve to receive attention and the descriptions of those who have been included hardly do justice to what were often complex and comprehensive systems of thought. What I have attempted to do is name those individuals who most dramatically influenced the direction of aesthetics over the centuries and point up a few of their most telling conclusions. I have endeavored to include many references to books which detail the various aesthetic philosophies mentioned more fully.

This chapter is arranged chronologically. In the first section the ideas of Classical philosophers, particularly Pythagoras, Plato, Aristotle, and Plotinus are discussed. The second section covers the Middle Ages and Renaissance, with particular attention paid to the Medieval thinkers St. Augustine, the pseudo-Dionysius, St. Thomas Acquinas, and Renaissance investigators Leonardo and Michelangelo. In the third section, the considerations of Modern philosophers are discussed, particularly those of the Empiricists and of Kant. The contemporary theorizing from philosophy and psychology is dealt with in the succeeding chapter.

The tone is of this section is largely expositional, for it is difficult to critique fairly the theory of an individual whose metaphysic is alien to one's own. It is far from clear, for instance, how one is to evaluate the success of the aesthetic conceptions of St. Augustine if one does not concur with his Christian teachings and values. To merely say they were appropriate to their time is trite. To assert that they are nonsense because they are based upon assumptions now considered untenable is parochial and ethnocentric. The theories and their associated metaphysical underpinnings must go hand in hand, forever dependent upon each other. Nevertheless, these historical figures did not live in times completely alien to our own and it is of central relevance to this research to explore how well their broader ideas

about the evaluation of art have stood up over the centuries; that is, how well we are able to apply what they said to corresponding situations of the present day.

The issue of what variables determine artistic evaluation is one which is emphasized throughout this research. Two broad approaches are examined in this work. First, theorists have struggled with the relative importance of two superficially physical attributes of art. On the one hand, structural relations among parts of which works are composed — symmetry, balance, harmony, etc. — have been advocated by many thinkers. On the other hand, it has often been noted that beauty (or some similar evaluative epithet) can be brought about by the use of techniques and materials which better articulate or define the perceived figure such as vividness of color, the definition of line, the clarity of form, and the like. This dispute between proponents of the structural relations and definitional properties was keenest during the Middle Ages, which saw the rise of opposing camps of philosophers promoting *consonantia* on the one hand and *claritas* on the other. While not so evident today, the struggle lingers on in muted form, particularly when advocates and detractors of 'minimalist' art challenge each other (see Colpitt, 1985; Lind, 1986). Many of the best thinkers have attempted to integrate these two orientations, with varying degrees of success.

Second, the role of subjective response to artworks has been long disputed in discussions of evaluation; particularly emotion and mental imagery. Viewed warily by Plato for its power to corrupt youth, embraced by the Romantics as the essence of art, the controversy over the importance and desirability of emotion in response to art is among the most virulent in the history of aesthetics. It is notable that even in the present day, the broad base of the population seems to gauge movies, books, and plays by what emotions they arouse. The arousal of certain feelings was central to Kant's theory of aesthetic taste. Imagery and the arousal of memories was stressed by the Empiricists. Many recent investigators, particularly those who have allied themselves with objectivistic and positivistic philosophies, have disregarded subjective experiences as unimportant, non-existent, or beyond the bounds of

legitimate study.

In this chapter, the positions of the major theorists with regard to these key issues are described and discussed. Also included are other important issues the discussion of which was less pervasive. Further, an attempt is made to highlight the parallels among systems of thought which are widely separated in time.

Classical Thought

The philosophies of the millennium stretching from from the rise of ancient Greece, about 550 B.C., to the fall of Rome in the fifth century A.D. can be considered the bases of Western thought to the present day. As modern and sophisticated as we often imagine ourselves, much of what we consider to be contemporary thought about art was actually outlined by one or more of the philosophers who emerged from one of those two civilizations; this, in spite of the fact that the Ancients really had no concept of 'fine arts' commensurable with the contemporary understanding of that phrase. (see Tatarkiewicz, 1962–1967/1970–1974; DeBruyne, 1969; Barasch, 1985; Eco, 1986).

Pythagoras

Pythagoras is perhaps the most enigmatic figure in the history of philosophical thought. Because of the religious cult in which he and his memory are cloaked, it is impossible to say with certainty which ideas were actually developed by him and which were developed by his followers. This may be appropriate as under Pythagorean custom all discoveries were deemed to be collective in their origin. He is said to have invented the very word ***philosophia***, founded mathematics, discovered the relationship of the hypotenuse to the legs of a right triangle, discovered the reputed special beauty of the golden section, discovered the relationship between musical consonance and simple frequency ratios, forged the still-influential relationship between math and natural science, and moreover, to have been the son of Apollo

(Russell, 1946). The actual record on Pythagoras is fragmentary, at best, and the authenticity of major protions of it is a matter of great dispute among classicists.

Concerning aesthetics and art theory (cf. Burkert, 1962/1972), the claims regarding the mathematical bases of music and the golden section may seem to be of primary interest. Pythagoras has been credited with the discovery that 'pleasant-sounding' [1] harmonic intervals can be produced by simultaneously sounding strings the lengths of which are related by simple mathematical ratios. By superimposing these ratios upon each other, a system for generating the modes upon which Western music is based was produced. The Pythagorean scale, as it has come to be known, was probably not developed to its present form by Pythagoras, the man, but was the product of centuries of effort by himself and his intellectual progenitors and progeny.

Another aesthetic discovery attributed to Pythagoras is the 'golden section', a mathematical rule which is reputed to give the most 'pleasing' division of a line and, by extension, the most attractive proportions for a rectangle. The rule states that a line should be divided such that the ratio of the short portion to the large equals the ratio of the large portion to the whole line [$b:a = a:(a+b)$]. This results in a ratio approximating 62:38, a fraction which has become almost legendary in philosophical aesthetics and has turned up repeatedly, usually as the average of many subjects' ratings, in contemporary empirical work. Although the question of whether the golden section was actually a product of the thought of Pythagoras is still unknown, suffice it to say for now that its true origin remains even more obscured than that of the Pythagorean scale.

Whether or not the claims about the Pythagorean scale and golden section are 'correct' in some sense, the Pythagoreans had a broader, more conceptual influence upon the course

[1]Psychologists have come to call these intervals 'consonant', although this is a term which has a specific technical meaning in music. Furthermore, consonance and dissonance, as conceptualized by psychologists, seem to represent endpoints of a continuum rather than discrete properties of given intervals.

of aesthetics which cannot be denied. The Pythagoreans first formalized the notion that specific relationships among parts, purely mathematical relationships, are the primary determinants of beauty (cf. Tatarkiewicz, 1962–1967/1970–1974, v.1). Pythagoras, consequently, gave to aesthetics and art theory an *attitude* which is more significant than the artistic devices attributed to him. It is an attitude which will be shown to recur periodically throughout the history of aesthetics, influencing whole generations of thinkers.

Plato

Alfred North Whitehead once said that "Twenty-five hundred years of Western philosophy is but a series of footnotes to Plato" (cited in Barrett, 1958). While the statement may be hyperbolic, it reflects the idea that many of the issues still debated by contemporary thinkers were initially outlined in Plato's dialogues. As with his other writings, those on art are steeped in the traditions of ancient Greece. He drew his Idealism from the Eleatics and the Pythagoreans but he rejected their withdrawl from the everyday world in favor of the Humanism of Gorgias and Protagoras. His commitments to Ideal 'universals' were not simple *a priori* assumptions about the nature of the world, however, for it was the rationalism of his mentor, Socrates, that had the most profound and direct influence upon his philosophy. His belief in Ideal Forms as well as his commitment to social problems were the products of intricately reasoned arguments which are presented in the dialogues. It was this synthesis of idealism, humanism, and rationalism that made Plato the central philosopher of his time (cf. Lodge, 1953).

Concerning aesthetics in particular, Plato's writings are, perhaps, the most widely read and most often reviewed writings in the field. Hofstadter & Kuhns (1964) have called him "the founder of philosophical aesthetics". Monroe Beardsley (1966), a significant aesthetic philosopher in his own right, has praised Plato for not only asking the right questions, but for providing answers which remain compelling to the present day. Plato's numerous writings on the topic are both deep and wide-ranging and, although not always consistent with each

other, they address the areas of concern which have traditionally dominated the field:

1. What are the nature and function of art?
2. What are the origins of the creative artistic process?
3. What are the criteria of good art?

It is the last question which is here most relevant.

The best known of Plato's writings on art is undoubtedly the infamous Book X of ***The Republic*** (c.375 B.C./1955) in which it is suggested that poets should be exiled from the properly run city because they are, in effect, liars who can only produce superficial likenesses of objects and events which are, themselves, mere reflections of Truths and about which poets know little in any case. To quote Plato directly, the poet is "...a charlatan whose apparent omniscience is due entirely to his own inability to distinguish knowledge, ignorance, and representation" (598d). Moreover, he believed poetry portrays both people and gods in moments of weakness, a spectacle which "wakens and encourages and strengthens the lower elements in the mind [emotion] to the detriment of reason..." (605b) thereby corrupting those who come in contact with it and model themselves after its depictions.

As definitive as these statements seem to be, it would be a disservice to imply that this was Plato's sole word on poets or art. Concerning the nature and function of art, he saw it as mimetic (***Republic***, c.375 B.C./1955, II; *Laws*, c.360 B.C./1964, IV) and, if properly produced and considered, functional as a tool for moral instruction. Because it was said to be untrustworthy as a source of knowledge, however, it might be corruptive if not properly handled. It has been argued by Allan Gilbert (1940) that Plato believed that "...because of its harmony and good taste [poetry] can have a salutary effect on the characters of readers and hearers" (p.6). Beardsley (1966) has argued, moreover, that Plato asserted by implication that, because melodies and paintings can be highly beautiful, they are a part of the process of the individual's rediscovering of Ideal Beauty (cf. *Symposium*, c.395 B.C./1953, 210–211). Consequently, it seems that it was Plato's appreciation of the power of art to influence

either positively or negatively, rather than a conviction of its inherent immorality, that lay behind the indictment found in the *Republic.*

Specifically regarding the relative value of particular works, 'good' works were said to be those which reflect Beauty and inspire morality. In the *Philebus* (c.350 B.C./1945) he wrote, "the qualities of measure and symmetry [2] invariably...constitute beauty and excellence" (64e). Alternatively, clear, pure tones were said to be beautiful 'in themselves' as were modest expanses of white, and simple geometrical shapes. In an effort to extract concepts which bring these examples together, Beardsley (1966, p.43) has asserted that they all exhibit unity, regularity, and simplicity. An inconsistency lies between the qualities outlined and the examples given, however. It is not clear how musical tones or expanses of white can be said to be symmetrical, yet they are said to be beautiful. It seems that beneath these comments can be found the beginnings of the conflict alluded to before between beliefs that beauty is the result of certain structural relationships, on the one hand, and that it is the result of perceptual definition, on the other.

Plato also asserted that morality must be legislated into the arts. Pleasurable plays and songs are, of necessity, no better as moral guides than are pleasant-tasting medicines necessarily good cures, he argued in the *Laws.* "...The good lawgiver," he wrote, "will persuade, and if he cannot persuade, will force the poet to work as he should, and present in his beauteous and well-wrought rhythms and harmonies the gestures and accents of men who are wise, strong, and altogether good" (II, 659d).

In summary, then, Plato established three positions which were to figure prominently in discussions of art evaluation for more than two millennia. First, he asserted that works of art

[2]This rendering of the Greek word *symmetria* is regularly, although not universally employed in translating Plato. Occasionally, the more generous 'proportion' is used instead. The same word, however, is almost universally rendered as 'symmetry' in translations of Aristotle's comments on beauty in the *Metaphysics.* Issue is taken with the necessity of symmetry to beauty by Plotinus during the late Roman period. Thus, the rendering of *symmetria* is of reasonable importance in understanding how these early thinkers agreed with and differed from each other.

are mimetic: that the artist must strive to depict objects and events. Second, although he was wary of the implications, he recognized the power of art to arouse emotions in people and took this to be one of its basic qualities. Third, he took a strongly absolutist evaluative position, demanding that art must reflect Beauty in its structure and Morality in its message. Beauty was said to be a divinely inspired Form which is characterized by measure and symmetry, although he granted that some things are beautiful which cannot be said to have those properties. Morality was to be enforced by the depiction of men and gods behaving with wisdom and strength.

Aristotle

There is a more pragmatic flavor to Aristotle's writings on art and aesthetics than in those of Plato. His most important contribution to aesthetics may have been to introduce formally the notion that perceptual definition contributes significantly to the beauty of an object. His best-known work on the arts, the ***Poetics*** (c.330 B.C./1940), is more a brief technical manual for writers, however, than a philosophical treatise on aesthetics. It is an example of what Aristotle called 'productive knowledge' rather than theoretical or practical knowledge (Marshall, 1953), being based upon his own personal observations of which poetic devices seemed to 'work'. In that influential work, he described the various techniques which, in his experience, operate most effectively in tragic, epic, and (in the lost fragment) comic poetry.

In brief, a good tragedy was said to be one which rouses a particular kind of aesthetic pleasure by paradoxically arousing fear and pity (both considered at some length in ***Rhetoric***, c.330 B.C./1964, II) in the spectator, enabling him or her to purge excess levels of these two emotions by experiencing them sympathetically for the protagonist. [3] This

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[3] Gerald Else has taken issue with this position, claiming that the pity and fear is supposed to be roused in the characters rather than the audience. I have taken the more conventional position because of its greater relevance to this research.

katharsis,[4] as he called it, was said to be brought about when the poet writes about characters with whom the audience can identify and admire but who, by way of error (*hamartia*), are dragged into misfortune. The *katharsis*, it was said, can be enhanced if the plot includes peripety (reversal), discovery (by the protagonist of the error of his ways), and suffering.

This same sort of practical style permeates his theory of music, found in the *Politics* (c.330 B.C./1962). Different modes were prescribed for evoking certain emotions in the listener: the Mixolydian produces sadness, the Phrygian enthusiasm, the Dorian produces a moderate and settled temper, etc. Moreover, music, like poetry, was said to be an imitative art; poetry an imitation of people's actions, music an imitation of their emotions. "In rhythms and tunes", he wrote in book VIII, "there is a close resemblance to reality – the realities of anger and gentleness, also of courage and moderation, and of the opposites of these, indeed of all moral qualities." Extending this mimetic stance further, he wrote in the *Poetics* (I), "...dancers, by means of rhythm embodied in figures, imitate character, emotion, and action." It is suggested by this statement that Aristotle believed in something like structural isomorphism between actions and emotions, more than 2000 years before its articulation by the Gestalt psychologists.

In Aristotle's ideas can be seen a divergence from Plato's distrust of the ability art has to arouse emotions. Aristotle saw the emotional value of art as therapeutic, and therefore as a positive, rather than corruptive, aspect of art. Notably, he saw no need for the government to regulate art. He asserted in the *Poetics* that art which glorifies immorality will fail aesthetically.

Butcher (1951) has argued that Aristotle considered the moral and didactic functions of art to be subordinate to an "ulterior end" (p. 198): that of giving pleasure; a pleasure

[4] To avoid confusion with Freud's 'catharsis', I shall use the Greek transliteration, *katharsis*, when refering to Aristotle's related but distinct concept.

which proceeds from an emotional rather than intellectual source (p. 202). A good work of art, then, is one which produces such pleasure. It seems, further, that this pleasure is a response to the beauty of a work but, as with Plato, Aristotle's definition of beauty is difficult to pin down. In book XIII of the *Metaphysics* he suggested it is brought about by symmetry, order, and "definiteness" (*orismenon*). The first two terms refer to structural relationships among parts. The last term, however, is more ambiguous. It seems to refer to a certain clarity of line or form; a definitional quality distinguishible from the relational notions of symmetry and order.

How do these general notions relate to his specific technical recommendations? In the *Poetics* he asserted that adherence to 'the three unities' (time, place, and action) resulted in better tragedies. He also advocated the "appropriateness" of the form to the content of the poem. That is, a certain harmony was to be achieved between the meter and the subject. Further, nature, the 'master artist', was to be followed as a guide to beauty. Aristotle did not believe that the artist must imitate nature slavishly, in order to produce fine works (Beardsley, 1966), but rather, that by copying, the artist stands less chance of going wrong and that "he can learn the trick of creating beautiful objects by taking his cue from nature" (Marshall, 1953).

In summary, Aristotle upheld Plato's belief in the beauty and morality of good art but differed from him regarding the presumed perniciousness of the arousal of emotions. He believed that emotional arousal could be therapeutic. He believed that art is generally, though not necessarily, mimetic and, of more particular interest, that the elements of music and dance bear special inherent relationships to various emotions and characters which can be skillfully exploited by the composer and choreographer. He also suggested that beauty is a product of both structural relationships among parts — specifically symmetry and order — and perceptual definition as well.

Hellenistic and Roman Aesthetics

Extensive consideration of art seems not to have been a priority of later Greek and Roman philosophers. Moreover, much of what was written by them has been lost or destroyed. There are indications, however, of what the major philosophical schools of the time valued and rejected regarding artworks. An excellent discussion of these positions is presented by Beardsley (1966).

The Stoics virtually equated beauty with orderliness. Though committed to mental discipline and tranquility, a balance that the reputedly emotional qualities of art might upset, they were willing to abide poetry, which was said to produce a rational sort of pleasure or 'elevation of the soul' (*chara*). This pleasure was distinguished from the irrational sort associated with bodily pleasures which Plato had denounced as corrupting (*hedone*). While not terribly sophisticated or intricate in their theorizing, the Stoics noted the importance of a distinction which seems to have eluded many contemporary aesthetic theorists: there may be different sorts of pleasures which result from different causes.

At the peak of the Roman Empire, the two most notable aestheticians were Horace and Longinus. Horace (c.15 B.C./1940) endorsed Aristotle's argument that the work of art, poetry in particular, must exhibit a harmony between form and content. Further, for apparently traditional reasons, he insisted that dramas must consist of five acts and have three characters. Echoing the sentiments of Plato, he also believed that poetry is "to be taken seriously because it can serve an important moral and civic function" (Beardsley, 1966, p.76).

Longinus (c.80 A.D./1940) wrote a practical stylistic treatise, *On Literary Excellence.* In it he cited what he considered to be the chief literary errors - bombast, puerility, excessive pathos, and frigidity - all of which he attributed to the popular "craze for novelty" (V). Interestingly, this contradicts the assertions of contemporary psychologically-oriented aesthetics

researchers who often claim that novelty is among the most significant of art-related variables (Berlyne, 1971). In all fairness, however, Longinus confessed that the five virtues of literary style he advocated are also, in part, a function of novelty. It would not be correct, however, to say that Longinus was in agreement with those contemporary researchers who suggest there is some 'optimal level' of novelty which leads to positive aesthetic evaluation. It seems that he actually prefered certain ***kinds*** of novelty and denounced others, rather than advocate a certain ***amount*** of novelty.

The first of Longinus' five virtues of style was that the poet must have a firm grasp of the ideas to be developed in a given work. Second, he advocated the presence of vigorous and inspired emotion, though *in the writer* rather than the spectator. Third was the formation of verbal and ideal 'figures': literary and dramatic devices similar to those described by Aristotle in the *Poetics.* Fourth was the use of 'notable language'. Fifth was the "fitting and dignified arrangement" of the various parts of the work. Here, in particular, Longinus championed a notion of artistic 'goodness' which involves specified relationships among parts. It is also notable that Longinus considered emotional arousal in the spectator to be a sometimes effective but not necessary artistic device; one which was often tricky to handle.

Although the tract was apparently lost soon after it was written, it was rediscovered during the Renaissance and had a profound effect on the neo-Classical theorists whose primary concern was with the 'sublime' in art. Although Longinus' work was primarily on the excellence of literary style, its title was originally translated as *On the Sublime* (see Gilbert, 1940).

Perhaps the currently least-read aesthetic theorist of major influence was Plotinus, who lived during third century A.D. Although misindientified by Berlyne (1971) as Greek, he was born in Alexandria, Egypt and lived there to the age of thirty-nine. After a short excursion with the Roman army, he settled in Rome and, for a short time, was allowed by Emperor

Gallienus to establish a city based upon the precepts of Plato's *Republic.* After permission was withdrawn, he set to writing and teaching, developing a neo-Platonic school so influential that it was eventually supressed by the Christians (Russell, 1946).

It was with Plotinus that art theory took its first decidedly mystical turn since the time of Pythagoras. Although he did not address questions of art directly, he developed an extensive theory of the nature and origin of beauty which was to have profound ramifications for centuries to come, particularly in the neo-Classical and Romantic periods. Central to his philosophy was the notion that, in reality, all things are part of a universal mystical entity called "the One", sometimes also referred to as the "Light of Being". All things were said to emanate from and return to the One. Goodness and Beauty were also to be found in the One. The proper life was said to strive to merge with it. He concluded from this, somewhat pardoxically, that to see beauty is to have not yet achieved it. He wrote in *Ennead V* (viii, 11),

> ...we will be told, one cannot be in beauty and yet fail to see it. The very contrary: to see the divine as something external is to be outside of it; to become it is to be most truly in beauty: since sight deals with the external, there can here be no vision unless in the sense of identification with the object. (c.255/1964)

Plotinus attempted to unify the notions of structural relationships and perceptual definition, as the bases of beauty, which had been developed in the theories of both Plato and Aristotle. He rejected simple symmetry as being neither a necessary nor sufficient condition of beauty (Ennead I, tractate vi). He asserted that the necessity of symmetry implies that beautiful things must be complex, of two parts at least, thus excluding the possibility of single colors and pure tones being beautiful. Symmetry cannot be a sufficient cause of beauty either, he argued, because when people die their bodies are no longer beautiful but just as symmetrical as ever, perhaps more so.

Although Anton (1964) has attacked the logic of the Plotinian argument against symmetry, it is clear that counter-examples to the belief that symmetry is a necessary condition of beauty abound. It is here that the '*symmetria* problem', alluded to before, arises again. It is possible that Plato's understanding of the word was something more closely akin to 'proportion' or 'balance' and that during the intervening five hundred years, it had taken on the stricter connotations which we associate with 'symmetry' today; connotations which Plotinus felt called upon to reject.

In place of symmetry, he contended that 'unity' is needed to bring beauty to an object; unity given by the imposition of form upon matter and which reflects the ultimate unity of the One.

> ...discerning in certain objects the Ideal-Form which has bound and controlled shapeless matter, opposed in nature to Idea, seeing further stamped upon the common shapes some shape excellent above the common, it gathers into unity what still remains fragmentary, catches it and carries it within, no longer a thing of parts, and presents it to the Ideal-Principle as something concordant and congenial, a natural friend... (I, vi, 3)

The result of the apprehension of such beauty was said to be a pure and virtuous joy.

Although it might seem from the above quotation that Plotinus' theory of beauty was one of structural relations, such a characterization would not be accurate. More explicitly so than with Plato, a recognition of the beauty of homogenous entities is evinced in his writings. Unity was said to be the basis of beauty in these cases as well. "The beauty of color," he wrote, "is also the outcome of unification: it derives from shape, the conquest of the darkness inherent in Matter by the pouring-in of light, the unembodied, which is a Rational-Principle and an Ideal-Form" (I, vi, 3).

Contrary to Plato he was not concerned with the accuracy of representations. Noting that the beauty of nature itself is but an imitation of Beauty, he suggested that there is nothing to keep the enlightened artist, working from imagination rather than physical sight, from reflecting the Form even more truly than nature (Inge, 1948).

Conclusions concerning the Classial era

The classical epoch supplies aesthetic wealth of two kinds. First, it was the source of a number of technical considerations and innovations: the Pythagorean scale, the golden section, as well as the guidelines outlined in the *Poetics* and *On Literary Excellence.* As important as these were and are, the ancients set up the parameters of a debate which continues still: the relative importance of structural relationships, perceptual definition, and emotional arousal to the evaluation of works of art.

Arguments on the side of structural relationships were evident in Pythagoras' conviction that there are mathematical laws underlying the beauty of art and nature: a belief which is reflected in the faith placed in quantitative analyses by more recent researchers such as Fechner, Helmholtz, Eysenck, and Berlyne. Plato followed the Pythagorean view, calling for 'symmetry' and 'measure'. Although he was not explicitly mathematical in his formulation, the assertion that the source of beauty can be found in symmetry is at least geometrical in spirit. Certain comments of his concerning the beauty of tones and colors suggest that he was aware of that beauty can be the product of perceptual definition as well. Aristotle adhered to the doctrine of symmetry though he dropped the ambiguous 'measure' from his set of conditions in favor of 'order'. He also added the difficult 'definiteness'.

It was left to Plotinus, however, to reject explicitly the notion of 'symmetry' as a condition of beauty, opting instead for unity, which, it was said, can be achieved through certain relationships among parts or by the manipulation of certain variables such as color and tone. Both ways were considered to be examples of the imposition of Ideal-Form upon matter, an ultimately unifying process.

The philosophers discussed also believed in the aesthetic importance, positive or negative, of the emotional impact of art, a view which was to gain very wide acceptance and provoke discussion in almost all later schools of thought. Plato feared its power. Aristotle thought it

could be harnessed for good. The Stoics delineated between intellectual and physical pleasures, advocating the latter. Plotinus asserted that beauty is the cause of pure joy.

Medieval and Rennaisance Thought

With the rise of Christianity and the fall of Rome in the fifth century came sharp changes in the topics of philosophical speculation and the kinds of answers which were deemed acceptable. Tatarkiewicz (1962–1967/1970–1974) has noted that it is surprising that any thought was given to art at all, given the political and social upheaval of Gothic and Islamic invasions, the rise and fall of the Carolingian empire during the eighth and ninth centuries, and the substantial poverty and illiteracy of Europe. What thought there was seems to have been to a large extent inspired by the Classical philosophers of the centuries before. Eco (1986) has written, "...where aesthetics and artistic production are concerned, the Classical world turned its gaze on nature but the Medievals turned their gaze upon the Classical world; that medieval culture was based, not on a phenomenology of reality, but on a phenomenology of a cultural tradition" (p.4).

The Medieval model of aesthetics, thus based on Classical traditions, was enunciated most clearly by the fifth century philosopher known as the pseudo–Dionysius. He formalized the two principles which were to lie at its core. The first, *claritas*, refers to brightness, clarity, and radiance. The second, *consonantia*, denotes harmony and consonance. Both terms had strong religious connotations — the light of God, the harmony of the universe — but these need not be of concern here. They were considered the prime constituents of beauty and, thus, of valued art.

The most prominent aesthetic theorists of the era, aside from the pseudo–Dionysius, were St. Augustine who lived most of his life before the most drastic of the devestation, and St. Thomas Aquinas, who lived more than eight centuries later, in times of comparative

stability. Their aesthetic considerations were highly intellectual, often placing the beauty of the theory above that of the art itself. Because Medieval theories of beauty were focussed on the Beauty of the Divine, which was said to be seen *through* beautiful works, it has been suggested (Eco, 1986) that they are not, properly, theories of aesthetics at all as they did not depend upon the operation of sense perception. "The Medievals," Eco wrote, "had only a scanty understanding of the *specifically* artistic. They lacked a theory of the fine arts. They had no conception of art in the modern sense..." [original italics] (p.97). Nevertheless, their theories of beauty have a bearing upon our understanding of contemporary aesthetic models.

During the Renaissance there were a series of shifts in emphasis. A second neo-Platonism rose in aesthetics, led by Ficino and, later, Michelangelo. Further, the emerging scientific spirit became intertwined with the mathematical, relational theories of art outlined by Alberti, Leonardo, and Dürer.

St. Augustine

Aurelius Augustinus (354–430), later known as St. Augustine, was one of the early Christian Fathers who, along with St. Jerome and St. Ambrose, forged the new belief systems of the coming post-Roman era. He was steeped in the Classical philosophies of Plato, the Stoics, and Plotinus and these influences are strongly represented in his writings. After his conversion in 387, however, nothing in his writing is free of the influence of Christian teaching. He might be considered the hinge between the Classical and Medieval worlds. What remain of Augustinian writings on aesthetics are *De Ordine* (On Order) and *De Musica* (On Music). His contributions in these works amount to a theory of beauty which is reminiscent of both the Pythagoreans and of Plotinus.

Principally, he believed that the apprehension of beauty was, at root, a rational rather than emotional process. The faculty of reason was said to apprehend the beautiful features of an object (or thought) and this apprehension led to a concomitant 'elevating of the soul'; a

complex affective response. Exactly what the key features leading to this experience were, however, is a matter of debate. Beardsley (1966) has said they were unity, number, equality, proportion, and order. Gilbert and Kuhn (1939) cited "proportion of parts and agreeableness of color." Barasch (1985) refers to the Augustinian call for varied shapes, symmetry, and harmony. Tatarkiewicz (1962–1967/1970–1974) strongly emphasized the discussion of ryhthm found in *De Musica* and the notion of form. All of these terms appeared in his writings at different times. In general, it seems he favored particular structural relationships.

The term 'number' was frequently used as a catch-all for these related properties. Mathematical relationships were assumed by Augustine to underlie them all. This notion was to prevail in philosophical consideration of the arts, music in particular, for almost a millenium. Gilbert and Kuhn (1939), however, have suggested that the emphasis on mathematical relationships "...may illustrate not the principle of esthetic order but the vagaries of irrational [numerological] symbolism" (p.135).

The concept of rhythm also held a significant place in the Augustinian metaphysics of beauty. He distinguished five types of rhythm: those of sound, perceptions, memory, actions, and the mind. The last was said to be the most important as it was considered innate and it was asserted that without it no other rhythms could be produced or perceived (Tatarkiewicz, 1962–1967/1970–1974). Thus, a mind without rhythm, a symptom of a soul without order, was considered unable to perceive beauty, under the Augustinian system.

Beauty, of course, was believed to find its ultimate source in the Divine and, as had Plotinus, Augustine drew a sharp distinction between sensorial beauty, on the one hand, and intellectual or spiritual beauty on the other. Augustine asserted that the content of a work is as important to its aesthetic value as the quality of the representation (Tatarkiewicz, 1962–1967/1970–1974). Depictions of evil or immoral subjects were not considered beautiful, regardless of the quality of the depiction. This position held sway for many centuries to

come. It was not challenged until rejected by St. Bonaventure in the thirteenth century. Further, Augustine held that "every part is as beautiful as the [beautiful] whole," (*De Ordine* XIX, 51), a fallacy of composition which held sway until rejected by Leonardo in the fifteenth century.

The pseudo-Dionysius

One could make the case that the most significant aesthetic statement of the Medieval era was the iconoclasm of the Byzantine Empire (Barasch, 1985). Under Constantine V, all paintings, sculptures and other images were condemned as profane appeals to the senses, antithetical to the spiritual nature of Christian worship. They were reinstated, however, thirty-three years later under Constantine VI who believed them to an aid to comprehension by the illiterate (almost everyone) during worship (Beardsley, 1966). The same argument had prevented Gregory the Great from banning pictorial images in the West two centuries earlier.

The most influential of the post-Augustinian philosophers in the centuries before Thomas Aquinas was the anonymous theologian known as the pseudo-Dionysius. Though possibly contemporary of St. Augustine, his works were not well-known in the West until translated from Greek by John Scotus Erigena in the ninth century (see Tatarkiewicz, 1962-1967/1970-1974, v.2 for a review of John's translations and original work). The writings of the pseudo-Dionysius were theological tracts, but his emphasis on beauty as an important feature of God make them of interest to the study of art. For no other writer was art as transcendental a topic as for the pseudo-Dionysius. The sensuous beauty of art and nature was said to be only as beautiful as the Divine Beauty, which shone through them; a Beauty which could be recognized only in proportion to the 'spiritual love' residing in the observer (DeBruyne, 1969, p.122). Although the religious overtones cannot be ignored, this statement marks the beginning of 'interactionist' theories of art (cf. Child, 1978). Art objects could only be seen as beautiful by those who had the proper elements within and, even then, only to the extent that they reflected the divine order of things. Primarily, that order was said to be

embodied by the two principles cite above: *claritas* (clarity or brightness) and *consonantia* (harmony, proportion, or consonance). It seems that Plotinus' attempt to integrate these two concepts, tradtionally advocated sources of beauty, had not satisfied later writers and they were set out side by side once again.

Scholasticism

In the last third of the Middle Ages, the power of Christianity had become so great that it controlled almost all of Europe and thought could once again safely be turned to more academic considerations. During this period, traditional lines of thought were more fully developed and Christian philosophy as a whole became fully articulated. Although more diverse than they are often portrayed, the thinkers of this period are often, as a group, referred to as the Scholastics. Two of the strongest Scholastic sects were the Franciscans, led by St. Bonaventure, and the Dominicans, led by St. Thomas Aquinas. In general, the first group followed the more traditional trends which had been laid out by Plato and Augustine, although they evinced a somewhat mystical tone in their writings. The other group forged a newer trend based upon a fusion of traditional and Aristotelean considerations (Tatarkiewicz, 1962-1967/1970-1974)

St. Bonaventure (1221-1274) dismissed the Augustinian assertion that there could not be a beautiful image of an ugly thing. "An image of the devil can be called 'beautiful' if it is a good representation of his foulness, and thus foul itself" (cited in Eco, 1986, p.102). He also asserted the locus of beauty to be the object itself and took aesthetic pleasure to be a primarily emotional rather than intellectual experience, claims which contradict the Augustinian traditions of the time (Eco, 1986, p.67).

These notions aside, however, Bonaventure's beliefs about art and aesthetics were fairly conservative. He was an ascetic, recommending rejection of the pleasures of physical beauty in favor of the spiritual sort. He also followed the Stoic distinction between aesthetic and

hedonistic values. The former applied only to those objects through which the beauty of God could be said to shine while the latter was applied to those which exhibited mere 'attractiveness' (Tatarkiweicz, 1962-1967/1970-1974).

St. Thomas Aquinas differed with St. Bonaventure on several fundamental points. Thomas asserted that beauty is a function of cognition rather than emotion. Beauty was said to exist only in relation to the 'goodness' of which one has direct perceptual knowledge. Thomas wrote, "...*good* means that which pleases the appetite; while the *beautiful* is something pleasant to apprehend" [original italics] (cited in Beardsley, 1966, p.102). Thus, food might be called 'good' in that it pleases the hungry appetite but would only be called beautiful to the extent that it is pleasant to the eyes and ears (e.g. 'a beautiful presentation of good food'). This kind of thinking was quite a departure from Classical formulations in which the good and the beautiful were thought to virtually coincide. For Thomas goodness was thought to be a property of the object itself whereas an object could only said to be beautiful if, in addition to being good, it pleases the senses, particularly sight and hearing. Thus, although a good thing need not be beautiful, all beautiful things were said to be good by definition.

Thomas favored three, rather than the traditional two conditions of beauty. He added *integritas* to the traditional duo of *consonantia* and *claritas*. *Integritas* refers to the object having a wholeness or completeness about it. This concept was an original Thomistic contribution to aesthetics (Barasch, 1985, p.100) which has been echoed by many aesthetic theorists since.

Perhaps the most important of Thomas' contributions to aesthetics was his assertion that there are multiple forms of beauty. This idea strongly foreshadowed the thought of both Leonardo and Michelangelo, as well as Wittgenstein's (1953/1958) notion of family resemblances. Under Thomistic thought, Beardsley has written (1966, p.105), "there is not a

single beauty common to all beautiful things, but a whole family of qualities, each to be prized wherever it is found." That is completeness, harmony, and clarity were each considered to be sufficient conditions for beauty. This open framework allowed for many different kinds of beauty, dependent upon the degree to which each condition is exhibited by a given object.

Dante Alighieri (1265–1321) is usually given only brief mention in histories of aesthetics, for much of what he had to say was merely a reflection of more prominent thinkers of his time. One of his ideas stands out, however, and deserves mention. With Dante, things of nature once again became legitimate subjects for poetry, rather than only things of God. He considered poetry a "two-peaked mountain" both summits of which must be climbed by the poet: the 'natural' peak must be gained by reason, the 'supernatural' peak by inspiration (c.1320/1962). With Dante the shift from a purely theological to a more naturalistic aesthetic had begun.

Renaissance Thought

The old definition of the Renaissance as "the great revival of arts and letters, under the influence of classical models, which began in Italy in the fourteenth century and continued during the fifteenth and sixteenth," (cited in Panofsky, 1969 from the *Oxford Dictionary*) seems far less certain than it once did. This is as much due to the contemporary rejection of the idea that the Medieval era was an 'age of darkness' as it is to the discovery that things may not have been as 'enlightened' during the Renaissance as once thought.

Tatarkiewicz (1962–1967/1970–1974, v.2) has noted that the Middle Ages were not without Classical influences and that to define the Renaissance as the re-emergence of such influence borders on the absurd. The change, he has argued, really concerns *which* Classical ideas held most sway, not the influence of Classicism *per se.* Osborne (1970), joined the

Medieval and Renaissance periods together in one chapter, noting changes as they came while laying little emphasis upon presumed categorical distinctions between them. I have chosen a course similar to his for practical as well as academic and historical reasons. Undoubtedly, there were many developments in artistic *technique* in the fifteenth and sixteenth centuries. Despite these important technical innovations, however, the developments in aesthetic and artistic *theory* were not so numerous as to require a major section in the present work.

Francesco Petrarch (1304–1374), often called the founder of Renaissance humanism (Panofsky, 1969), and his student Giovanni Boccaccio (1313–1375) both spread the naturalistic aesthetic of Dante to visual arts, advocating a strict imitationist doctrine. Both found perfection in the highly naturalistic works of the reformist painter Giotto (1266–1337). Although they both favored allegorical forms of poetry, the naturalism they advocated for painting soon became popular in all arts.

A *rapprochement* among all those activities now known collectively as the 'fine arts' also developed during this time. Although hints of it can be found in the writings of Petrarch and Boccaccio, it was in the fifteenth century that painting, sculpture, and architecture first generally came to be regarded as a group of related entities with common functions to be fulfilled and problems to be solved.

If such a fundamental shift may be attributed to any one person, that person may have been Leone Battista Alberti (1409–1472), who is often considered the "founder of Renaissance art theory (Barasch, 1985). His three main treatises, *De pittura* (On Painting, 1435), *De re aedificatoria* (On Architecture, 1450–1452), and *De statua* (On Sculpture, 1464) set up the parameters of the discussion of those three artforms for more than a century. His search for a system by which space could be mechanically represented 'correctly' in painting resulted in his proposal of the 'visual pyramid', the basis of single–point perspective. Alberti adhered to the relational notions of harmony and proportion as the prime constituents of

beauty. He insisted that the artist must take his models from nature, copying no one model in its entirely, but taking the best parts of each and fusing them into a complete and perfectly proportioned artistic whole (Beardsley, 1966; Barasch, 1985). Alberti's search for the perfect proportions of beauty led him to develop several mathematical formulae, corresponding to the various arts he studied and practiced, which were said to represent beauty scientifically, once and for all. (see Tatarkiewicz, 1962-1967/1970-1974, v.2, p.82).

Platonism, albeit with a Christian interpretation, re-emerged with the critiques and Latin translations of Plato undertaken by Marsilio Ficino (1433-1499). Much of the mysticism of Plotinus' writings is found therein also. Ficino asserted, as had Plotinus, that harmony among parts cannot be equivalent to beauty for, if so, then homogenous wholes could not be beautiful. For Ficino, the beauty of art was still but a reflection of divine Beauty; a pale imitation of the beauty of the soul.

Leonardo da Vinci (1452-1519), like Petrarch, Boccaccio, and Alberti, advocated the imitation of nature as the goal of the artist, but rejected the idea of synthesizing beautiful parts of many objects into one 'ideal' whole. To Leonardo, the beautiful and the ugly were to be contrasted and balanced against each other by the artist in order to produce excellent art. He may, in fact, have been the first thinker to reject total beauty as a primary goal of the artist. Leonardo also rejected Alberti's notion that a single perfect set of proportions can be realized by the artist to mechanically produce beauty. Instead, he wrote, "a man may be well proportioned and be fat and short or tall and thin or average," (cited in Barasch, 1985 from note no. 97). Consequently, echoing the Thomistic notion of beauty, many different beauties were said to exist, no one being more desirable than the others. Furthermore, Leonardo rejected the Medieval idea, reflected in the writings of Ficino, that divine Beauty was seen *through* works of art. Instead he asserted that the beauty was a component of the art object itself (Barasch, 1985). This shift in the presumed source of beauty from heaven to earth may be considered the hallmark of the Modern era.

The first significant non-Italian aesthetic theorist of the Renaissance was Albrecht Dürer (1471-1528). He was heavily influenced by the mathematical orientation of Alberti, who had been the first to publish a treatise on linear perspective. After the lead of the Italian masters, Dürer attempted to extract an absolute geometry of the representation of the human body. He employed units smaller than the modern millimeter in his effort to discover the 'ideal' proportions of human corporeal beauty. By the end of his life, however, he too had resolved that beauty was not univocal; it took on many manifestations in the human body and elsewhere (Barasch, 1985).

Michelangelo Buonarroti (1475-1564) influenced the development of aesthetic and artistic thought as much by his persona as by his words. While his formal statements about art were few, they were widely quoted and highly influential. Only a figure of his stature could have stemmed the tide of increasing scientism which was sweeping over Europe's artistic community. Contrary to virtually every thinker of his era, save Ficino, Michelangleo never subscribed to the notion that beauty could be discovered through the manipulation of mathematical formulae or various relative proportions of body parts. Beauty, he asserted, is a thing not analyzable mathematically but a reflection of Ideal Good, directly perceivable by the eye (Tatarkiewicz, 1962-1967/1970-1974). General rules were held not to apply; art could not be turned into a science; beauty was once again considered a mysterious quality. He openly violated those rules of proportion laid down by Alberti and Dürer, producing some of the most highly respected artworks of all time. His beliefs were reflected in the writings of many subsequent artists. The Mannerists, ascendent artists of the sixteenth century, conformed to the anti-reductionist credo to such a degree that the movement has been described by Tatarkiewicz (1962-1967/1970-1974, v.3, p.155) as "an art of opposition" to virtually all the neo-Classical ideals which preceeded it.

The shift away from strict forms was not confined to painting. Poets also became more liberal in the range of topics and forms which were considered acceptable. Coupled with the

reappearance of Aristotle's *Poetics* in Latin in 1498 (Beardsley, 1966, p.134), Michelangelo's vision guided a slew of new poetic theorists whose ideas developed during the latter half of the century. Lodovico Castelvetro (1505-1571), an advocate of the hedonic value of poetry over the moral, thought the job of the poet is to "...give a semblance of truth to the happenings that come upon men through fortune..." (cited in Beardsley, 1966, p.136). Sir Philip Sydney (1554-1586), echoing Aristotelean thought in *Defense of Poesie* (c.1583/1940), suggested that the poet not only reflects, but improves upon, what nature has to offer (Gilbert & Kuhn, 1939).

The most radical of the sixteenth century aesthetic theorists was Giordano Bruno (1548-1600). His thought, which was primarly cosmological, was vastly more relativistic than that of any of his contemporaries. To Bruno, not only was beauty a mulitplex concept, but it was indescribable and undefinable. He rejected the notion of any absolute beauty. Beauty, he asserted, is a relative concept having no meaning *in vacuo* (Tatarkiewicz, 1962-1967/1970-1974). He considered it to be completely subjective; no one beauty could be so to everyone. Not only were individual differences at play, but changes within the individual viewer — imagery, emotions, and moods of the moment — were said to be able to change the apparent beauty of an object. He was burned at the stake for his ideas.

Conclusions concerning the Medieval- Renaissance era

Ideas concerning the nature of beauty changed radically from 400 to 1600. The extreme spiritualism of St. Augustine, the pseudo-Dionysius, and the Franciscans gave way to the Aristotelean spirit of the Dominicans, culminating in the extreme scientism of the fifteenth century Italians. This trend was, however, reversed by the immensely influential power of Michelangelo, in whose wake came diverse pluralist and subjectivist theories of beauty and art.

Generally speaking, two main trends seem apparent. First, although there were holes in the road, it became increasingly accepted that beauty is not a univocal concept; it cannot be defined by a single set of laws, be they physical or theological. Thomas Aquinas was first to set forth such a proposal. Leonardo and Dürer were eventually forced to this conclusion by their artistic experiences. Michelangelo proclaimed it to a continent of artists and theorists. Although long in coming and hard to maintain, this idea is of central importance in any investigation of art which hopes to illuminate rather than forclose on the topic.

Second, although 'beauty' became an increasingly equivocal term, it seems that versions of *consonantia* and *claritas* continued to be widely accepted as its primary constituents. Even Bruno admitted this, if only as a general sentiment. The apparent contradiction can be sidestepped by suggesting that the meanings of *consonantia* and *claritas* were themselves opening up to a wider range of meanings: physical, psychological, theological, etc.

Individual developments were notable as well. Thomas Aquinas added *integritas* to the list of constituents. Michelangelo saved the mystical element of beauty in an age of science and cleared the way for other artists to explore new forms of artistic expression. Bruno asserted that imagery and memories play parts in aesthetic response, opening the way for the emergence of empiricistic and subjectivistic thought which would come to dominate the seventeenth, eighteenth, and nineteenth centuries.

Modern Aesthetic Conceptualizations

There are many ways to divide up the thought of philosophers since 1600. The task is often approached by discerning various schools of thought (usually the Rationalists, the Empiricists, and the Idealists) and placing individuals in each school. Alternatively, I have chosen to divide this chapter along the more apparently arbitrary lines of nationality. While it is often said, not without some justification, that England was Empiricism, France was Rationalism, and

Germany was Idealism, it seems less misleading to divide the era by national boundaries than by some presumed 'schools of thought' into which several thinkers do not easily fit.

Franco- Flemish Thought

Rene Descartes (1596–1650), dominated the philosophical landscape of France and the *pays bas* during the seventeenth century. The major players of French philosophy, however, had little to say on the subject of aesthetics. Consequently it was left to less consequential, if not less capable thinkers to take up the torch when it came to the extension of Cartesian Rationalism to aesthetic considerations.

Descartes himself, as well as his two most prominent followers, Leibniz and Spinoza, made only passing references to the arts and those indicate that they did not believe that artistic activity could be brought under the Rationalist cloak. Artistic evaluation was considered by them to be the product of mental association or imagination or instinct rather than a rational process.

Where the French did leave their mark on aesthetic thought was in the work of the Paris Academy, led by Charles LeBrun (1619–1690), Andre Felibien (1619–1690), and Roger de Piles (1635–1709) each of whom carried on the traditions of Renaissance art theory. In particular, ideas concerning harmony and proportion and mathematical exactitude were upheld by these thinkers. De Piles produced many works in this regard, such as a chart of ratings of various famous artists on their exhibition of composition, line, color, and expression of emotion. LeBrun and Dürer, predictably, were rated very highly; much more so than Leonardo and Michelangelo. De Piles betrayed, however, a growing dissatisfaction with the strict canons of the academic tradition and, in several works his efforts to update them pointed up so many deficiencies that he effectively contributed to the demise of the academy's influence (Barasch, 1985).

In poetic and dramatic theory, the French were more successful. Jean Chapelain (1595–1674) advocated the poetic value of the verisimilar depiction of virtuous and illustrious action, particularly if laden with allegorical significance. Such virtues were said to be the function of plot, while beauty, the other requirement demanded of good poetry, was said to be a function of form. The best known of the French neo-Classical poetic theorists, Pierre Corneille (1606–1684), was, in fact, considered an opponent by many neo-Classicists of his time. He asserted that fine poetic style is a matter of convention rather than universal principles. He rejected the demand for depiction of only the virtuous. He rejected the absoluteness of all rules, noting that, although he had repeatedly called for the 'unity of action' in drama, he had achieved it in only three of his own plays.

British Thought

The Britons' philosophy turned increasingly toward empirical concerns, beginning with Sir Francis Bacon (1561–1626), and continued to be primarily empirical for centuries afterwards. It should be kept in mind that the meaning of 'empiricism' was rather different from that at present: it was a philosophy which primarily emphasized the examination of subjective experience. This understanding of the word 'empirical' is contrary to contemporary connotations of the term, which specifically exclude experiential report and favor examination of external stimuli and responses.

The Empiricists, far more so than any previous group, examined the creative process itself, speculating liberally on the psychology of the artist. Bacon suggested three principal functions of the mind: memory, reason, and imagination. The last was said to be involved most directly in the production of poetry (cf. Tatarkiewicz, 1962–1967/1970–1974, v.3). Contrary to most of his contemporaries on the continent, he rejected all 'rules' of beauty, noting that, "there is not excellent beauty that hath not some strangeness in the proportion." Swiping at a Renaissance champion of artistic systematization, he wrote, "a man cannot tell whether Apelles or Albrecht Dürer were more the trifler..." (1607–1625/1931).

Thomas Hobbes (1588–1679) developed Bacon's assertion concerning the relation between imagination and poetry. His theory of "fancy", as he called it, was extensive and he saw it as the source of novelty, a component of poetry which he considered necessary (Tatarkiewicz, 1962–1967/1970–1974, v.2, p.370). Further, he attributed the emotional arousal often associated with the reading of poetry to its ability to produce mental imagery (Beardsley, 1966).

John Locke (1632–1704), although he did not write on aesthetics specifically, exerted a strong influence on psychology by developing the theory of mental association. His mechanism and atomism remain central tenets of much psychology to the present day, particularly in the behavioral and physiological branches. His belief that all complex ideas, such as beauty, can be broken down into an array of simple 'elementary' ones which have become associated with one another either through 'natural' or habitual means was the seed from which behaviorism would eventually grow.

Two Britons who were highly influential concerning the problem of artistic 'taste', were Anthony Ashley Cooper, the Third Earl of Shaftesbury (1671–1713) and George Berkeley, Bishop of Cloyne (1685–1753). Although often included among the Empiricists (Beardsley, 1966; Russell, 1946) Shaftesbury has been described as an "antiempiricist" whose theory of taste "differs strikingly" from other British thinkers of his time (Dickie & Sclafani, 1977, p.565). Shaftesbury is often said to have introduced the notion of the disinterested aesthetic attitude into the discussion of art (1711/1963), although John Scotus Erigena proposed a similar notion in the ninth century (see Tatarkiewicz, 1962–1967/1970–1974, v.2). Shaftesbury and his student, Francis Hutcheson (1694–1746), both postulated an 'inner sense' which could detect beauty 'automatically' without resort to reason. Shaftesbury thought evaluation, aesthetic or otherwise, to be as basic a process as breathing (Gilbert & Kuhn, 1939). Hutcheson asserted that the prime sensitivity of the 'inner sense' is to harmony and 'unity amid variety', the latter of which has become almost cliché in aesthetic circles.

Bishop Berkeley, also considered an Empiricist (Russell, 1946), is more specifically described as an Idealistic Monist, having denied entirely the existence of matter. Beauty, he proclaimed, "is not an object of the eye, but of the mind" (cited in Beardsley, 1966 from *Alciphron*, 1752/1948-1957). He also argued for the existence of many beauties, noting that while symmetry and proportion may be constituents of beauty, these terms may have somewhat different meanings when attributed to different objects. For example, what is well-proportioned for a chair may not be so for a horse.

David Hume (1711-1776), who rejected the notion of an inner sense of beauty, stood virtually alone among major British eighteenth-century philosophers in asserting that the senses are passive inlets while the perception of beauty requires the operation of reason and sensation in concert (1739-1740/1976). Artistic taste, furthermore, was said by Hume to be a convention, rather than natural property, which can be analyzed and taught as well as any other.

Conversely, Edmund Burke (1729-1797) rejected the notion of reason in the perception of beauty entirely, preferring to envision it merely as a class of sensation automatically productive of certain emotional states. In his famed treatise on the topic, *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful* (1757/1958), he wrote "...the appearance of beauty as effectually causes some degree of love in us as the application of ice or fire produces the ideas of heat or cold" (cited in Gilbert & Kuhn, 1939, p.254).

Sir Joshua Reynolds (1723-1792) advocated a theory which has a ring of Platonism about it and echoes the sentiments of Michelangelo. The essentials of his theory are expressed, in a form uncharacteristically compact for his time, in his *Discourses on Art* (1778-1790/1975).

> The Art which we profess has beauty for its object; this it is our business to discover and to express; but the beauty of which we are in quest is general and

> intellectual; it is an idea that subsists only in the mind; the sight never beheld it, nor has the hand expressed it: it is an idea residing in the breast of the artist, which he is always laboring to impart, and which he dies without imparting; but which he is yet so far able to communicate, as to raise thoughts, and extend the views of the spectator. (cited in Beardsley, 1966 from *Discourse* IX)

He insisted, however, that art must be based upon some set of principles, if it is to be art at all. "Unsubstantial as these rules must seem," he wrote in *Discourse* (VI), "...they are seen and felt in the mind of the artist."

German Thought

The Germans developed what they thought to be the best aspects of French and English thought, often endeavoring to forge some synthesis of the two. The ultimate result, of course, was the Idealism of Immanuel Kant; a doctrine which may be said to embody the convergence of more philosophical thought than that of anyone since Thomas Aquinas, possibly since Plato. With Kant's death, however, the new unification ended. Idealism split into two divergent movements headed, respectively, by Hegel and Shopenhauer.

By the eighteenth century some German thinkers were busying themselves with the relatively new project of unifying all the fine arts under a single general aesthetic. Alexander Baumgarten (1714–1762), who coined the term "aesthetics", asserted that the function of all arts is representation and that those works in which the representations are "clearer" are better works. By the term "clear", he referred to the use of abstract, logical discourse which was contrasted with the "confused discourse" of perception. Gotthold Lessing (1729–1781) asserted that the aim of all art is to imitate, but suggested that the different arts employ "signs" which are best suited to imitate different things and ideas (1766/1941). Painting, he said, is best suited to imitate objects by virtue of its spatial qualities. Poetry is best suited to imitate action due to its temporal existence (Beardsley, 1966).

The apparent failure of his predecessors to find any workable determinants of beauty led Immanuel Kant (1724–1804) to return to the search for it in an Absolute or Ideal form.

His object, primarily, was to forge a synthesis of Empiricistic and Rationalistic thought, not embracing the total relativism of Hume, on the one hand, nor the claims of absolute physical dimensions of beauty advocated by Alberti, Dürer, and their neo-Classical disciples, on the other.

Rather than taking Absolutes to be either objective external entities which reside in some Ideal Realm, as had Plato, or as divine decrees handed down by God, as had the Medievals, Kant regarded them as 'subjective universals'; the inevitable result of innate categories of thought which reside *a priori* in the the human mind. Although each person was said to come to Beauty individually, all people must eventually come to the same Ideal because of the mind's *a priori* structure. Most specifically, he rejected the Lockean notion that Ideals could be attained through collative empirical means (Osborne, 1970).

Concerning aesthetics, in particular, Kant outlined his position in his treatise on feeling entitled *Critique of Judgement* (1790/1964). In that work, judgement was distinguished by Kant from the other mental faculties, reason and understanding, the subjects of his previous two *Critiques*. Judgement was said to result from feelings of pleasure and pain, while the other two were said to correspond to will and cognition, respectively (Gilbert and Kuhn, 1939, p.332). It is only in this limited sense that Kant employed the term 'judgement', associating it primarily with aesthetic response and intuition in the third *Critique*.

The judgement of beauty, or 'taste' as it is often called, was outlined in terms of the four main *a priori* mental categories: quality, quantity, relation, and modality. The quality of aesthetic judgement was said to differ from that of "logical judgements". The concept of Beauty, he asserted, cannot be arrived at by the process of reason. Aesthetic judgement arises, he wrote, from a feeling of pleasure or pain — not, however, the usual hedonic element caused by physical desire or stimulation. It was said to be a pleasure in which one is "disinterested". It excites no particular inclination but is merely contemplative. This is a

notion which Kant borrowed from Shaftesbury and developed to suit his own needs. In support of his claim that the judgement of beauty is a personal feeling rather than a product of reason, Kant noted that "there can be no rule according to which anyone is forced to recognize anything as beautiful." One rejects externally given laws of beauty if one's own feelings do not concur.

Second, the *quantity* of taste was said to be universal. That is, if one judges a thing to be beautiful, that judgement will be seen as incumbent upon everyone else. This is not due to the objective existence of beauty in the object but, rather, it was considered a personal judgement with which everyone must concur, due to the structure of their minds.

Third, the aesthetic feeling was said to arise when the imagination and understanding, the two elements of cognition under Kantian theory, apprehend an object which causes an harmonious interaction of the two. This harmonious reciprocal *relation* between imagination and understanding becomes particularly salient when they are enabled to work in the abstract, so to speak, unhampered by the need to concentrate on particular concepts. Consequently, Kant suggested that non-objective or abstract art would best enable such "free interplay". This underlies his famous paradoxical "purposeless purpose". When apprehending beauty, one's attention is focused not on concrete concepts, as is usually the case, but on the feeling itself.

Fourth, the *modality* of beauty is necessity. That is, where beauty can be found, it must be present for everyone. He denied that beauty could be relative; that a thing could be beautiful for one person and not for another. This assertion is dependent upon acceptance of his claim that there is an innate source of beauty common to the minds of all people (Osborne, 1970).

Most interesting, perhaps, is Kant's novel use of the term 'harmony', in relation to beauty. Whereas it had often been used before in the context of a presumed relation between parts of a beautiful object, Kant inserted it into the workings of the mind, denoting

a relationship among mental faculties which, when achieved, produces aesthetic pleasure. This move away from the object into the mind of the spectator served to make Kant the harbinger of nineteenth century Romanticism.

After Kant, the Idealist movement split. Many were unhappy with his subjective definition of beauty and, while remaining true to his phenomenalist stance, attempted objectifications of the term. These 'objective idealists' included Friedrich Schiller (1759–1805), Friedrich Wilhelm von Schelling (1775–1854), and Georg Friedrich Wilhelm Hegel (1770–1831). Hegel, the most important of the three, asserted that the fusion of sensual and spiritual elements inherent in art — particularly painting, music, and poetry — is the primary condition of beauty.

Johann Wolfgang von Goethe (1749–1832), was more concerned with the knowledge presumed to be imbedded in works of art and the power of art to impart such insights to the spectator. "The artist, no less than the meteorologist and botanist," he wrote, "is a student of nature intent upon revealing truth that eludes the superficial observer," but one who, "guided by inspiration...anticipates a stratum of reality with which we are forever denied communion in terms of ordinary knowledge" (Gilbert & Kuhn, 1939, pp.349, 351). The close affinity this statement bears to the assertions of the phenomenologists of the twentieth century, particularly Heidegger, will become apparent in the next chapter. Goethe also believed that specific colors universally produce specific emotions in the spectator (1810/1970).

The Romantics developed these lines of thought, emphasizing what they perceived to be Kant's escalation of feeling to a position above thought and will. Writing in a style which held profoundly mystical overtones, they developed some of the richest and most speculative visions of art and life to date. August Wilhelm Schlegel (1767–1845) is credited with having developed the concept of 'Romanticism' based, in part, upon the statements of his brother, Friedrich Schlegel (1772–1828), that "art is the visible appearance of God's Kingdom on

earth" (cited in Osborne, 1970, p.173). Beardsely (1966) has identified the three primary constituents of Romanticism as being (1) an emphasis on expression rather than imitation, (2) the assertion that emotional intuition constitutes a kind of knowledge equal if not superior to the rational empirical sort, and (3) the idea that the artwork is to be considered as a kind of organism with a life of its own. Although rich and provocative, their ideas are beyond the scope of the present research.

Zen Buddhist Thought

The aesthetics of Zen Buddhism obviously dates back to well before the nineteenth century. Its precepts reach back to the dawn of the Zen sect in China about the same time as the rise of the Carolingian empire in Europe; the eighth and ninth centuries. The seven characteristics of Zen art, outlined in Hisamatsu's [5] consummate work on the topic (1971), were not widely known in the West, however, until Japan was visited by Ernest Fenollosa (1853-1908) and Bruno Taut (1880-1938).

The most striking difference between Zen and Western aesthetics was the Oriental call for ***asymmetry*** in art, the complete reverse of Western Classical thought. Symmetry was thought to be too rigid; too formal and rulebound. Second, art was expected to be ***simple.*** This is reflected in the sparseness of Zen paintings, poetry, and gardens. The third characteristic of Zen aesthetics was a quality of ***lofty dryness.*** Hisamatsu has explained this phrase as referring to a seasoned or aged quality to the work. All that is extraneous has been stripped away, thus "dryness"; only the essential remains. The fourth characteristic is ***naturalness.*** This term must not be confused with the Western notion of 'naturalism', which refers to the portrayal of things 'as they appear'. Naturalness is found where there is no sense of the work being forced or strained. It is more a matter of the spontaneity, or perceived spontaneity, of the work and its maker. Fifth, the work is expected to be ***profound.***

[5] The information in this section is, in large part, adapted from Hisamatsu's book. It is a rich source of both Zen aesthetic thought and reproductions of artworks which have been created in that tradition.

Profundity is said to be perceived in works "whose content is present more by implication than elaborate delineation" (Hisamatsu, 1971, p.33). Mu Ch'i is said to be the best exemplar of this characteristic. Sixth is the characteristic of *no attachment*, particularly to rules of art. This may seem paradoxical, as does much of Zen thought to Western minds, but it grew out of the "Rule of No Rule", a fundamental tenet of Zen thought. From this 'non-rule', a freshness of expression was expected to grow. Finally, the Zen aesthetic calls for *tranquillity* in art. Calm and composure must prevail over noise and confusion. While the seven characteristics of Zen aesthetics may seem in some ways familiar to Westerners, it must be kept in mind that it emerged from a metaphysic which is alien to ours and that these terms, translated from another language, cannot by themselves convey fully the subtle connotations of the underlying concepts.

Conclusions concerning the Modern era

The Modern era in aesthetic thought saw a transition away from the almost exclusive consideration of the physical properties of the artwork to almost exclusive consideration of the mind of the artist and spectator. This transition occurred gradually, the Empiricists being the first to present really new arguments concerning the mental experience of beauty in several centuries. These lines of thought were picked up by Kant, who insisted that beauty could only be properly studied as a universal but subjective aspect of mind. His followers, the Ojective Idealists and the Romantics developed divergent lines of thought, but ones which gave primacy to the experience, rather than the physical determinants of beauty

Concerning the debate between definitional and relational concepts of beauty, it seems clear that there was a shift away from the extreme relationalism of Renaissance 'scientists' and Paris Academy thinkers of the Modern era. The consideration of the relations between parts was not abandoned entirely, however. The site of that struggle moved from the physical object which embodies the work to the mind of the individual apprehending it. Kant argued that, although beauty is a function of certain feelings, the feelings are brought about by a

harmonious interplay of mental faculties. Many of his disciples followed suit with related theories of their own.

Undoubtedly, emphasis upon subjective experience is the defining feature of the Modern era. For the Empiricists, the question of beauty was one of sensations, images, and emotions. For the Idealists, it was one of feelings, judgements, and instincts. For the Romantics, it was one of emotion and spirituality. This focus differs considerably from that of the Renaissance and Medieval thinkers.

Summary

Two particularly notable trends in the history of aesthetic thought have been highlighted. The first is the alternation of emphasis which has been placed upon relational and definitional explanations of beauty. Although the pendulum swung back and forth several times, it is notable that many of the 'great' philosophers attempted to synthesize the two types of explanation in one way or another. Plato included examples of unitary beauty among his relational descriptions of it. Aristotle added "definiteness" to Plato's "symmetry" as a condition of beauty. Plotinus accepted both relational and definitional explanations in his demand for unity in beauty. Early Medieval thinkers included both *consonantia* and *claritas* in their traditional explanations of beauty. St. Thomas added to these *integritas* or completeness. Although a scientist himself, Leonardo never completely accepted the dry mathematico-relational explanations of Alberti and Dürer. He was unable, however, to produce a compelling alternative himself.

Michelangelo turned the focus of thought away from the physical features of the work, in favor of consideration of the internal experiences of the artist and the spectator. Beauty, for him was a thing of the heart, an emotion. The Empiricists followed this lead, examining sensations and imagery, some calling beauty a special type of sensation. Kant maintained the

emphasis on subjective experience, making feelings and relationships between mental faculties the focal points of his model. The Romantics followed suit, asserting that feeling was a truer source of knowledge than any other.

In contemporary times, the scientism of the early Renaissance and some Empiricist thinkers seems to have returned. Reductionistic models have been proposed by Skinner, Eyesenck, Berlyne, and others. As will be seen, contemporary conceptualizations rely heavily upon presumably 'objective' material and are largely focussed on the search for relational explanations of beauty and of the other terms which have been included in discussions of art in this century: interesting, expressive, communicative, and the like.

CHAPTER III

CONTEMPORARY REVIEW

No age can say that it broke with the past completely and produced entirely new systems of thought which were not profoundly connected with what went before. The twentieth century is no different. It does represent, however, a significant turning point in the history of aesthetics in that it was at the beginning of this century that individuals began to move away from the long-held notion that it is a primary function of art to be beautiful. Although for widely divergent reasons, virtually every major aesthetic theorist, from Tolstoy forward, found the contemporary concept of beauty wanting, regarding art at least, and opted for some other conceptualization.

Furthermore, it was twentieth century thinkers and artists who rejected the general assumption which had been influential since the Renaissance that works of art must be mimetic in order to be praiseworthy. Particularly in painting, the demand for detailed imitation of the object portrayed had been guiding the hand of artists for nearly 500 years. Roger Fry (1920), addressing this very issue, anonymously cited a painter "not without some reputation" who declared, "the art of painting is the art of imitating solid objects upon a flat surface by means of pigments." It was this conception of the function of the arts which was rejected by early twentieth century theorists and which is rejected by most contemporary theorists to the present day.

There were good reasons for rejecting both beauty and mimesis as goals for art. First of all, the various theories of beauty which were currently popular had taken on a Romantic life of their own and, while rich and inspiring, were hopelessly complex and impracticable. Secondly, as Clive Bell (1919) pointed out so clearly, the movement inspired by St. Thomas and Michelangelo to think of beauty as a complex term which had many different meanings in different situations, had resulted in so ambiguous a term that there was no distinguishing

one usage from another. Consequently, new, better defined functions were attributed to the arts.

The theory of mimesis, on the other hand had simply outlived its usefulness. With the invention of the camera, perfectly accurate single–point perspective projections of three–dimensional scenes could be mechanically produced by virtually anyone, regardless of their artistic inclinations or abilities. The naturalistic painter consequently became little more than a curio; an individual who could do something which was no longer necessary but required great skill, much as we might look upon a watchmaker today. If art, painting in particular, was to survive, it had to develop a more conceptual function than simple mimetic projection of scenes. This it did admirably, aesthetic theory following closely behind, exercising its expressive and interpretive function more vigorously than it had since the Middle Ages.

This chapter is divided into two main sections. The first section follows philosophical lines of thought which have had a profound impact upon the art of the twentieth century. Among the individuals included are formalists Roger Fry and Clive Bell; expressionists Benedetto Croce and R.G. Collingwood; semioticist Charles Morris; communicationist Susanne K. Langer; phenomenologists Martin Heidegger, Mikel Dufrenne, and Arnold Berleant; and objectivists Monroe Beardsley and Thomasine K. Kushner. The second section traces lines of thought which have been proposed by psychologists. These will include nineteenth century experimental researchers, behaviorists, Gestalt psychologists, and contemporary psycho–physiological researchers. All these individuals share the problems of art theory in the twentieth century: the search for function and meaning for art in a world which has surpassed the need for mimesis and beauty as defined in the traditional ways.

Philosophical Perspectives

Formalism

The leading writers of the Formalist movement were Roger Fry and Clive Bell. Writing in the early twentieth century, both believed that painting had just emerged from a 500-year detour, which had led it away from the central concerns of art, in favor of the naturalistic concerns of Renaissance theorists such as Alberti and Dürer. They both advocated the primacy of *form* over mimesis and beauty. "Significant form" was said to be the result of structures of lines, shapes and colors in a work which can arouse the "aesthetic emotion"; a "disinterested" emotion which was claimed to differ from the ordinary emotions of day-to-day life. They did not detail the differences, however. They rejected the term 'beauty' because of the ambiguity which surrounded it. They insisted on a strong distinction between the beauty of a natural object and that of a work of art. "I am satisfied," wrote Bell (1919, p.20), "that, as a rule, most people feel a very different emotion for birds and flowers and the wings of butterflies from that which they feel for pictures, pots, temples, and statues."

It is important to note that neither Bell nor Fry thought that form could be logically reduced to simple objective formulas corresponding to the perceptual elements of a work. Regarding this point, Fry (1920, p.243) wrote,

> I think we are all agreed that we mean by significant form something other than agreeable arrangements of form, harmonious patterns, and the like. We feel that a work which possesses it is the outcome of an endeavour to express an idea rather than to create a pleasing object.

Along these same lines Bell (1919, p.20) wrote,

> ...the objects that provoke this [aesthetic] emotion vary with the individual, and that therefore a system of aesthetics can have no objective validity. We have no other means of recognising a work of art than our feeling for it. All systems of aesthetics must be based on personal experience - that is to say, they must be subjective.

Although there are inconsistencies in their writings, Fry and Bell served to get aesthetics 'out of the garden', so to speak, and back onto the canvas. Form was said not to

be found in the trivia of imitation nor the prettiness of the object depicted, but in the work itself. Further, it was said not to be discovered with the ruler, but in the emotion the work aroused. This strict focus on the interaction between the spectator and the work cut away much of the interesting but irrelevant garment in which art theory had come to be wrapped during the nineteenth century, opening the way for a new generation.

Expressionism

Another contemporary movement which attempted to deal with the general dissastisfaction with the traditional aesthetic doctrines concerning mimesis and beauty was expressionism, led by Italian Bendetto Croce and Englishman R.G. Collingwood. Both argued that art is not to be found in the physical artifact produced by the artist (the painting, printed or spoken poem, or sounds created by musical instruments) but that it takes its complete form in the mind of the artist, whether or not it is ever translated into *physis*. Because of this reluctance to attribute any importance to the physical object, the expressionists, Croce in particular, are often refered to as neo-Idealists or, more specifically, neo-Kantians or neo-Hegelians.

Croce (1909/1922; 1913/1965), responding to many theories which were currently popular, specifically denied that art was a function of physical facts (Renaissance 'scientists'), utilitarian acts (J.S. Mill), moral acts (Plato, Tolstoy), or conceptual knowledge (positivists, semioticists). Instead, he declared, art is the product of intuitive knowledge, which often does not lend itself easily to linguistic expression. "What intuition reveals in a work of art," he wrote, "is not space and time, but *character, individual physiognomy*" [original italics] (1909/1922, p.5). In strong Kantian style, he asserted that beauty is subjective, a matter of mind rather than physical property.

Collingwood's writings have a clarity and simplicity which make them more comprehensible than those of Croce. In his book, *The Principles of Art* (1938), he set out with extreme clarity what range of things he wished to consider when dealing with art. He

first established that the classical words for art, *techne* and *ars* include many activities which should no longer be considered in the realm of 'fine art'. Among those things he excluded from the realm of art were considerations of the accuracy of physical representation and the efficiency with which the object arouses emotions, whether for a specific purpose (e.g. moral instruction) or for their own sake (e.g. amusement).

As with Croce, he saw the purpose of art as expression, but expression of emotion rather than intuition. He rejected the formalist notion of an 'aesthetic emotion', asserting that all emotions are suitable for expression. He was careful to differentiate between true expression of emotion, simple 'betrayal' of emotion (the physical symptoms which accompany emotion), and description of emotion (e.g. 'I am angry.'). Expression, he asserted, must always be lucid and intelligible. "The artist," he wrote, "never rants" (p.122). Also like Croce, he claimed that the work of art is a creation of the artist's mind which need not be realized in physical form to be complete. "The work of art proper," he asserted, "is something not seen or heard, but something imagined" (p.142).

The communicationism of Susanne K. Langer (1942; 1953) is a theoretical position which is somewhat related to expressionism. A student of A.N. Whitehead's, she proposed that art is a means of communication of non-discursive thought. The meanings of the communications expressed by artworks, she argued, are only comprehensible in terms of non-linguistic symbols. Such symbols, which may take many forms (visual, auditory, imagistic, and the like), were said to be expressive of human feeling (1953, p.40). The non-linguistic symbolic forms which were said to be the bases of art emanate from many sources: many are innate, some are the products of primitive interactions between people and their environment, others are bound up with the cultural traditions of particular societies. In order for an artwork to succeed, however, Langer insisted that it must communicate feeling to the apprehender.

Semiotics

Another popular framework for aesthetic theories in the twentieth century has been semiotics, the 'science of signs', initiated by Charles Pierce, C.K. Ogden, and I.A. Richards, and developed more fully by Chicago philosopher Charles Morris. Semiotics grew out of a need for a fully 'objective' theory of language for use by the logical positivists and the Chicago-based 'unity of science' movement which was led by such such significant thinkers as Rudolph Carnap, John Dewey, Bertrand Russell, Clark Hull, and Edward Tolman. Its application to aesthetics grew out of a perceived lack of parsimony and explanatory power of thought current at the time (cf. Ogden, Richards, & Wood, 1925).

The process of semiosis (a situation in which a sign is used) is said to be one in which "something takes account of something else mediately, i.e. by means of a third something" (Morris, 1938, p.4). This "mediated taking-account-of" is generally broken down into three components (Morris, 1938; 1939; 1971): the *sign-vehicle* (an event or object which functions as a sign), the ***denotatum or designatum*** (respectively, the object or event, or class of objects or events signified or refered to by the sign), and the ***interpretant*** (the behavior in which the interpreter engages as a result of having received the sign. Sometimes the interpreter him/herself was included as a fourth component. In earlier versions (e.g. Ogden & Richards, 1923; Richards, 1925; Ogden, 1926), other roughly equivalent terms were used such as "symbol" for sign, "referent" for designatum/denotatum, and "reference" for interpretant.

The relationships among these components were said to define different dimensions of the semiosis. The relationship between the sign and the designatum/denotatum was called the *semantic* dimension. That between the sign and the interpretant was designated as the *pragmatic* dimension. Relationships among different signs were said to be the *syntactical* dimension. These relationships are schematized in the Figure 3.1 (taken from Morris, 1939).

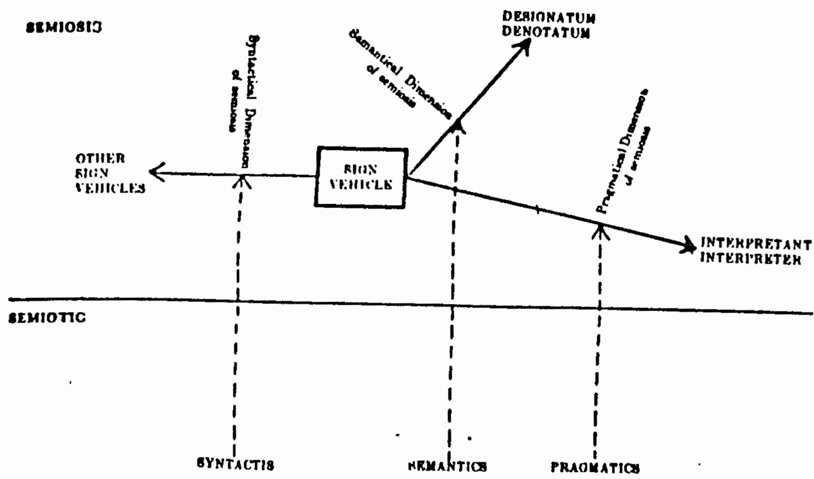

Figure 3.1. Morris' Structure of Semiosis

Regarding the use of semiosis as a tool of aesthetic inquiry, Morris questioned the parsimony and explanatory power of the current theories, as had Ogden & Richards. The apparently insoluble conflicts among rival factions he attributed to the observation that "...the various [theories] of esthetics stress primarily one or the other of the three main dimensions [syntactic, semantic, pragmatic], and their apparent rivalries are in the main the distortion produced when the various descriptions of a complex process are taken to be rival accounts of the whole process" (1939). In lieu of such distortions, he favored a model in which,

> esthetic analysis...becomes a special case of sign analysis, and esthetic judgement a judgement on the adequacy with which a certain sign vehicle performs the function characteristic of the esthetic sign. Esthetics in turn becomes the science of esthetic signs. (1939)

Needless to say, this formulation became the target of terrific vilification in the aesthetic community and Morris retreated from this stand somewhat in later writings (1964).

In recent years semiotic analysis of art has been extremely popular in Eastern Europe. Matejka & Titnik (1976) have edited a collection of Czech work in the field. There is also much Soviet work, including a collection of critiques of the classic semiotic theorists (Basin, 1979).

Phenomenology and Experientialism

Phenomenology, though widely misunderstood in North America (see Jennings, 1986), has been among the strongest of philosophical forces in Europe during the twentieth century. Those phenomenologists who concerned themselves with aesthetics were primarily intent upon distinguishing between the physical object in which the art seems to inhere (e.g. the painting, the book) and the true aesthetic object, which they contended to be the idea or meaning in the the work. In support of this claim, it was often pointed out that aesthetic experience is possible even when no physical object is present (e.g. when one thinks of a tragic situation).

Only brief allusions were made to the problems of art by Edmund Husserl, the founder of the phenomenological movement. A brief essay by Moritz Geiger (1913) apparently can be found in the first volume of the *Yearbook for Philosophy and Phenomenological Research*, however (cited in E.S. Casey's forward to Dufrenne, 1953/1973). One essay on the topic was also offered by Martin Heidegger (1950/1971). That work, "The Origin of the Work of Art", reads in many ways like a neo-Kantian treatise. Art was said to be an ideal entity, of sorts, which can be found in *works* of art and in the artist; an entity which, in fact, is said to be the *origin* of both the artist and the work. Employing an intricate array of ontological and etymological arguments, Heidegger arrived at the conclusion that "art...is the becoming and happening of truth." By this phrase Heidegger meant that in artworks, the truth of the entity depicted can be revealed; "this entity emerges into the unconcealedness of its being," he wrote. Needless to say, he was not referring to the propositional logical truth, but a phenomenological truth where that which is irrelevant to the essence of the object is stripped away, leaving only its "beings of beings" behind to be apprehended. This idea has been developed more recently by John Gilmour (1986).

The difficult language of phenomenology makes it hard to assess Heidegger's statements concerning art. As with many such theories, it can be said to be true only to the degree that it makes intuitive sense to the reader. There is no easy empirical test to be made of the degree to which phenomenal essence is reproduced in a work. Neither is there some sort of logical mechanism to assess the truth of such a statement. The technique of phenomenological reduction is the only legitimate way to assess the phenomenological assertions but such a procedure is never detailed by Heidegger for the purposes of art evaluation.

After World War II, the center of the phenomenological school moved to France, its leaders being Maurice Merleau-Ponty and Jean-Paul Sartre. Merleau-Ponty constructed an extensive theory of perception (1945/1962) but discussed its implications for aesthetic

perception very little. His most notable work in this regard is a fascinating essay (1948/1964) in which he discussed the ramifications of the principles of Gestalt psychology for cinematic theory. He argued that the various elements of a given film — images, storyline, dialogue, music — must be forged together into a unified whole in order to parallel the unity of the human perceptual system. A film in which the cinematic elements are not so unified cannot be aesthetically satisfying. Sartre wrote extensively on literature and drama (1949; 1973/1976), but not on the more purely perceptual arts of painting, sculpture, music, dance, and the like.

The Pole, Roman Ingarden, also wrote on literature as early as 1931, but his work was not made available to the non-German scholarly world through translation until decades later. An early essay, "Aesthetic Experience and Aesthetic Object" (1937/1967), is a model of the method of phenomenological report as applied to the problems of aesthetics. In it he emphasized the need for the qualities perceived in a given work to harmonize with each other and congeal into a unified whole (*Gestalt*) if one is to respond favorably with regard to it.

An extensive treatment of the phenomenological aesthetics is contained in Mikel Dufrenne's *Phenomenology of Aesthetic Experience* (1953/1973). In that work, the invariant or essential features of one's experience of both musical and pictorial works were explored in an effort to produce a general theory of aesthetic experience applicable to all works of art. He ultimately presented an account of general aesthetic perception in which imagination, reflection, and feeling play crucial roles. It is particularly notable that he employed musical terminology (harmony, rhythm, and melody) in the analysis of of visual as well as auditory artforms.

An approach which bears some resemblance to that of the phenomenologists is John Dewey's experientialism, outlined most fully in *Art as Experience* (1934). Unlike many contemporary aesthetic theorists, he emphasized the continuity of all human experience and strove to reintegrate aesthetic experience, which he felt had been artificially cut off from

intellectual and practical experience and imprisoned in the art gallery, with the everyday life. Rhythm, form, and organization are aspects of ali activity, though they often go unnoticed. When they come to the fore of consciousness, according to Dewey, an activity becomes productive of aesthetic experience. By valuing the intellectual and practical aspects of most activities above the aesthetic, Dewey contended that Western society had robbed its members of the richness of life.

Arnold Berleant has also developed a theory which is phenomenological in its main thrust. Like the phenomenologists, he emphasized the aesthetic experience over and above the physical characteristics of the artwork. Also like them, he is empirical (in the broad sense) in his approach; his aesthetic theory strives to describe what takes place during an aesthetic experience, rather than, as he accuses many others of doing, setting out prescriptions of what they should be like. In doing so, he has levelled heavy criticism at virtually all other major theories of the century for being "surrogate theories"; theories which evaluate by looking to something outside the work to which it is presumed to bear some resemblance (e.g. represented objects, emotions, ideals, thoughts) rather than laying emphasis upon the features of the direct experience of the artwork itself.

In his primary work, *The Aesthetic Field* (1970), Berleant outlined what he considered to be the nine principal features of the experience. He described the aesthetic experience as receptive, qualitative, sensuous, immediate, intuitive, non-cognitive, unique, intrinsic, and integral. He did not limit himself to experiential factors only, however. More so than perhaps any other theorist, Berleant strove to include a wide variety of factors in the "aesthetic field": biological, psychological, material and technological, historical, social, and cultural. Further, he included perspectives on the artist, performer, art object, and perceiver. The interplay among all these factors and individuals he termed the "aesthetic transaction". Concerning this transaction he wrote,

> The art object provides the aesthetic situation with a strong source of stability, for its features are relatively constant despite differences in the perceiver's responses. The perceiver, on the other hand, brings certain stable features into the situation through his biological, social, and psychological similarities with other human beings. Yet he also introduces a wide degree of variability, graduating from cultural differences in response to those that result from individual differences in training, experience, physical endowment, attitude, and similar factors as they happen to function at a particular time and in a particular situation. Moreover, the larger form of the field, indeed its very identifying traits, are shaped by and directed by the wide range of cultural and physical factors that constitute the larger aesthetic environment. It is differences in these variable factors that account for differences in aesthetic response and judgement. Yet, in spite of such variability, it remains possible to offer a unified analysis of aesthetic experience and to develop a genuine logic of aesthetic judgment. (p.88)

In many ways, it is this 'look-and-see' orientation which guides the present research. As Berleant himself noted, while philosophy has much to contribute to methodological and theoretical issues involved in aesthetics, it is not suited to accumulate the data against which theoretical structures must be tested. On the other hand, consideration of data in the absence of a previous theoretical structure often amounts to an inductive exercise which rests on shaky logical ground (cf. Hume, 1739-1740/1976; Popper, 1959).

Objectivists

For many of the twentieth century schools of aesthetic thought, the evaluation of a work of art was said to be a subjective process and, by implication, one which is not accessible to external verification. It was partly because of this conflict with the ascendent positivistic epistemologies of the time that the reputation of aesthetics suffered badly. In the latter half of the century, however, a number of philosophers have come to prominence who have endeavored to wed an interest in the investigation of art to an objective orientation which is acceptable to the discipline of philosophy as a whole. These individuals have rejected aesthetic models which make reference to the cultural origin of the work, the intentions of the artist, or the subjective response to the work by the spectator. They have been led, to some extent, by Monroe Beardsley whose book, *Aesthetics* (1958/1981), has become a standard text on the topic.

Although Beardsley, like the phenomenologists, distinguished between the physical art object and the perceptual aesthetic object, the latter being the primary focus of study, he declared his interest to be only in those aspects of the aesthetic object which are "phenomenally objective". He granted such status only to aspects of the phenomenal field which "...seem to belong to something 'outside' you, like an orange, a skyscraper, or a pudding..." (p.37). In the 600 pages which follow that statement, he developed an intricate and highly illuminating discussion of which particular aspects of the aesthetic object are particularly notable and common to all types of art. In fact, Beardsley may stand alone in his effort to apply his theory explicitly to painting, sculpture, music, poetry, and literature.

In the end, he asserted that the myriad objective measures employed in evaluating a work of art can, in principle, be reduced to three "General Canons" of evaluation: those of unity, complexity, and intensity. In this regard he wrote,

> ...the three general critical standards, unity, complexity, and intensity, can be meaningfully appealed to in the judgement of aesthetic objects, whether auditory, visual, or verbal. Moreover, they are appealed to constantly by reputable critics. It seems to me that we can even go so far as to say that all their Objective reasons that have any logical relevance at all depend upon a direct or an indirect appeal to these three basic standards. (p.469-70)

Another contemporary aesthetic theorist who followed in the footsteps of Beardsley's objectivism is Thomasine Kushner. Her structure of aesthetic evaluation is far less compact than Beardsley's, however. In *The Anatomy of Art* (1983) she attempted to trace various elements of different art media to common aesthetic sources. For example, pitch, amplitude, timbre and duration of the note were said to be the *primary elements* of music. In poetry, voice pitch, stress, the phoneme, and its duration were said to bear a sort of structural correspondence to pitch, amplitude, timber, and note duration, respectively, of music and, thus, be the primary elements of poetry. In painting, the primary elements corresponding to those in music and poetry were said to be, respectively, the hue, value, and saturation of color, as well as the delimitation of space (or configuration outline). All of these medium-specific

elements were said to correspond to the primary value terms of aesthetics: vividness, preciseness, and clarity.

These primary terms were said to comprise the lowest or ***primary level*** of aesthetic evaluation. Above this level three others were outlined, each of increasing aesthetic importance. These three levels were labeled ***thematic elements, structural forms,*** and ***totality of the work.*** The features of art considered to be thematic elements included subtlety, complexity, and richness. The terms included at the level of structural forms were elegance, economy, and fecundity. Those at the level of the totality of the work were harmony, unity, and wholeness or completeness. Kushner asserted that, in general, 'crafts' possess only primary and thematic elements. Works of 'fine art' possess primary and thematic elements as well as structural forms. Those deserving the label 'great works of art' embody, along with the lower three levels, the terms which refer to the totality of the work. The organization of this theory is difficult to convey verbally. The diagram in the Figure 3.2, taken from Kushner's book, has been included to aid comprehension.

A general trend in the philosophical work on aesthetics in the twentieth century may now be described. While, in order to keep up with the philosophical times, many aesthetic theorists struggled to objectify the bases of their topic, they found themselves unable to give up the phenomenal facts of art perception and evaluation entirely. Out of this conflict was born the study of features of art which seem 'phenomenally objective', a phrase which bears a strange resemblance to Kant's 'subjective universal'. In the next chapter, it will be seen that the objectivist current was far swifter in psychology. It was not, however, much more successful at satisfyingly accounting for art experience or evaluation.

	MUSIC	POETRY	PAINTING	VALUE TERMS
Primary Elements			(color)	
	pitch	voice pitch	hue	
	amplitude	stress/unstress	value	
	timbre	phoneme	intensity, saturation	vividness, preciseness, clarity
	duration	duration (length/shortness)	(space) configuration outline	
		(image)	(gesture)	
Thematic Elements and Development	rhythm	rhythm (a) stress (b) length	rhythm (a) variations of value (light and dark) (b) variations of contour and shape	
	melody	patterns of intonations and pitch	hue variation and contrasts	
	orchestration	patterns of phonemes	saturation, intensity, harmonies	
		(image sequence)	(expressive configuration of gesture)	
	themes created by rhythmic contrasts plus melodic contrasts	themes created by structure of poetry against the structure of the language	themes created by variation of the two types of rhythm primarily but occasionally by color harmonies	subtlety, complexity, richness
Structural Forms	interrelationship of themes (themes relating to themes)	interrelationship of themes (themes relating to themes)	interrelationship of themes (themes relating to themes)	elegance, economy, fecundity
Totality of the work	totality of the composition	totality of the poem	totality of the painting	harmony, unity, wholeness

Figure 3.2. Diagram of T.K. Kushner's Theoretical Structure

Psychological Perspectives

As psychology began to pull away from philosophy to form an autonomous discipline, many changes took place in the methods researchers employed in investigating the topic. The most significant of these shifts was the adoption of the empirical methods of the physical sciences — techniques which had proven so fruitful in chemistry and biology. The early psychologists, as many of whom were 'converted' physiologists as philosophers, consequently began to develop the fledgling science around the models provided by its senior scientific kin.

Despite this rather radical shift in methodological emphasis, the topics of interest remained very much the same as in earlier, more philosophically-oriented times. This was as true in the psychological investigation of aesthetics as elsewhere. Aesthetic researchers now attempted to provide empircal, 'scientific' descriptions and explanations for the same basic concepts with which philosophers had been struggling for centuries: structural relations, perceptual definition, etc. The search for the invariant features of these terms continued despite the rapid epistemological shift which accompanied the migration of psychology from the family of rational to the family of empirical disciplines. The more general questions about the function and origin of art as a human enterprise which had perpetually occupied philosophers came to occupy many of the new psychologists also.

Early German Reseachers

The study of art and aesthetics was a popular topic among the German psychologists of the latter half of the nineteenth century. Fechner, Helmholtz, Stumpf, Lipps, and Wundt all addressed the problem in one form or another often including the newly-developed psychophysical methods which became increasingly popular after the publication of Fechner's *Elemente der Psychophysik* in 1860. Many of these studies would be considered methodologically unsound today, but they are worthy of mention by virtue of their

fundamental place in the history of psychological aesthetics.

Gustav Theodor Fechner (1801–1887) engaged in a series of studies during the decade beginning in 1865 and culminating in his *Vorschule der Aesthetik* in 1876, a work which, unfortunately, has never been translated. English accounts of his excursions into the field have been offered by E.G. Boring (1929) and Rudolph Arnheim (1985a). Much of this period of Fechner's life was consumed with investigations into the authenticity and relative beauty of two paintings entitled "Madonna" which had both been attributed to Hans Holbein. Fechner arranged to have a writing book placed in an art gallery at which both were on display in order for visitors to record their opinions of the two works. The experiment was a failure as the response rate was very low, just over 1%, and groups partial to one painting or the other filled the book with their own preconceived notions. Nevertheless, this exercise may be considered to have been the first attempt at building an experimental aesthetics.

In more rigorous work, he measured the preferences of large groups of people for rectangles of varying proportions. In general, he found that people preferred rectangles in which the ratio of horizontal to vertical legs more closely approximated equality than, as might have been predicted, the golden section.[1] (Berlyne, 1971). In the course of these studies, Fechner also discovered the tendency of people to "tolerate most often and for the longest time a certain medium degree of arousal, which makes them feel neither overstimulated nor dissatisfied by a lack of sufficient occupation" (cited from Fechner 1876,

[1] Arnheim has suggested the the golden section is so appealing because of its inherent perceptual ambiguity. While square is a 'good', regular, and simple figure, a 2:1 rectangle, he claimed, is automatically divided, perceptually, into two concatonated squares. He went on to assert that the fascination of the golden rectangle is that it hovers, tantalizingly, between perceptual integrity and division. It seems reasonable to assert that the rectangle which most hovers so would be the one which, when divided in half, results in two rectangles of exactly the same proportions as the original, giving no information as to whether perceptual division is aesthetically 'appropriate'. Such a rectangle is not one based upon the golden section (about 618:382) but, rather, one of proportions approximating a 586:414 ratio. If Arnheim is correct in his interpretation of the response to rectangles smaller than 2:1, this explanation might account for Fechner's finding that people actually prefer one of a more equal relationship.

vol.2 in Arnheim, 1985a). He named this discovery the "principle of the aesthetic middle." He also made reference to the importance of harmony in art, attributing its pleasurable effect to a neuro-physiological source.

The pioneering works of Hermann von Helmholtz (1821-1894), particularly in optics (1867/1962) and acoustics (1862/1954), still stand as classics of psychological thought. In both of these seminal works, he applied rigorous mathematical logic to the mechanisms of vision and audition, reformulating the previously presented theories of Müller and Bell, as well as presenting new material supportive of his thorough-going empiricism (Boring, 1929).

In two lectures, which have since been reprinted (1857/1971; 1871/1971), he specifically applied his physiologically-based theories of visual and auditory perception to painting and music, respectively. Harmony in music, he contended, is a function of the coincidence of overtones which are present in simultaneously sounded tones. If the overtones coincide thus, on the basillar membrane in the ear, tonal consonance was said to result. Unpleasant-sounding dissonance, he asserted, is caused by overtones (or the fundamental tones, for that matter) interfering with each other so as to produce 'beats' or, under certain conditions, the perception of 'roughness' in the tone. Carl Stumpf (1848-1936), the psychologist (albeit of a philosophical orientation) of the time who studied the problems of music most closely, opposed Helmholtz' notion vociferously, asserting that it is only the ratio of fundamental frequencies which determines consonance, simpler ratios producing more consonance (1890, cited in Plomp & Levelt, 1965). Under Helmholtz' formulation, pure tones (fundamentals with no overtones), far enough separated in frequency not to interfere with each other, cannot produce dissonance, which does not seem to be the case.

In the lecture concerning the relationship of optics to painting, Helmholtz discussed the details of three-dimensional representation (masking, perspective, relative size, shading, and atmospheric perspective), the relative relationships of brightness given by Fechner's

psychophysical law, the phenomena of simultaneous and succesive color contrast, and their application to the painter's craft. Interestingly, the painter's task was said to be to produce, "...a vivid visual impression of the objects he wishes to represent." He valued clarity of form, stating that while it is "of secondary importance when compared with the ideal goals of art...[it] is a basic requirement which must be met for a painting to affect the feelings and mood of an observer" (1871/1971, p.302). He did not go so far, however, as to advocate a strictly imitationist doctrine of painting. The artist, he wrote, "must produce, not just a copy of some object, but a translation of impressions into another *scale* or *degree* of sensitivity possessed by the eyes" [original italics] (p.310). Unfortunately, he failed to specify what he thought the ideal goals of art to be, other than to suggest that artistic beauty may be based upon "a sense of the smooth, harmonious, and vivid current of our ideas which, in spite of many changes, flows toward a common point and brings to light laws hitherto concealed, allowing us to gaze into the deepest recesses of our own nature" (p.329).

In summary, it seems that Helmholtz, like so many earlier theorists accepted the necessity of both clarity and harmony in artworks. The latter term is implicit in the confluence of experience which is described in the quotation immediately above. The former term was used specifically toward the begining of his article on painting, while the goal of his theory of musical harmony can be said to have been clarity of sound. In spite of his well-known mathematical aptitude, however, he was able to define these concepts no more rigorously than any other art theoretician.

Wilhelm Wundt (1832-1920), the most significant of the founders of experimental psychology, wrote no treatise specifically on aesthetic concerns. Related discussions appeared, however, in many of his works. In *Outlines of Psychology* (1896), his treatment of "psychical compounds" was, in large part, focussed on the conscious experience of musical chords. A single tone from an instrument was given as an example of a completely fused compound idea: the harmonics are not distinguishable from each other and the fundamental tone is the

predominating element. A major triad, on the other hand, was used to exemplify an incompletely fused compound idea: each of the three tones are discriminable from the others in consciousness, though they do fuse harmoniously into the sound of the chord. Simultaneously sounded tones in which none of the overtones coincide were said to produce completely unfused ideas which would be accompanied by feelings of displeasure. While Wundt did not dispute Helmholtz' theory of harmony openly, he did believe that "pure dissonance" can be heard even when tones are far enough apart that neither beats nor roughness are perceived (p.98).

The experience of rhythm was also discussed at some length. Wundt emphasized the alternating feelings of strain and relief associated with the anticipation and consumation of each beat which, he said, characterizes rhythmic experience. He asserted that intervals of much greater than 0.2 seconds between beats would produce too great a feeling of strain to be pleasurable, while intervals of less than 0.1 second would cause fatigue. This contrasts strongly with the wide range of tempos, mostly far slower than those cited by Wundt, employed in both classical and popular music.

In *Outlines*, Wundt also discussed the "aesthetic feeling" in the section on composite feelings. Although his description of the aesthetic feeling is brief, he noted that it is "always connected with feelings and emotions which arise from the whole interconnection of psychical process" (1896, p.164). This quotation seems to suggest that the aesthetic feeling is a sort of 'meta-feeling'; one which makes reference to or 'summarizes' the other feelings present in consciousness.

Wundt also discussed the origins of art in his *Elements of Folk Psychology* (1912/1916). In that work he asserted that art originated from the pleasure which people receive from rhythmical movement of their bodies. He claimed, under this hypothesis, that the first art must have been dance, followed by music. He went on to assert that rhythm was eventually

transcribed to the more permanent forms of drawing, painting, and sculpture. In this regard he suggested that symmetry is a sort of graphic or spatial analogue to rhythm.

A further contribution which Wundt made to the psychology of aesthetics, although he may not have realized its importance to that topic, was the optimal-level-of-arousal curve which appeared in *Principles of Physiological Psychology* (1874). The notion behind the curve (Figure 3.3) is that moderate levels of arousal will cause the greatest levels of hedonic value while arousal at levels exceeding the optimal level will cause irritation, eventually leading to negative hedonic value. Daniel Berlyne has used the Wundt curve extensively in his writings on aesthetics (1971; 1974), making it central to his theory.

British Researchers

Three prominent British psychologists turned their thoughts to the problems of art and aesthetics during the late nineteenth and early twentieth centuries. These were James Ward, Edward Bullough, and William McDougall. They approached the topic in such different ways, however, that it is difficult to speak of a British 'school', as such.

James Ward (1843-1925) is probably best known for the essays on psychology which he contributed to the *Encyclopedia Britannica* during the last decade of the nineteenth century. In the section entitled "Higher aesthetic feelings" of the 1891 article he uses the existence of aesthetic experience as a weapon against the utilitarian philosophy prevalent in England at that time. On this topic he wrote, "...among aesthetic effects are reckoned only such as are pleasing or otherwise in themselves, apart from all recognition of utility, of possession, or of ulterior gratification of any kind" (1891, p.74). He, thus, concluded that "intellectual satisfaction" could not be said to be solely attributable to utilitarian ends.

Concerning the bases of aesthetic feeling itself, he laid down three general principles. First, he outlined the *principle of unity in variety.* Artworks "...are so far praiseworthy," he wrote, "in which a variety of elements, be they movements, forms, colors, or incidents,

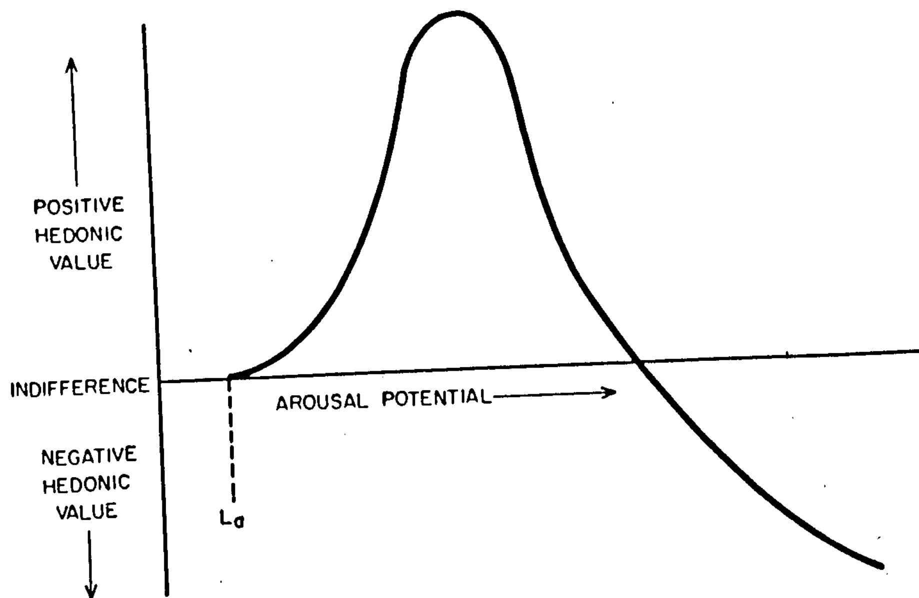

Figure 3.3. Wundt's Arousal Curve (taken from Berlyne, 1971)

instead of conflicting, all unite to enhance each other and to form not merely a mass but a whole." This, of course, is an age-old principle, most notably espoused by the Empiricist Hutcheson. Second, he enunciated the *principle of economy*, which states that "an effect is pleasing in proportion as it is attained by little effort and simple means." Third, he proposed a *principle of association* which states that many things will arouse aesthetic pleasure by virtue of the associations with which it is connected. Echoing the words of Aristotle, he wrote, "a great work of art improves upon the real in two respects: it intensifies and transfigures."

William McDougall (1871–1938) discussed aesthetics in conjunction with his defense of animism in *Body and Mind* (1911). In that work he argued that aesthetic pleasure does not seem to arise from a simple summation of the 'aesthetic parts'. A pleasant blue and pleasant red may combine to give an unpleasant purple. "The aesthetic pleasure arises," he wrote, "from a synthetic activity by which the sensory elements are combined to form an 'object of a higher order,' rather than from a mere complex or series of sensations; and, as we have seen, this synthetic activity has no immediate correlate in the physical order" (p.315). The influence of Kant in this passage is unmistakable. Concerning the sources of this synthetic activity, McDougall was less specific. Regarding Wordsworth's "Solitary Reaper" he wrote,

> How much of the charm of the whole depends upon the "loneness" of the girl, on the subtle awakening in us of a romantic interest in her personality, on the suggesting of a wealth of unknown possibilities, beauties of person and character, set upon a background of wild nature! How much, too, upon the suggestion of intangibility, the delicateness, and the unreality, one might say, of the impression, which a single word or gesture might have marred! How much upon the sudden carrying of the mind to far-off scenes! How much to the music of the words! How much to the unity and distinctness of the whole impression! The sources of pleasure are thousandfold, and the balance of them different for every reader. But, for all who keenly appreciate the poem, the play of meanings predominates vastly over sensuous content of consciousness in determining the pleasure we feel. (p.316)

Here McDougall suggests, variously, that prosody, imagery, transcendence, relational and definitional qualities, as well as individual differences all contribute to artworks which are productive of aesthetic feeling. Although the lack of system in his aesthetic considerations

impair their research utility, McDougall's may be the most encompassing and appealing description of artistic experience in all of psychological literature.

Edward Bullough (1880–1934), although a professor of German and Italian, published several articles on the psychology of aesthetics in the *British Journal of Psychology* in the early twentieth century. These articles concerned the relative apparent weights of colors and general preferences of single colors and color pairs. He is probably best known for his concept of 'psychical distance', a concept akin to the disinterestedness championed variously by John Scotus, Shaftesbury, and Kant. More importantly, he developed a new definition of aesthetics in an attempt to stave off the stagnation into which he believed the topic was falling. To this end, he rejected all aesthetic systems which aimed either to define beauty, establish criteria for its existence, or determine the causes of beauty (1907/1957). All such theories, he argued, are based upon two common misconceptions: the objectivity of beauty and the notion that beauty has an abstract existence apart from things which are beautiful. He also rejected pleasure as an aesthetic measure, the term having become particularly narrow in its scope among scientific psychologists. He considered it to be "merely the 'epiphenomenon', the tail end of...the impression or effect" (p.45). Aesthetic impressions, he argued, differ not only in intensity, but in quality as well. His position reflected a dissatisfaction with the increasing limitation, in psychological discussions of pleasure, to the hedonic type only. Many Greek, Stoic, and Medieval scholars argued for multiple types of pleasure: intellectual, spiritual, physical. Modern psychologists, Wundt in particular, had limited pleasure to ***hedone***. A more flexible term had to be invented to deal with the multiplicity of responses to art. For Bullough, that term was 'impression'.

Consequently, Bullough defined aesthetics as the study of "the aesthetic impression upon the recipient consciousness, [and] the study of effects produced by the contemplation, primarily of works of Art" (p.57). In defining aesthetics in this way, Bullough avoided assumptions concerning the definition, setting criteria, and determination of the causes of

beauty. Further, he was freed to discuss many psychological events other than the simple experience of pleasure, a freedom of which psychologists were rapidly divesting themselves.

Gestalt Psychology

In the early 1920's in Berlin, a disgruntled student of Oswald Külpe (himself a renegade pupil of Wundt) and two students of Carl Stumpf came together to form the primary opposition to Titchener's structuralism and the rapidly growing American Behaviorist movement: Gestalt psychology (Thomson, 1968). The core group of three — Max Wertheimer (1886–1943), Kurt Koffka (1886–1941), and Wolfgang Köhler (1887–1967) — were strongly opposed to the reductionism prevalent in the main psychological movements of Germany, England, and the United States at that time, and sought to replace it with a more holistic view of behavior, both human and animal. They advocated the view that the whole is different from the sum of its component parts and, thus, must be studied as a distinct entity in itself. The Gestalt school shared a common point of origin with the philosophical school of phenomenology in the person of Franz Brentano. Both Husserl, the founder of phenomenology, and Stumpf, teacher of both Köhler and Koffka, had been Brentano's students. Furthermore, Christian von Ehrenfels, who had introduced the term *Gestalt* into psychology, had been a student of Brentano's as well.

Their greatest successes were in the field of perception and this led them, more than most other psychologists of the time, to consider the problems posed by art. The problems of visual perception were attacked early and the principles they developed regarding its organization became their best-known contributions to psychology. The laws of similarity, proximity, closure, prägnanz, etc. — concepts first outlined by Wertheimer (1923/1938) in response to Helmholtz' empirical theory of shape recognition (Arnheim, 1986a) — came to be used by psychologists and others in the analysis of painting, sculpture, architecture, and music also.

Koffka (1935) briefly outlined a fully interactional aesthetic theory (1933, 1940) in which he noted that a given painting, P, is not the only determinant of an individual's response to it. Individual A, by virtue of his increased attentiveness, past experience, better sensitivity, or other internal conditions, may make an entirely different evaluation of P than individual B. That is, although there is only *one geographical object*, P, there may be said to be *two behavioral objects*, P_a and P_b (p.348). The generalized form of this equation was stated as,

$$P_n = f(P,N)$$

where P_n is the behavioral object for any given individual, P is the geographical object, and N is the individual. Interactionist theories were nothing new in the 1930s. Various such ideas had been proposed in the writings of the pseudo-Dionysius, but Koffka's formulation was the most concise version offered to date.

By far the most prolific psychologist of any orientation on the topic of art has been Wertheimer's student, Rudolf Arnheim. His many books (1954/1974; 1957; 1966; 1969; 1985b; 1986b) comprise, collectively, the most detailed theory of visual art which a psychologist has yat developed. The chapter titles of *Art and Visual Perception* (1954/1974) give as good an idea as any of those features which Arnheim considers important in painting, sculpture, and architecture: Balance, Shape, Form, Growth, Space, Light, Color, Movement, Dynamics, Expression. He has strongly opposed movements (such as that led by E.H. Gombrich) which have attempted to reduce the meaning of art to a set of arbitrary, culturally bound signs (see 'Art history and the partial God' in Arnheim, 1966). Visual forms, he insisted, have their own intrinsic meanings which, while not impervious to environmental modification, have stood the test of time and cultural upheaval quite well. Were the basic expressive qualities of shape and color not primitive, he argued, how is it that modern people appreciate the artforms of civilizations which are distant in space and time.

As with many of the best aesthetic and art theorists, Arnheim's work evinces the ancient struggle between the importance of structural relations (balance, dynamics) and perceptual definition (shape, form, color). While Arnheim's work betrays a kinship with the formalism of Fry and Bell, he has expressed disdain for their complete exclusion of the subject matter of the work from consideration (see 'Form and the consumer' in Arnheim, 1966). "The subject matter of the picture," he has written, "is an integral part of the structural composition. Only because shapes are recognized as head, body, hands, chair, do they play their particular compositional role" (1954/1971, p.41).

In recent years, various facets of Gestalt psychology have melded with other schools of thought in the United States. Some of the resultant hybrid researchers have published work on shape perception, using allegedly Gestalt principles, which bears only a tenuous relationship to the beliefs of the founding members (e.g. Hochberg & McAlister, 1953; Attneave & Arnoult, 1956; Kubovy & Pomerantz, 1981). In particular, some have suggested that the laws of perceptual organization may be used additively to predict perception of larger stimulus configurations, an idea anathema to the spirit of the Gestalt movement. Arnheim, indisputabley the contemporary senior spokesman for the Gestalt school, has said about this new generation, "...when those who were trained under the founders of Gestalt psychology read what is being said about Gestalt theory today, they are often overcome by the sense of strangeness experienced when one meets familiar persons or places in a dream" (1986a).

While the Gestalt model is more familiar to the usual ways in which art is conceived, there have been problems. First, the movement began to wither after Wertheimer and Koffka died in the early 1940s. Second, the philosophical bases of the Gestalt school were not familiar to the pragmatic scientists of North America, and remain so today. Third, questions as to why stimulus configurations are organized in perception as they are is one which the Gestaltists were never very interested in answering precisely, while it is exactly the kind of question to which the reductionistic psychologists of the U.S. demanded an answer.

Recent Reductionistic Models

Many psychologists have attempted to develop aesthetic theories based upon the principles of behaviorism, neurophysiology, or other 'hard' sciences. In general, these theorists have concentrated their efforts on relating certain perceptual elements, which may be found in works of art, to various behavioral or neurological responses. Many of these have been of a limited-domain type, being restricted to one particular artform or another. Because actual artworks have generally been considered too complex for appropriate experimental control to be exerted, these theorists have rarely employed them as stimulus objects. More often they have used 'meaningless' geometrical forms, color swatches, and specially constructed series of tones or tone combinations.

B.F. Skinner, the leading contemporary behaviorist, has written a small amount concerning the determinants of art appreciation. As with everything else, it is his belief that the effects of art should only be studied with reference to the behaviors of individuals in its presence. Art is to be evaluated, then, in terms of how long an individual continues to look at a work and how often they return to look at it. This can be taken to be, he argued, a measure of how *reinforcing* the work is. In fact, he has written, "...'reinforcing', though a technical term, is useful as a rough synonym for 'interesting,' 'attractive,' 'pleasing,' 'satisfying,' [and]...'beautiful'" (1970). Skinner has been vague on what, exactly, the source of reinforcement in a work of art is for the viewer, but he likens the functions of art to those of gambling, sports, and drugs. Further, he has asserted that what is considered beautiful seems to change with time more than it stays the same. His unidimensional approach to art evaluation does little to encourage much consideration of the multiple aspects of art which have been identified as important by other theorists.

Hans Eysenck has, alternatively, taken a physiological approach to the problem. He has stated categorically that "...there exists some property of the central nervous system which

determines aesthetic judgements, a property which is biologically derived, and which covers the whole field of visual art" (1957, p.319). Although he has been unable to state precisely what this property is, he has expressed his favour for the mathematical orientation of George D. Birkhoff (1933). Birkhoff suggested, after the well-worn concept of 'unity in variety', that aesthetic value, M, of a geometrical figure is a function of its order, O (given by its symmetry, equilibrium, and harmony), and its complexity, C. In mathematical notation, he expressed this notion thus:

$$M = \frac{O}{C}$$

Eysenck took Birkhoff's aesthetic measure to be one of 'interestingness' and suggested that the equation,

$$M = OxC$$

better corresponds to the available empirical data than Birkhoff's formula. Eysenck has also asserted that in addition to this stimulus-based formulation, the individual's extraversion and familiarity with the figure is influential in determining the evaluation it receives.

More recently, Daniel Berlyne has developed a scientific approach to aesthetics in which he attempted to integrate the principles of Hullian behaviorism, which dominate his own theory of motivation (1960), with the known facts of neurophysiology and information theory (see Madsen, 1974 for an excellent critique of the general theory). His primary work on the topic, *Aesthetics and Psychobiology* (1971), has been taken note of by psychologists but has received little attention from the community of artists and aestheticians. In it he contended that apprehending art should follow the same laws of 'exploratory behavior' which had emerged from his broader motivational work. In particular, the perception of certain objectively determinable qualities in any stimulus were said to lead to moderate changes in arousal. Increases in arousal, if moderate, were said to stimulate the primary reward center in the lateral hypothalamus while moderate decreases were said to activate the secondary reward center located higher in the limbic system. Stimuli with features sufficient to effect such

changes were expected to elicit verbal responses such as 'interesting' and 'pleasing' and, presumably, lead to the associated subjective experiences.

By manipulation of the 'collative variables', so-called because they are products of collation of information over many similar situations, arousal levels and exploratory behavior have been manipulated fairly efficiently (1974). The collative variables most frequently studied have been complexity, novelty, and uncertainty. The artist has been said to manipulate the collative variables, and thereby arousal, by varying stimulus intensity, violating artistic expectations, presenting conflicting or ambiguous information, and presenting stimuli which are perceptually unstable. When carefully handled, these changes have been said to lead to subjective feelings of pleasure; they have 'positive hedonic value'.

While probably no scientific psychological theory of aesthetics has been as ambitious and encompassing as Berlyne's, it has come under fire from psychologists of varying persuasions. Concerning the hedonic theories which Berlyne's exemplifies, Arnheim has written, "...the more strictly investigators adhered to the criterion of preference, the more completely their results neglected everything that distinguishes the pleasure generated by a work of art from the pleasure generated by a dish of ice cream" (1985a). While such a response to the reductionistic methods of Berlyne might be expected from a Gestalt psychologist like Arnheim, even Ernest Hilgard, who one would expect to be friendlier to a such a theory, has written of Berlyne,

> He and his followers seemed preoccupied with showing that esthetics could be made experimental in accordance with the traditions of laboratory psychology. While such an approach may have been desirable at the time in order to find a firmer place for esthetics in psychology, it remains to be demonstrated whether this would be entirely satisfactory unless more attention were given to the artist's sensitivities and intuitions. (1987, p.167)

Such doubts and problems render the present reductionistic conceptualizations inadequate. While there are undoubtedly many things to be learned concerning the elementary bits underlying aesthetic response, questions concerning the overall experience, the 'big' questions,

remain unsatisfactorily addressed. The relatively new cognitive movement in psychology has made it once again acceptable to study topics at a more conceptual level than was once considered permissible and that is the thrust of the empirical work which follows.

CHAPTER IV

EMPIRICAL RESEARCH

One idea made evident from the preceeding two chapters is that there is a wealth of theory on art and aesthetics so enormous as to be completely unwieldy unless simplified in some way. I have endeavored in the preceeding chapters to show that traditionally there has been a distinction between theories of art and aesthetics which emphasize the definitional characteristics of an artistic design — such as clarity, brightness, intensity, etc. — and those which emphasize the relational properties — such as harmony, balance, symmetry, etc. — among parts within it. During the eighteenth and nineteenth centuries the focus of study moved from the work to the mind of the spectator. Subjective responses, such as emotion and imagery, came to dominate considerations of art, beauty, and aesthetic experience. In the twentieth century new artistic virtues came to prominence. Significant form, expression, impression, and interestingness came to replace the traditional artistic goal of beauty. Psychologists, in particular, gave new importance to features such as complexity and novelty; more than they had been granted in earlier times.

Many of the theorists reviewed in the foregoing material set out their positions in accordance with metaphysical frameworks which are no longer considered tenable in either psychology or philosophy. Nevertheless, it seems reasonable to attempt to apply their insights, specifically their terminology, within the confines of a contemporary metaphysical stance in order to see how well they continue to serve as aesthetic theory. That contemporary stance is that it is reasonable to speak of an aesthetic situation only when there is both an *object of apprehension* — such as a painting, poem, or musical composition — and an *apprehender* — the individual viewing, reading, or listening to such an object. Both contribute to the aesthetic situation; there is an interaction between the two. Consequently, it is necessary to elicit people's responses to actual works of art (or other aesthetic objects). To simply

'operationalize' a set of terms considered to be aesthetically important and assess art works according to such operational definitions would be to exclude half of the interaction which must take place in order for a situation to be considered aesthetic.

Further, it would be presumptuous to claim that certain of the theoretical positions reviewed in the previous two chapters are right and others wrong on purely *a priori* grounds. It seems more sensible, at this point, to assume that there may be basis of truth in the writings of each of those theorists who have been discussed and, by assessing each in turn, determine just how valuable each position is. Having made such assessments, the next logical step is to develop a structure into which they can be fit and the relationships among the theories themselves be examined.

Interesting as it may be, however, the drawing of conceptual analogies from among widely diverse theories is not sufficient in itself. A structural framework into which they can be integrated must be validated empirically as well. That task was carried out and its results are reported in this chapter. In brief, individuals were asked to describe various works of art in terms advocated by a wide variety of aesthetic theorists. For instance, 'How well balanced is this work?' 'How clear?' 'How naturalistic?' They were also asked for their subjective responses: 'Does it evoke emotions in you?' 'Which ones?' 'Imagery?' These descriptions and subjective reports were then employed as predictors of their own evaluations of each work. Three evaluative terms were used: beauty, interestingness, and an overall evaluation. The validity of a particular theoretical structure, then, was taken to be given by the correlation between the terms derived from the theory, as applied to a given work of art, and the evaluation of that work. For instance, how well the ratings of a work's clarity and harmony correlate with its rated beauty was considered a test of the contemporary validity of the pseudo-Dionysian aesthetic theory.

In order to develop a new, more comprehensive theoretical structure, the situation was in need of some simplification. Consequently, the descriptions and subjective reports were subjected to a principal components analysis. The factor scores from the first five components were then used to predict their evaluations of the artworks. If it was found that the composite theoretical structure given by the component analysis predicted evaluation better than any one of the established theories had individually, this would suggest that each theorist developed only a partial theory of artistic evaluation, accounting for some features of the process while missing others. Furthermore, the factors themselves might be found to represent the basic categories of art evaluation outlined by the many aesthetic theorists reviewed in the previous chapters. Such a composite structure given by the factor analysis would prove to be a formidable theoretical construct.

Method

Participants

The participants were 216 students who were taking an undergraduate psychology course on either Feeling & Emotion or Perception. The topic of aesthetics had been discussed briefly in each class and the procedure was part of an in-class assignment. The students were informed that the responses in their assignments were also wanted as data in a research project and were given the opportunity to have their assignments removed from the data pool if they desired. One subject requested that his assignment be so removed.

Of the remaining 215 participants, 82 were male and 133 were female. Demographic information collected at the beginning of the procedure revealed the following facts about the group: Eighty-four (39%) reported no previous training in the fine or performing arts, 73 (34%) reported one year of such training, and the remaining 58 (27%) reported having been trained two or more years. A total of 178 (83%) reported no training in criticism of the arts, 31 (14%) reported one year of such training, and the remaining 6 (3%) reported two or

more years.

Asked to rank ten kinds of art from their favorite to least favorite, music was found to be the most preferred overall, followed, in order, by cinema, theatre, photography, dance, painting, literature, sculpture, poetry, and architecture. Asked to rate their general interest in the arts on a scale of 1 ('not at all interested') to 7 ('extremely interested'), the median and modal ranks were 5.

Materials

In assembling materials for the study, an effort was made to keep the artistic base as broad as possible. Therefore, three different kinds of art were employed, each appealing to different modes of apprehension. Appealing to the visual mode was painting, to the auditory mode was music, and to the verbal mode was poetry. The materials consisted of three photographic slides of paintings, a cassette tape recording of three works of music, and a 33-page questionnaire, prepared by the researcher, which included photocopies of three poems. The works were selected in part for their fame, or that of their makers, and the appropriateness of their length, in the cases of music and poetry, for the research at hand. In general, works which were considered to be representative of their particular kind and style, while not very widely known in the general populace, were selected. This criterion was used in the hope that previous experience with the works would not play a large part in, and thereby confound, the results. The paintings used were the thirteenth century brush-and-ink painting entitled *Six Persimmons* by Mu Ch'i, El Greco's late sixteenth century *Portrait of a Cardinal* in oil, and Miro's early twentieth century oil, *Harlequin's Carnival.* The musical works were Edgar Varèse's twentieth century percussion work *Ionization*, a traditional Zen Buddhist piece for shakuhachi entitled *Azuma Jishi*, and the opening song of nineteenth-century composer Robert Schumann's lied cycle *Dichterleibe.* The poems were Keats' *On the Sea*, E.E. Cummings' *since feeling is first*, and a translation of the seventeenth-century haiku by Bashō:

Breaking the silence

Of an ancient pond

A frog jumped into water.

A deep resonance.

Overall one painting, musical composition, and poem were chosen to represent each of three broad styles. *Six Persimmons, Azuma Jishi,* and the haiku all belong to a Zen Bhuddist artistic style, though they originated in different countries and centuries. *Harlequin's Carnival, Ionization,* and *since feeling comes first* are all of examples of modern Euro-American art. "Im wundershönen Monat Mai" from the *Dichterliebe* and *On the Sea* are both clearly Romantic. It might be expected that the final painting should also have been Romantic. It was decided, however, that El Greco's *Portrait of a Cardinal,* a Mannerist work, would be used for two reasons. First, it seemed advisable to have a naturalistic portrait included in the materials. Second, this particular portrait holds a peculiar history which played a role in the procedure. A standard interpretation has it that this is a great work because of the subtle reflections of the reputedly divided personality of the presumed sitter, Cardinal Niño de Guevara, which El Greco embeded in the painting (see Kushner, 1983). A few years ago, however, art historians discovered that it is, in fact, a painting of another man entirely (see Brown, 1982; Kagan, 1982). This raises many interesting questions concerning the legitimacy of this kind of interpretation and the presumed 'greatness' of the work which were discussed with the subjects. Unfortunately, the outcome of these discussions do not appear in the present work. In any case, the El Greco was grouped with the Keats and the Schumann as 'classic' works, for lack of a better label.

The questionnaire consisted of three sections. The first was a page of demographic questions corresponding to the information given above about the participants. The second section was two pages of instructions which, in large part, were adapted from those reported in *The Measurement of Meaning* (Osgood, Suci, & Tannenbaum, 1957). The third section

consisted of nine three-page question sets, one for each work of art presented. The first of these pages inquired as to the imagery and emotional experience of the subject generated by the work, as well as the perceived 'emotional tone' of the work. Questions were of both the open response and quantitative scale types. Only the latter were analysed for the present work. The second page contained 25 seven-point rating scales (similar to those found in semantic differential studies) using terms common to the various theories of art and aesthetics outlined in the previous two chapters, and their opposites, as the endpoints. The last page of each question set asked how familiar the work was to the subject and for three types of evaluation: the traditional question of beauty, the more contemporary consideration of interestingness, and an overall evaluation of the work as well. Each was rated on a seven-point scale. Also included in the questionnaire, embedded in appropriate places, were photocopies of the three poems used.

Procedure

The researcher, who was familiar to the participants as a teaching assistant, explained that the assignment was about the ways in which people go about evaluating art and that, regardless of what theories of art and aesthetics they might have encountered, their own personal responses to the works were wanted. The questions in the demographic section were read aloud by the researcher, allowing time after each item for the participants to respond. The instructions concerning the questionnaire were then read aloud and time was allotted afterwards for any questions. The most frequent questions concerned the meaning of the word 'fecund', and the difference between evoked emotion and 'emotional tone'. The former was described as meaning "fertile" or "evocative of many ideas". Concerning the latter, it was explained that emotions can sometimes be identified in a work which are not actually felt (e.g. "That music sounds sad but it doesn't actually make me feel sad.") and that this phenomenon is often referred to as 'emotional tone'.

The nine works of art were then presented to the participants one by one in a specified order so that artforms and styles were regularly spaced over the whole procedure: Mu Ch'i, Varese, and Keats; El Greco, *Azuma Jishi*, and Cummings; Miro, Schumann, and Bashō. As can be seen, each subdivision of three contains a painting, musical composition, and poem in which each style ('classic', modern, Zen Buddhist) is represented as well. After each presentation, time was allotted for the participants to respond to the corresponding items in the questionnaire (about ten minutes). The whole procedure took about 90 minutes, after which there was a discussion period in which the researcher identified each work and asked which works most interested the group and why.

Results

Descriptive Analyses

Data concerning imagistic and emotional responses were coded dichotomously (emotion evoked/not evoked; imagery evoked/not evoked). The descriptive ratings were coded from one to seven, as were the ratings of familiarity, beauty, interestingness, and the overall evaluation. The means for each scale on each work are given below in Table 4.1.

Variables 1–12 in the section of the table above the first dotted line were taken from Kushner's theoretical structure (1983). Variables 13–18, were discussed by Beardsley (1954/1981). Variables 19–25 are the seven virtues of Zen art and were taken from Hisamatsu (1971). Variables 26–28 are terms of subjective response to the works. Variables 29–31, are the evaluative terms which were used in the study. The means, among those in the first twenty-five rows, which are italicized are notable for the extremity of their values (≤ 2.0 or ≥ 6.0). It should be kept in mind that low numbers correspond to descriptive ratings which are close to the endpoints given in the table while high numbers indicate their opposites. For instance, a score of 1 on variable 3 indicates a very clear work, while a score of 7 indicates one which is very muddled. Among variables 29–31, however, high

Table 4.1: Means of all variables.

Variable	Mu.	Va.	Ke.	El.	Az.	Cu.	Mi	Sc.	Ba.
1. Vivid	4.8	*1.8*	3.4	2.3	2.1	3.6	2.2	3.0	2.5
2. Precise	4.5	3.4	3.8	2.1	2.5	4.0	4.5	3.0	2.5
3. Clear	4.0	3.4	3.9	*2.0*	*2.0*	4.0	4.8	2.7	2.3
4. Subtle	3.4	5.4	3.7	4.5	3.6	3.7	4.5	3.6	4.0
5. Complex	5.9	2.3	2.8	3.7	4.4	3.8	2.3	2.3	5.2
6. Rich	5.2	2.7	2.8	2.6	2.9	3.5	2.8	2.6	3.6
7. Economical	3.0	4.7	4.1	3.8	3.2	4.3	5.3	3.5	2.9
8. Fecund	5.1	2.9	3.2	3.4	3.6	3.6	2.8	3.5	4.0
9. Elegant	4.5	5.0	3.4	2.7	3.0	3.8	5.2	2.3	3.4
10. Harmonious	3.2	5.7	3.2	2.7	2.4	3.7	5.4	2.1	2.9
11. Unified	3.0	5.2	3.1	2.4	2.5	4.0	5.4	2.2	2.8
12. Complete	4.0	4.1	3.3	2.3	2.5	3.7	4.2	2.7	2.8
13. Intense*	5.0	*2.0*	3.2	3.3	3.0	3.8	2.7	3.3	3.8
14. Balanced	3.5	4.6	3.2	2.4	2.5	3.9	4.6	2.4	2.7
15. Abstract	3.9	2.4	4.4	5.4	4.5	3.7	*1.7*	4.6	5.1
16. Rhythmical	3.9	4.6	2.9	3.1	2.7	4.2	5.0	2.3	3.2
17. Textured	3.8	2.8	3.4	3.0	3.7	3.6	2.7	3.7	3.9
18. Structured	3.5	4.7	3.1	2.2	3.0	4.0	5.2	2.5	3.2
19. Simple	*1.9*	5.5	4.1	3.0	2.5	3.8	*6.0*	2.7	*2.0*
20. Symmetric	3.7	5.0	3.5	2.8	3.1	4.2	4.9	3.0	3.0
21. Essential	3.9	4.7	3.8	3.4	3.3	4.1	5.1	3.4	3.1
22. Spontan.	3.7	3.6	3.7	4.5	2.7	3.5	3.0	3.6	2.7
23. Profound	4.7	3.4	2.9	3.6	3.0	3.7	3.7	3.1	3.5
24. Fresh	3.9	3.5	3.5	4.5	3.1	3.9	3.3	3.5	3.0
25. Tranquil	2.6	*6.1*	3.6	3.1	2.4	3.6	5.9	2.3	2.4
26. Familiar	1.3	1.4	1.5	1.6	2.0	1.5	1.6	1.8	1.6
27. Emotion	.36	.78	.54	.46	.75	.58	.56	.61	.48
28. Imagery	.70	.93	.82	.71	.96	.67	.70	.79	.85
29. Beautiful	2.6	2.6	3.7	3.7	4.5	3.4	2.8	4.5	3.8
30. Interest	2.9	3.9	3.5	3.4	4.2	3.4	3.8	3.7	3.8
31. Overall	2.8	3.3	3.9	4.3	4.4	3.5	3.4	4.3	3.8

N = 215 except * where, due to a technicial error, N = 121.
Codes: *Mu* ch'i, *Va*rese, *Ke*ats, *El* Greco, *Az*uma Jishi, *Cu*mmings, *Mi*ro, *Sc*humann, *Ba*sho
N.B. For variables 1–25, low values indicate closeness to given label.

numbers correspond to high evaluations. Familiarity was rated in the same way as the evaluations (high numbers reflect high familiarity). The means for emotion and imagery, because they were dichotomously coded, can be thought of as giving the proportion of individuals who experienced either when exposed to the corresponding artwork.

Correlational Analyses

Several of the theories outlined earlier were tested by correlating the ratings of qualities advocated by a given theorist with the evaluations given by the participants. Thus, as explained above, the correlation between ratings of beauty for a particular work and ratings of its harmony and clarity (translations of *consonantia* and *claritas*) might be taken as an index of the contemporary validity of the aesthetic model promoted by the pseudo-Dionysius. A great deal of correlational analysis was done in order to investigate the predictive powers of the qualities which have been regarded, in various theories, as essential to beauty or interestingness or an overall positive evaluation of an artwork.

When a large number of correlations is being extracted from a matrix, family-wise error must be considered. Because most of the correlational analyses in this section were executed in batches of 27 (9 artworks x 3 evaluations), it might be argued that, using a Bonferoni correction, all correlations must exceed a probability level of .002 (.05÷27) in order for them to be jointly significant at the .05 level. Because each work of art defines a logically independent matrix of correlations, however, it is possible to argue that the corrected significance level need only be .017 (.05÷3), correcting for the three evaluations only. In any case, correlations beyond the .01 level are regarded as significant in this section. Those which are significant at .05 are reported parenthetically.

Perhaps more importantly, although significance levels are reported, they are not emphasized because, with a sample of this size, many statistically significant correlations represent effects which are not large enough to be of practical concern. In accordance with

the suggestion of Nunally (1960) the effect sizes of the correlations are given throughout this section. The proportion of variance attributable to the predictor variable(s), obtained by squaring the product-moment correlation coefficient, is reported in all cases. The results of analyses which involve more than one predictor are summarized in tables. Those which involve only one predictor, however, are presented in the text only.

Classical theories: symmetry.

The first correlational analysis was done upon symmetry, the quality of beauty advocated strongly by both Plato and Aristotle. The fascination with symmetrical relationships seems not to have waned in recent times. It is still considered to be an essential ingredient of art by many psychologists today (see DeAngelis, 1986). Symmetry was, however, rejected by Plotinus as a necessity and by the Zen Buddhists as even an appropriate feature of art. When predicting *beauty*, ratings of perceived symmetry accounted for between .4% (Mu ch'i) and 17% (Cummings) of the variance, the latter statistic being double the next best figure. The mean percentage of variance accounted for over the nine works was 7%. When symmetry was used to predict *interestingness*, the figures were similar, ranging from .4% (Mu ch'i) to 16% (Cummings), with a mean of 6%. Concerning the *overall evaluation*, the effect size ranged from 1% (Mu ch'i) to 17% (Cummings), with a mean of 7%. All but five (the three for the Mu ch'i and the overall and interestingness correlations for the El Greco) of these twenty-seven correlations were highly significant ($r_{.01} = .175$, df = 213)

Because the variance accounted for in each of the three evaluators (beauty, interestingness, overall) was so similar in these analyses, it was decided to examine the relationships among the evaluators themselves. It was found that they generally correlated fairly strongly with each other, but not so strongly that they could be regarded as redundant with each other. Squared bivariate correlations between ratings of *beauty and interestingness* ranged from .390 (Varese) to .663 (Keats), with a mean of .505. Squared correlations between *beauty and the overall evaluation* ranged from .357 (Mu ch'i) to .627 (Basho), with a mean

of .506. Squared correlations between *interestingness and the overall evaluation* ranged from .365 (El Greco) to .725 (Basho) with a mean of .523. The smallest of these correlations (r = .598 between beauty and the overall for the Mu ch'i) easily met a significance level of .0001 ($t(213)$ = 13.18). In general, then, it can be said that each kind of evaluative rating accounts for about half of the variability in the other two.

Classical theories: unity.

Next, it was decided to see if Plotinus' rejection of symmetry in favor of unity was reflected advantageously in the data. The squared correlations between unity and *beauty* over the nine works ranged from .049 (Mu ch'i) to .258 (Cummings) with an mean of .145. Those for unity and *interestingness* ranged from .085 (Mu ch'i) to .300 (Cummings) with a mean of .153. Those for unity and the *overall evaluation* ranged from .044 (Varese) to .251 (Keats) with an average of .118. Generally, then, unity accounted for between 12% and 15% of the variance in evaluations where symmetry had accounted for only about 7%, on average.

Classical theories: naturalism.

Finally, the effect of naturalism upon evaluation was investigated. Only very small relationships were found. The squared bivariate correlations between naturalism (the opposite of 'abstract') and *beauty* ranged from .0004 (Mu ch'i) to .120 (Keats) with a mean of .029. Only the correlations associated with the works by Keats and Cummings were significant at the .01 level. With *interestingness* as the criterion, the squared correlations ranged from .002 (Mu ch'i and Miro) to .109 (Keats), with a mean of .024. The Keats correlation was the only significant one. When naturalism was matched with the *overall evaluation*, the squared correlations ranged from .00005 (Miro) to .116 (Keats), with a mean of .032. Those correlations associated with both the Keats and the Schumann were significant. It should be noted that a correlation accounting for only 3% of the data is significant at the .01 level with a sample of 215.

Medieval theories: pseudo-Dionysius.

The next analyses were executed upon the Medieval theory initiated by the pseudo-Dionysius which stated that both clarity and harmony were essential features of beauty. Because of the multiplicity of variables used, the results of this analysis are presented in Table 4.2, in which are shown the squares of the bivariate correlation coefficients between the obtained ratings of clarity and harmony with each of the three evaluations. On average, harmony and clarity combined accounted for 20.6% to 27.1% of the variance in the evaluations.

Medieval theories: Thomas Aquinas.

Continuing this line of analysis, the ratings of 'completeness' (a reasonable translation of Thomas Aquinas' *integritas*) made by the participants were added to the multiple correlation as predictors of the overall evaluation, beauty and interestingness. The results, including the β-weights of each predictor, are shown in Table 4.3. As can be seen, the average proportion of variance accounted for rises with the addition of each predictor. The rise from the mid-teens to the twenties with the addition of harmony to clarity (see table 4.2) is reasonably substantial. The addition of completeness to the predictor set (table 4.3) resulted in less substantial increases. Using the average multiple correlations as approximations of the 'true' Rs for each evaluation, the incremental Fs, with 1 and 211 d.f., were as follows: $F_{overall} = 8.97$, $p < .01$; $F_{beauty} = 7.49$, $p < .01$; $F_{intrst} = 5.17$, $p < .05$.

Modern theories: subjective response.

In line with the emphasis upon subjective responses to art advocated by the Empiricists and Idealists, it was decided to investigate the relationship between subjective experiential states and the evaluation of art. Reports of evoked emotion and imagery were therefore used to predict each of the three evaluators. Most of the resulting point-biserial correlations associated with the paintings and musical works were very low. The evaluations of poetry, the Keats poem in particular, correlated with evoked emotion and imagery far better than it did in other types of art. This may, in part, be due to the fact that uneven value frequencies on

Table 4.2: Results of Regression Analysis of Early Medieval Aesthetic Theory

	OVERALL			BEAUTY			INTERESTINGNESS			
	clarity	harmny	both	clarity	harmny	both	clarity	harmny	both	$\bar{R}^2_{both}$
Mu ch'i	.057	.138	.170	.084	.144	.234	.057	.138	.170	.191
Varese	.069	.078	.116	.054	.187	.203	.072	.058	.104	.141
Keats	.156	.160	.227	.233	.200	.311	.252	.184	.317	.285
El Greco	.118	.118	.176	.092	.126	.164	.061	.074	.101	.147
Azuma J.	.108	.269	.280	.074	.300	.300	.066	.214	.217	.266
Cummings	.210	.322	.336	.276	.385	.412	.185	.249	.269	.339
Miro	.286	.142	.234	.198	.170	.275	.117	.094	.157	.222
Schumann	.209	.191	.326	.126	.182	.236	.163	.131	.240	.267
Basho	.133	.214	.296	.140	.254	.300	.130	.211	.257	.284
$\bar{R}^2$	.137	.181	.240	.142	.200	.271	.123	.150	.206	.238

All numbers are squared correlation coefficients
For all bivariate and multiple correlations, $p < .001$

Table 4.3: Results of Regression Analysis of Thomistic Aesthetic Theory

	OVERALL				BEAUTY				INTERESTINGNESS				
	β-weights			R^2	β-weights			R^2	β-weights			R^2	$\bar{R}^2$
Artwork	clar.	harm.	comp.		clar.	harm.	comp.		clar.	harm.	comp.		
Mu ch'i	(.136)	.247	.267	.228	.187	.246	.269	.255	(.156)	.290	(.146)	.188	.224
Varese	—	(.146)	.357	.211	—	.360	.178	.227	.143	(.142)	.195	.132	.190
Keats	.234	.232	(164)	.246	.311	.236	.186	.335	.350	.221	(.153)	.333	.305
El Greco	.247	.238	—	.177	(.157)	(.181)	.229	.200	(.149)	(.160)	—	.110	.162
Azuma J.	—	.469	—	.281	—	.498	—	.303	—	.420	—	.218	.267
Cummings	—	.392	.195	.355	—	.409	.194	.430	—	.308	(.188)	.287	.357
Miro	.262	.185	.266	.291	.294	.224	.227	.316	.208	.132	.266	.214	.274
Schumann	.368	.317	—	.331	.264	.330	—	.257	.343	.298	—	.241	.276
Basho	—	.259	.304	.315	.130	.323	.254	.337	—	.266	.279	.302	.318
$\bar{R}^2$				.271				.296				.225	.264

For all Rs, $p < .001$
— $p_\beta > .05$
( ) $.05 \geq p_\beta > .01$
For all other β-weights, $p \leq .01$
Codes: *clar*ity, *harm*ony, *comp*leteness.

the dichotomous variables supressed the magnitudes of the correlations more for the paintings and music than for the poetry (see table 4.1).

The mean proportion of variance accounted for in the three evaluations by emotion for the poems was .120, .160 for the Keats poem. This compares with means of .035 for the paintings and .063 for the musical works. Imagery accounted for .108 of the variance in evaluations on average for the poetry (.157 for the Keats) compared to means of .021 for the paintings and .029 for music.

It was decided that it would be worthwhile to execute multiple correlations on the poetry only. The results are shown in table 4.4. It can be seen that combining evoked emotion and imagery together as predictors results in substantial increases in the correlations, accounting for percentages of variance into the high teens, on average. While not as good as the figures for Thomistic theory, there does seem to be a moderate relationship between the emotion and imagery evoked by a poem, and one's evaluation of it.

Zen Buddhist theory.

The Zen Buddhist theory, outlined at the end of the historical review also seemed suitable for correlational analysis of this type. The Zen terms (see table 4.5) turned out, as a group, to be the best set of predictors of evaluation thus far, accounting for over a third of the variance, on average. Many of the seven terms employed, however, did not attain significant weights in some of the regression equations, 'profoundness' overwhelming the others in most cases. The results are given in Table 4.5. Because of the size of the predictor group, only the result for the overall evaluation are given. Three of the Zen terms were altered in the questionnaire to promote increased comprehension by the participants. "Lofty dryness" was rendered as "essential", "naturalness" was rendered as "spontaneous", and "no attachment" was rendered as "fresh". It should be noted that, although asymmetry appears as a significant predictor in three cases, its weight is negative. It thereby gains significance by virtue of its opposition to the theory being analysed.

Table 4.4: Results of Regression Analysis of Subjectivist Aesthetic Theory

	OVERALL			BEAUTY			INTERESTINGNESS			
	β-weights		R^2	β-weights		R^2	β-weights		R^2	$\bar{R}^2$
Artwork	imag.	emot.		imag.	emot.		imag.	emot.		
Keats	.291	.309	.236	.283	.329	.246	.327	.282	.244	.242
Cummings	.266	.197	.137	.353	.218	.212	.227	.290	.170	.173
Basho	.161	.278	.117	.210	.284	.144	(.119)	.332	.137	.133
$\bar{R}^2$			.163			.201			.186	.183

For all Rs, $p < .001$
For all β-weights, $p < .01$, except that in parentheses, where $p = .07$
Codes: *imag*ery, *emot*tion.

Contemporary theories: Kushner.

The two objectivists discussed in the review chapters engaged in somewhat different lines of investigation. Thomasine Kushner emphasized the needs for harmony, unity, and completeness in "great" works of art, an approach which, in effect, differs from the Thomistic view only by replacing clarity with unity. Such a substitution in the predictor set actually resulted in a decrease in variance accounted for. The R^2s for the overall evaluation ranged from .144 (El Greco) to .355 (Cummings) with a mean of .251. For beauty, the R^2s ranged from .190 (El Greco) to .423 (Cummings) with a mean of .273. When predicting interestingness, the range of R^2s extended from .105 (El Greco) to .292 (Basho), the mean being .202. The overall mean of .242 was less than that achieved by either Thomistic or pseudo-Dionysian theories.

Contemporary theories: Beardsley.

Monroe Beardsley's theory includes two not yet tested concepts, integrating complexity and intensity with unity. This combination yielded results slightly better than did the Medieval models; this in spite of the fact that one of the variables, complexity, was a significant predictor in only five of the twenty-seven regressions. There were several instances, however, where the probability of obtaining the contribution of complexity by chance was between .05 and .1 and would likely have made statistical significance if the whole sample of 215 had been used (see note in table 4.1 for explanation). Nevertheless, bare significance with a sample of even 121 would not have spoken well for the substantiality of a predictor. The results of this set of regressions are given in Table 4.6.

Contemporary theories: Berlyne.

Originally it had been intended that a direct test of Berlyne's theory be undertaken in the same manner as the others. Various problems made such an analysis difficult. Berlyne emphasized complexity, novelty, and uncertainty. He said that moderate levels of these qualities would result in subjective feelings of pleasure or interest. The distribution of familiarity was so highly skewed, however, that it could not have served very well as a

Table 4.5: Results of Regression Analysis of Zen Buddhist Aesthetic Theory

OVERALL

	β-weights							R^2
Artwork	simp.	asymm.	essen.	spont.	prof.	fresh	tranq.	
Mu ch'i	—	—	.191	—	.330	—	—	.227
Varese	—	—	—	(.146)	.391	—	—	.352
Keats	—	—	(.132)	.201	.257	(.125)	(.111)	.372
El Greco	—	—	(.129)	—	.309	—	—	.205
Azuma J.	—	—	—	.229	.254	—	.203	.273
Cummings	—	-.165	(.152)	.211	.241	.199	—	.478
Miro	—	-.188	—	.150	.316	.187	—	.401
Schumann	—	-.209	—	—	.274	.204	.170	.347
Basho	—	—	—	—	.295	.294	—	.416
$\bar{R}^2$								.341

For all Rs, $p < .001$
— $p_\beta > .06$
( ) $.06 \geq p_\beta > .01$
For all other β-wieghts, $p \leq .01$
Codes: *simp*le, *asymm*etrical, *essen*tial, *spont*aneous, *prof*ound, *fresh*, *tranq*uil.

Table 4.6: Results of Regression Analysis of Beardsley's Aesthetic Theory

	OVERALL				BEAUTY				INTERESTINGNESS				
	β-weights			R^2	β-weights			R^2	β-weights			R^2	$\bar{R}^2$
Artwork	cmpx.	unit.	int.		cmpx.	unit.	int.		cmpx.	unit.	int.		
Mu ch'i	—	—	.313	.156	(.197)	.260	.312	.278	—	.276	.386	.324	.253
Varese	.288	.231	—	.197	—	.272	—	.108	—	—	.232	.137	.147
Keats	—	.495	(.166)	.312	—	.427	.266	.325	—	.454	.318	.376	.338
El Greco	—	.345	(.200)	.246	—	.411	—	.263	—	.292	.270	.235	.248
Azuma J.	—	.281	(.187)	.140	—	.303	(.209)	.179	—	.262	.361	.248	.189
Cummings	—	.327	.429	.479	—	.390	.375	.483	—	(.229)	.434	.361	.441
Miro	—	.448	.249	.282	(.207)	.283	(.194)	.183	—	.318	.256	.185	.217
Schumann	—	.418	.420	.394	—	.288	.495	.360	—	.298	.462	.335	.363
Basho	(.186)	(.177)	.407	.301	—	.276	.343	.292	(.152)	.261	.459	.405	.333
$\bar{R}^2$				.279				.274				.290	.281

For all Rs, $p < .001$
— $p_\beta > .05$
( ) $.05 \geq p_\beta > .01$
For all other β-wieghts, $p \leq .01$
Codes: *cmpx.*= complexity, *unity*, *int*ensity.

predictor variable in a correlational analysis. The measuring of uncertainty also posed problems. It was thought that simply asking the participants, 'How certain/uncertain does this work make you feel?' would have been such a *non sequitur* as to seem ridiculous. The protocols on evoked emotion were also of little help. Uncertainty, as an emotion, did not appear frequently enough to be of use. Interestingly, pleasure did not appear frequently as a response either, in its pure form anyway. It has been, however, the primary factor traditionally extracted by Berlyne and his followers, who specifically ask their participants about the pleasantness of the stimuli. In the end it was decided to forego a test of Berlyne's theory because the result, regardless of its direction, would have been subject to well-founded criticism.

Factor Analyses

It seemed evident that a number of widely diverse theories were able to account for moderate proportions of the variability in art evaluation. If the models could in some way be integrated with each other so that the powers of each could be utilized and the weaknesses covered by others with complementary strengths, it was hoped that a more comprehensive model could be developed. Although possible to use all 27 variables (it was necessary to drop 'intensity'; see not in table 4.1) as predictors in a giant multiple regression, the messy analyses which such a procedure would entail, plus the problem of reliability caused by a low subject-to-variable ratio (about 8:1) made another option more appealing. It was decided that the whole predictor set of 27 variables should be subjected to a principal components analysis. The resulting factors could be regarded as composite variables and used to predict the evaluations. The factor scores would served as the data for such an analysis. Aside from the advantages of parsimony inherent in using fewer predictors, it was hoped that the interpretation of the factors would reveal the relationships between the various theories thus far analysed. That is, a structure would emerge of how the various aesthetic models fit together — which ones complement which others and which are redundant.

Because of the nature of the data, even this procedure posed certain problems. The data which had been collected resulted in a cube, the three dimensions of which were subjects, scales, and artworks. Osgood faced a similar problem when developing the semantic differential in the 1950s and essentially ignored it, regarding each set of responses to a given concept as independent despite the fact that the whole group of concepts was rated by each subject. This procedure attributes variance which is due to repeated measurements of the same person to the semantic similarity of concepts. That is, within-subject variance is mixed with between-subject variance. This problem could have been by-passed by doing separate factor analyses on each work of art, but that would have resulted in low factor-structure stability because of a low subject-to-variable ratio; the problem which led this direction to begin with.

The best solution would have been to use three-mode factor analysis which is designed to deal with exactly this problem. Unfortunately, the resources necessary to employ three-mode were not available. Thus, it was decided to do factor analyses where each set of ratings for each work is treated as independent, as Osgood had done, and separate factor analyses for each work of art. This would allow examination of the discrepancies between the two techniques. If relatively small, they could be ignored. If larger, the sources of the discrepancy might be located by comparison of the various solutions.

The principal component technique was chosen for two primary reasons. First, there seemed to be no theoretical reason why components based upon unique variance should be eliminated *a priori* from the solution, as a common factor technique would have done. Second, inherent in most common factor techniques are problems in estimating the factor scores. Because the scores were to play a major part in the subsequent regression analysis, component analysis seemed the better route.

Component analysis: complete data set.

Employing that technique, five factors with eigen values greater than one were extracted.

These were kept for varimax rotation. The results are given in Table 4.7.

Using the rather stringent criterion of regarding only a loading of .5 or better as important, the factor structure became quite simple, in Guilford's sense of the term. The variables which loaded most highly (>.800) upon the first factor were unity, harmony, and balance. In addition, elegance, structure, rhythm, tranquility, symmetry, simplicity, completenes, and essentiality loaded at greater than .600. Abstractness also had a primary loading on the first factor of –.592, while preciseness and clarity had secondary loadings in the .500 to .600 range. The first factor accounted for 28.7% of the total variance. The second factor was composed primarily of the variables complexity, richness, and fecundity. It was weaker than the first, accounting for 11.3% of the total variance. The third factor combined vividness, preciseness, clarity, and a strong negative loading for subtlety (blatant, in the questionnaire). It accounted for 7.4% of the total variance. The fourth factor included freshness and spontaneity, accounting for 7.0% of the total variance while the fifth, accounting for 5.4% of the variance, was comprised mainly of variance in evoked emotion and imagery. The five factors together combined to account for 59.8% of the total variance.

Conceptually speaking, these factors are fairly easy to interpret. Factor I seemed to be concerned with the structural relations among parts of an artwork, as is evinced most clearly by terms such as harmony, balance, elegance, and symmetry as well as unity, and completeness. Interestingly, the distinction that both Thomas Aquinas and Thomasine Kushner attempted to make between harmony and completeness did not appear in the factor structure. Factor II represented a complexity dimension of sorts, the highest loadings coming from the variables complexity, richness, and fecundity. The term 'intricacy' might be better with reference to this factor so that it is not confused with the variable, 'complexity'. Factor III contained all three of Kushner's "primary elements", vividness, precision and clarity, the last of which was considered so important during the Middle Ages. The negative end of this factor is associated with subtlety, suggesting that Kushner's primary elements are associated

Table 4.7: Rotated Factor Loading Matrix

Variable	I	II	III	IV	V	h^2
unity	.859					.75
harmony	.852					.75
balance	.804					.68
elegance	.769					.69
structure	.765					.62
rhythm	.745					.58
tranquility	.720					.68
symmetry	.720					.53
simplicity	.700					.75
completeness	.687					.58
essentialism	.625					.51
abtractness	−.592					.48
complexity		.770				.67
richness		.738				.71
fecundity		.735				.61
vividness			.709			.74
precision	.502		.684			.75
subtlety			−.660			.49
clarity	.585		.587			.75
spontaneity				.786		.64
freshness				.777		.67
emotion					.697	.53
imagery					.652	.45
% total var.	28.7%	11.3%	7.4%	7.0%	5.4%	59.8%

Only those loadings greater than .500 are included

with a blatant presentation. This factor seems, generally, to be concerned, then, with the 'perceptual definition' of the work. Factor IV, on which only spontaneity and freshness loaded highly, might be considered a sort of 'novelty' factor. Factor V, which is most highly associated with imagery and emotion, might be considered a 'subjective response' factor.

Component regression: complete data set.

The factor scores of all five factors were then employed as primary data for the prediction of the art evaluations made by the participants. Stepwise regression was employed, the results of which may be found in table 4.8. The correlations accounted for 40% to 50% of the variance. All factors were highly significant predictors. Factor III, the perceptual definition factor, contributed less than 2% of the variance to each of the three evaluations, however. Factor I, the structural relations factor, was the best predictor of both beauty and the overall evaluation. Factor IV, the novelty factor, predicted interestingness best, however, factor I falling to fourth place in that analysis. Factor II, the complexity factor, was the second best predictor of interestingness and the overall evaluation, but the third best predictor of beauty. Factor V, the subjective response factor, was the fourth best predictor in the analyses of beauty and the overall evaluation, while rising to third in the analysis of interestingness.

Component analyses: individual works.

Similar factor analyses were completed for each artwork separately. It was expected that particularly the lower order factors would become unstable due to the great reduction in subject-to-variable ratio. Such an expectation, it turned out, was not without foundation. Factor I, primarily concerned with relational properties (such as balance and harmony) among the parts of the work, remained primary in all nine analyses, although it was collapsed with the definitional factor in the analysis of the Cummings poem. [1]

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[1]In this section of text, roman numeral labels (e.g. I, II) refer to order the factors appeared in the composite factor analysis. Their order in the separate analyses for each work are given in english (e.g. first, second).

Table 4.8: Results of Principal Components Regression Analyses

OVERALL

Factor	R^2	step 1	step 2	step 3	step 4	step 5
			squared partial correlations			
I	.221	.221	.202	.271	.295	.297
II	.335		.147	.162	.178	.179
IV	.409			.112	.124	.125
V	.472				.106	.107
III	.477					.011

BEAUTY

Factor	R^2	step 1	step 2	step 3	step 4	step 5
			squared partial correlations			
I	.288	.288	.316	.346	.366	.367
IV	.377		.125	.140	.151	.152
II	.454			.123	.133	.134
V	.502				.089	.089
III	.505					.005

INTERESTINGNESS

Factor	R^2	step 1	step 2	step 3	step 4	step 5
			squared partial correlations			
IV	.147	.147	.166	.181	.199	.202
II	.259		.132	.144	.159	.162
V	.336			.103	.114	.116
I	.407				.107	.108
III	.417					.018

For each stepwise addition, $p \leq .001$

Factor II, associated with the intricacy of the works, clearly emerged in all nine solutions. It maintained its second spot in the analyses of the Mu ch'i, El Greco, Cummings, and Miro, although it combined with the 'novelty' variables in the last two. Intricacy appeared as the third factor in the analysis of the Basho haiku, while the intricacy/novelty combination appeared as the third factor of the analysis of the Varese composition. Intricacy appeared as the fourth factor of the *Azuma Jishi* analysis and as the fifth factor of both the Keats and Schumann works. On average, where it appeared purely, not in combination with novelty, the intricacy factor accounted for about 9% of the total variance.

Factor III, associated with perceptual definition, also emerged in all nine analyses. It was the second factor in the analyses of the works by Varese, Keats, Schumann, Basho, and the musical work, *Azuma Jishi.* It was third in the analyses of the works by Mu ch'i and El Greco. It was the fourth factor in the analysis of the Miro painting. As mentioned before, it appeared combined with the relational dimension in the Cummings analysis as the first factor. When independent, it accounted for 10% of the total variance, on average.

Factors IV and V were more difficult to discern clearly. Novelty appeared as the basis of the third factor of the *Azuma Jishi* analysis, the fourth factor of the Schumann analysis, and the fifth factor of both the El Greco and Basho analyses. In three others its variables were combined with the intricacy factor, and in the Mu ch'i and Keats analysis it was difficult to clearly discern at all. The subjective response factor appeared clearly in the analyses of the El Greco, *Azuma Jishi*, Cummings, and Miro analyses but seemed to dissolve in the others. A summary of these results can be found in Table 4.9.

It can be concluded that the first three factors — those concerning relational properties, intricacy, and perceptual definition — were consistently important in each of the individual factor structures as well as in the overall structure. The other two factors, related to novelty and subjective response, seem to have been important at times but not consistently enough for strong conclusions to be drawn about them. The individual five-factor solutions accounted

Table 4.9: Comparision of Individual Factor Structures and Combined Structure

Artwork	Relat.	Intric.	Defin.	Novel.	Subj.	% var.
Mu ch'i	I	II	III	—	—	48%
Varese	I	III	II	III	—	52%
Keats	I	V	II	—	—	56%
El Greco	I	II	III	V	IV	50%
Azuma J.	I	IV	II	III	V	55%
Cummings	I	II	I	II	III	·61%
Miro	I	II	III	II	V	51%
Schumann	I	V	II	IV	—	53%
Basho	I	III	II	V	—	58%
Combined	I	II	III	IV	V	60%

Codes: *Relat*ionships, *Intric*acy, *Defin*ition, *Novel*ty, *Subj*ective response.

for 53.8% of the total variance, on average, as compared with 59.8% for the combined analysis. More detailed discussion of these points will be presented in the following section.

Discussion

It seems that each of the various theories explored in this study has something of value to contribute to the questions of art evaluation. Contrary to the opinions of many theorists, ancient and contemporary alike, symmetry seems to have relatively little to do with the evaluation of a work. Plotinus' rejection of that term in favor of unity seems to have been well-founded as unity accounts for about twice as much of the variance in the evaluations as symmetry did.

Better still was the model of the pseudo-Dionysius, so important during the Middle Ages, which promoted clarity and harmony as the key features of beauty. That conceptualization accounted for about a quarter of the variance. The addition of completenes to the set of predictors did not add much power to the equation.

The use of emotion and imagery to predict evaluation seems to have been fruitful only in the case of poetry. This finding exemplified the notion that, in spite of some broad parallels among them, there are differences in the ways that various types of art are judged. With a larger sample, it may have been possible to do separate analyses on the different artforms (and artistic styles, for that matter) the stability of which would have been more dependable. Such intricate analyses was not possible in this project.

The Zen Buddhist theory accounted for the greatest proportion of the variance of all the theories examined. The inclusion of several predictors which were not significant in themselves, however, boosted the R^2s beyond what they would have been if only significant predictors had been included in the equation. It seems, therefore, that the Zen model should probably not be given substantially more credit than those from the Medieval era. The

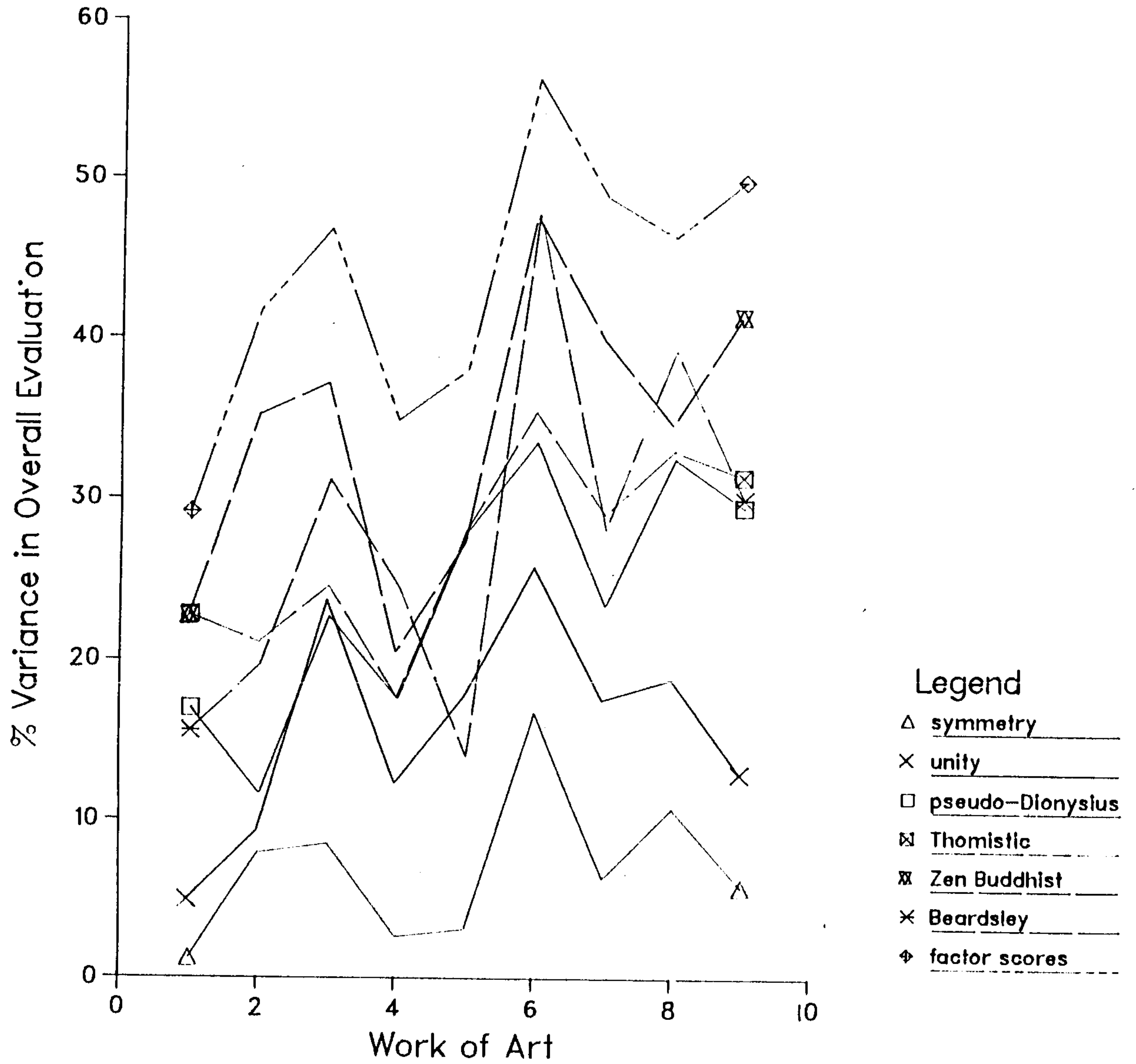
models were not completely redundant, however. The terms associated with the Medieval theories loaded most highly on factors I and III, while those from the Zen theory loaded on factors I and IV.

The objectivist theory of Beardsley's accounted for about the same proportion of variance as the Thomistic and the Zen. The addition of complexity to the group of important evaluative features, however, was significant in itself. Although not important in the initial regression, complexity turned out to be a crucial part of the factor structure. These correlational results are summarized in graphic form in Figure 4.1.

Regarding the factor analytic portion of the results section, it seems clear that a number of ideas about the dimensions of art and their relationships to each other and to art evaluation came to light because of this empirical exercise. First of all, many of the terms of reference generally employed by art theorists over the centuries were shown to be still of great importance to an understanding of art. When integrated into a structure, as by the factor analysis, they form a formidable tool in the understanding of what goés into art evaluation. This is not to assert that the individual necessarily 'processes information' regarding the relational and definitional qualities about an artwork, as well as informtion about its complexity and novelty and somehow 'adds them up' to produce an evaluation of the work. That is the mechanism of statistical analysis; it is not necessarily that of human beings. I have refrained from making statements about the actual process by which people arrive at their judgements of artworks. This enterprise, therefore, is probably best considered hermeneutic rather than scientific (in the strict sense). It has been an excercise in conceptualizing or construing what kinds of perceptions are concurrent with positive evaluations; not those which are necessarily causal of such a judgement. With that perspective in mind, the following statements might be hazarded.

Far more than is often realized, the degree to which the parts of an artwork can be integrated into some sort of a 'whole' plays a great role in how well an artwork is liked.

Figure 4.1: Summary of Results of Multiple Correlation Analyses



This is made evident from the high β-weights associated with the first factor in the component regressions. Implicit in words like symmetry, balance, unity, and harmony is the notion that all parts somehow presuppose each other; that if any were missing or significantly rearranged, the state of equilibrium among them would be damaged or destroyed. Although this is not surprising talk among art critics, it was not entirely expected that it would emerge as so important a factor among individuals for whom art is not an issue of central interest. Perhaps the most interesting aspect of the first factor is the very negative loading for abstractness, the opposite endpoint of which was 'naturalistic'. By extending this finding to the level of a general principle, one is tempted to suggest the most frequent way that unity, harmony, etc. is brought to the scattered parts of an artwork is by arranging them so that they naturalistically represent something with which the spectator is familiar. This would explain why those who are not very experienced in the ways of art tend to prefer naturalistic art to abstract art. The relational rules underlying naturalistic art — it must 'look like' something — are far more obvious to the relatively uninitiated spectator than those underlying abstract art, which may seem cryptic and contrived

It should be kept in mind that such unification and harmonization among parts need not be purely perceptual. Perceptual elements need to reflect conceptual ones. To use an extremely simple example, a painting of a battle scene which contained only cool, softly curved lines would be difficult to make successful; it would likely seem, somehow, 'out of kilter'. The traditional associations of such colors and lines would conflict with the import of the work, unless some unusual statement about battle was being attempted by the artist.

The strength of the second factor in both the factor analysis and the subsequent regression, was not so surprising as that of the first. A certain amount of complexity is needed simply to differentiate a thing from an homogenous field. Although it has been tried on occasion, it is unlikely that a smooth grey canvas or an extended period of random 'white' noise would seriously be considered a work of art, unless, of course, it gained some

significance by being taken to be a comment upon something external to the work, such as the state of the art profession itself. Ideally, better correlations might be obtained if a way could be developed to link complexity to relational properties in something other than the additive manner which underlies the correlational procedures used. Added complexity can detract from relational properties unless added in a way which is implicit in the given relationship. Alternatively, by removing extraneous parts, thereby reducing complexity, relational properties such as symmetry and balance can be strengthened.

The emergence of these two factors as the strongest suggests that the Birkhoff–Eysenck model, which emphasizes order and complexity, has been validated here. There are some profound differences, however, in the assumptions underlying their procedure and the present one. Birkhoff and Eyesenck took order and complexity to be purely objectively definable properties which are entirely external to the individual. The present procedure on the other hand, left it up to the spectator to decide what appears to be complex and what appears to be orderly and did not ruled out the liklihood that perceptual and conceptual levels of apprehension interact to some degree. It would, therefore, be a misreading of these findings to interpret them as support for Birkhoff–Eysenck. Their conceptualization of the problem is much narrower and fails to address many significant *artistic* question, even if it does conform more closely to the conventions of scientific psychology.

The third factor, that concerned with the perceptual definition or articulaton contained in the artwork, proved to be a significant dimension of art perception while not being a particularly good predictor of evaluation. It was the second strongest factor, or better, on the separate factor analyses of all of the poems and musical works, but third or fourth on the paintings. Its weak predictive power is surprising when one considers that structural relations among parts would be difficult if not impossible to determine if the parts themselves were not well-defined. It is also surprising that a feature favored by so many prominent theorists would do so poorly in an empirical analysis such as this.

It is difficult to draw any strong conclusions about factors IV and V. Their stability is questionable and it awaits replication of this procedure to determine if novelty and subjective response have the robustness one would like. While neither of them carried very much weight in the factor structure, they were both significant predictors of evaluation in the ensuing regression.

Novelty, in its pure form, seems like a fairly superficial quality on which to evaluate a work of art. Certain kinds of novelty are more significant, however. Originality has traditionally been considered a desirable feature of art and the two variables which loaded so strongly on factor IV connote a 'sense of newness' about the work rather than a simple measure of the time of exposure to a stimulus object, a variable frequently used by contemporary psychological theorists like Berlyne. Nevertheless, the fact that the novelty factor was the strongest predictor of interestingness speaks well for the spirit of Berlyne's theory. That it was a substantially weaker component of beauty gives a clue as to the differences between beauty and interestingness. It would be interesting to study what features lend this sense of newness to an object, even upon many exposures. It might be that certain combinations of complexity and relational properties such that new relationships are discovered with each presentation of the object result in this more sophisticated kind of novelty.

Subjective response seemed far more important to the poetic situation than to those of either painting or music. This is a somewhat surprising finding as music is reputed to be so tremendously evocative of imagery and emotion. Perhaps because of the restricted sample of artworks used, however, this finding should not be over-interpreted. Because the two variables were coded dichotomously, the resulting correlations were probably restricted in size. If it turns out upon replication, however, that subjective responses do in fact account for so small a proportion of the variance in 'perceptual space', such a finding would blatantly contradict the many theorists who have strongly emphasized subjective factors such as imagery and emotion in art evaluation. A better way to investigate their importance might be to ask for

ratings of different aspects of emotion and imagery. For instance, emotion might be rated on three seven–point scales corresponding to Wundt's three dimensions of emotion, or some such model.

CHAPTER V

CONCLUDING REMARKS

Nothing, of course, can be said to have been conclusively established in the forgoing research. Before anything else, a replication must be undertaken using different works of art in order to eliminate the possibility that the outcome was a function of the particular works used. Such a replication should probably use more participants, upwards of five hundred, so that more reliable factor structures can be obtained for the individual works. Furthermore, the use of three–mode factor analysis would be more appropriate to the structure of the data collected in this type of study.

The inclusion of more styles and types of art would seem to be a logical step in replication also. It would seem advisable to add works which originated in the ancient world and Medieval times, as well as Baroque and contemporary popular works. The addition of other artforms — such as sculpture, literature, and cinema — would also broaden the artistic base considerably, as well as the inclusion of more substantial musical and poetic works.

The primary drawback to these recommendations is, of course, time. The 90 minute procedure employed in the present work was a little too long for some of the participants and to lengthen it considerably would fatigue them to the point of adversely affecting the results. Perhaps, a ionger procedure could be spread out over two or three sessions, but gaining the cooperation of large numbers of participants for such an extended period of time would prove difficult. Nevertheless, it is only by increasingly broad replications that a stable structure of art perception and evaluation might be firmly established.

Some refinements of the procedure itself are necessary also. First, new scale variables should be included to check that the structure is not simply a function of the terms chosen for this particular project. One of the weakest points in the body of semantic differential research is that the same scales were used repeatedly, a fact which guaranteed similar

structures from study to study regardless of the 'concepts' being rated. There still remains another 40% of variance to be incorporated into the factor structure and some of it might well be found by the use of a wide variety of terms.

There are also two chief sources of variation which were not tapped at all by the present work: the physical structure of the work and the dispositions of the individuals apprehending it. It seems apparent that some sort of relationship must exist between the physical feature of a given work and the individual's perception of it. This relationship will not be perfect, it may account for a fairly small portion of the variance, but it seems only reasonable that such a relationship should be found and investigated.

Second, the aptitudes and experiences of the individual must play a role in how works of art are apprehended. Individuals with certain kinds of histories and sensitivities are going to see relationships among parts of artworks which others lacking those characteristics will miss. A person who fails to see a relationship among parts, is likely to apprehend a more complex, chaotic work than one who see unifying connections running through the work. People with different backgrounds are going to perceive novelty at different times with different works.

One way to approach the problem of including physical and dispositional variables along with experiential ones is to consider one set of variables, most probably the dispositional variables, as moderator variables. Under the bilinear model of moderator variable regression analysis, the weights associated with each predictor variable are constructed anew for each subject from linear combinations of variables thought to have an impact upon the relative importance of predictors to the equation.

For instance, a nervous person might be more adversely affected by ambient noise while completing some mental task than a calm one. It would be therefore desirable to weight the ambient noise variable more heavily in the task-outcome prediction equation for

the nervous person than for the calm one. By including nervousness as a moderator variable, a 'customizing' of weights to the individual can be accomplished.

By extension to the study of art evaluation, certain reasonably subtle characteristics, a violation of formal guidelines for instance, might affect the evaluation of an individual familiar with the form far more so than the person unfamiliar with it. The latter individual would be oblivious to the violation. If previous experience with art was included in the regression equation as a moderator variable, this difference in the relative importance of the violation to their artistic perceptions would be reflected in the predictions of their evaluation. There are problems with moderator variables techniques, but this seems like an ideal situation for their use.

In summary then, the factor structure found in this research holds promise but raises more questions than it answers. A replication is indicated, preferably with an expanded array of artforms and styles. The relationship between the physical characteristics of artworks and those characteristics which are perceived should be explored more fully. Such an investigation should also include variables which reflect the apptitudes and experiences of the individual. The inclusion of such dispositional variables as moderators of the regression equation might be a particularly fruitful method of investigation.

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