



Mary Catherine
Bateson

Norbert Wiener: Odd Man Ahead

My childhood memories of Norbert Wiener are of a strange looking person who came repeatedly from his New Hampshire home nearby, to the summer home of Lawrence K. Frank (vice-president of the Macy Foundation), where many distinguished thinkers came and went. Periodically, Wiener would appear without warning, talk and talk about some new idea, and then disappear. What I noticed as a child in response to him was a complicated mixture of respect for his ideas and exasperation at his lack of a sense of how and when to communicate effectively. There have been speculations that Wiener was a case of Asperger's not-yet-discovered syndrome. Whether or not this was true, he suffered from a father with pronounced ideas of how to educate his brilliant child. What is so striking, whatever the source of his social ineptitude, is that in spite of his limited empathy and sometimes difficulty in communicating, he was *aware enough to be concerned about human behav-*

ior. Wiener's perplexity and lack of skill in human relations included genuine concern about the impact of cybernetics on human society, the creation of unemployment, and making warfare more destructive, all of which happened. He worried that gadgetry would displace the beginning of a new ontology. He was right. We too should be more worried than we now are.

Wiener coined the word "cybernetics" from the Greek word for steersman, defining it as the "science of communication and control." He is sometimes called the "father of the computer," but more important was what is often called systems theory and mainly now belongs to business schools and family therapy. We talk about communication but we – above all in the academy – do not live in terms of the interactional realities that we talk about. The whole concept of intellectual integration across disciplines has slipped out of focus, so that research is decontextualized.

For several years I served on the Advisory Council of the National Center for Atmospheric Research, where

much of the work on earth systems science has been done, building on cybernetics. To understand what is happening to the planet now, we have to think in terms of concepts like homeostasis and how it can be disrupted. We are in a situation of great danger, but we are unable to discuss it in ways the public can grasp. Without shared comprehension, we cannot, either within this country or internationally, arrive at a coordinated response. We apparently don't want

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to be able to communicate. We are stuck with a patchwork of engineering proposals, but the problem can only be solved by changing interactions, behaviors, and relationships at both global and individual levels.

Cybernetics not only offered a new ontology; it also demanded

a new epistemology. As such, it demands a new ethics, for how is it possible to evaluate a course of action with a defective and over-simplified understanding of causation? We seem to have kept the gadgetry and slid away from the part of cybernetics that deals with how systems

coordination, and it was followed by a recognition of the need to find a self-corrective mechanism that would sustain peace. The early work opened the door to a new understanding of the unity of life on this planet and the tremendous complexity of interconnections and interdependencies. This must be carried into education and into everyday experience, so the next generation is not fixated on the lineal command and control model. Until cybernetics can project the description of a new ontology that necessarily entails a new ethic, it's not surprising that the general public is in denial.

Cybernetics challenges us to look at the world we live in as living and interactive, as growing, learning, and changing over time, requiring that we behave not as masters but as *part* of that world. "The unit of survival," Gregory Bateson used to say, "is the organism in its environment." Humanity cannot survive alone. When you begin to think in terms of whole systems, instead of being the owner of whatever it is, a garden or a child, or even a computer, you begin to think of yourself as a *part* of the system that includes you, hopefully as learning *from* the system, adapting to it and evoking some adaptation in the system.

As I have thought back, recalling Norbert Wiener in my childhood, I still have a paradoxical sense: on the one hand, great brilliance, which we are celebrating, but on the other, a limited impact. He changed the mechanics of the world, but did he change the *cognition* of the world? Have we arrived at *the point of looking at ourselves as parts of larger systems on which we depend*? Have we learned that stability is a matter not of stasis but of self-correction? If in refocusing on Wiener we can remember that he cared about communication, that he worried about the effect of his work on human life, we may be at a point where we can use his vision to understand our shared human experience and how we need to live our lives.

Author Information

Mary Catherine Bateson is Visiting Scholar, Sloan Center on Aging and Work, Boston College. Home: P.O. Box 10, Hancock NH 03449. Email: mcatbat@gmail.com. Website: <http://www.marycatherinebateson.com/>.

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function. Academic departments remain separate and rivalrous, governments are unable to agree, and even after descriptions by scientists who invite us to look at the planet as a living system with a certain capacity for self-correction (which can however fail, for living systems can die), large numbers deny that we are massively damaging the planet. We remain unable to arrive at a common understanding of what must be done but can only be done cooperatively.

Cybernetics is not an add-on. It is a new foundation, the possibility of a new kind of "common sense." It came out of World War II, when a sense of shared danger demanded