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THE CHARACTER AND CONTENT OF VISUAL LITERACY

How many see?

What a broad spectrum of processes, activities, functions, attitudes, this simple little question reaches out to encompass. The list is long: to perceive, understand, watch, observe, discover, recognize, visualize, examine, read, look. The computations are multilateral: from identification of simple objects to the use of symbols and language to conceptualize, from inductive to deductive thinking. The number of questions provoked by just that one question, How many see?, gives a clue to the complexity of the character and content of visual intelligence. That complexity is reflected in the many ways this book will pursue the nature of the visual experience through explorations, analyses, and definitions to develop a methodology that makes it possible to educate all people to their maximum ability both as makers and receivers of visual messages, in other words, to make them visually literate.

The first learning experience of a child is through tactile awareness. In addition to this "hands-on" knowledge, recognition includes smelling, hearing, and tasting in a rich contact with the environment. These senses are quickly augmented and superseded by the iconic—the ability to see, to recognize and understand environmental and emotional forces visually. From nearly our first experience of the world, we organize our needs and pleasures, preferences and fears, with great dependence on what we see. Or what we want to see. But this description is only the tip of the iceberg and in no way measures the power and importance the visual sense exerts on our lives. We accept it without realizing that it can be improved just in the basic process of observation or extended into an incomparable tool of human communication. We accept seeing as we experience it—effortlessly.

For the sighted, the process requires little energy; the physiological mechanisms are automatic in the human nervous system. The fact that from this minimal output we receive vast amounts of information in many ways and at many levels provokes little amazement. It all seems natural and simple and suggests that there is no need to do more with our abilities to see and to visualize than just merely to accept them as natural functions. Caleb Gattegno, in his book, Towards a Visual Culture, comments on the nature of the visual sense: "Sight, even though used by all of us so naturally, has not yet pro-
duced its civilization. Sight is swift, comprehensive, simultaneously analytic and synthetic. It requires so little energy to function, as it does, at the speed of light, that it permits our minds to receive and hold an infinite number of items of information in a fraction of a second." Gattegno's observation lays out the startling richness of our visual capability. One is inclined to agree enthusiastically with his conclusions: "With sight infinities are given at once; wealth is its description."

A bias toward visual information is not difficult to find in human behavior. We seek visual reinforcement of our knowledge for many reasons, but primarily among them is the directness of the information, the closeness to the real experience. When the American spaceship Apollo 11 landed on the moon, when the first hesitant astronaut's footstep touched the moon's surface, how many among the international television audience that viewed the event would have traded the live transmission of the moment-by-moment action for a detailed, even eloquently written or spoken report of the event? This historic occasion is only one example of the demonstration of the human preference for visual information. There are so many—the snapshot that falls out of the letter from a close friend far away, the three-dimensional model of a new building. Why do we seek visual reinforcement? Seeing is a direct experience and the use of visual data to report information is the closest we can get to the true nature of the reality. The television networks demonstrated their choice. When direct visual connection with the Apollo 11 astronauts was impossible, they broadcast a visual simulation of what was simultaneously being described verbally. Given options, the choice is clear. Not just the astronauts, but also the tourist, the picnic party, the scientist, all turn to the iconic mode, whether to preserve a visual memory or to pursue a technical proof. We all seem to be from Missouri; we all say, "show me."

THE FALSE DICHOTOMY: FINE AND APPLIED ART

Human visual experience is primary in learning to understand and respond to the environment; visual information is the oldest record of human history. The cave paintings represent the oldest preserved report on the world as it was seen some 30,000 years ago. Both facts demonstrate the need to take a new view of the function of not only the process but also the visualizer in society. The greatest stumbling block in this effort is the categorizing of the visual arts into polarities of fine and applied art. At any point in history the definition shifts and changes, but the most constant factors of differentiation are utility and aesthetics.

Utility describes the design and making of objects and materials and demonstrations that respond to basic needs. From primitive cultures, ancient and contemporary, to today's highly developed technology, man needs to eat; to do this, he needs tools to hunt and kill, farm, cut; he needs pots to cook in and utensils from which to eat. He needs to protect his vulnerable body from the changing weather and treacherous environment; for this he needs tools to saw, cut, weave. He needs to stay warm and dry and protected from predatory animals, so he must build some kind of habitat. Subtleties of cultural preference or geographical location exert little pressure on these needs; only interpretation and variation mark the product in terms of creative expression as representative of a particular time or place. In these areas of designing and making the simple necessities of life, it is assumed that every member of the community can not only learn to produce but also can through design and decoration give individual and unique expression to the work. But the self-expression is monitored, first, by the process of learning the craft, and second, by the dictates of functionality. The important factor is that learning how is essential and accepted. The expectation that a member of the community contribute at many levels of visual expression bespeaks a kind of involvement and participation that has withered away in the modern world, and this has been hastened by a number of reasons, but primary among them is the contemporary concept of "fine." art.

The most frequently cited difference between the utilitarian and the purely artistic is the measure of motivation toward producing the beautiful. This is the realm of aesthetics, the inquiry into the nature of sense perception, the experience of beauty, possibly just artistic beauty. But the purposes of the visual arts are many. Socrates raises the question "of whether aesthetic experiences have intrinsic worth or are to be valued or depreciated by their stimulation of the profitable and good." "Experience of beauty affords no kind of knowledge, historical, scientific, or philosophical," says Immanuel Kant. "It can be called true because it makes us more aware of our mental activity." However they approach the problem, the philosophers agree that art has subject matter, emotions, passions, feelings. In the wide range of the various visual arts, religious, social, or domestic, the subject matter changes with the intent, having in common only the abil-
ity to communicate specifically or in the abstract. As Henri Bergson puts it, "Art is only a more direct vision of reality." In other words, even at this lofty level of evaluation, the visual arts have some function or utility. It is easy to draw a diagram to place various of the visual formats in some relationship to these polarities. Figure 1.1 presents one way of expressing contemporary evaluative attitudes.

![Figure 1.1](image)

Such a diagram would look quite different were it to represent another culture, such as the Pre-Raphaelites (1.2).

![Figure 1.2](image)

or the "Bauhaus" point of view, which would group any and all of the fine and applied arts on one central point in the continuum (1.3).

![Figure 1.3](image)

Long before the Bauhaus, William Morris and the Pre-Raphaelites had inclinations in the same direction. "Art," said Ruskin, who was their spokesman, "is all one, any distinction between fine and applied art is destructive and artificial." The Pre-Raphaelites added one distinction to their thesis that put them totally out of sympathy with the later philosophy of the Bauhaus—they rejected all work of the machine. What is made by hand is beautiful, they believed, and though they espoused a cause of sharing art with all, turning their backs on the possibilities of mass production was an obvious negation of their self-proclaimed purposes.

What the Morris-led "Arts and Crafts" group did recognize in their reaching back to the past to renew interest in careful and proud workmanship was the impossibility of producing art without craftsmanship—a fact easily forgotten in the snobbish dichotomy between fine and applied in the arts. During the Renaissance, the artist learned his craft from the simple tasks on, and despite his high estate, shared his guild or union with the basic craftsman. This provided for a stronger apprentice system, and, more important, less specialization. There was a free flow back and forth between the artist and craftsman, each able to participate in all levels of work, barred only by a measure of competence. But, as times change, modes change. What is labeled "art" can change as fast as the people who label it. "A hallelujah chorus," says Carl Sandburg, in his poem, "The People, Yes," "forever shifting its star soloist."

The contemporary view of the visual arts moves beyond the polarities of "fine" and "applied" art to questions of subjective expression and objective function and again has tended toward the association of individual interpretation with creative expression belonging to the "fine arts" and the response to purpose and use belonging to the "applied arts." An easel painter working for himself without commission pleases himself first without thought of the market place, and is, therefore, almost totally subjective. A craftsman fashioning a clay pot can appear to be equally subjective. He is making his pot in a shape and size to please his own taste. He has, however, a practical concern: can the design that pleases him also hold water? This modification of utility imposes on a designer some measure of objectivity not so immediately necessary or so apparent in the work of the easel painter. The American architect Sullivan's dictum, "form follows function," is most dynamically illustrated by the airplane designer, whose own preferences are limited by what assembled shapes, proportions, and materials will, in fact, really fly. The final product is shaped by what it does. But in the subtler problems of design, there are many products that can reflect the subjective tastes of the designer and still
function perfectly well. It is not only the designer that must face problems of compromise in the matters of personal taste. Frequently an artist or a sculptor must modify a work because he has received his commission from a patron who knows exactly what he wants. Michelangelo's long wrangles about his commissions from two Popes are the liveliest and most descriptive examples of the problem an artist has in controlling his subjective notions in order to please a patron. And yet, no one would consider "The Last Judgment" or "David" commercial works.

Michelangelo's fresco for the ceiling of the Sistine Chapel aptly demonstrates the weakness of this false dichotomy. The Pope, as the representative of the needs of the Church, influenced Michelangelo's own ideas which were also modified by the direct purpose of the mural. It was a visual explanation of the "Creation" to an audience, largely illiterate, and therefore unable to read the Biblical story, or if they could read, unable to imagine in such palpable fashion the story's drama. The mural is a balance between the subjective and the objective approach of the artist, and a comparable balance between pure artistic expression and utility of purpose. This delicate balance is extraordinarily rare in the visual arts, but when it is struck, it has the exactness of a bull's-eye. Who would question this mural as authentic "fine art," and yet it has a purpose and utility that contradict the definition of the so-called difference between fine and applied art: "applied" art should be functional and "fine" art without utility. This snobbish attitude influences many artists on both sides of the fence and creates an atmosphere of alienation and confusion. Oddly enough, it is a fairly recent development. The idea of a "work of art" is a modern one, reinforced by the concept of the museum as the ultimate repository of the beautiful. A public, enthusiastically interested in worshipping at the altar of beauty in a museum, approaches it unmoved by an incredibly ugly environment. This attitude removes art from the mainstream, gives it an aura of being special and petty, reserves it for an elite, and so negates the true fact of how it is struck through our lives and our world. If we accept this point of view, we abdicate a valuable part of our human potential. We not only become consumers with not very sharp criteria, but we deny the essential importance of visual communication both historically and in our own lives.

THE IMPACT OF THE PHOTOGRAPH

The last bastion of exclusiveness of the "artist" is that one special talent, the ability to draw, to replicate the environment as it appears. The camera, in all its forms, has ended that. It forms the final connecting link between the innate ability to see and the external capability to report, interpret, express what we see, without having to have special talent or extended training to effect the process. There is little doubt that contemporary life style has been influenced, and crucially, by the changes enacted on it by the fact of the photograph. In print, language is the primary element, while visual factors, such as the physical setting or design format and illustration, are secondary or supportive. In the modern media, just the reverse is true. The visual dominates; the verbal augments. Print is not dead yet, nor will it ever be, but, nevertheless, our language-dominated culture has moved perceptibly toward the iconic. Most of what we know and learn, what we buy and believe, what we recognize and desire, is determined by the domination of the human psyche by the photograph. And it will be more so in the future.

The measure of the influence of the photograph in all its many variations and permutations is a throwback to the importance in life of our eyes. Arthur Koestler, in his book, The Act of Creation, observes: "Thinking in pictures dominates the manifestations of the unconscious, the dream, the hypnagogic half dream, the psychotic's hallucinations, the artist's vision. (The visionary prophet seems to have been a visualizer, not a verbalizer; the highest compliment we pay to those who trade in verbal currency is to call them 'visionary thinkers')." When we see, we do so many things: we experience what is happening in a direct way; we discover something we never noticed or possibly never even looked for before; we become aware through a series of visual experiences of something we eventually come to recognize and know; we watch for evolving changes through patient observation. Both the word and the process of seeing have come to have much broader implications. To see has come to mean understanding. The man from Missouri who is shown something presumably has a deeper understanding than someone who is told about it.

Here the implications are most important for visual literacy. To expand our ability to see means to expand our ability to understand a visual message and, even more crucial, to make a visual message. Vision involves more than just seeing or being shown. It is an integral part of the communication process which encompasses all considerations of fine art, applied art, subjective expression, response to functional purpose.
VISUAL KNOWLEDGE AND VERBAL LANGUAGE

Visualizing is the ability to form mental pictures. We remember a way through city streets to a destination, maneuvering in our mind over a route from one place to another, checking visual clues, rejecting, doubling back, and we do all this before we proceed with the journey. All in our minds. But even more mysterious and magical, we form the sight of something we never saw before. Vision, previsualization, is intricately linked to the creative leap, the Eureka syndrome, as a primary means of problem solving. And it is this very process of moving around in mental images in imagination that frequently takes us to the point of breakthrough and solution. Koestler, again, in The Act of Creation, sees it this way: “Thinking in concepts emerged from thinking in images through the slow development of the powers of abstraction and symbolization, just as the phonetic script emerged by similar processes out of pictorial symbols and hieroglyphics.” A great lesson in communication can be learned from this progression.

The evolution of language started with pictures, progressed to pictographs, self-explaining cartoons, to phonetic units, and then to the alphabet, which R. L. Gregory in The Intelligent Eye so aptly calls, “the mathematic of meaning.” Each step of the way was, no doubt, a progression toward more efficient communication. But, there are many indications that there is a retracing of this process back to the picture, again inspired by the seeking of more efficiency. The most important question is literacy and what it means in the context of language and what analogies can be drawn from language and applied to visual information.

Language has held a unique place in human learning. It has functioned as a means of storing and transporting information, a vehicle for exchanging ideas, and as a way for the human mind to conceptualize. Logos, the Greek word for language, also carries collateral meaning of thought and reason in the English word derived from it, logic. The implications are quite obvious; language is seen as a means for a higher form of thinking than the visual and tactile modes. But the assumption is subject to some question and investigation. To begin with, language and verbal literacy are not the same thing. Being able to speak a language is vastly different from achieving literacy through reading and writing, even though we can learn to understand and use language at both operative levels. But only spoken language evolves naturally. Noam Chomsky’s work in linguistics indicates that the deep structure of language is biologically innate. Verbal literacy, reading and writing, must, however, be learned through a number of steps. First, we learn a symbol system, abstract shapes that represent designated sounds. These symbols are our ABC, the alpha and beta of the Greek language from which we have named the whole group of sound-symbols or letters, the alphabet. We learn our alphabet as individual letters, and then we learn the combinations of letters and their sounds which we call words, the stand-ins or surrogates for things and ideas and actions. Knowing the meaning of words is knowing the common definitions they share. The final step in achieving verbal literacy involves learning the common syntax to establish limits of construction according to accepted usage. These are the rudiments, the irreducibly basic elements of language. When they are mastered, it is possible to read and write, to express and understand written information. This is a most cursory description. But, it is apparent that even in its most simplified state, verbal literacy represents a structure with technical plans and agreed on definitions, which, by comparison, characterize visual communication as almost totally lacking in organization. So it would appear.

VISUAL LITERACY

The major pitfall in developing an approach to visual literacy is trying to overdefine it. The existence of language, a communication mode of comparatively neatly organized structure, no doubt exerts strong pressure on all those who pursue the very idea of visual literacy. If one means of communication is so easy to break down into component parts and structure, why not the other? Any symbol system is an invention of man. The symbol systems we call language are inventions or refinements of what was once the object perceptions in picture-stripped mentality. Hence there are many symbol systems and many languages, some related by their derivations from the same root, some totally unrelated. Numbers, for instance, are surrogates for a unique information retrieval system, as also are notes in music. In each case, the ease of learning the encoded information is based on the original synthesis of the system. The meanings are attached and each system has syntactical ground rules. There are more than 3,000 languages, separate and unique, in current usage in the world, each different. The language of vision is, by comparison, so much more universal that its complexity should not be regarded as too difficult to be worthwhile overcoming. Languages are logical wholes. But no such simplicity can be ascribed to visual intelligence, and those of us who have labored to make it analogous to language have been engaged in an exercise in futility.
But the use of the word "literacy" in conjunction with the word "visual" does have enormous significance. Sight is natural; making and understanding visual messages is natural to a point, but effectiveness on either level can only be achieved through study. In pursuit of visual literacy, one problem must be clearly identified and avoided. In verbal literacy, long before words such as "creative" are applied as a value judgment, it is expected of educated people that they be capable of reading and writing. The writing does not necessarily have to be brilliant; clear, understandable prose, correctly spelled and syntactically sound, will do. Verbal literacy can be achieved at quite a simple level of making and understanding written messages. It can be characterized as a tool. Being able to read and write, by the very nature of its function, does not demand by implication the need for higher expression, the production of novels or poetry. We accept the idea of verbal literacy as operative at many levels, from simple messages to increasingly complex and artistic forms.

Partly because of the separation in the visual of art and craft, and partly because of the limitations in the talent for drawing, much of visual communication has been left to intuition and happenstance. Since no attempt to analyze or define it has been made in terms of the structure of the visual mode, no method of application can be attained. Indeed, the educational system is moving with monolithic slowness in this area, still persisting in an emphasis on the verbal mode to the exclusion of the rest of the human sensorium and with little sensitivity, if any, to the overwhelmingly visual character of the child's learning experience. Even the use of a visual approach to learning through the media is without rigor and purpose. In many instances, students are bombarded with visual aids—film loops, films, slides, slide sound presentations—but the presentation reinforces their passive experience as consumers of television. Media materials being produced and used for educational purposes are presented with few criteria for evaluating and understanding the effects they produce. The consumer of most of the educational media production would not, to make the verbal literacy analogy, recognize or know what was a misspelling, an incorrectly phrased sentence, a badly organized theme. The same is so often true in the "hands on" media experience. The only guidelines for the use of cameras in making intelligent messages are drawn from literary traditions rather than from the structure and integrity of the visual mode itself. One of the tragedies of the overwhelming potential of visual literacy at all levels of education is the mindless, custodial-playtime function the visual arts serve in the curriculum and the similar state that exists in the use of media.

Cameras, film, television. Why, in the visual arts, all of them, have we fallen heir to an unspoken devotion to nonintellectualism? Examination of the education system reveals that the development of constructive methods of visual learning are ignored except for those students who are especially interested and gifted. Judgments of what is workable, appropriate, effective in visual communication have been abandoned to whom, some formless definition of taste, or to the subjective, self-reflexive evaluation of the sender or receiver with little or no attempt to realize, at the least, some of the prescribed levels we expect of what we call literacy in the verbal mode. This is probably not so much from bias as from a firm conviction that no methodology, no means for achieving visual literacy, is possible. However, the demand for media study has outstripped the capabilities of our schools and colleges. Facing the challenge of visual literacy may no longer be so easy to ignore.

How have we arrived at this stalemate? Of all the means of human communication, the visual alone has no regimen, no methodology, no single system with prescribed guidelines for either expression or understanding of visual methods. Why, when we want it and need it so much, does visual literacy elude us? Obviously, a new approach must be evolved to solve this dilemma.

AN APPROACH TO VISUAL LITERACY

We know so much of the human sensorium, particularly of sight. Not everything, but a great deal. We also have many working systems for the study and analysis of the components of visual messages. Unfortunately, all this has not been put together in a viable form. By categorizing and analyzing, we may, indeed, be revealing what has always been there, the beginnings of a workable approach to universal visual literacy.

We must search for visual literacy in many places and many ways, in the methods for training artists, in the technical training of craftsmen and artisans, in psychological theory, in nature, and in the physiological workings of the human organism itself.

There is visual syntax. There are guidelines for constructing compositions. There are basic elements that can be learned and understood by all students of the visual media, artists and nonartists alike, and that, along with manipulative techniques, can be used to create clear visual messages. Knowledge of all these factors can lead to clearer comprehension of visual messages.
We understand visual information in many ways. Perception and kinesthetic forces, physiological in character, are vital to the visual process. How we stand, move, keep our balance, protect ourselves; the way we react to light and dark or to sudden movement are factors in how we receive and interpret visual messages. All of these responses are natural and operate without effort; we do not have to study them or learn how to do them. But, they are influenced and possibly modified by psychological moods and cultural conditioning and lastly, by environmental expectation. How we view the world frequently affects what we see. The process is, after all, a very individual one for each of us. The control of the psyche is very often programmed by social mores. Just as some cultural groups eat things others would be sickened by, we have visual preferences ingrained in us. The individual who grows up in the modern Western world is conditioned to the techniques of perspective which present a synthetic, three-dimensional world through both painting and photography, media that are, in fact, flat and two-dimensional. An aborigine has to learn to decode the synthetic representation of dimension through perspective in a photograph. He has to learn the convention; he cannot see it naturally. Environment also has profound control on how we see. The mountain dweller, for instance, has to reorient his way of seeing on a flat, endless plain. Nowhere is this more evident than in the art of the Eskimo. Having experienced so much undifferentiated white snow and light sky in the environment, which results in obscuring the reference of the horizon, the Eskimo artist takes liberties with right side up and upside down.

Despite these modifications, there is a basic, perceptual visual system, one that all human beings have in common, but the system is subject to variations, variations on basic structural themes. There is visual syntax and its dominant characteristic is complexity. The complexity, however, does not defy definition.

One thing is certain. Visual literacy cannot ever be a clear-cut logical system similar to language. Languages are made-up systems constructed by man to encode, store, and decode information. Therefore, their structure has a logic that visual literacy is unable to parallel.

SOME CHARACTERISTICS OF VISUAL MESSAGES
The inclination toward wanting to connect the verbal and visual structure is totally understandable. One of the reasons is natural. Visual data has three distinctive and individual levels: the visual input, which consists of myriad symbol systems; the representational visual material we recognize in the environment and can replicate in drawing, painting, sculpture, and film; and the abstract understructure, the form of everything we see, whether natural or composed for intended effects.

There is a vast world of symbols that identify actions or organizations, moods, directions—symbols ranging from those rich in representational detail to those that are completely abstract and so unrelated to recognizable information that they must be learned the same way we learn language. Man has gone through the slow and difficult steps of putting down in preservable form the familiar events and gestures of his experience, and from this process written language has evolved. At first, words are represented by pictures and where that is not feasible, a symbol is invented. Eventually, in highly developed written language, pictures are abandoned and sounds are represented by symbols. Unlike the pictures, the symbols require few special skills to reproduce. Literacy is infinitely more possible for the majority with the sound symbol language, because it is so simplified. English employs only 26 symbols in its alphabet. However, languages that never get beyond the pictograph stage, like Chinese, where the picture-word symbols, or ideograms, number in the thousands, hold grave problems for mass literacy. The Chinese call writing and the drawing of pictures by the same name, calligraphy. This indicates some special visual skills are needed to write Chinese. But pictographs are not pictures. R. L. Gregory in The Intelligent Eye calls them, "cartoons of cartoons."

But even where they exist as a major component of the visual mode, symbols function differently than language and, in fact, understandable and even tempting though it may be, the attempt to find guidelines for visual literacy in the structure of language simply won't work. But as a force in visual literacy, symbols have enormous importance and viability.

The same usefulness for composing visual materials and messages lies in the other two levels of visual intelligence. Knowing how they function in the process of seeing and how they are understood can contribute enormously to the understanding of their application to communication.
A number of disciplines have tackled the problem of finding where meaning comes from in the visual arts. Artists, art historians, philosophers, and specialists from various fields of the humanities and social sciences have a long history of exploring how and what it is that the visual arts "communicate." I believe some of the most meaningful work has been done by "Gestalt" psychologists, whose major interest has been in the principles of perceptual organization, the process of making wholes out of parts. The underlying point of view of Gestalt, as defined by von Ehrenfels, pointed out that "if each of twelve ob-
expressed. These are the visual elements; from them we draw the raw material of all levels of visual intelligence and from them all varieties of visual statements and objects and environments and experiences are planned and expressed.

The visual elements are manipulated with shifting emphasis by the techniques of visual communication in direct response to the character of what is being designed and the message purpose. The most dynamic of the visual techniques is contrast, which exists on a polarity with its opposite technique of harmony. The use of techniques does not have to be thought of as only operative in extremes, but can be expanded into subtle steps on a continuum from one polarity to the other, like the steps of gray between black and white. There are many techniques that can be applied in the search for visual solutions. Here are some of the most often used and easily identified techniques, arranged to demonstrate their opposite source:

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The techniques are the agents in the visual communication process; it is through their energy that the character of a visual solution takes form. The options are vast and the formats and media many; the three levels of the visual structure interact. However overwhelming the numbers of choices that are open to the visual problem solver, it is the techniques that will serve most effectively as connectors between intention and result. Conversely, a familiarity with the nature of techniques will make a more discerning audience for any visual statement.

In the pursuit of visual literacy we must concern ourselves with each of the above areas of analysis and definition; the structural forces that exist in the interactive relationship between the visual stimuli and the human organism functionally, both physically and psychologically; the character of the visual elements; and the forming power of the techniques. In addition, visual solutions should be governed by intended meaning and posture through style, personal and cultural. And the last consideration is the medium itself, which through its own character and limitations will legislate the methods of solution. At each step of the explorations, exercises will be suggested for expanding the understanding of the nature of visual expression.

In all its many aspects the process is complex. Nevertheless, complexity need not be a hindrance in understanding the visual mode. True, it is easier to have one set of common definitions and limits for construction or composition, but simplicity has negative aspects. The simpler the formula, the more limited the potential for creative variation and expression. Far from being negative, the three-leveled functionality of visual intelligence—realistic, abstract, symbolic—offers harmonious interaction, syncretic though it may be.

When we see, we are doing many things at once. We are seeing an enormous field peripherally. We are seeing in an up-to-down, left-to-right movement. We are imposing on what we are isolating in our field of vision not only implied axes to adjust balance but also a structural map to chart and measure the action of the compositional forces that are so vital to content and, therefore, to message input and output. All of this is happening while at the same time we are decoding all manner of symbols.

It is a multidimensional process, whose most striking characteristic is its simultaneity. And each function is linked to process, to circumstance. For not only does sight offer us method options for information retrieval, but options that coexist and are available and operative.
at the same moment. The results are astonishing, no matter how conditioned we may be to take them for granted. With the speed of light, visual intelligence delivers multiple bits of information, simultaneously serving as a dynamic channel for communication and a still hardly recognized aid to education. Is this the reason the visually active seem to learn better? Gattegno has put it masterfully in *Towards a Visual Culture*: “Man has functioned as a seer and embraced vastness for millennia. But only recently, through television (and film and photography, the modern media) has he been able to shift from the clumsiness of speech (however miraculous and far-reaching) as a means of expression and therefore of communication, to the powers of infinite visual expression, thus enabling him to share with everybody immense dynamic wholes in no time.”

There is no easy way to develop visual literacy, but it is as vital to our teaching of the modern media as reading and writing was to print. It may, indeed, be the crucial component of all channels of communication now and in the future. As long as information was primarily stored and distributed in language and the artist was regarded by society as alone in his unique ability to communicate visually, universal verbal literacy was considered essential, but visual intelligence was largely ignored. The invention of the camera has brought about a dramatic new view of communication and, collaterally, of education. The camera, the cinema, television, EVR video cartridges, and video tape, and visual media not yet in currency will modify our definition— not only of education but also of intelligence itself. First, a re-examination of our basic visual abilities is in order. Second, a need to pursue and develop a structural system and a methodology for teaching and learning how to express and interpret ideas visually is urgent. An area that was once the exclusive province of the artist and designer must now be considered the concern of both those who work in any of the visual media and their audience.

If art is, as Bergson defined it, a “direct vision of reality,” then surely the modern media can be considered quite seriously as natural means for artistic expression, since they present and replicate life almost as in a mirror. “Oh wad some power the giftie gie us,” pleads Robert Burns, “to see ourselves as others see us.” And the media respond with their vast powers. But, not only have the media made available their magic to audiences, they have placed their magic firmly in the hands of anyone who wishes to use the media for expression of ideas.

In a never-ending evolution of technical equipment, photography and film are constantly simplified to be used for many purposes. But the technical prowess in handling equipment is not enough. The character of the media accentuates the need for understanding their visual components. An intellectual, trained ability to make and understand visual messages is becoming a vital necessity to involvement with communication. It is quite likely that visual literacy will be one of the fundamental measures of education in the last third of our century.

Art and the meaning of art has changed sharply in the technological age, but the aesthetic of art has not responded to the change. The opposite has happened: as the character of the visual arts and their relationship to society has shifted dramatically, the aesthetic of art has become more fixed. The result is a diffused notion that the visual arts are solely the province of subjective intuition, as shallow a judgment as the overemphasis of literal meaning would be. In fact, visual expression is the product of highly complex intelligence, of which we have pitifully little understanding. What you see is a major part of what you know, and visual literacy can help us to see what we see and know what we know.

**EXERCISES**

1. Choose an example from either your own possessions or from a magazine photograph of an object that has value in terms of both fine and applied art. Make a list evaluating its functionality, its aesthetic beauty, its communication (what it does to expand your knowledge of yourself, your environment, world, past, future), and its decorative or entertainment value.

2. Cut a photograph out of a magazine or newspaper and write a list of one-word or short-phrased responses you have to it in terms of its literal message as well as its underlying compositional meaning and include the response to any symbols (language or other symbols) that are included in it. After you have analyzed the photograph, write a paragraph that completely reports what the photograph does and which could be used as a replacement for it.

3. Choose a snapshot you have taken or anything you have designed or made (drawing, embroidery, garden, living arrangement, clothes) and analyze what effect or message you intended. Ask someone what message or effect you have created. Compare the intentions with the responses.