

MAPPINGS AND ENTRAINMENTS

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A major preoccupation of my work has been environmental sound but more specifically the construction of a personal matrix within which this preoccupation might be placed. A fascination with physical nature is only one of the coordinates in this multidimensional matrix. The others expose themselves in less comfortable ways and begin to take on the trappings of myth. I do not assert a scientific view or competency but only borrow from the current orthodoxy what seems reasonable grist for the construction of heretical metaphor.

While posed between animal and angel, instinct and intuition, we look back with either cloying affection or rational disdain. The devas leave small clues to entice us but in the anxious face of potential holocaust the message is obscure and our future clouded. I have long sensed that there is a profound connection between the outer environment as system and the inner system of mind (and its coadjutant language) which bridges that past and future. My particular compulsion has been to question how that bridge might be made manifest through music. As *Systems Theory* begins to look at traditional music for insight into the systemic modelling of phenomena, music as a discipline has moved into the domain of cognitive interactions: the positing of participatory actions which expand the dimensions of mind. What I propose is the creation of actions which reinforce the inclusiveness of that larger systemic mentality resident in the interactions of environment and consciousness. This, of course, borders on investigation into the origins of consciousness and therefore the origins of language. Once again I acknowledge a void of scientific methodology since what I am looking for is a blend of speculation and experience which remains unabashedly subjective.

When the *Linguistic Society of Paris* barred further discussion on the origins of language at the turn of this century, positivism reigned supreme. Rejection of such quaint speculation as the

bow-wow theory would be expected since many linguists, then and now, seem to suffer from a terminal lack of creative imagination. It has never occurred to them that a possible research method would be to stand the analytical process on its head and compose a language from the environment's sounds. If they had it would have become evident that perceptual transformations are inherent through such a process which imply that vestigial evidence for such speculation is accessible on the level of personal technique. But such experimentation with self has seldom been the overt domain of science, and unfortunately the art community has often been incapable of articulating such experimentation in ways accessible to others. The longed for dream of a synthesis of scientist and artist has yet to materialize. Perhaps it awaits a proper language in the unfolding of a comprehensive inter-disciplinary rigor. Until such time I will be satisfied if what I do is even marginally exemplary since I strive for what William Irwin Thompson has called: "Wissenkunst: the play of knowledge in a world of serious data-processors."

In 1980 I began an investigation into the compositional analysis of environmental ambience patterning which resulted in a piece entitled, *MADRIGAL: The Language of the Environment Is Encoded in the Patterns of Its Living Systems*. The working process for this composition involved the phonetic transcription of environmental sounds which were subsequently organized in accordance with intrinsic patterns observed in the material itself. In retrospect, the most interesting part of the project came as a side-effect. Specifically, the necessity to learn how to spell them resulted in an unforeseen imprinting or sensitivity to the environmental sounds where I was living. For example, I often found myself in an automatic mode of translation when specific bird calls were sounded in my vicinity. On one level this became validation for my initial intuition that the larger patterns of communication between living organisms (what I term *environmental language*) might provide clues into the evolutionary continuity of both human language and music. It is as if through this musical process of language acquisition (that is to say,

compositional listening), I revisited a morphology of auditory templates shared by the bird and myself. There is a striking similarity in this notion to the recent ethnography of Steven Feld. His fieldwork studying the Kaluli people of the Papua New Guinea rainforest focuses in depth upon how their song interpretations of "bird language" reflect their social structure. Furthermore he claims that the central and most powerful myth within the culture, to which song-making is directed, concerns "becoming a bird". Within the Kaluli culture: "Song is communication from a bird's point of view, communication of one who becomes a bird."

Elsewhere I have speculated in depth upon the evolutionary continuity of music and animal communication behavior. It is not the purpose of this paper to revisit old ground but a synopsis of that conjecture is called for in order to establish the presuppositions from which this discussion evolved. I have proposed that music is most likely a holdover from humanity's preverbal linguistic legacy and that it overtly displays characteristics which not only resemble the communication behavior of other living organisms but may provide one means through which a deeper human understanding of and communication with our living environment may unfold. The need for such an understanding is certainly well established given this century's intellectual compulsion to paint *Homo sapiens* as a deranged creature reeking havoc upon the natural order. Most of us carry around some such assumption which borders on the quasi-religious and at least sense that this has something to do with what is wrong with our consensus reality. So why this persistent species specific self-loathing? I, like many, surmise that it is unavoidable and based upon that qualitative distinction between humans and other living systems which we've always asserted and perhaps somewhat regret, namely language. This is not to say that Chomsky is absolutely right. I particularly don't think that such a structural approach has done much of anything but state in more contemporary terms the mechanistic assumptions of Descartes. Basically we all know that we're

different than animals because we have the language to assert that we're different and they don't. So what!

The most recent research in "cognitive ethology" suggests that distinctions between humans and the "brutes" are really not as big as we've always imagined. In other words, consciousness is not our unique possession as a species. However, this is not to suggest that qualitative differences do not remain. I certainly admit that there is something distinct about human language. It just may not be something worth celebrating. I choose to imagine the human acquisition of language, whenever and however it occurred, as a loss of innocence. I think this is also what William Burroughs alludes to when he calls language a virus. It is precisely the extreme sense of individuation that human consciousness wrought, with its comprehensive self-referential feedback loops, that seems so distinct from the intelligence of other life forms.

Schopenhauer asserted that intelligence seeks out self-annihilation. This can be interpreted on two levels. Freud chose the literal in articulating the "death instinct." Jung chose the metaphoric in articulating a "collective un-conscious." For centuries mystics have likewise spoken of the individual's need to merge into a larger intelligence and it may have been such an insight that led Gregory Bateson to want to examine the religious impulse in terms of systems theory and ecology. It's as if Emerson and Thoreau had been equipped with the descriptive language of cybernetics. Lovelock's *Gaia Hypothesis* is in this same spirit: the *Oversoul* revisited as a vast homeostatic system's Deva.

What all of this alludes to is the idea that the mere existence of human consciousness does not rule out the potential for other complex forms of self-referential consciousness to exist on higher levels of organization within the interaction of either members of a species or an ecosystem. I tentatively term the possibility of such phenomena (with an obvious debt to Gregory Bateson): *ecosystemic mental structures*. The suggestion is that some sort of

primal separation from such structures rendered mankind both individually conscious and with a deep sense of loss. The religious impulse is evidence for the vestigial need of the individual to reconnect with some larger systemic complexity. It is precisely insufficient pathways of interaction between individual consciousness and this larger complexity that plagues us. Human speech-modulated consciousness is a necessary but narrow channel of awareness that when left to its resources narrows the mental realm to a mechanistic world of life-threatening exiguity. A split between these worlds grows wider with dire implications as the alienation of consciousness from the instinctual dreamtime persists in rampant ecological degradation.

I therefore don't think that evidence for such forms of consciousness is going to conveniently fall into familiar linguistic constructs. This is why I choose to utilize music as the archetype for such systems of interaction since it may operate on levels of the mental structure which are more integrated with the communication behavior of other life forms. It seems more than mere coincidence that many aspects of music as a neurophysiological activity can be located in a region of the brain whose general morphology is shared by other mammals. Bateson has implied that music is one human communicative mode that may have evolved primarily from the non-verbal limbic region of the brain as a parallel system to speech. The extraordinary contrapuntal interdependency possible in music which uses both speech and non-verbal expression (aural and gestural), suggests that music is one of the few human activities where explicit integration is possible to such a complex degree. I do not wish to imply that music is merely a limbic function. Given MacLean's *Triune Brain* concept, it is my intuition that music is a synergetic channel of interactions between consciousness and the evolutionary legacy of our mammalian brain structures. I am even willing to contend that any attempt at a comprehensive theory of language is doomed to failure if it does not account for music. It has been with us for as long as speech, perhaps even longer. Jane Goodall's report of chimps dancing and chanting to

the rain suggests that the joy of expression which we sense in music-making may not be our species' unique province.

Art-making has traditionally provided us with spirit bridges, reminding us of our place within a larger systemic complexity, but remains, for the most part, non-interactive. So does science. Biologists, for example, have not sufficiently considered the observer's influence within their methodologies. An ecologist who studies a complex rainforest affects the ecology of that system in direct relationship to the intensity of detailed observation. There are side-effects resulting from any observation and it is indicative when such effects are dismissed as too subtle to be significant. They are disavowed because scientific method does not encode the observer as part of the environment's total systemic complexity. It is precisely such side-effects that fascinate me. R. Buckminster Fuller has called them *precession*: "the effects of bodies in motion on other bodies in motion." A similar concept was recently used by systems theorist Will McWhinney to discuss the central process of interaction at work in my music. He proposed that much intellectual activity attempts to boil down to geometric simplicity in order to achieve an awareness of archetypal symbols but felt that I was moving in a different direction toward allowing incredibly diverse sources to rub surfaces that they might generate their own signification. The term *entrainment* was used to describe this process of sounds, ideas, species, and minds rubbing against each other until their relative squirming becomes synchronous. It occurs to me that this is a bit like asking, *what can we make?*, instead of, *what do we share?* There is, of course, nothing particularly unusual in this concept, per se. Entrainment is a fundamental process in nature and describes a vast set of phenomena such as sympathetic resonance. But what I am attempting is its intentional use in circumstances which may generate new levels of communicative awareness. Perhaps intrinsic to such a process is the generation of interactive pathways between the individual's consciousness and the larger systemic mentality which surrounds it: geographic acupuncture for the mental complexity of ecosystems.

I definitely see this notion of entrainment in my work as a preliminary process since the patterns for a language of interactions which I seek are just starting to form. In that sense I am groping towards an epiphenomenon of synergetic mentality where awareness of external pathways proceeds from the integration of internal pathways. This is similar to the concept of *triadic orthogenesis* where movement from *lack of differentiation* to *differentiation* to *integration* is inherent in the unity of: *subconsciousness/ self-consciousness/ superconsciousness*. In other words, retracing evolutionary links to other life forms helps to establish the internal integration for a synergetic leap toward external integration. This process is also implicit in Koestler's "draw back to leap" where regression to prior, less rigidified levels in the evolutionary structure precedes mutation. I also sense that a similar process of integration might have something to do with the aesthetic impulse as a phenomenon which can't easily be located as either subjective or objective in nature. For me, the aesthetic is a compounding of observer and observed where their synergetic integration is sensed by the observer as a new pattern: *beauty as the summational evidence of a generative mental system of interactions*.

I am specifically interested in the total aural environment as a systemic phenomenon, hearing and working compositionally with that system as an interactive musical process. I want to use advanced technology as an interactive musical process. I want to use advanced technology as an opening up of perception and as a tool for increasing the environment's systemic complexity by re-including the human as an intrinsic part. The question that most concerns me is: how can we describe environmental systems in ways which do not separate us from that environment? My assumption is that we have yet to create minimally obtrusive participatory systems which educate ourselves about our environment while establishing interactive communicative links to that environment. This certainly seems evident as a particular failure of recent Western culture with its gross technological dependency. Despite its problematics I have

opted to use that technology to advantage in the sense that our culture's most sophisticated tools might help transform it in ways yet unforeseen. Perhaps I sense a latent compatibility between microprocessors and wilderness because the system's thinking of cybernetics led in large part to both digital computers and a renewed understanding of ecological dynamics. I therefore take Gary Snyder very seriously when he wished for: "Computer technicians who run the plant part of the year and walk along with the Elk in their migrations during the rest." I also do not see an even further blending of these two states as a necessarily bad idea if a non-obtrusive technology can add to an overall increase in the systemic interactive awareness of environment plus human. If creative people do not use such technology in ways which encourage diversity rather than delimit it, our worst fears will be made manifest. Digital technology has the capability of not only utilizing an animal's own signals as material for communicative interaction but allows such signals to be appropriately modified within that context. This makes possible the control of specific aspects of the interaction based upon elements already familiar to another life form but not limited to those which are merely imitative.

The image of someone carrying digital hardware through the woods in search of an elusive mental system with which to interact conjures up a variety of associations besides those which are humorous. Obviously it serves to overtly illustrate McLuhan's prophecy of a joining of *high tech* and *tribal consciousness* but even more specifically represents the merging of two of Mimi Lobell's *spatial archetypes*: the placing of a *meandering spiral* upon the *global network grid*. As the network of global technological culture expands into chaos we become nomadic and plot entropic points of consciousness upon its grid. I want to turn the cybernetic technology of that global grid back on itself in order to take it on a nomadic journey to hunt and gather the sounds of a larger systemic awareness: the *Age of Chaos* transmuting into the *Age of Gods*.