THE FUTURE OF AESTHETICISM AS A FOUR PART INFORMATION BASED ONTOLOGY

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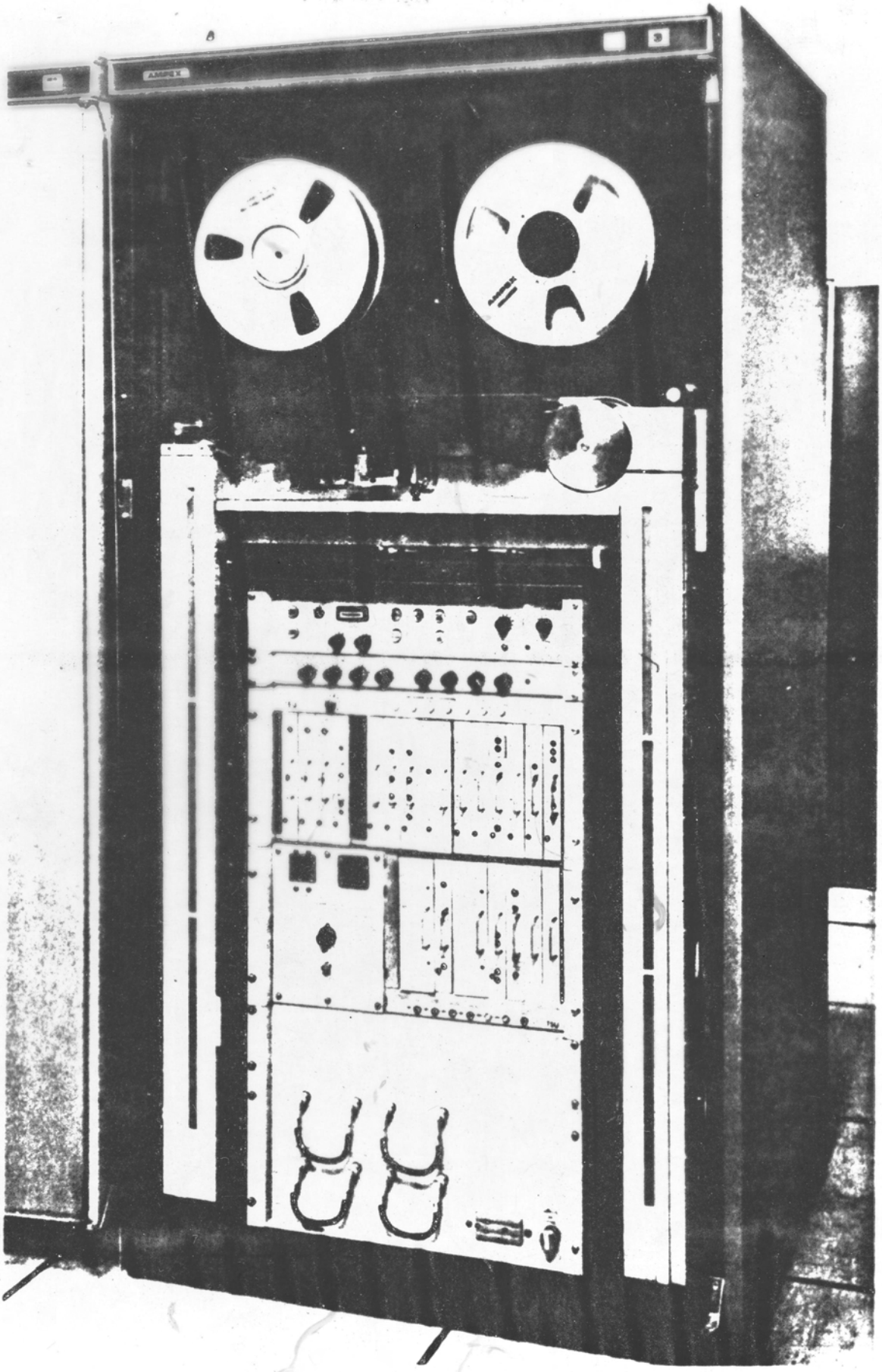
AMPEX

INTRODUCTION

*Aesthetics- the study or theory of beauty and of the psychological responses to it, specifically, the branch of philosophy dealing with art, its creative sources, its forms, and its effects

*Ontology- the branch of metaphysics dealing with the nature of being, reality, or the ultimate substance

*Webster's New World Dictionary

A core characteristic of human beings is that the species is in a constant state of change. In addition, it is usually agreed upon that art is a human endeavor, and if so, its role and relationship to humanity is in continuous flux also. In this light, it must be assumed that art certainly had a beginning, though not necessarily at a specific point in human history, rather it evolved as humans did (and do). If this is the case, then it must be considered that art, as a vehicle for thinking and experiencing, can, and as projected in this thesis, will have an end.

My premise is that the present system of aesthetics is deteriorating and is being replaced by a new form of thinking and experiencing. The model I offer is a four part, information based ontology. The components of this new system are: information, interpretation, communication, and realization.

As humankind becomes more attuned and more aware of the workings of the universe, the more our understanding will be as to the position humanity fills in the cosmos. External determinants coordinate internal workings. Fruitful action can only be obtained after careful observation and understanding.

Therefore, aestheticism, which is defined as the study of beauty and art in all forms and the psychological responses to it, seems to be fading as

a viable means for thinking and action for humanity. Beauty and art are valued projections of the self and what I see is "the end of the residual religion of the soul as a hidden presence in art" and "in that event, a different type of personality would inherit the title 'artist', and art itself will develop a different personality."[1]

I present these ideas not as answers in themselves, but as questions to be asked. Nor is this a proposal for a new "avant-garde", which is an over-used term and means almost nothing now anyway. In this light, I offer my thesis in similar manner as the philosophy it proposes, that is, a phase in the system, a question to consider, a point of departure. If the speculations do not occur and the aforeseen predictions are not realized, it is crucial to at least entertain the possibility that they may.

"You have to use all currencies, all the processes that are already operative, and argue against their inclusiveness even while you're using them, and that is a funny place to be."[2]

I would like to begin by arriving at a larger definition of information as opposed to what people generally understand it to be...

TABLE OF RANDOM DIGITS

11900	48227	69249	64706	40568	45995	51827	54247	01331	51396	68368
11901	31758	41671	42683	53661	61073	52257	18840	73881	86470	05921
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11947	25162	57865	58997	65375	82018	19932	55586	06503	35810	73898
11948	04082	48151	61951	54972	40850	08816	46758	63382	26169	38795
11949	94565	49831	90001	60072	47078	21524	85989	63290	96728	40912

I N F O R M A T I O N

-The Big Flux-

Information is the prime force. It is the multi-dimensional, systematic matrix of the universe, the causal net. It is the carrier and connections of matter, energy, space and time. Put more simply, information is the potential and ability for all things to adapt, to undergo transformations, to change.

An example of my definition of information is what happens with DNA. All living organisms* carry the virtually identical DNA strand but it's the information of DNA that allows the differences among species. If one were to examine under a microscope DNA of a human and a mouse, there would be no discernible difference. What's more is that all the cells of all the different parts of our bodies- our eyes, intestinal living, blood cells, etc. also contain identical DNA strands. What makes each cell behave differently is that DNA, as information, allows transformation.

I think it must be made clear at this point to realize that information is not the quality or number of things. It is not content.

A recent television commercial slogan for Xerox states as follows:

"Xerox, managing information in the office and around the world."

What they meant and should have said was that they manage data, not information. Information allows for data to be transmitted. It allows for it to convert from one form to another, as in computer graphics where numeric values are converted to visual forms. Information is processability.

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*To be more specific, that which we define as living. There are still questions about viruses and crude forms of protein.

Marshall McLuhan suggests that "electric light is pure information." He says that it is a form or medium but that it is "a medium without a message."[3] It has no message because it has no content. It can be arranged to convey a message as in neon signs or in a more sophisticated manner as in T.V. but in its pure sense, it has no content.

For me, he stops short. I must agree that information is not content but I am wary of his connotation of information as form. If we think of data in the sense of noun and adjective, and think of information as verb and adverb we come closer to what I am getting at. In this way we can say data informates or converts informationally to other forms of data. IBM or Xerox do not process information, but rather it is the ability of data, by information, to be processed. Nor, as I suggest, is it merely change. Information allows for change too.

Therefore, information, as I wish to define it, is very elusive. With this definition we can not actually abserve information, but can only observe resulting forms as dictated by it. Reiterated, it is not quality, but allows for qualities. It is not a state, but allows for states.

In 1975, a problem arose in physics when an experiment was conducted involving light that suggested that a superluminal interconnectedness exists between and among parts of the universe (atoms and their components, specifically). It seems that occurences between entities in space occur simultaneously. This ability is called the "superluminal information transfer theory". This instantaneous interconnectedness of systems is also referred to as "information" by physicists. At this point, in the world of tachyons, leptons, and baryons, our physical understanding of the world breaks down and things begin to exist in sets of speculative theories.

However, as esoteric as these theories seem to most of us, they are beginning to play a larger role in society, belonging less and less only to highly specialized scientists locked away in remote laboratories. As the trend toward miniaturization continues with computers, we "approach a point in microtechnology where sub-atomic occurences and the understanding of quantum physics does indeed matter."[4] In binary digital systems like computers, what determines the speed of operations, the "number crunching" capability, is the physical space from point to point of the electrical signal. Since electricity is electromagnetic energy like light, it travels in space at the speed of light- 186,000 miles/second. For computers, the shorter the connections between signals, the quicker the operation. The circular architecture of the most powerful computer in the world (at this writing), the Cray 1, is such that no wire is longer than 12 inches which allows for incredibly fast calculations. It doesn't take long for an electromagnetic signal to travel 12 inches. What is happening with the next generation of computers, the postmicro-chip systems, is that the architecture is becoming so infinitesimally small that things taken as operative in our "macro" world simply do not work. The understanding of sub-atomic phenomena is soon going to be a crucial aspect in the building of computer systems.

As artists begin to use the relatively new media of video and computers they will be concerned with these issues too. But the interest in science, and specifically quantum physics, has a long, well documented history in art.

A popular theory among artists at the beginning of this century was that of the fourth dimension, the existence of which was derived from Ein-

stein's relativity theory. The idea of the space-time continuum offered new problems to artists. The Italian Futurists were perhaps the most concerned with these findings: witness the figurative sculpture of Boccioni, or the "Birds in Flight" paintings of Balla. These may in fact be more interesting for their errors and misconceptions regarding relativity than for their accurate depiction of it.

Perhaps less well known and less obvious is how the work of Marcel Duchamp was influenced by his studies of relativity theory. His interpretation might actually have been more accurate in that he did not try to represent directly his understanding of the fourth dimension. His more indirect approach was his method of incorporating shadows, both actual and not, into his work. The shadow of the bicycle wheel in "T' UM" is a good example of his artificial shadows. Duchamp used these shadows as perceptual metaphors to stand for the fourth dimension as we observe it. In other words, he wanted to say that we can observe other dimensions indirectly much in the same way that shadows are the indirect remnants of the objects that cast them.

John Cage has for years structured many of his compositions from the "I Ching", a system based on chance. His reasoning has been that if the proceedings of the universe are based on chance occurences, then why not interpret nature in the way that nature behaves? This is Cage's relationship to relativity. The method that he uses, removing himself more and more from the act of composing, is to him a "discipline, to free my work from my likes and dislikes, from my memory and taste. And to free me."[5]

John Cage was one of the first to use computers in composing music in 1967 with the composition "HPSCHD". Approaching this work in the same way

he uses the I Ching, to achieve less control and "to do something with the computer that couldn't be done without it."[6]

This "playing dice" is like the chance occurences of sub-atomic phenomena, and predicts the future of art as a system of operations.

Micrograph of digital record. The scale is approximately 3.5 microns between lines.

I N T E R P R E T A T I O N

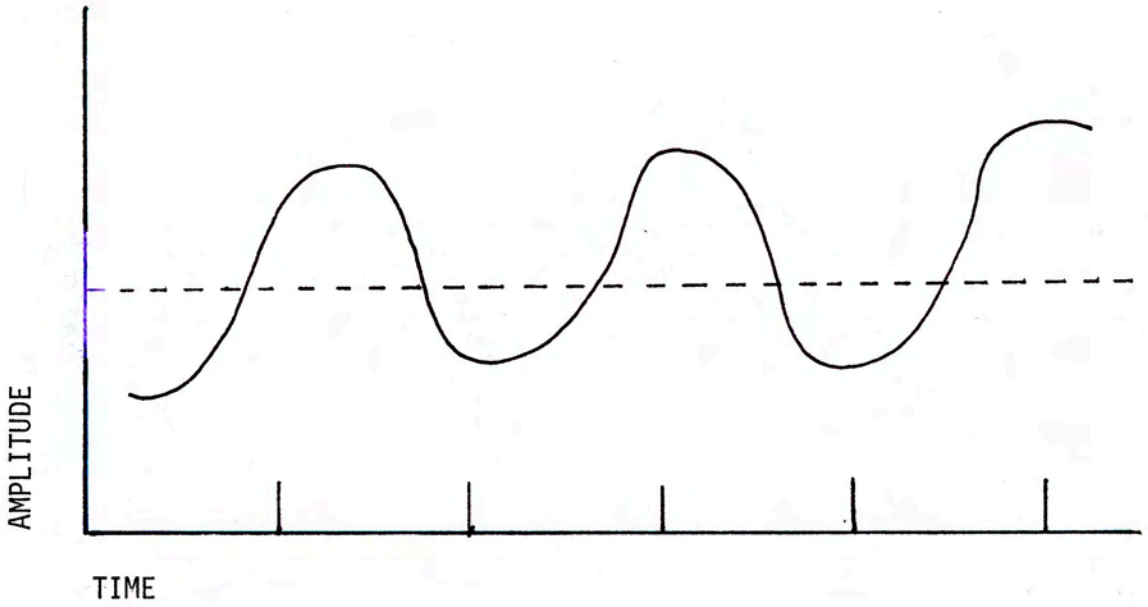
(There must be all kinds of domains of artistic achievement that are beyond our mind's capacity to understand. - Noam Chomsky)

Bill Buxton, Director of the experimental music studio at the University of Toronto, once said that "one reason that people have difficulty in accepting computers is that they are digital instruments in an analog world."[7] For some reason this statement did not sit right with me. At first glance it would seem that, indeed, the universe does act in an analog manner.

By analog, I mean that the motion and change of things act in a continous flowing motion. In such a system, the point of departure from one phase to a second phase would be indistinct to the perceiver. Differences in fluctuation in such a system can only be realized upon consideration of the whole. The extremes are relevant only in relation to each other, as the mean (or average) of such a system is relevant only with consideration of deviations from the mean.

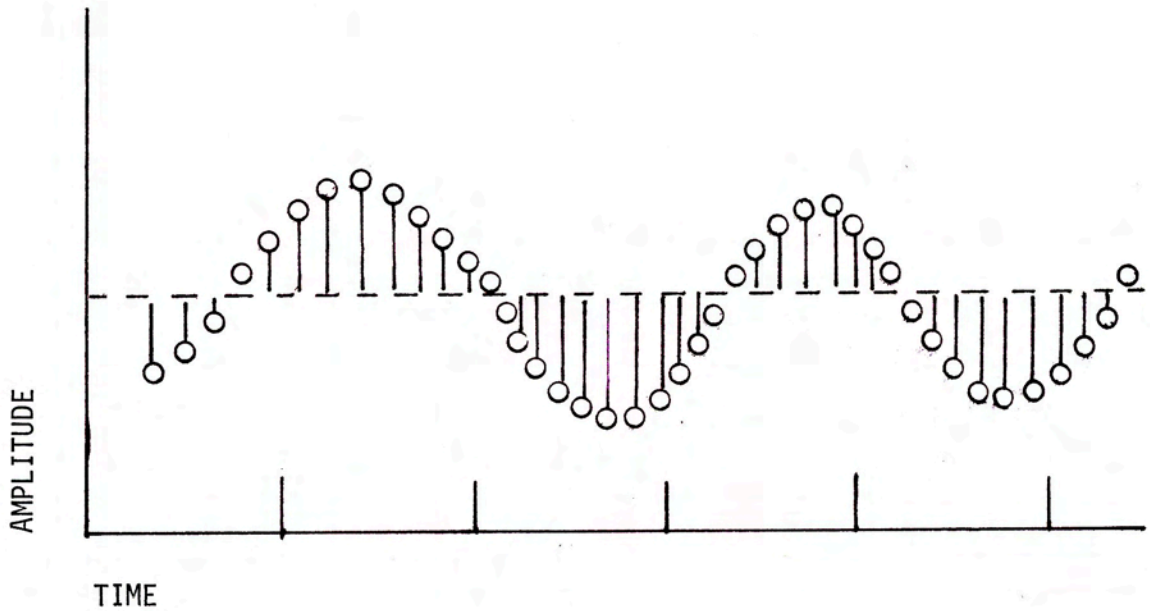
Obvious examples as arguments of support for such a universe would be tidal currents, seasonal change, human physical growth, etc. Analog phases may vary in repetition, speed, and duration but the overall structure remains the same. For a simple visual model of an analog system, see the graph on page 9.

The key to understanding such a system is the idea of continuousness, constant oscillations, flow. according to our unaided human perceptions, this archetype is completely adequate and appropriate. However, upon further investigation, the foundations of Buxton's "analog world" tremble, become transparent and fade. Consider Quantum Mechanics.



ANALOG

DIGITAL



Quantum Mechanics* came from an accidental discovery by Max Planck in 1900 while investigating structural changes in heated metals. He discovered that the energy released from the material (energy in the form of light) increased in distinct, discrete packets that he called "quanta". Furthermore, he found that energy packets increased in a discontinuous manner, that is, in whole rather than fractioned packets. The reason that we perceive that a heated metal rod changes from red to yellow in a continuous manner is that we are unable to see the tiny jumps in energy. The basic structure of digital electronics echoes the model of Planck's quantum mechanics. For an example of a digital system, see page 9.

Digital systems, like computers, are based on the discontinuous binary number system which is composed entirely of the two values 1 and Ø representing "on" and "off" respectively. It is an either/or structure that lends itself to more accuracy as compared to other, (analog), systems.

But to say that this model stands alone as the correct model of the universe would be erroneous too. The cosmos, whether macro or micro, acts neither in a strictly analog or digital manner. Both aspects are relevant. The difference in interpretation lies in the difference in perception. This is one of the classic problems of quantum physics and of art.

When analyzing light, it seems to behave in both particle form (discrete, digital, photons) and in waveform (continuous, analog, flow). How light acts depends upon how the experiment is set up. If we want to say it's an analog or wave form then all we have to do is specify the parameters to make it seem so. The same can be done to achieve a digital or particle result. So in a funny way, it would seem that the very act of perception determines reality,

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*This brief explanation does little justice to the studies surrounding this field and serves only as a referential example in support of an alternative world model.

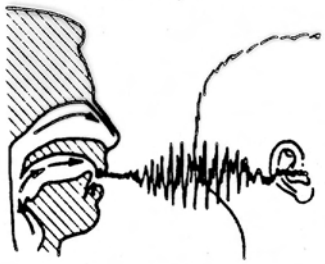
our preceived reality.

By this explanation, I submit the proposal that aestheticsm, that is, if something can be considered "art", whether it be a painting, sculpture, performance, or shining your shoes, is based solely on the frame of mind that it is considered. If it's in an art context, it's art. The context is the parameters of the experience as determined by the interpreter. If the experience can be perceived in a similar manner to those outside the interpreter, then the perception is strengthened toward an objectified actuality. However it must be noted that this goal, this "actuality", as attempted by any interpreter, is only one of many perceptions possible, and due to human make-up, is inaccessible and unachievable.

One of the parameters of the art paradigm is the context in which the interpreted world is presented to establish validity. We experience art in specified locations and times. We experience art in museums, concert halls, alternative spaces, at happenings, etc. We know where art is because we determine how it is to be experienced. We determine the very existence of art. As we go, so does art. If we go, so does art.

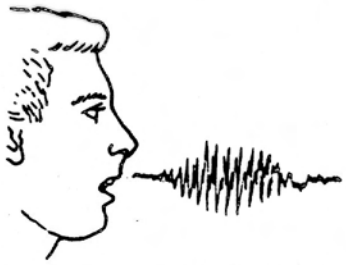
Freedom from these parameters, these contexts, allows open relationships between humanity and the world. With this understanding comes the inheritance of change.

1 Vocal-auditory channel

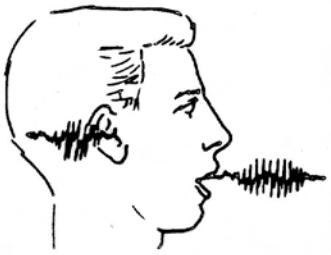


2 Broadcast transmission and directional reception

3 Rapid fading (transitoriness)

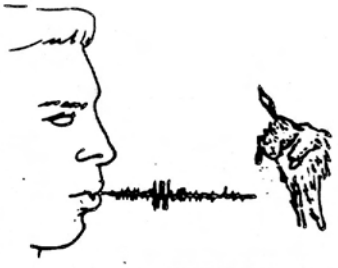


4 Interchangeability

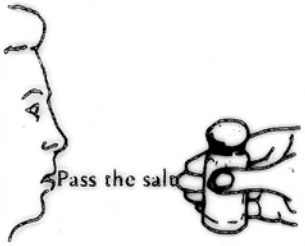


5 Total feedback

6 Specialization



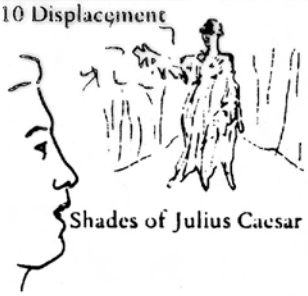
7 Semanticity



8 Arbitrariness

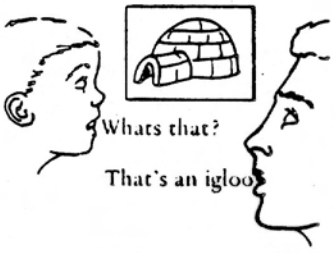
9 Discreteness

10 Displacement

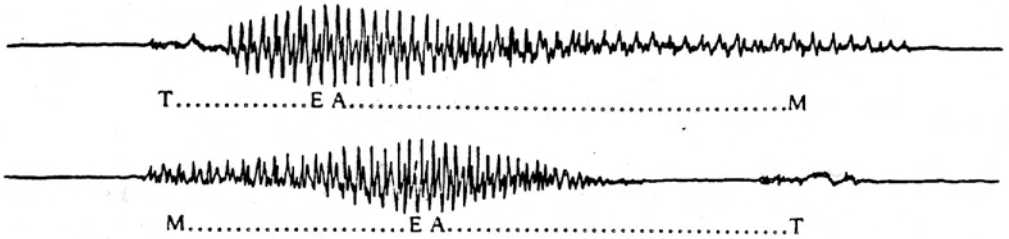


11 Productivity

12 Traditional transmission



13 Duality of patterning



C O M M U N I C A T I O N

(New needs need new techniques. -Jackson Pollock)

In a discussion with a colleague of mine, Ken Gray, the subject was brought up of the artist in the role of communicator, a communicator of ideas and experiences. The discussion took place in the context of the relationship that T.V. has to art.

Consider this: How many people, that is, of each stratum of society, engage themselves and surround their lives with what is considered "high art"? It would be a safe bet to say that a very small percentage do. I don't go into people's homes and find what I see in galleries and museums. It's not that the forms of "serious" art are rare. Indeed, with a miminal amount of searching one might be surprised to discover a small glut of art. But as comparison, how many people own T.V.'s? Virtually everyone! And many households have several to make up for those who don't. In the competition between art and T.V. for visual (dare I say intellectual?) stimulation, television wins running away. This was an important revelation to me.

I recently attended a dance performance in which a small black and white television was used as a prop to aid the scene in mimicking a typical household. I was mildly surprised, and in fact delighted, to discover that the audience was almost to a person fixated to the T.V. and not the performers. This small screen commanded just as much attention, even with the sound turned down, as the dancers. This situation suggests that the structure of television, the visual language of it, is more widely understood, appreciated, and desired than more traditional media like painting and sculpture.

The channels of communication are determined by the forms or language

that define these exchange of ideas. In order for society to regain some sort of true interaction and conversation ability it becomes necessary to understand the forms of language that define the exchange of ideas to open channels for more interactive and diversified communication.

An exciting social phenomenon is the rise of sophisticated media like television (expecially in the form of two-way systems like Q.U.B.E. Cable T.V.) and computers. These new systems offer a whole new structure to society in its relationship to art and offers a whole new structure to art itself. What emerges from the media of television and computers is a self educating process that is brought to the "layman" artists giving rise to audience-participants and eliminating the didactic role of the artist with which the art-system so fervently clings to, to maintain, in it's mind, authority. Soon everyone will partake in a familiar visual language, one that is widely understood. This supports a beginning of true communication through autonomous exchange systems.

My contention is that people are familiar with certain languages and that others simply don't fit. By languages I mean all of those signals, both visual and aural, contextual and formal, that allow for communication. In order for any form of communication to exist there must be an externalization of the idea to be communicated, and that externalized idea must be in a language that can be interpreted in the way it was meant to be. This implies that a dialogue or exchange is necessary for any form of communication to take place. In other words, the language must be a familiar avenue for sharing ideas, however remote. If the language used for expression is inadequate, then what occurs is one-way transmission, or a sort of feedback loop which only benefits the originator.

It's necessary to realize that all of the communication that we, as humans are able to partake in, is severely dependent upon our genetic make-up to interpret signals from our environment, to synthesize these into some sort of understanding to gain new insights into our original interpretation. The aesthetic sense has been honed through the ages as a sort of dialogue between humanity and what occurs "out there" in the environment. However, since aestheticism is a form of introducing values, speciality and exclusivity in understanding, then what is left, the remainder, of which I suspect makes up the majority of the universe, is that form of "art", if you will, that can never be understood or have any utility whatsoever by human beings. In other words, by determining that which is artistic, aesthetic, or any similar form in thinking, automatically creates by default a whole alternative system that is imperceptible as art.

This goes back to our earlier discussion of quantum physics and relativity in terms of creating reality through the very act of perception. "You can't step out of the context that defines communication (art) by communicating (making art); it will only lead to trivial permutations within the same consensus."[8] Thus, in order for humanity to achieve anything close to true communication, it is necessary for us to undergo the process of externalization to an extreme.

Noam Chomsky gives an example of this when discussing modern music. He speculates that the ability of those able to understand post-Schoneberg music is due to their possessing a "particular quirk of mind that enables them to grasp modern music."[9] He believes that some people are genetically set-up to understand it, and admittedly he is not one. Furthermore, these genetic intuitions that allow for such diversity in interpretation and understanding,

have a point of exhaustion, beyond which, because of our "species genotype", we are not able to extend ourselves. While this may be true in the process of human evolution in the standard sense of the theory, it ignores the possibility of externalization as a form of biological, and thus aesthetical, evolution.

otine av. per cigarette, FTC Report Dec. 1981.

You found it.

True, the enjoyable ultra low tar.
Art you glad you did?

R E A L I Z A T I O N

The end of art

(Externalization toward singularity)

The subtitle I use for this section is not meant to be obscure or obtuse but is used to point the way to where I think that we, as artists and human beings are going. Singularity is by now a common word that was coined by physicists to describing a phenomenon of nature called a black hole. A black hole is a sort of reverse star which has a gravitational pull so strong that not even light escapes from this object. It is speculated that if an object passes in close proximity, the gravitational pulls sucks the object into the vortex of the black hole, called the "event horizon". At this point, all the known laws of physics break down, time and space cease, and the object is believed to be catapulted into perhaps another universe.

I like this explanation because I think it serves as a model for the future of aesthetics as a viable means of thinking, as a philosophy, and as a pattern for living. Also the word "singularity" connotes to me a union, a state in which all things merge into a cohesive whole. The world of aesthetics stands at the brink of an event horizon brought on by what we so feebly call "artificial intelligence" represented by computers, our externalized minds.

All of human nature, that is, all action toward, and reaction to, signals from our environment is bound up in techniques for survival. One of these techniques is the highly developed manner of thinking and experiencing called aesthetics. With aesthetics, we assign values to different phenomena of the universe that we experience, and by doing this we position ourselves

in a certain context to the universe. This is a way of dealing with our environment.

"Culture is a system of knowledge. By that I'm talking about culture as a system of evolution (my underline). I'm talking about it as a uniquely human way of learning about the world, and of developing and adapting to the world, but I'm also talking about it as a self-knowledge system"[10]

In this century, the definition of art, through its forms, has become so expanded as to be self-annililating. Duchamp predicted these tendencies with his "ready-mades". Joseph Beuys reiterated it with his claim that "everyone is an artist."[11] But with this statement, Mr. Beuys eliminates standards and judgement and unknowingly cracks the foundations of aesthetics. If everyone is or can be an artist, then it must follow that anything is or can be art. "The world is full of ready-mades."[12] So in the strictest sense, by saying that everything is art, we are saying that nothing is art. There are no standards.

William Wilson speaks of this more specifically in his article about "Operational Music". In this article, he says that music is such now that "nothing can be defined as in itself musical or non-musical material...Music is less a matter of special sensibility, a structure, a quality of sound, an image of time, an expression of feeling, or a significant form, than a series of operations with sounds. An operation is an exertion of energy uncomplicated by irrelevant emotions."[13]

What is so important to realize is that these developments, away from the judgemental and subjective in art, is a process that is larger than just an aesthetical concern. Indeed, it is a move by humans for survival. It is a move away from the selfhood that generates non-change, stagnation, and

ultimately extinction. It may seem odd and paradoxical at first, but it appears that in order for we as humans to act in a way that is condusive to nothing less than our survival, a letting go of our biased self is the direction to explore. The evolutionary procedure that supports such a change in philosophy and action is that of externalization and the form that it takes is artificial intelligence.

Until recently, certain characteristics of human thought processes were realized as those which distinctly separate mankind from the rest of living (and non-living) things. For example, complicated mathematical formulations were once considered to be one of the highest evidences of human intelligence. Now computers blitz through numerical calculations so fast and accurately that very few people still consider this to be so. So what is left? What is it that separates "us" from "machines"?

It seems that as soon as machines are able to duplicate any human trait then we no longer see or value that trait as being characteristically "human". curiously enough, traits such as intuitiveness and even emotions are not as difficult to replicate as simple common sense. Trivial tasks that we have taken for granted, like scene recognition or holding a simple conversation are much more complicated procedures than we once thought.

Currently, in what is regarded as the fifth or sixth generation of artificial intelligence, computers are capable of speech, voice recognition, playing chess, and even diagnosing diseases. A generation of computers is that span of time that is recognized as a full exponential stratum above the previous one. A computer generation is now considered to be seven or eight years in duration, but even that span is shortening. Since the growth of artificial intelligence is increasing at such a rapid rate, it is difficult to tell

exactly which generation we're in. Computers grow in what is called "Lamarquian" fashion in which components are simply tacked on for improvment of the system. Humans, on the other hand, evolve into new forms by natural selection in which the specimens best able to adapt to the environment survive and their genes are the ones that get passed on. This method of growth is painfully slower than that of computers, and at the rate that artificial intelligence is accelerating, it's hard to believe that humans will ever catch up. The human brain has not grown in physical size for more than two hundred years which seems to suggest a dead end to the species.

So what does all of this indicate? What is our destiny? "If we can give the computer intelligent thought, emotions and creativity, clearly the era of human beings as the measure of these things has ended."[14]

Robert Jastrow, founder of NASA's Goddard Institute for Space Studies and professor of astronomy and geology at Columbia University and professor of earth studies at Dartmouth, speculates on this topic:

"In the very long run, I think that life in fact passes from our flesh and blood form into this invulnerable and almost immortal form...and I don't believe that billions of years from now our intelligence will still be housed in a hollow shell of bone on the same model we got from the fishes 300 million years ago."[15]

Since computers were not running around on the African plains a million years ago, the instincts that make us what we are and enable us to adapt and survive will probably not be those possessed by artificial intelligence systems. Their history is different from ours and there is simply no need for them to develop the same traits that we did.

It may be that the survival package for artificial intelligence, rather

than being composed of jealousy, anger, intuition and the aesthetic sense, etc., will contain such traits as operationality, informationality, and communicatability. The exact components of these systems are difficult to predict, but present indicators imply trends toward the forms and directions that I suggest. Granted that these changes won't be made in the next few years, but to predict that they may occur at all presents interesting potentialities to consider.

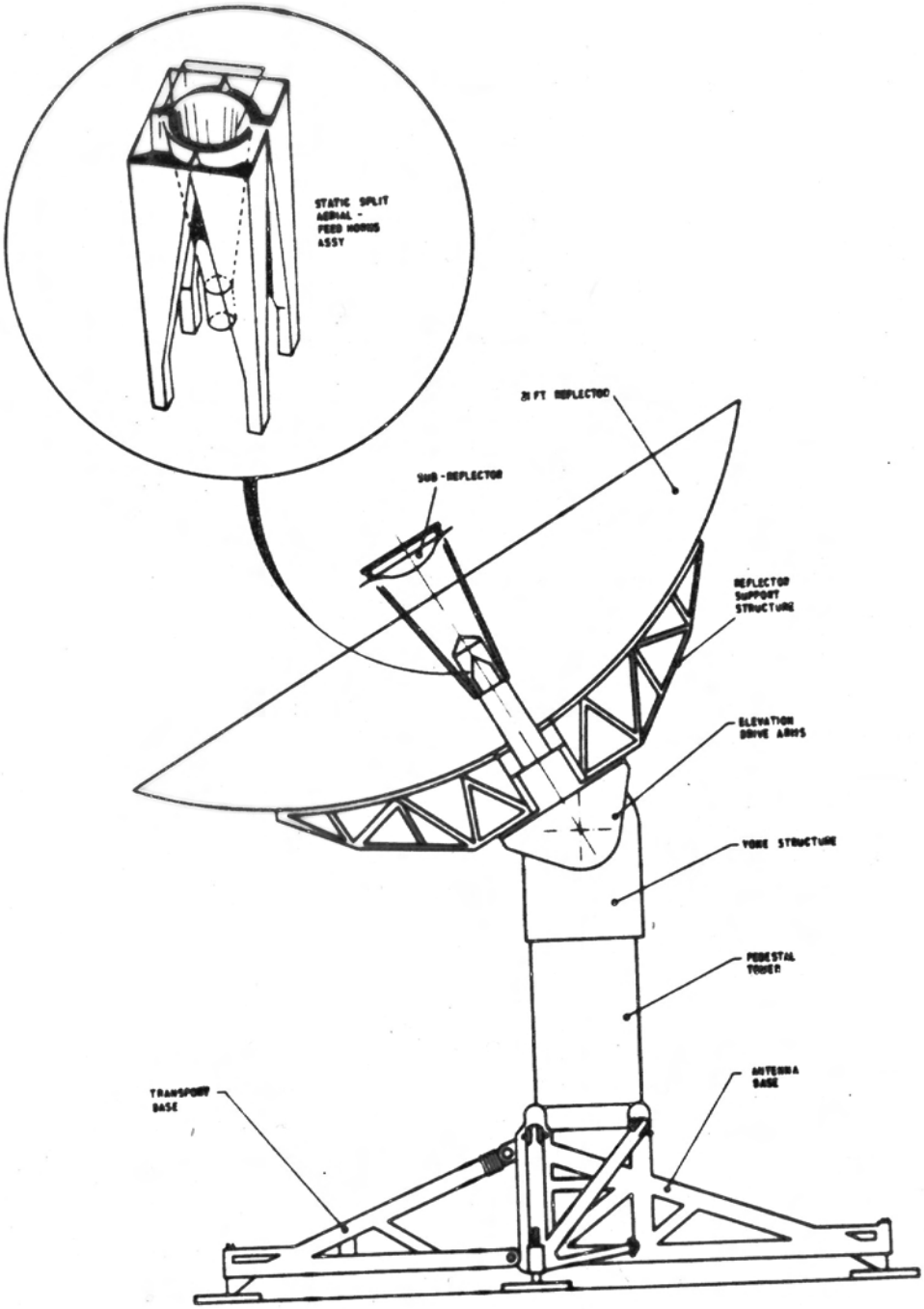


Fig 1 Basic layout of aerial

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FOOTNOTES

1. Thomas McEvilley, Art Forum, May 1983, p. 85.

2. Robert Irwin, "Taking Art to Point Zero", The New Yorker, March 15, 1982, p. 104.

3. Marshall McLuhan, Understanding Media: The Extensions of Man, (New York: Signet, 1964), p.23.

4. Gene Youngblood, Presentation at CADRE '84, San Jose, Ca., Jan. 11, 1984.

5. John Cage, Genesis II : Creation and Recreation With Computers, (Reston: Reston Publishing Co.), p. 119.

6. Ibid., p. 119.

7. Bill Buxton, Lecture at DIGICON '83, Vancouver, August 17, 1983.

8. Gene Youngblood, "Toward Autonomous Reality Communities", SIGGRAPH '82, 1982.

9. Noam Chomsky, "Noam Chomsky", Omni, Nov. 1983, p. 173.

10. Brian Eno, "Brian Eno", Keyboard, July 1981, p. 66.

11. Joseph Beuys, Joseph Beuys: Life and Works, (New York: Barron's, 1979), p. 255.

12. Salvador Dali, Conceptual Art, (New York: E. P. Dutton & Co., Inc., 1972), p. 10.

13. William Wilson, "Operational Music", Breaking the Sound Barrier, (New York: Elsevier-dutton Publishing Co., 1981), p. 91.

14. Patrick Huyge, "Of Two Minds", Psychology Today, Dec. 1983, p.34.

15. Robert Jastrow, "The Machine In Our Future", Houston Chronicle, Jan. 17, 1982, p.15.