

Norbert Wiener and Marshall McLuhan:
Communication Revolution

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1. Twenty years ago Norbert Wiener, whose hobby was to read the Encyclopedia Britannica from A to Z, anticipated the Intermedia. “For many years Dr. Rosenblueth and I had shared the conviction that the most fruitful areas for the growth of the sciences were those which had been neglected as a no-man’s land between the various established fields. Since Leibniz there has perhaps been no man who has had a full command of all the intellectual activities of his day. A century ago there may have been no Leibniz, but there was a Gauss, a Faraday, a Darwin. Today there are few scholars, who can call themselves mathematicians, physiologists, or biologists without restriction. A man may be a topologist, or an acoustician, or a coleologist ... it is these boundary regions of science which offer the richest opportunities to the qualified investigators.” E.g., “the physiologist need not be able to prove a certain mathematical theorem, but he must be able to grasp its physiological significance and to tell the mathematician to what he should look.”

(Norbert Wiener: Cybernetics, p.2) The above conception of intermedia brought forth an interscience called cybernetics, and the latter pushed the electric age (engineering with the technique of strong current) into the electronic age (control and communication using the technique of weak current), which exploded as the escalated “Mix Media” in Marshall McLuhan’s “global village.”

2. McLuhan’s famous phrase “the medium is the message” also existed implicitly in the science of communication since the 1940s. Norbert Wiener wrote that the information in which a message was sent plays the same role as the information in which a message is not sent. It sounds almost Cagean—Cage might say, “a notation with which music is playable plays the same role as the notation with which music is not playable.” I titled several of my pieces as “playable music,” since most of my musical compositions are not playable.

3. Another parallel between the two thinkers is the simulation or comparison of electronics and physiology. Wiener's main theme was "control and communication in animal AND machine" (note: animal comes first), which he put as the subtitle of his main work, *Cybernetics*. He reached to the automatic control of the anti-aircraft gun, an earliest model of today's huge computer, through the study of feed-backs in animals' nerve systems. Also the binary code of today's computer has its origin in the "all or nothing" character of our Neuron synapses, which are either simply "ON," or simply "OFF." (No middle value: middle value comes from the vast accumulation of this "ON" and "OFF").

McLuhan expresses his view in the following way: "We wear all mankind as our skin... Man extended, or set outside himself, a live model of the central nervous system itself." (*Understanding Media*, pp.53, 56)

4. Indeterminism, a core in the thought of the twentieth century from Heisenberg via Sartre to Cage, is reflected also in Wiener and McLuhan. For Wiener indeterminism was entropy, a classical terminology of statistics, and for McLuhan indeterminism was the "cool media with low definition."

Wiener: "Messages are themselves a form of pattern and organization. Indeed, it is possible to treat sets of messages as having an entropy like sets of states of the external world. Just as entropy is a measure of disorganization, the information carried by a set of messages is a measure of organization. In fact, it is possible to interpret the information carried by a message as essentially the negative of its entropy and the negative logarithm of its probability. That is, the more probable the message, the less information it gives. Cliches, for example, are less illuminating than the great poems." (Norbert Wiener: *The Human Use of Human Beings*, p.21) White noise has the maximum quantity of information.

McLuhan: "A cartoon is a 'low definition' simply because very little visual information is provided. The telephone is a cool medium, or one of low definition, because the ear is given a meagre amount of information. And speech is a cool medium of low definition, because so little is given and so much has to be filled in by the listener. Hot media are low in participation, and cool media are high in participation or completion by the audience." (*ibid.*, p.36) This (audience participation) might have been the first bait, taken up by Cage.

It is illuminating to seek the common denominator running through these parallels. (Mix-media, the study of media per se, simulation of electronics and human nerve system, indeterminism). Wiener used these characteristics as the micro-form to construct the technical interior of the electronic age, whereas McLuhan used them as the macro-form to interpret the psychological and sociological exterior of the electronic age. The unity of micro-form and macro-form almost hints the harmony of Leibnizian monadology. These are at the same time the original contributions of two thinkers, and one does not discount the other's significance. (In a way McLuhan put Wiener inside-out, as Marx put Hegel upside-down).

Of course, MIT's professor of mathematics and McLuhan, the hippie Joycian, could not agree on all the points. The resemblance of the African oral village and American TV culture missed the square professor, whereas the passionate preaching about the delicate but horrible difference of Machine Time and Human Time by Wiener did not bother the elegantly cool essayist. Wiener ended with CIO-Riesman-like pessimism of this age, which he created largely by himself, but McLuhan, a convinced Catholic, is glaring with Fuller-Cagean optimism.

Art history and musicology suffered too long from the separation of the unseparable. Technological division of work, Darwinian (?) conception of development (no historian started with Picasso and ended with Greece), Wölfflinesque obsession with style, endless peeling of the onion, to find out who influenced whom-all these toils killed the subject of the study before studying. But if all arts merge into one, as recent movement of Mix Media shows, then the study of various arts should merge too into one by the qualified investigator, who, if I may simulate Wiener, is a "specialist in his own field but possesses a thoroughly sound and trained acquaintance with the fields of his neighbours." The method of Wiener and McLuhan is instructive for this expanded art study. Both McLuhan and Wiener jump around and float over many demarcated zones that have been off-limits for a single scholar. McLuhan spits out James Reston, Al Kapp, African Village, Finnegans Wake, Korean alphabet in one breath. The almighty genius of Wiener can fly over Bergson, Newton, Gibbs, Heisenberg, Cantor, Von Neumann, Hilbert, Gestalt, Maxwell, Leibniz, with jet speed. In McLuhan sometimes the quotations are more "collage" than logical demonstration.

Pinder's "Kunst und Kunste," Malraux's "Musée Imaginaire," Yoshio Nomura and Blyth's work can be valued from this point as tentative classic. But the radical thrust in this direction will be as fruitful as cybernetics itself.

"Il n'est pas de mot qui vienne plus aisément ni plus souvent sous la plume de la critique que le mot d'influence. Il n'est point de notion plus vague parmi des notions vagues, qui composent l'armement illusoire d'esthétique." (P. Valérie)

"American TV age is not 'influenced' by the African tribal age, but both have certain communications and a rather 'correspondance symbolistique'."

On the following pages is a list showing Mr. Paik's current thoughts on the relationships between aesthetics and cybernetics.

LIST DEALING WITH THE RELATIONSHIP OF AESTHETICS AND CYBERNETICS

Introduction (Norbert Wiener and Marshall McLuhan)

1) Cage and classics

Cage and Hegel, Cage and Montaigne, Cage and Heisenberg, Cage and Stirner, Cage and Korean pottery

2) Zen and electronics

3) Aesthetics of boredom

a) Oriental tradition. Indian cosmology—passive philosophy of China—space in Sung painting. Static court music in Japan and Korea, (Gagaku-shijo)—the progression from boring art to ritual art (Noh) and to ritual itself (tea) and the diffusion into the stylized everyday etiquette (Ogasawara-ryu-Kosugi)

b) European tradition (Ennui). Baudelaire—Chekov—Proust—Wagner—Satie—Yves Klein

c) American tradition. Gertrude Stein—Hemingway—Cage—Lamonte Young—Dick Higgins—Fluxus—Jackson MacLow—Bob Morris—Emmet Williams—Warhol

—Primary Structure (Including baseball, life insurance, stockmarket and drug)

- 4) Mini Art and Japan
George Brecht and Basho
Ray Johnson and Issa
Event as Haiku theatre (George Maciunas)
- 5) Art and technology
from electronic music to electronic painting (difference and similarity)
Seurat and colour TV
possibility of medical electronic as an art medium (Lucier—Tenney—Titlebaum—
Lienau—Paik) possibility of video taperecorder
various techniques, used in 9 evenings festival
various techniques, used in my own electronic art work
- 6) Computer and Audio-visual arts
Max Mathews—Jim Tenney—Peter Denes—Micro Noll (Bell Labs) L. J. Hiller
(Illinois) K.O.Goetz—Max Bense—Xenakis (Europe)
my own ideas and experiments
- 7) Conceptions of Time
India—Greece—Bible—Newton—Bergson—Gibbs—Husserl—Heidegger—Sartre—Cage
—Wiener—Stockhausen (time series)
- 8) Conceptions of Nature
Jean Jacques Rousseau — Théodore Rousseau — Henri Rousseau — Montaigne —
Hindemith—Suzuki
- 9) Theory of Confusion in the oldest Chinese historian (Ssu Ma Ch'ien) and the
newest American historian (Arthur Schlesinger Jr.)
- 10) Is pot on instant Zen?
- 11) Communistic interpretation of Laotze (from North Korean Source book)

- 12) Word composition in Finnegans Wake and Chinese characters
- 13) Feldman's notation and Korean medieval notation
- 14) Theatre of symbolism
Sophocles—Allan Kaprow—Noh—Korean Mudang
- 15) Non-professionalism in Bunjinga and Dada