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ABSTRACT

The process and effects of visual communication are examined in this paper. The first section, "Visual Literacy," discusses the need for a visual literacy involving an understanding of the instruments, materials, and techniques of visual communication media; it then presents and discusses a model illustrating factors involved in the visual communication process. The second section, "The Process of Visual Communication," poses research questions dealing with the process of visual communication; discusses such aspects of television messages as lighting and color, staging, acceleration and deceleration of time, motion, and audio and sound effects; and shows how these components are sometimes misused by television message constructors. The final section, "The Effects of Visual Communication," discusses psychological, sociological, and physiological effects stemming from viewers' lack of awareness of the power of the media, with special attention to the effects caused by the abuse of the television medium's individual components. (GW)

VISUAL COMMUNICATION: ITS PROCESS AND EFFECTS

by

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INTRODUCTION

> "Very few people have a very highly developed sense of Visual Literacy in a world where it is increasingly necessary to have it. If the battle for literacy is not yet over--and it never will be--the battle for visual literacy has not yet begun." (Lord Griggs, 1976, p. 5)

Visual communication, simply put, means the deliberation of ideas through images or images with sounds. Early visual communication media were paintings, architecture, sculpture, photography, billboards, etc. The most accessible, most popular, and consequently most influential media of visual communication today are film and television. Television in particular has reached more people and "has influenced them more fundamentally than any other medium in any epoch". (Zettl, 1978, p. 3)

Alarmed by the sudden turn of the world's communication from words to pictures, scholars of mass communication, sociologists, psychologists and others have tried to warn the masses of the devistating, unpredictable, inexplicable consequences such monopolistic means of communication might have. (Rosenberg & White, 1957, Jacobs, 1959, Klapper, 1960, McLuhan, 1964, Rissoner & Birch, 1977, etc.). However, the bulk of systematic studies easily available to the masses center on the socio-political effects of television programs; they are content-oriented. Studies of the media themselves or the causes of such effects are very minimal; they are linear in their approach and most of them are fundamentally wrong. An explanation for this could be the lack of empirical research and scientific studies on the process of visual communication in general and total misunderstanding of the specific nature of the given visual communication medium in particular.

The development of visual communication as a unique discipline has been seriously delayed. Visual communication literacy is the first

step towards that goal. The empirical study of the process of visual communication is the second. The recognition of the multifaceted effects of the visual communication media is the third. Recently, there has been a trend to open the path to a global visual communication literacy.

The purpose of this study is to focus on such research attempts by examining both the process and the effects of visual communication. This paper poses the following questions:

1. How does visual literacy contribute towards the understanding of the process and the effects of visual communication?
2. What are the factors involved in the process of dissemination of information through the media of film and television?
3. What specific effects do popular visual communication media (particularly television) have upon contemporary man?

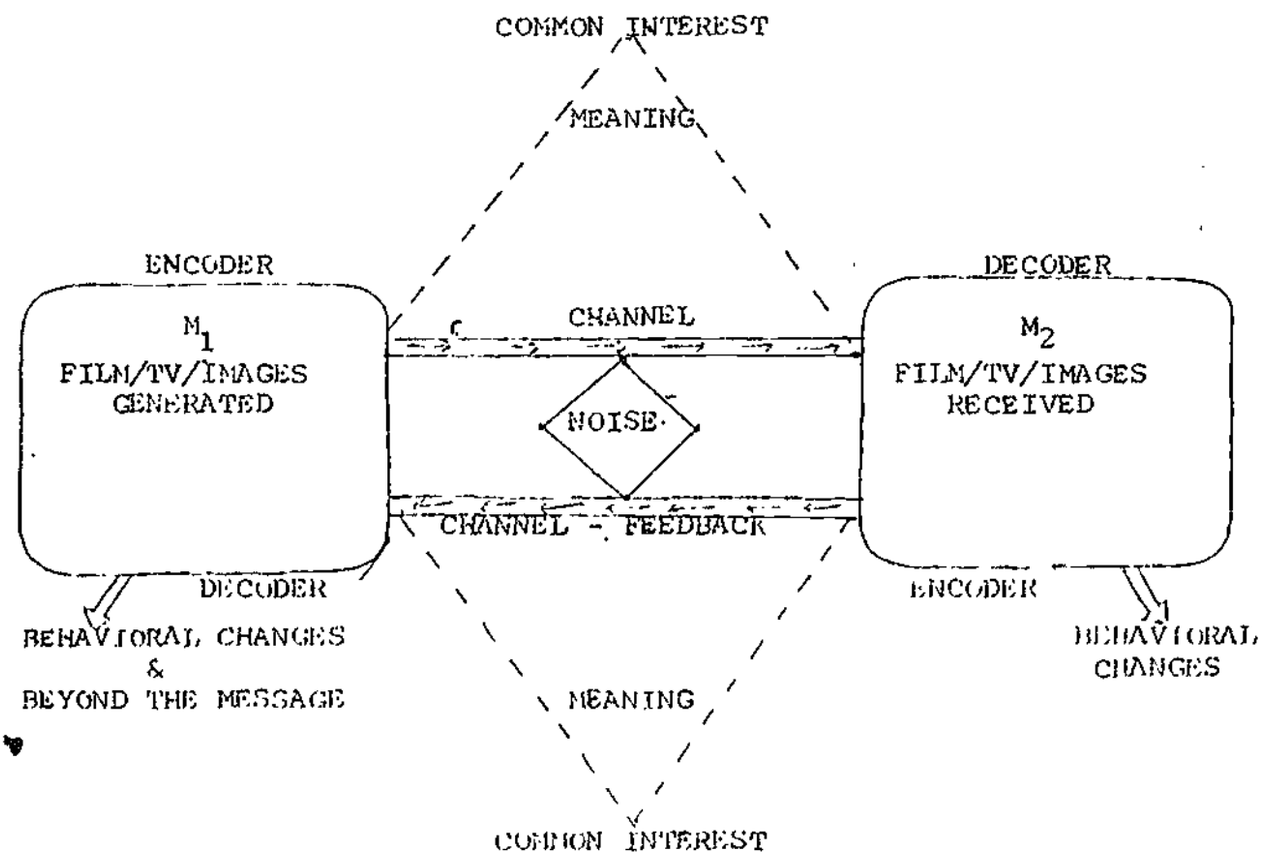
VISUAL LITERACY

The process of visual communication is complex. In its simplest form it occurs when a constructor of a visual message deliberately transmits it as a signal/message to a viewer through a medium. The transmission is completed when the viewer is able to receive, understand and respond properly to the message as was initially intended by the constructor/sender.

The sophistication of the visual message often concides with that of the medium which presents it. In film and television the construction of visual images is as complex, dynamic and delicate as is the actual apparatus. The knowledge of the usage and application of the instruments (such as cameras, lenses, microphones, etc.), the materials (such as light, colors, props, scenery, cast, sounds, etc.) and the techniques (such as cameo lighting, staging in the Z-axis,

dynamic editing, matching sounds with pictures, etc.) will enhance our understanding of the nature of visual images and the processes involved in visual communication. And this is what visual literacy is all about (Tarroni, 1976, p. 299). Knowledge and understanding of the usage and application of the "instruments", the "materials" and the "techniques" of a particular visual communication medium are often totally lacking in both the constructors of visual messages and the receivers. This results in the breakdown of the visual communication process.

A visual communication model illustrating the components, isolating the variables and exemplifying the process is graphically presented below:



There is a sender (Encoder) who sends a Message (M_1) through a Channel to a Receiver (Decoder) who reconstructus that Message (M_2) and responds to it (Feedback). It is the understanding (Common Interest) between sender and receiver that makes the message meaningful (Meaning). While communication is in progress, the behavior of the receiver is altered (Behavior Changes). Equally, the sender is effected as well (Beyong the Message). Any destruction or disturbance of the normal flow of this visual communication process will create Noise. Noise is always present, centered between sender and receiver, channel and feedback areas. Noise is the ultimate limiter of communication and if the strength of the signal does not overrule the noise it can become a detriment to the communication process. It will be shown below that the lack of visual literacy (misunderstanding of the process of visual communication) and ignorance of the nature of the particular medium of visual communication are the most frequent sources of noise entering the visual communication cycle.

What are the characteristics of the visual communication media? Obviously, each medium has its own characteristics but there are some common grounds that underline them. Media are vehicles or channels which provide the means of transmitting or presenting visual messages. All visual communication media by definition produce and/or present art forms

images for the purpose of communicating with others. Image-making for communicative purposes requires the threefold processes involving the arts--an important message, an appropriate medium, an ultimate goal, the viewer. (Metallinos, 1973, p. 13)

The visual communication media construct and present images and/or events restricted by compositional rules such as scale, size,

tone, color, light, motion, framing, balance, perspective, proportion, etc. Since images are not "the real thing", but "the thing as such" that has been reorganized, colored, scaled, lit, etc., certain rules of visual perception, composition and aesthetics dictate their construction. Visual messages are of three kinds: symbols, representations or abstracts (Dondis, 1973, p. 13). Sounds are paramount for certain visual media. Since visual communication lacks spontaneous and immediate feedback for the most part, reaching the sender and influencing or reshaping his initial intentions, this is a source of noise which is detrimental to the visual communication process.

In order to understand how visual communication works and therefore become more effective communicators or receivers of visual messages, Dondis (1973, pp. 39-66) suggests the study of the basic elements of visual communication. She claims that: "The visual elements are the basic substance of what we see, and they are few in number: the dot, the line, shape, direction, tone, texture, dimension, scale, movement." (Dondis, 1973, p. 39).

Thus, understanding the language of vision and mastering the interrelationships between the various components of the media along with their idiosyncracies and their potentials is what visual literacy is all about. Visual literacy in this context is the study of the process and understanding of the effects of communicating with pictures. A person is visually literate when he can interpret the visual action, objects and/or symbols, natural or man-made, that he encounters in his environment. (Debes, 1970, p. 14)

THE PROCESS OF VISUAL COMMUNICATION

The notion that contemporary image constructors and viewers alike lack visual literacy stems from the fact that neither the

constructor nor the viewers have a clear understanding of the nature of the medium producing them or the ways by which its components interrelate in the process of visual communication. An empirical study of the process of visual communication and the dissemination of information through television images poses a series of research questions yet to be answered.

1. What are the components of each media?
2. What are the particular characteristics of each medium of visual communication?
3. What constitutes a picture?
4. How do we perceive pictures?
5. How does the knowledge of the functions of the human brain enhance our understanding of the visual and auditory processes?
6. How do certain physiological properties inherent in various visual communication media influence the viewers' perception?
7. What compositional factors determine the effective structure of visual images?

The answers to these questions will provide a clear understanding of the process of visual communication. Herein components of the television medium and its characteristics will be discussed in connection with their misuse or abuse by television message constructors.

It was said earlier that the visual communication media of film and television use (a) light and colors as the materials of their pictures; (b) they use lighting apparatus, cameras, lenses, sets, devices for editing and visual effects, microphones, etc., as their instruments; (c) lastly they use particular techniques pertinent to the media of film and television by which they manipulate light and colors in order to produce moving images, the film and television pictures.

Since film and television are two quite different media, the components of the television medium will be analyzed first so that the particular characteristics of this medium will be drawn.

The so-called "media factors" that comprize the TV medium, according to Zettl (1978, pp. 3-8) are (1) light, (2) two dimentional space, (3) three dimentional space, (4) time and motion, and (5) sound. Effective communication through visual images depends solely on the proper knowledge and understanding of these factors. Millerson (1972), Parker & Drabic (1964), Toogood (1978), Tarroni (1976) and others have concentrated on the subject of the specific components of the film and television media underlining their unique characteristics. An attempt will be made here to briefly provide some examples of the misuse of the medium as an art form and not simply as a device for processing visual and auditory information through pictures with sounds.

In the area of lighting and color for television, the actual material of which the TV picture is composed, little attention is given to the creative usage and manipulation of shadows for artistic effect. The dramatic effect created by the sharp contrast between attached and cast shadows has rarely been used effectively in television, certainly not at all in the popular programs of commercial television. Equally, lighting techriques such as cameo, multiple scene, and silhouette lighting that reveal space (limiting the use of studio scenery) also are seldomely applied by directors of television. Orientation in space and time, familiarization with the texture of objects, and the environment can all be achieved by proper use of television lighting instruments and techniques.

The manipulation of the electronic beam is offered to the student of the television medium as an additional means for creativity. According to Zettl (1978, p. 4):

> "Because internal lighting reveals structural changes by influencing the electronic image intrinsically, a structured metamorphasis is taking place. Internal lighting no longer reflects external impressions but can, if used properly, reveal internal reality."

Appropriate techniques applicable only to the television medium and dealing with the artistic use of television colors are yet to be created. However, the use of chromakeys, matts, colored painted sceneries and matching colors with events or sounds are all part of the artistic and aesthetic potentials of the television picture yet to be explored by television producer/directors, Their abuse or misuse, it will be shown later, is detrimental to the medium and traumatic for the viewer.

In the area of staging for television, that is, the manipulation of studio space by the appropriate use of cameras, lenses, placement of sets, framing, etc., there is confusion and often misunderstanding. For example, staging for television requires maximum use of minimum space. This is achieved by careful usage of the "Z-axis" or "depth axis" rather than the theatrical approach utilizing enormous stage space.

The small size of the TV screen, unlike film, has some defined compositional, perceptual and physiological properties that must be considered. The television screen seems to be better for human faces and for close-up framing providing immediacy and intimacy between the viewer and the message. There are researchers of the TV medium who claim that watching television is like sitting in front of a fireplace; the lights which create the television images have a hypnotic effect (Crown, 1977, p. 17). The extensive and irresponsible use of the zoom lens could cause damage in the perception of the environment and how the world moves to small children or even adults unable

to cope with this motion. (Aker and Tiemens, 1978, p. 2) This does not imply that the use of zoom lens as opposed to the physically gradual motion of dollying should not be employed, particularly when the zoom is not detrimental to the intended visual message.

Television's time is different from real time. It is characterized by a fast pace where events and actions are rather accelerated. This medium also has the capability to decelerate (slow down) time. This characteristic is often overlooked. Television commercials, variety programs, situation comedies, are all characterized by a fast pace that seems to be appropriate for the medium when controlled because "the small screen size does offer the physical advantage of foreshortening time so that its portrayal of real time seems to pass more quickly" (Toogood, 1978, p. 18). The live television picture is a record of the "now", exposing the event as it occurs. The implications of the instantaneousness of the moment are numerous, but as yet unexplored. Television time is fast and records the events the moment they occur. Viewers seem to have accepted this but the real consequences have not yet been empirically studied.

The outcome of a TV picture is the result of three types of motions often operating simultaneously. There is primary motion (the movement of the talent), the secondary motion (the movement of the cameras) and the tertiary motion (the transition resulting from the sequencing of visuals). The television director's task is to co-ordinate all these movements. Even more complex than this, he has to make instant decisions on motions, transitions, and selections of visuals from numerous visual sources (cameras, films, slides, studio cards, additional video sources, etc.). The television director is constantly pressured to make instant decisions that must be acceptable, accurate and predictable, and many present directors cannot always handle this

pressure. The easy access to special effects offered by the TV switcher has undoubtedly contributed to the medium's richness and flexibility in visual stimuli. However, the psychological consequences of such special effects as matting, superimposing, chromakeying, debeaming, video feedback, etc., are yet to be determined. In the past they have been badly abused and the effectiveness of unusually fast "zooms", frequency of "takes" need to be examined.

Audio and sound effects are as important as light and color, the "materials" that create the film and TV pictures. This area as a field of study has been somewhat neglected by the image constructors. Unlike film, which provides maximum visual information, clear and detailed, television needs dialogue as much as theatre does. It seems as though dialogue, sound effects, and music are essential to the medium because they provide the necessary clues for the gestalt (the total meaning) of the low definition TV pictures. This can be very easily observed when the sound of the TV set is turned off while visuals are on or when contemporary psychoanalytical films characterized by minimum dialogue are shown on television. The lack of dialogue or sound effects is quite disturbing. Equally as bothersome, sounds or music that do not quite match the visuals or unrealistic sounds whose origins are unidentifiable as well as loud sounds when they are not needed are more often than not present in commercial television programs. Television sounds differ from radio or film sounds. Unfortunately the television's sound system and all its ramifications carry over the false notion that it is like radio, so TV is still treated as radio with visuals, an approach that is detrimental to the medium. (Toogood, 1978, p. 17)

This seems to be the core of the problem in as far as the study of the process of visual communication is concerned. The networks

(for the most part) have approached the medium of television as a radio box with the presence of visuals so that the infinite number of factors (perceptual, neurological, physiological, compositional, etc.) pertinent to the film and television media are misunderstood or even totally ignored. A visual communicator who underestimates the above factors (inherent in the medium) inevitably will cause some serious effects, damaging directly or otherwise, the viewer. Such is the case with the programming executives, producers and directors of the conglomerate American television networks.

THE EFFECTS OF VISUAL COMMUNICATION

There are a multitude of effects (sociological, psychological, physiological, perceptual, compositional, etc.) that visual illiteracy has on viewers dependent on the popular communication media for their information, education and entertainment. In this section, the general (a) psychological, (b) sociological, and (c) physiological effects stemming from the viewers' unawareness of the mediums' power will be discussed, and then the particular effects caused by the abuse of the TV medium's individual compents will follow.

The most obvious psychological effects of television which have been empirically studied are the medium's ability to "hook" the viewer, to completely involve him in what is on the screen; its ability to "arouse the curiosity of its viewers"; its unconventional, unsequential structure of visual messages and its discontinuity of action caused by commercial interruptions; its ability to distort time; its ability to create a hunger, an appetite for more of the same programming. (Rosenberg & Manning, 1957, Jacobs, 1959, McLuhan, 1964, Berger, 1978)

Various socio-psychological effects found in commercial television programming are the medium's ability to drive the viewer away from linear thinking by increasing his tendencies for fiction (unreality) and stereotypes (a fixed or general point of view representing an oversimplified opinion); its ability to increase illiteracy by providing false impressions of inadequate information fulfilling people's emotional and intellectual needs (for example, vicarious experiences are offered in abundance in today's programming, absorbing time which could be better spent on in-depth reading of serious current events, etc.); its structure as an art form leaves no time for creative thinking and immediate viewer reaction; the medium's power to confuse the viewer by making fiction seem like reality; its subliminar power to influence viewers psychologically (by arousing anger, sexual feelings, etc.) and sociologically (by stereotyping). (Berger, 1978, pp 41-46)

As far as purely sociological affects, evidence shows that commercial television has effected people of all stratas of life and in all social dimensions (Kurtz, 1977). Television programs have effected the political life of Americans; it has shaped the voting habits of people; it has created heroes overnight; it has centralized and monopolized the information and the entertainment of the average viewer; it has made known, otherwise unknown or indifferent global phenomena; it has been the cause for one of the greatest deseases of our time, illiteracy, by its ability to keep people "glued" to their sets for so many hours at a time; it has caused alienation and a tendency towards privacy with catastrophic results (Berger, 1978, pp 41-46). There are undoubtedly many more such social effects that will be brought to light sooner or later.

The major physiological effects now researched and documented empirically are its hypnotic effect caused by the florescent-type light of the television picture, flickering in dark living and bedrooms which has nothing to do with the content of visual message (Crown, 1977, pp 17-19); television watching for considerable lengths of time is a passive, silent, and imobile activity hazardous to the health of both young and old alike; color television receivers (even the best brands) often present an unorthodox, unrealistic color picture unfaithful to colors found in nature or the environment; television watchers, according to Robinson (1973, pp. 261-267), sleep less than non-television watchers which could mean that television may provide some of the same physiological needs that sleep provides; the small size of the average television screen limits saccadic eye movement and can be dangerous when viewed tooclosely or at a bad angle. (Meyer, 1973, p. 4)

These were some of the general bad effects of the programs presented via the medium of television. What, then, are the specific effects that the abuse of the medium has upon viewers?

Let us begin with lighting and color, the first component of the medium of television. It has only been during the last five years that we have started to pay attention to the fact that lighting for television is not the same as lighting for film, photography, or theatre. So, it is only recently that commercial television productions utilize lighting instruments (compatible to the sensitivity of the television cameras), lighting techniques (suitable to the continuous action of live television), color techniques and color effects enhancing rather than destroying the television images. According to Zettl (1978, p. 4):

> "Light, then, can influence our outer orientation, to help us see an object in a particular way, relative to its surroundings and its location in time. It can also influence our inner orientation. Proper lighting can tell us about the theme of a scene, and it can make us feel happy or sad, confortable or anxiety-ridden."

Television lighting, whether external (created by light falling on objects and subjects and picked up by the TV camera), or internal (created by the manipulation of the electron beam and the entire internal system that makes the TV picture) offers a great flexibility in creating effects such as chromakeys, feedback, mattings, etc. The abuse or misuse of such available effects distorts the visual message thereby misleading the viewer.

Insofar as the use of space, cameras, framing, lenses, sets and general staging for television, the effects on viewers due to their abuse are several. As already mentioned, the irresponsible and uncalculated use of the zoom lens affects the viewers' perception of the real world making it unrealistic, unbelievable and often laughable as an effect. Presentation of great feature films such as "King Kong", "Ben Hur", etc., on the small screen of the TV set which were meant to be presented on the large movie screen, has a serious aesthetic or I should say unaesthetic effect. When the differences between the TV and film screens are ignored, serious compositional problems appear. We have all seen a great film shown on TV where "larger than life" becomes "larger than the TV screen", and we miss the top of the actors' heads or most of the crowd in a crowd scene. In television, which has been said to be the medium of human faces, we "look into the screen", we look into the peoples' faces to detect their expressions, whereas in film we "look at the movie screen" to see entire actors, events, landscapes (Zettl, 1978, p. 5). Often, such differences are not recognized and the results are totally unacceptable.

As far as the time-motion-editing factor is concerned, the fast pace of motion of the television medium, aprticularly in commercials, has traumatic effects on the average American viewer. Berger (1978, p. 42) points out: "In some commercials, for example, there may be as many as 70 or 80 quick cuts in a 60 second advertisement, which means that we become terribly 'speeded-up' as we watch the images flickering before us." Television time is faster time. The low definition medium requires greater action if it is to excite the curiosity of the viewer. Often, this factor is totally overlooked resulting in boring visual stimuli and minimal visual communication interaction (Toogood, 1978, p. 18). Excessive use of the special effects created by the television switcher (when it is used as a toy for experimentation and not as an agent for aesthetic responses) is destructive. It fascinates the viewers, not as artistic effect but as technological achievement which is not the intent of television as an art form. Television is the only medium that records events the moment they occur. When it is used for various other purposes (as often is the case) it looses its real function as a vehicle of visual communication and destroys its impact as an art form. The "now" and the instaneous recording of the "now" is the most effective element of the television medium. Live television, for the most part, is spontaneous, intimate, involving, intensive and capable of creating unique aesthetic experiences. When these elements of television are overlooked, misused or abused, the results are detrimental (Tarroni, 1976, p. 291).

Audio and sound effects have been misused and their effects have reached dissatisfied viewers. Basically, television relies on sounds for its total communicative input. Television, like theatre, has to have sound, dialogue, sound effects, because the small size of

the picture and its low quality necessitates the presence of sound for a complete effect. It is ironic that the television industry, along with manufacturers, have not realized this factor. The sound system of TV sets is of a very low quality. Equally, television directors remain indifferent to this important element of the TV medium requiring supportive, clear and creative dialogue, music and sound effects. As Zettl (1978, p. 6) points out, television "demands close-up sounds, small sounds brought close to the ears of the perceivers, very much like the visual close-up that can elevate a simple gesture to an intense act". The exact damages caused by bad television sounds have not been estimated; but viewers' disapproval and dismay at the abuse of sound effects and music have been observed. It is not unusual, for example, to see on commercial television programs, pictures accompanied by sounds (mostly music) that do not match thematically, structurally, tonally, historically, etc. The sights and sounds of the moving images produced by the medium of television are aesthetic agents that should match on the screen if they are to have a positive effect on the viewer. The different sounds required by each medium, particularly the film and TV media, have been observed but the suspected effects have not been empirically studied.

SUMMARY AND CONCLUSIONS

In the Introduction section of this paper, the universal need for visual literacy was stressed and the major questions to be examined were stated.

The Visual Literacy section provides a modest model illustrating the major factors involved in the visual communication process indicating the distructive role of noise caused by visual illiteracy.

The Process of Visual Communication section examines the major components and the individual characteristics of the visual communication medium of television including light and color, space, time-motion-editing, and sound as they relate to the total effect of the end product, the television program.

Finally, the Effects of Visual Communication section examines first the general effects, psychological, socialogical and physiological, of the television medium upon the viewer, and second, the specific effects resulting from the abuse of the instruments, the materials and the techniques of the art form produced in television.

From the various observations, remarks and discussions in this paper, the following general concepts can be stated:

1. The study of visual communication is a complex endeavor requiring systematic study of its process and multidementional observations of its effects.
2. A systematic study of the process of visual communication media will reveal the unique characteristics of a particular medium, thereby preventing its abuse and enhancing its communicative and artistic potentials.
3. Multidemational observations and empirical research that will measure and document the effects of the visual communication media upon the viewer must include the effects caused by the content of the visual messages and the abuse of these visual messages.
4. The knowledge of the process of visual communication and the understanding of the derivative effects is a giant step towards the much needed campaign for visual literacy.

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