"Parasites and Noise"

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> "According to information theory this is none other than noise; and as the French word for noise, parasite, indicates, it is parasitic on a host – that is, message. But, in this case there is no host, only
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> parasite on the CD. Therefore this CD is pure noise.[1]"

In an essay titled "John Cage and Record" Yasunao Tone describes the process of creating the CD titled "Musica Iconologos." The pieces contained on "Musica Iconologos" are sonifcations of two texts taken from the "Shih Ching," an ancient anthology of Chinese poetry dating back to at least 1000 B.C., and later compiled by Confucius around 500 B.C. Both of the pieces on the CD are the result of digitally transforming pictographs taken from the poetry into what Tone defines as "pure noise" and "parasites."

Without going into technical detail about the digital process Tone uses to transform the pictograms, it is clear from Tone's writings, and the liner notes from the CD, that each stage of the system he has created represents a deliberately designed attempt to transform the ancient text into modern noise; the anti-alchemical equivalent of transmuting gold into lead.

But does the system Tone constructs really transform ancient Chinese text into "pure noise" and "parasites" with no host as he claims?

While writing this essay I was unable make Tone's system fit into the classical model of communication theory he invokes and therefore prompted to invert the model so that I might be able to look at Tone's software philosophy from a different perspective. My back-of-the-napkin analysis was that the Chinese characters Tone uses as source material actually behaved as hosts that underwent an operation of mutation via a parasitic system; i.e. the resultant pieces are not parasites themselves. Furthermore, the pieces on "Musica Iconologos" are the byproduct of a series of deterministic transformations brought about by an organized system, and therefore cannot be considered "pure noise."

Relations and Systems:

For many years the prevailing model used in communication theory, or what some people have contra-labeled "information theory", has been the linear circuit consisting of a message, a channel and noise. In this model, a sender transmits a message over a channel that contains a certain degree of noise. This model reduces the system of communication to its individual parts, each one functioning as a separate entity, performing its mathematical function and existing for the other parts. The receiver does not know the contents of the message beforehand, but after it decodes the message, it lives in two places simultaneously—not as a replica, but as an interpretation, because

of the noise in the channel there is always some slight alteration of a message. Yet the model made popular by information theory reduces this system of communication to a series of functions, conceptually highlighting a single level of the system—a single flow of information.

Because each individual component of the model is a part of a larger system, a network of relations is established, introducing messages and information not included in the sub-systems. These other flows, or relations, induce self-organization in the system, forming structures that come about from the unintended confluence of all relations. A self-organizing system is considered "open" because it takes in energy from its environment, integrates it into its structure and the process increases its internal order. One could say that self-organizing systems are parasitic, drawing energy from the flows they direct, channel or reroute.

The Parasitic System:

> "The parasite is an element of relation; it is the atom of relation, the directional atom. It is an arrow flying at random in broad daylight. It is the appearance of meaning". -- Michel Serres

A parasitic system is self-organizing—it cannot be explained in simple mechanistic terms of functions connected to other functions. The contour or shape that a self-organizing system produces is an emergent pattern. Parasitic systems exist in a network of relations. Each component hosts an inner network of relations much the way that the cells in out bodies obey a different set of rules, and therefore relations, than our organs do. A system is not made up of a sum of individual functions but rather a network of relations.

Let us now examine the system used in "Musica Iconologos." A Chinese pictogram is selected by the artist from a poem. These poems originate from a period sometime around one thousand years B.C. After copies of the poems were destroyed they were transmitted verbally and as a result they evolved over time, each generation mutated the meaning based on how their language changed due to cultural influences. Each mutated version got handed down, and was also subjected to mutation. Already, it seems a parasitic system is at work: interrupting the flow, mutating, evolving, disrupting and adding new meanings. The noise of this verbal transmission scrambles the text, transforms it from its intended meaning into an evolving organism. Simple local rules yield complex global behaviors. It wasn't until 500 B.C. that Confucius gathered his favorite poems into an anthology and that version of the "Shih Ching" has become the classic text it is today.

A single pictogram is then taken from a poem—it is now an isolated component, and then entered into Tone's system. Each pictogram is a self-contained, encoded message, yet a single pictogram serves little purpose when taken out of the flow of language except as a primitive in a linguistic system. For example, the pictogram for an "ear" is a symbol that signifies the class of objects called "ear", all ears, any ear. But beyond signifying an ear, nothing about the ear is communicated. Does the pictogram communicate an earache or perhaps a loud sound? Taken out of context the pictogram

of an ear becomes one frame cut from a film, a single signifier bracketed off from a potential narrative; pinned to a mounting board for closer inspection. The parasitic system disrupts the flow of language by removing the symbol, separating it from the others; preventing them from interacting as an organism. Language is more than a sum of individual characters; when it moves, language is seen as a contour, an animated shape of ideas encoded in text.

In Tone's next stage the pictogram is replaced by a photograph; it is selected from a set of possibilities and represents an idealized interpretation of the character. A new relation is introduced: one between composer and photograph. The photograph attempts to serve as a visual record of an object in three dimensional space, one frame from a film. But as Susan Sontag noted a photograph is merely a trace of the original, "like a footprint or a death mask[2]. Photography is an act of projection: the photographer collapses spatial and historical relations onto a two dimensional plane, but in the process much of the data is distorted or lost. Again, the data has been disrupted —it assumes a new contour when converted to digital information.

The photograph is scanned into a computer; through digitization it now assumes the form of an two dimensional matrix. Once the photograph is in the digital realm, the data flows through a series of algorithms selected by the composer from a myriad of possible algorithms.

From pictogram to sound file, once digitization occurs the data remains a long list of numbers; each number bears a relationship to the other numbers. Performing a mathematical operation on a list of numbers imprints them with an organization; a flow of logic infuses them with new relations— like pouring liquid into a container, numbers assume the shape of the container.

1 "John Cage and Record" - essay by Yasunao Tone
2 Sontag, Susan. On Photography. New York: Penguin, 1977.