

“Mind”

"Consider a tree and a man and an axe. We observe that the axe flies through the air and makes certain sorts of gashes in a pre-existing cut in the side of the tree...."

To understand this set of phenomena, or any set of phenomena, Gregory Bateson would have us understand the exchanges and flows of "ideas" and "information," or more precisely, the register of the "differences in" the component parts making up the entire phenomena. Following the German philosopher Immanuel Kant, an elementary unit of "information" is but the degree of difference registered within and between entities, a "*difference which makes a difference.*" In considering a tree and a man and an axe, we would be concerned with the "differences in" the cut in the face of the tree, the retina of the man, his central nervous system, his efferent neural messages, the behavior of his muscles, the velocity and edge of the axe head, the angle of the cut, the tenacity of the wood fibers, and again, the cut in the face of that tree. Each interaction involved a certain exchange of information, and depending on the nature of that information, what was exchanged is the observed result. For instance, the wood fiber and the edge of the axe were each the recipients of the information of the other. And the "difference in" the two, the information exchanged, even so slight, will alter the character of the cut and thus the entire phenomenon. In turn, each and every interaction and exchange forms an integral part of a continuous and total circuit of information flows which intersects, transcends and abrogates the specific boundaries of any given component. If you want to explain or understand anything, you must comprehend the completed circuit of information flows.

This is an "elementary cybernetic thought," with its "transform of differences traveling in a circuit," and is characterized as a "total information-processing, trial-and-error completing unit." In turn, it is a part of an all-inclusive "hierarchy of subsystem" networks. This entire cybernetic system is synonymous with "Mind," a mental system. It can be expressed simply, in the messages exchanged between an axe head and the wood fibers. It can certainly be identified in the operations of your own mind. And most importantly, Mind is "immanent in the large biological system--the ecosystem."

We have generally come to know an ecology in terms of its "bioenergetics--the economics of energy and materials within a coral reef, a redwood forest, or a city." But an ecology has another face, that of "an economics of information, of entropy, negentropy, etc," a cybernetic ecology. It is a system not so readily identifiable. For its properties are not discrete, concrete units, that which we are accustomed to viewing. In fact, neither ecosystem coincides with the other, as each is bounded differently. In bioenergetics, the units are bounded at the cell membrane--the skin of a plant or an animal--or "units composed of sets of conspecific individuals." It is within these boundaries that we can measure the "addictive-subtractive budget of energy for the given unit." By contrast, informational ecology focuses on the budgeting of messages along pathways and of their probabilities. "The resulting budgets are fractionating," rather than addictive-subtractive; while the boundaries must "enclose the relevant pathways," transcending the boundaries of the conspecific units.

"Moreover, the very meaning of 'survival' becomes different when we stop talking about the survival of something bounded by the skin and start to think of the survival of the system of ideas in circuit. The contents of the skin are randomized at death and the pathways within the

skin are randomized. But the ideas, under further transformation, may go on out in the world in books or works of art. Socrates as a bioenergetic individual is dead. But much of him still lives as a component in the contemporary ecology of ideas....

The cybernetic epistemology which I have offered you would suggest a new approach. The individual mind is immanent but not only in the body. It is immanent also in pathways and messages outside the body; and there is a larger Mind of which the individual mind is only a subsystem. This larger Mind is comparable to God and is perhaps what some people mean by 'God,' but it is still immanent in the total interconnected social system and planetary ecology....

If you put God outside and set him vis-a-vis his creation and if you have the idea that you are created in his image, you will logically and naturally see yourself as outside and against the things around you. And as you arrogate all mind to yourself, you will see the world around you as mindless and therefore not entitled to moral or ethical consideration. The environment will seem to be yours to exploit. Your survival unit will be you and your folks or conspecifics against the environment of the social units, other races and the brutes and vegetables.

If this is your estimate of your relation to nature *and you have an advanced technology*, your likelihood of survival will be that of a snowball in hell. You will die either of the toxic by-products of your own hate, or, simply, of overpopulation and overgrazing. The raw materials of the world are finite....

It is the attempt to *separate* intellect from emotion that is monstrous, and I suggest that it is equally monstrous--and dangerous--to attempt to separate the external mind from the internal. Or to separate mind from body....

The creature that wins against its environment destroys itself."

So wrote the anthropologist Gregory Bateson (1904-1980) in *Steps to an Ecology of Mind* (1972).