This paper distinguishes several closely interrelated aesthetics terms, establishes criteria for and facets of the aesthetic experience, and examines aesthetic theories which have guided values systems for imagery of the past and present. These include: (1) mimetic theories of art as imitation; (2) instrumental theories of art as teacher; (3) expressive theories of art as feeling; and (4) formal theories of art as form or composition. What needs updating is the list of aesthetic qualities that must be apprehended in order to develop an educated stance toward new technologically-based forms of imagery. Notions of craftsmanship and personal creativity are changing. Children of the future will especially need to be literate with data and images that are in motion, like animation and holography. They should probably begin, however, with the production of art, and then move to aesthetics as philosophic inquiry, or critical reflection and analysis of exemplars. Some basic competencies are listed from the "aesthetic valuing" section of an elementary art curriculum. (Contains 18 references.) (BEW)
AESTHETICS FOR THE 21ST CENTURY:
ANOTHER CHALLENGE FOR EDUCATION

by

Barbara W. Fredette

Nelson Goodman tells us that "art is not a copy of the real world, one of the damn things is enough." But how will we help students to judge or find value in the 'worlds' created through new media? This paper examines aesthetic theories which have guided our value systems for imagery of the past and the present and makes recommendations for an approach to aesthetics which is grounded in and connected to prior image traditions but which takes into account the new image technologies. These new technologies include time arts such as photography, film, video, holography, and computer based systems as well as interactive processes where one or more spectator/creators can be involved both as observer and designer. The search for aesthetic continuity between the older traditions referred to as mark making and the new ones which are recording processes (marking time) is attempted. Implications for education which include consideration of developmentally appropriate school curricula are given in conclusion.

What is Meant by Aesthetics

"Aesthetic derives from the Greek word AISTHETIKA, meaning 'things perceptible through the senses,' with the verb stem aisthe, meaning 'to feel, to apprehend through the senses'" (Abbs, 1991, p. 246).

Aesthetics was first used by a German philosopher in 1744 to refer to the Science of the Beautiful. (Even then an effort was made to connect Science and Art.) The present use of the term aesthetics refers to philosophic inquiry into the nature and value of art and its place within a broad cultural context. In a recent article Marcia Eaton (1990) suggests that the question "what is art" is the most important "issue in contemporary aesthetics--especially if this discipline is to contribute practically as well as theoretically to society" (p. 98). She supports her position by telling us that attempts to find answers to this question are important as a way of uncovering the values of our culture.

"In order to become art, artifacts must be treated in special ways" (Eaton, 1990, p. 98). One important thing that people do when they consider something a work of art is that they talk about it. Eaton (1990) suggests that it is not the content of this talk that is important but it is the goal of the discussion that is the critical aspect. "When artifacts are discussed as works of art, the goal is to bring the viewer or listener to perceive aesthetic features that might have been missed if the viewer or listener had been left on his or her own" (p. 99). As an educational focus in schools, aesthetics is taught to broaden students perspectives on art and to develop critical skills.

Aesthetics Versus Aesthetic Education

A few art educators have been interested in aesthetic education since the 60's but when the Getty supported effort called Discipline Based Art Education became the "village dance," teaching Aesthetics as one of the four disciplines became a concern of many art educators. There is a difference between aesthetics used as a noun, referring to philosophical inquiry in the arts and aesthetic used as an adjective defining education as in aesthetic education. The Getty approach suggests that the content for aesthetics as a discipline comes from the concerns of
aestheticians which include concepts, theories, and issues in the Arts. Aesthetic education as defined by Madeja (1977) is in "its simplest form learning how to perceive, judge and value aesthetically what we come to know through our senses." This earlier educational multiarts approach was interdisciplinary in the sense that all of the arts were addressed through the study of their essential elements and organizational principles with the expectation that these basic learnings could be connected with other areas of the school curriculum. In comparison the Getty promoted discipline based art education seems to believe in and promotes the integrity of the separate arts while acknowledging that the four disciplines are essential to education in each of them.

I see a relationship, a continuity between the two approaches (aesthetics and aesthetic education) rather than a distinct difference which requires an either/or selection. Aesthetic education is a broad view in which aesthetic concern may be applied to a wide range of phenomena as a way of gaining familiarity with the specific focus. For example the basic elements of time, space, light, and movement may be explored through a wide range of perceptual activities. Aesthetics tends to be limited to a content focus on works of art.

In 1982 Kern assured us that the purpose of aesthetic education was to help students to understand and to cope with aesthetic experience as a natural, normal component of all human experience. Aesthetic experience is different from other experiences in that it is valued intrinsically. It is valued for itself rather than for some extrinsic end. There can be an aesthetic dimension to all experience, in other words many phenomena can be experienced from an aesthetic point of view. Aesthetic response is, in effect, a learned filter which gives a particular flavor to perceptual experience.

**Aesthetic Experience Defined**

Aesthetic experience can be described (after the fact), but what makes an experience aesthetic (before the fact) is not easy to answer. Kern (1982) suggested that when all the qualities of an object or an event achieved an harmonious whole, an ideal state of harmony, we may achieve an aesthetic experience. Beardsley (1982) provides five criteria that may characterize an aesthetic or art experience:

**Criteria of Aesthetic Experience**

1. Object directedness.
2. Felt freedom.
3. Detached affect.
4. Active discovery.
5. Wholeness. (pp. 299-289)

Although Beardsley (1982) suggests that only the first of these criteria--object directness--is a necessary characteristic taken as a whole these attempts to identify the nature of aesthetic experience enhance and expand our reflections on what is involved in responding to works of art.

A parallel aspect must also be considered, that is, what makes a negative aesthetic experience. Kern (1982) and others have suggested that aesthetic experiences (or the phenomena to which they refer) could be placed on a continuum which would range from aesthetic (high in aesthetic potential) through anaesthetic (mundane) to unaesthetic (intense negative experience). Where something would be placed on this continuum is dependent on how its aesthetic qualities are experienced. How a person experiences the aesthetic qualities of something is dependent on two things: their aesthetic preferences and their capacity for aesthetic experience. Many persons believe that their capacity is sufficient as it is referenced through their preference: "I know what I like."

**Aesthetic Judgement Versus Personal Preference**

I have developed an inquiry process
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for my non art trained university students which I believe helps reveal to them the difference between personal preference and aesthetic judgement. In this activity I show three objects to the students and ask them to examine them closely and then to answer a set of questions. The same three questions are asked about each object. The objects are: a mathematical formula, a copy of a Greek poem (in Greek), and a reproduction of a Cubist portrait by Picasso. The questions are:

1. What is it? (describe briefly).
2. Do you like it? Dislike it? Why?
3. Is it good? Not good? Why?

No one has trouble recognizing "what" each thing is and describing it, some with more specificity in terms of its perceived form. As expected the next two questions, especially for the formula and the Greek poem, pose a problem. Some, women especially, say they do not like the formula (as categorical dislike). They may sometimes say that, as a consequence of their dislike for math, the formula is not good. More often they recognize that without knowing what it means they cannot evaluate it (say that it is good or bad). The same is true of the Greek poem. Some say they like it because they like poetry but then admit that they cannot judge it without being able to read it. The Picasso is, for many of them, another matter. Unfortunately many who dislike the distortions of the cubist portrait say that it is a "bad picture." Others say that they like Modern Art and therefore it is "good." The students are asked to reflect upon this process and recognize that the two questions ask about different things.

We assure them that they are entitled to personal preference (to like or dislike specific works of art) but that this is not a sufficient basis for judging its aesthetic worth. Their capacity for reading the aesthetic qualities of art must be educated just as the aesthetics of Greek poetry before they can judge the worth of the Greek poem. This is an important lesson.

While many phenomena can provide aesthetic experience, only works of art, art objects and events, are created primarily for that purpose. Although some may disagree with identifying it as the primary function certainly a major function of a work of art is to provide opportunity for intense aesthetic experience. Works of art exist for aesthetic reasons and the examination of these reasons or purposes are encountered through the study of aesthetics. It may be useful to look at the place of aesthetics in the four disciplines that encompass art education. (Much about the educational importance of each of these components of art education can be found in the many publications of The Getty Center of Education in the Arts.) The four disciplines are:

- Art Production
- Creation and Performance
- Art History
- Cultural and Historical Context
- Art Criticism
- Perception and Analysis
- Aesthetics
- Nature and Value of the Arts

Art criticism and aesthetics may be seen as very similar efforts in treating works of art as educational material. Criticism focuses on specific works of art in a more in-depth manner. Aesthetics also uses specific works of art but uses them as a way of getting at larger ideas about art. Knowledge acquired through art criticism and art history become the content for aesthetic inquiry.

I have developed a format for art criticism which is a variation of Feldman's (1973) Critical Performance. I call it a systematic approach to "reading" pictures. The sequentially addressed components for it are these:
First Impression:

DESCRIPTION

ANALYSIS OF FORM

CREATIVE INTERPRETATION
Gather information about the work

CRITICAL INTERPRETATION
Summarizing statement

(Fredette, 1986).

This exercise has proved to be successful in helping non art trained students uncover aesthetic meanings in works of art through their own perceptual efforts. These meanings may then be applied to aesthetic inquiry about the nature or value of art. In other words coming to know a specific work in depth, pursuing the multiple dimensions of meaning within it through an art criticism approach, provides a resource of specific information that can be examined through broad aesthetic inquiry. It is also important to recognize that through this activity of response to a work of art the students are also practicing important response skills. These skills included:

1. The ability to describe aesthetic qualities (discrimination).

2. The ability to explain aesthetic meanings (interpretation).

Questions which sometime arise at this point are: What are aesthetic qualities and furthermore, what is the basis of aesthetic meanings? Although both of these are complex matters I will attempt to clarify them in a succinct manner.

Aesthetic Qualities

Sensory Qualities

Early work in aesthetic education (Kern, 1982; Madeja, 1977) identified these as the traditional design elements of the visual arts (color, line, shape, texture) with the inclusion of sound, space, and motion. Also included were the traditional principles of design called Formal Qualities. These included: rhythm, balance, tension, proportion, harmony, unity, and variety. Degge (1985), in a "Model for Visual Aesthetic Inquiry in Television" identified "Design Operants" which appear to satisfy the same notion of visual attributes or grammatical initiates as the sensory and formal aesthetic qualities listed above. Design operants, which she suggests are the "designing tools of the medium" (p. 87), include grammatical, formalistic, and formulaic clusters of variables which provide a focus for aesthetic inquiry into television imagery. Degge's work is included to show that although specific qualities may change in relation to a particular medium the concept of aesthetic qualities as a basis for description and analysis remains.

Representational Qualities

The variety of meanings accessible through the presented form are another set of aesthetic qualities. In reference to the more traditional two and three-dimensional arts of painting, sculpture, and photography these have been identified as representations of: internal/external images, signs, symbols, feelings, abstract concepts, metaphors. These attributes of representation may suffice for "still" arts or "timed marks" but contemporary imagery such as film, television, and a variety of computerized forms require attention to the aesthetic qualities of the unique perceptual experience of the new imager. In her examination of the aesthetic qualities of television imagery Degge (1985) refers to Berleant whom she writes "argues that (in television imagery) there are distinguishable kinds of aesthetic facts, among them 'experiential facts.' These... are made up of statements by artists and qualified perceivers alike 'that presume to describe the characteristics of aesthetic experience itself.'" One experiential category is given as "immediacy" and "ubiquity." Immediacy, however, may be complicated by "issues of reality." What
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is real? And to whom is it reality? Degge points out that different versions of reality exist for different viewers. She quotes Tarroni who writes that "a televised event passes through a number of filters (technical and human) which leave it irretrievably mutilated and distorted" (p. 92). To what extent does this make the television imagery anaesthetic or unaesthetic? Other aspects of reality are "authenticity" and "time." Each of these representational aspects provide options for varied aesthetic intention.

In summary, aesthetic qualities are those aspects of any given phenomena which are perceptible directly or through interpretation. In this sense aesthetic qualities are features of specific works of art. But aesthetic inquiry must go beyond specific works. In order to answer the BIG questions asked in aesthetic inquiry it is necessary to consider aesthetic theories.

Aesthetic Theories

For many people aesthetic theory is synonymous with philosophy of art, referring to abstract notions of the nature and value or purpose of art. Western theories or philosophies of art tend to fall into four major categories or types of aesthetic tradition (Anderson, 1990). These four approaches are useful to consider because they implicitly fund notions of the meaning of art even for those unfamiliar with them as specific theories.

Art as Imitation: Mimetic Theories of Art

The purpose of the work of art is to represent or imitate something in the real world as it generally appears or in some idealized form (better than life). These theories can be traced back to ancient Greece but seem to prevail even today. Heroically proportioned Roman statues, still-life paintings that "fool the eye," and photorealism are exemplars of this theory (Lankford, 1992, p. 8). In popular art, movies which tell it as it is or television programs which portray working class families (even though stereotypical) follow a mimetic charter (Anderson, 1990). People who question the artistic value of the distortions of Picasso or Van Gogh are persons who implicitly adhere to an aesthetic criterion of mimesis. According to this theory "artworks may be judged on their 'correctness, completeness, and convincinglyness" (Lankford, 1992, p. 8).

Art as Teacher: Instrumental Theories

The purpose of the work of art is to provide a guide for life, to have beneficial effects on people. This pragmatic theory of art "emphasizes the use of art as an instrument for furthering moral, religious, social or political points of view...using this theory, artworks may be judged by their effectiveness in influencing the thoughts and actions of individuals in society" (Lankford, 1992, p. 8). But if art can inspire it can also corrupt. Some people fear art as a result of this theoretical position which leads to censorship. Although there is no way to establish the extent of specific effect it is apparent to many that particular popular art forms serve as establishment propaganda (Anderson, 1990).

Feldman (1973) tells us that:

...instrumentalists do not believe aesthetic values exist independently, that satisfactions or meanings in art can be experienced apart from their involvement in some larger purpose. They would argue that Michelangelo's Pieta is a great work not only because it represents realistically a central event in Christianity but also because it supports crucially important ideas about grief and maternal love. (p. 462)

Instrumentalism "emphasizes the legitimacy of art related to the dominant concerns of life and thus acts as corrective to the artistic tendency to become excessively involved with purely technical problems" (Feldman, 1973, p. 465).
Art as Feeling: Expressive Theories

Based on these theories the purpose of the work of art is to reveal the inner psychological experience or feelings of the individual. It is well known that the arts can provoke powerful feelings (Anderson, 1990). Lankford (1992) revealed three versions of this theory which exemplify "different relationships between the emotional life of an artist, the evocative power of an artwork, and the responsive feelings of an audience" (p. 8). One view is that the artist undergoes an extreme emotion and transmits it to the viewers of his artwork. A second interpretation suggests that the artists feelings/emotions become clearer as the artist works and these clarified feelings are exemplified in the art which in turn evokes empathy on the part of the viewer. A third view is that the feelings expressed in the art are there as a result of a deliberate conscious production effort by the artist and are recognized by the viewer through the same cognitive realm. Under the aegis of this theory artworks are judged by the vividness of their emotional substance.

Feldman (1973) acknowledges that all art communicate feelings to some extent but to meet this challenge of common factor expressionism "offers us the idea of intensity of experience in the presence of art. The best work arouses the most vivid feelings--feelings stronger than those we would experience in everyday life" (p. 459).

Art as Form: Formal Theories

This may be the most compelling theory of our century. "Formalism emphasizes the composition or structural arrangements of works of art" (Lankford, 1992, p. 9). The form of the artwork is the essential property to be considered. The idea of significant form is manifest. Lankford (1992) relates that "critic and aesthetician Clive Bell, in seeking some property common and unique to artworks, concluded that the unifying property was 'Significant Form': a special combination of lines, colors, shapes, and their interdependent relationships which, when perceived, stirred a particular kind of emotion-aesthetic emotion" (p. 9). Anderson (1990) suggests that this is where the notion of form comes in to consideration in art. Art's formal qualities are the result of masterful manipulation of techniques by artists. The word art refers to the highest level of skill.

Feldman (1973) wrote:

If we penetrate to the heart of formalism, we should find the wish that works of art depend for their effectiveness solely on the principle of unity in variety, with that unity achieved through the non-symbolic, non-cognitive properties of materials. (p. 457)

He goes on to tell us that "if pressed, the formalist might say that an organization is best when it embodies the ideal structural possibilities of the visual elements present in the work" (p. 457). He suggests that the formalist shares with the Platonist the notion that there is an "ideal or perfect embodiment of all things, and that art, when it is successful, reveals, represents, or communicates that ideal."

Current writers have added to this list of theories. Carmen Armstrong (1990) has developed a teaching resource for aesthetics in which generalizations based on theoretical positions are used as the basis for questions suited to different educational levels which she calls "vertical sequencing". To Art as Imitation, as Expression, and as Formal Organization she adds Art as a Social Institution and Art as No Theory or a Combination of Theories.

These theories of art, ideas about the purposes and products of aesthetic endeavor are important to anyone who has an interest in aesthetics. Weitz (1991) told us not to take the theories literally but instead to see each of them as emphasizing some aspect of art that adds an important dimension of meaning. Single works of art may have multiple meanings, the
Krielters referred to this as multi-leveledness, Goodman calls it density (Fredette, 1986). Each theory or category of theories may provide a different perspective on a work which enriches an interpretation of it. Weitz (1987) suggests that:

What is central and must be articulated in all the theories are their debates over the reasons for excellence in art... the whole of which converges on the perennial problem of what makes a work of art good. To understand the role of aesthetic theory is not to conceive it as definition, logically doomed to failure, but to read it as summaries of seriously made recommendations to attend in certain ways to certain features of art. (p. 153)

This effort may not be limited to traditional forms of art but is applicable as well to the artistic forms created by new media.

**Aesthetics for the Future**

When I initially identified the problem for this paper my intention was to review aesthetics ideas and issues related to the imagery of traditional art forms and based on these suggestions for a new aesthetic to be used as a basis for assessing the nature and value of the imagery found in new technology. After an extensive review of the literature (which merely touched the surface of a surfeit of resources on this matter) I have come to the conclusion that it is not a new aesthetic which is needed. No, what is needed is a systematic effort to adapt the analytic criticism format to the attributes of the new forms of imagery. Engaging in this analytic process would in turn provide the groundwork for the synthetic effort of aesthetic inquiry.

The processes of analysis such as those encountered through the systematic approach to reading pictures may remain the same. What needs to change, to be brought up to date, is the list of aesthetic qualities or attributes which must be apprehended in order to develop an educated aesthetic stance toward the new forms of imagery. These attributes, or design operants to use Degge's (1985) term, should satisfy the two categories of what it is (the directly perceptible qualities) and what it means (the interpretive-representational, symbolic or metaphoric content aspects). Technical aspects should be included in the first category and contextual, sociological aspects in the second. In order to use these qualities or attributes as a basis for aesthetic education teachers will need to have several kinds of knowledge about them.

Reimer (1992) identifies and describes four types of aesthetic knowledge or cognition. Because of the implicit emphasis on knowledge as fact or knowing about something it is important to consider the other types or ways of knowing a particular object or form which may be addressed aesthetically. Besides knowing about or knowing that, in other words having the *facts* about something it is also important to know of (or within), . know how, and to know why. Knowing of or within includes understanding the role of form, the role of content and function, and the role of feeling encountered through an artwork. Reimer (1992) suggests that knowing how is artistic cognition and it includes how to imagine, craftsmanship, how to be sensitive, and how to be authentic. It is obvious that these types of knowledge may come about as result of production or creation of an artwork. Personal creative efforts contribute an important dimension to aesthetic response to the aesthetic work of others. Although it may be called to question there is some generalizability of the abstract notion of creating which may reach across technologies. Certainly the craftsmanship involved in 2-D painting is different from that involved in creating a hologram but the concept of craftsmanship engaged in the process of creation may bridge the two efforts. The last type, knowing why, may represent the highest level of knowledge as synthesis. Knowing why about an art form includes all of the other dimensions
of knowledge. Acquiring all of these dimensions of knowledge may appear to be a formidable task of preparation but they are the necessary groundwork for engaging in aesthetic inquiry. This approach also acknowledges the constructivist notion of psychology which is currently in favor—individuals must construct their own knowledge. It cannot be given to them or poured in. This review of the four dimensions or aesthetic knowledge may be seen as a structure for the construction of aesthetic knowledge.

Evolution of Imagery Technologies

What new forms of imagery for aesthetic contemplation will require this construction of knowledge? What new directions for learning through art need to be considered? To answer this question, Loveless (1992) writes about the evolution of media technologies and identifies "their changing effects on consciousness and their parallel role in redefining literacy" (p. 115). He suggests that children of the future will need to be literate with both data in motion and images in motion. The language of the motion of images found in photo, film, video, and satellite communications is the basis of the latter literacy.

Loveless (1992) reminds us that McLuhan told us, "the artist's obsession with the eye as we have known it throughout earlier traditions in the arts was never the same for at that time a new paradigm was created" (p. 117). Loveless reviews the visual arts traditions which he says have always been concerned with creating images as an obsession with the eye using whatever technology was available.

The first tradition, painting, was an effort to produce an original form which represented an illusion of what was real. Sculpture, he suggests, is the second major tradition based on imaginative uses of three-dimensional space. Each of these forms of imagery changed as new tools and technologies became available bringing new styles and traditions. The third major tradition, photography, came about through the "invention of optics and the isolation of chemicals" (Loveless, 1992, p. 117). It changed the way the world could be seen by providing access to new ways of seeing such as exact seeing (portrayal of a moment in time), rapid seeing (through a succession of shots), slow seeing (time exposures), and simultaneous seeing (through images superimposed upon each other). The generation of successive images in time eventually became the tradition of film and video.

Holography is offered as an introduction to the fourth tradition (Loveless, 1992). It is identified as a medium which brings together art and sculpture.

It creates a lenseless photography that combines illusion and reality, the aesthetic with the mathematical... since each part of the hologram is equal to the whole, we have a 3-dimensional concept of lateral displacement. This introduces a new fantasy of the fourth dimension. Out of this tradition arises the laser and other light-generating forms as well as new technologies for synthesizing images. It is at this point in the history of image making that the computer becomes accessible to the artists. (p.118)

Image making through electronic media must take its place as the fourth tradition in art and as such will need to be addressed through aesthetic inquiry. Questions about the aesthetics of new media bring the concept of technology into play. Technological or media generated issues may be an appropriate focus for aesthetic inquiry. The artists use of new materials or tools may generate discussion about the legitimacy of works of art. What makes an object or event produced through new media art, or non-art?

I suggest that a source for the answer of this question may be found in the concept of children's development in
graphic expression. When a child first holds a drawing tool and makes marks they are exploring what is for them a new medium. The first marks they make are scribbles. Scribbles are records of the actions of exploration of the medium. Children enjoy the power of bringing into existence something that wasn't there before— their marks. I offer the notion that all explorations of a new medium by anyone are in effect scribbles. This is not a negative judgment, it is a way of looking at the possible evolution of skill with a medium which may (or may not) result in achieving the level of art. This preliminary effort is a kind of pentimento effort, the practice of skills which must precede future efforts. These efforts when directed toward the goal of art must represent the consciously directed intention of the artist. While some happy accidents may occur at preliminary stages in the exploration of a new medium the creation of art requires a consistent repeatable level of skill which knowingly utilizes aesthetic qualities and attributes integral to the specific medium. This is the artistic cognition that was referred to earlier. It is the aesthetic effort required to make new worlds through new media. Worlds that not only give us new things to see but also new ways to see them. Artists have created a variety of different worlds for us to see and with the newer media more and more are possible.

Educational Issues in Aesthetics

Aesthetics as Philosophic Inquiry

Crawford (1991) assists us in understanding aesthetics as philosophic inquiry. He suggests that this is not to make philosophical aestheticians of students but instead to broaden perspectives and help them to develop critical skills. Philosophy, he writes, "is not simply reflection but critical reflection, the assessment of chains of reasoning. . . in the attempt to gain insight into our beliefs and values. . . . Philosophical inquiry, being both reflective and critical, always begins by taking one step back from the phenomena it seeks to understand" (p. 19). He makes the connection to aesthetics by telling us that: "Aesthetics is that branch of philosophical activities which involves the critical reflection on our experience and evaluation of art" (p. 20). Many issues may be addressed in Aesthetics. A primary concern is with "aesthetic values and our standards for the interpretation and criticism of particular works of art. Another major focus concentrates on the many ways in which artworks can come to have significance or meaning" (p. 20). In summary Crawford (1991), writes:

Philosophical aesthetics is the critical reflection on our experience of art, whether from the standpoint of creators, appreciators, or critics. It aims at understanding the components of these experiences and the bases of the values we find there, as well as at gaining insight into how these values integrated, or sometimes conflict, with other values (such as those in the moral, economic, political, and religious realms). (p. 231)

Aesthetics for Young Students

Smith (Levi/Smith, 1991) suggests that aesthetic learning in the schools is a long journey. The purpose of this journey is the cultivation of percipience which is Smith's term for a well-developed sense or art. He devised a sequential pattern for the development of percipience which begins with familiarization, exposure, and perceptual training in Phases I and II (kindergarten through the sixth grade). He proposes that the production of art would be the basis for this goal. Phase III for grades seven through nine is the time to develop historical awareness and Phases IV and V (grades 10-12) is the time for the appreciation of exemplars and critical analysis. In some ways this appears to short change both children and aesthetics as an educational focus. While children cannot be expected to engage in inquiry into the nature or value of art without an adequate vocabulary or personal experience with art they should be
introduced to talking about art as early as possible so that it becomes a familiar and necessary way to think about art. Eventually this talk will become critical discourse.

Hagaman (1992) tells us "...the elementary art classroom is as much a place for talk about art as it is for making art. Such talk need not be theory-driven, alien, or dull, but must begin with children's own experiences and their craving for meaning" (p. 106). The NAEA (1992) in "Elementary Art Programs: A Guide for Administrators" includes Aesthetic Valuing as the fourth component of a curriculum outline. The goal is "to develop a base for making informed aesthetic judgements" and the objectives are:

1. Make informed responses to works of art, nature, and other objects within the total environment by using objective criteria for analysis, interpretation, and judgements.

2. Derive meaning and value from experiences by making and justifying judgements about aesthetic qualities in works of art and other objects within the total environment.

3. Use analysis, interpretation, and judgement about visual relationships based on learned aesthetic values (p. 6).

The content/skills listed are:

- Analyze Design Elements
- Recognize Use of Design Elements
- Recognize Art Media and Processes
- Recognize Artistic Styles
- Describe Aesthetic Characteristics
- Discriminate Artistic Styles
- Analyze Aesthetic Similarities and Differences
- Recognize Artistic Characteristics
- Recognize Aesthetic Characteristics

Appropriate activities for grades K-2 and 3-5 are given with each of the identified content/skills except "describe aesthetic characteristics" which is not expected of grades K-2.

**Conclusion**

Aesthetic ways of knowing must become part of the basic education of all students. What is learned is dependent on the ways in which it is taught. Students at all levels should be given opportunities to engage in talk about art that reveals not only the ideas encoded in the art but also important things about themselves as human beings. The art which engages this talk should represent a wide range of imagery including that produced with electronic media.

Technology is both science and art. I have attempted to show that aesthetic knowledge is important, perhaps as important as scientific knowledge in understanding the imagery of our culture. Science and art are not antithetical but in fact from the beginning have been conjoined. The Greek goddess Techne was the patron Goddess of both practical knowledges and of art. The Greek word *tikein* (to create) comes from her name (Shlain, 1991.)

"The meaning of aesthetics, like the meaning of 'love,' depends on who says it and where" (Anderson, 1990, p. 33).

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