"**Beautiful Minds: Gregory Bateson on Humans, Animals and Ecological Systems**"

Charles Lowney

"The reply to crude materialism is not miracles but beauty…or ugliness."
-Bateson, *Mind and Nature*, 232.

Gregory Bateson saw a dangerous insanity in how we use critical reason to advance human purposes. It was an insanity responsible for the destruction of societies and ecological systems, and he feared it could be leading to the destruction of the entire planet. He saw the root of this insanity in "epistemological mistakes"—mistakes in understanding what a mind is and the way minds properly connect with each other as the result of evolution.

In his study of biology, anthropology, psychology, and cybernetics, Bateson was led to expand the conception of mind to a wider range of self-corrective systems that could learn and grow. Being a mind has to do with receiving, transforming and exchanging information. Most of that information, however, is relayed below explicit awareness, and some of it comes coded to us in aesthetic experience. An animal's experience of beauty, for instance, can relay information about the health of a natural system.

In Bateson's expanded understanding, an ecological system itself is a mind, and we humans are parts of an even larger mind that he identifies as "Eco." Associating mind solely with conscious rationality can be pathological according to Bateson. In fact, acting strictly rationally to fulfill conscious purposes is like one cancerous part overrunning a larger, working biotic system. A rationalist, technocratic approach to society, or an anthropocentric, exploitative approach to nature, can thus be a form of madness.

Sanity comes with ecological wholeness, i.e., with the realization and experience of our interconnection with a larger mind, and with a respect for our tacit communication with other minds. Aesthetic experience in art and nature connects us with our deeper unconscious mind and with the total ecological mind. It reflects patterns that connect us to other and wider systems and is a source of healing that Bateson calls "wisdom."

In this chapter we will look at Bateson's understanding of mind and how it connects to the development of biological and ecological systems. We will then look at the insanity that Bateson saw as especially dangerous now that we have the technological power to drastically upset the balance of complex systems. We will then see how non-conscious connections, such as the experience of beauty in art and nature, might have the power to help restore sanity.

Bateson v. Cartesian and Enlightenment Conceptions

Bateson believed that many of our current problems, with escalating arms races and the poisoning of the planet, had to do with the mistaken way we understand mind and the process of knowing: we are making epistemological mistakes that can kill us. He saw the source of these dangers in Cartesian and Enlightenment thinking.

Descartes' approach was "emblematic" of many such epistemological mistakes (*Angels* 147).[1] Descartes emphasized conscious rationality— as the *I* that *thinks* and *exists*—and the advancement of its explicit goals through scientific knowledge. His dualistic metaphysics and reductive methods also distorted the nature of holistic, material-mental systems that operate with complex interdependencies. Descartes' separation of mental and material substances also encouraged the reduction of all material systems to meaningless matter, which eventually cast the mental, and anything meaningful, outside the realm of scientific explanation; that is, only crude material explanations were considered to be scientific.

Enlightenment thinkers took up Descartes belief that the conscious mind was the self and focused on human individuals as separate and existing prior to the relations that create and sustain them. Individuals could thus enter into contracts as free, self-interested, independent, rational agents. In politics and biology, however, this can be a particularly destructive epistemological mistake. When we are encouraged to think about ourselves as atomic individuals or are led to choose this abstracted individual as the "unit of selection," we act in ignorance of the complex relations that sustain individuals in their everchanging environmental systems (*Steps* 491). The atomistic approach artificially cuts us off from the wider unities in society and environment, and poses dangers to those wider system, and, in turn, to us.

Part of Bateson's goal was to combat material reductionism and atomistic individualism. He worked to show that mind is more than the atomic self, and to show that we do live in a world full of meaning. He did this by reforming our understanding of mind and correcting epistemological errors that influence our understanding of nature. Bateson thus speculates, "Perhaps 'epistemology' is only another word for the study of the ecology of mind" (*Steps* 401).

A better epistemology leads away from reductive materialism and has a place for meaning, beauty, love, wisdom, and even the sacred. Bateson says, "The reply to crude materialism is not miracles but beauty…or ugliness" (*M&N* 232). But to begin to understand aesthetic experience, we first need to "map it" onto the mind (233).

Creatura and Pleroma: The Reality of Minds

Bateson overcomes Descartes' substance dualism by showing that there exists something that relies on matter and material causality, but which is also separate from it: mind, and the information it acts upon.

"Information" is a "difference which makes a difference" (*Steps* 459; *M&N* 110). But while a physical change can trigger a difference for a mind, the *absence* of a physical change can also be a difference that makes a difference. (Bateson says the letter you *don't* write can cause someone to be angry (Steps 458). Differences are *non-substantial*; they do not exist in physical space or time (*M&N* 102), yet they are *real*.

What we see in simple difference is the beginning of mind. Differences, or "transforms" of differences (codes or signs), are the basic currency of mental processes. Following Jung, Bateson calls the material world, governed by physical causality (and quantitative laws), "Pleroma" and he calls the world of thought and meaning, governed by the flow of information

[1] To economize references to Bateson's work, I will use the following abbreviations and in-text citations: "*Steps*" for Gregory Bateson's *Steps to an Ecology of Mind* (Chicago: University of Chicago Press, 2000); "*M&N*" for Gregory Bateson's *Mind and Nature: A Necessary Unity* (New York: Bantam Books, 1979); and "*Angels*" for Gregory Bateson & Mary Catherine Bateson's *Angels Fear: Towards and Epistemology of the Sacred* (Cresskill, NJ: Hampton Press, 2005).

(and qualitative differences), "Creatura." While crude materialism acknowledges only the physical as real. For Bateson (like C.S. Peirce and Michael Polanyi), minds are also real, and the differences they register and initiate can have real effects in the physical world.

Unlike Descartes' dualistic conception, Bateson is a monist about substance; mind is something emergent upon physical-material systems with sufficient complexity of the right kind.[2] Bateson discusses the difference between Creatura and Pleroma as the difference between a map and the territory (Angels 21; *Steps* 458, 464). The map provides us with codes or transforms of differences we see in the territory itself, and gives it meaning in terms of contextual features that are relevant to us.

Bateson shows how information travels on circuits that can become more and more layered and complex. He builds up from differences to mental processes and mind by climbing different logical types or levels. These levels exist only in Creatura, even though Pleroma provides the conditions upon which differences can be sustained and recognized. Starting with the cybernetic notions of "difference" and "information," Bateson moves to the notions of pattern and circuits.

Differences makes a difference against the background of a pattern of relations. So these patterns display a logical level above that displayed by information. There are also "patterns that connect" different patterns together; these are "meta-patterns" that are, in turn, a logical level up from patterns. Mixing logical levels—like trying to sit on a set of chairs—can be another epistemological mistake; it is what Analytic philosophers call a "category mistake." (So, according to Bateson, Lamarck, for instance, engaged in a category mistake by thinking that an *individual's* efforts selected traits that would be passed on to the next generation, when those selections are made at the level of *populations*.)

Bateson calls patterns that endure through time "contexts," and contexts provide a background upon which a difference can become information. Contexts display systems, and higher-level contexts can display systems of systems (leading to higher logical types). Minds (and living things), says Bateson, think in terms of "stories." Stories provide patterns that show relevance, (*M&N* 14). Stories that connect us have patterns that are relevant to us both.

When we begin to see differences, information, patterns, contexts, stories and logical types as mental terms, we begin to understand a mind as a cybernetic system that reaches well beyond the physical brain.

Mind as a Cybernetic System

Mind is not some simple thinking substance, as Descartes believed. Minds are emergent, and composed of material parts that enable them to register and process differences that make a difference to them. The way into understanding Bateson's idea of mind is to understand how a circuit can sustain itself by using information to self-correct.

[2] Noel Charlton relates Bateson's view to Spinoza's monism, which has one substance with two attributes that we can register: physical (with deterministic material causes) and mental (with deterministic mental causes). [See Noel Charlton, Understanding Gregory Bateson: Mind, Beauty, and the Sacred Earth (Albany: State University of New York Press, 2008) pp. 174-184.] Bateson speaks of two determinisms (*Steps* 472-3) and calls free will "nonsense" (*Angels* 103), which seems to support Spinoza's view. But for Spinoza, mind did not require non-mental parts, as it does for Bateson, and so Bateson presents a more complex relation between matter and mind. Spinoza's view is very flat and dichotomous from an emergentist perspective. Bateson speaks more like an emergentist when he talks about positive choice becoming possible when one accesses a higher level of logic or stage of development (*Steps* 411)—though he will call this sort of choice a "pseudo-freedom (*Angels* 174), again casting a deterministic shadow.

A steam engine with a governor (though it is not a mind) illustrates some necessary features of mind by displaying features of a mental circuit. A circuit is "a closed pathway (or network of pathways) along which differences (or transforms of differences) are transmitted" (*Steps* 490). In the steam engine, the (simplified) circuit is comprised of the governor, fuel (energy input), cylinder (engine), flywheel, and back to the governor (See M&N 115). The governor controls the fuel flow to maintain a steady speed. If the flywheel is going too fast, the governor registers the difference and reduces the fuel. If the flywheel is going too slow, the governor increases the fuel. The system responds to information in order to maintain an equilibrium, i.e., a steady speed, and it "learns" by adjusting to information. Similarly, according to Bateson, the chopping of a tree with an axe is a mental circuit. Each chop of the axe provides feedback with information that triggers an adjustment in the next swing of the axe (*Steps*, 317).

To be minds, mental circuits must be able to use information to self-correct and maintain themselves. Self-maintenance is accomplished by using information to learn (and—at higher levels—to *learn to learn*). A steam engine is limited in its ability to learn, it mechanically responds to information, so it is not a mind, but it can be *part* of a mind and constitutes a mental circuit in the wider system of, e.g., an engineer-engine-train-railroad track circuit—as exemplified when an engineer learns to slow or accelerate the speed of the engine when approaching a sharp curve.

Bateson provides six criteria of mind.[3] First, a mind is "an aggregate of interacting parts or components" (*M&N* 102). Second, "the interaction of the parts is triggered by difference" (102); the effects are not just the causal effect of an external physical force. Third, when differences are triggered, the mental processes use energy available within the system. If you kick a stone, says Bateson, the stone does not use its own energy to respond, but if you kick a dog, the dog—as a mental system—responds with its own "collateral energy" (*M&N* 102; *Steps* 489, 490). Fourth, "Mental processes require circular (or more complex) chains of determination" (*M&N* 102). Fifth, the effects of differences are to be regarded as transforms (i.e., coded versions) of events which preceded them" (*M&N* 102). Bateson thus considers it a category mistake to say that impulses (Pleromatic things) are transmitted by neurons. What is actually transmitted is "news of difference" (*Steps* 460). Lastly, "The description and classification of these processes of transformation disclose a hierarchy of logical types immanent in the phenomena" (*M&N* 102). We can see the hierarchy of mind operative in the way that the circuits learn and display higher-order stability or change.

While Bateson's list is somewhat technical, it is meant to provide necessary and sufficient conditions for when something is a mind. In summary, a mental system "operates with and upon differences… shall consist of closed loops or networks of pathways along which differences and transforms of differences shall be transmitted" and it "shall show self-correctiveness in the direction of homeostasis and/or in the direction of runaway." This sort of "Self-correctiveness implies trial and error" (*Steps* 490), which is part of a "stochastic" form of learning. Bateson says "thought, evolution, ecology, life, learning and the like occur only in systems that satisfy these [6] criteria [of mind]" (*M&N* 102).

Reconceiving Minds

[3] See *M&N* 102; *Steps* 315-320, 489-491; or *Angels* 18-19. Mary Catherine Bateson adds a 7th which, she speculates, might be contained in the first 6 (*Angels* 85).

There are several immediate results of this understanding. First, mind is not just a phenomenon of the physical brain, though the brain is certainly an important part of our minds. Mental circuits constituting mind reach to the sense organs, which provide information in wider mental circuits that can trigger adjustments. Mind also is not limited to the body. Bateson uses the example of a probe or walking stick that provides information to a person, who can then adjust their step in response (*Steps* 465). Senses and tools, like the stick, gather information from even wider circuits in the environment. Bateson says, "The mental world—the mind—the world of information processing—is not limited by the skin" (*Steps*, 460).

Second, for Bateson, mind does not have to be conscious. It is "aware" in that it can "register and respond to information"[4] but there is much to our even our own minds that is unavailable to us. There are many mental processes (e.g., the bodily language of primary processes) and systems (e.g., those constructing our perceptions) that are unconscious; minds within us go beyond the conscious mind.

Third, those minds within are not just "psychological," neural and perceptual. We are composed of many communicating cells and organs and homeostatic biological processes (e.g., metabolic systems that oxygenate the blood or regulate body temperature) that are also mental processes which support each of us as a total system.

Fourth, just as there are minds that are part of us, we are part of greater minds outside of our own sets of interconnected mental systems. An animal in an ecosystem can constitute a mind; A redwood forest or a coral reef can be a mind (490); and human social organizations form a higher-order mind than includes individual human minds.

Fifth, as should clear from the prior points, although brains can be *part(s)* of a mind, being a mind does not require having a brain—plants also grow, learn, and self-sustain by reacting to cues in their environment (*M&N* 124). Mind for Bateson, as Noel Charlton put it, "is the communicational process, the flowing of information, the eliciting of physical responses, the enabling of life."[5]

But, sixth, mind goes beyond body and beyond life. Not just living systems, but systems that include living systems can be minds, if they meet the criteria. Although Bateson believed that Artificially Intelligent machines were not yet minds, and were only *parts* of mind (*Steps* 316, 317), nothing prohibits a machine from becoming a mind if it meets the criteria and it can begin to learn to self-maintain in the way organic minds do.

Bateson's understanding of mind breaks the concept of individuality and anthropocentrism that had gone together with the Cartesian conception of mind, and it allows us to identify with lower systems in our care and wider systems that are part of our greater story.

To show how his approach to mind can be both scientific and anti-reductionistic—and to show how Creatura bridges with Pleroma—Bateson goes on, in *Mind and Nature: A Necessary Unity* (1979), to show how embryology and evolution display specifically *mental* processes. These processes require information for sustenance, growth, and development. Bateson says that the efforts of scientists since Darwin "to exclude mind as an explanatory principle" from evolutionary biology, is "tilting at a windmill" (*M&N* 21). Not only is the living world irreducible to dead, meaningless matter. Understanding the mind as a system that *learns* shows how meaning and purpose are intrinsic parts of the evolution of life.

Minds Learning and Growing: Embryology and Evolution

[4] Charlton, *op. cit.,* 48.
[5] Charlton, *ibid.*. 142.

Mind is imminent in the phenomena, and its circuits can relate cells to organs, organs to organisms, and organisms to environments. Not only are organisms themselves minds, and organisms in stable (or runaway) ecological systems minds, but the growth of an organism from ovum to an adult, and the evolution of new species, are mental processes. Both the egg and the species learn and change within their changing environment.

After defining minds, Bateson also discusses learning in more detail and finds several different logical types (293)consisting of the lowest order of learning (Learning 0) just registering a fact or information, as with the governor, to learning that changes one's response (Learning I) evident in habituation and operant conditioning (*M&N* 132 ff), to *learning to learn* (Learning II), a shift the context of learning (Steps 264), i.e., thinking "outside of the box"), and even to *learning to learn to learn* (Learning III) associated with mystical experience (Steps 306). Learning in biological minds is typically something that happens by trial and error, via stochastic processes that select what is to endure from relatively randomly generated options. This is a creative learning process according to Bateson (*Steps* 317). While embryology describes a conservative convergent learning process, evolution describes a divergent process more open to change (*M&N* 179, 194).

Bateson says, "'Embryology' is for me a mental process" (*Angels* 16). The development of the embryo in the epigenetic landscape is a mental circuit that includes "what the DNA says to the growing embryo and to the physiological body" (*Angels*, 158). Bateson shows how this developmental process requires information that is not supplied by the unfolding of a strictly material process. Development is an effect of information the embryo receives from both its DNA and its environment. He uses the example of how the frog egg comes to split and develop asymmetrically from where the sperm enters, but this triggering event can be effected from the prick of a camels hair (*M&N* 181). Bateson emphasizes how the epigenetic landscape provides information for the developing embryo, which seeks a form of homeostasis through change. Growth comes diachronically in the developing circuit of DNA-embryo-physiological environment.

Another form of learning takes place in evolution. Here Bateson shows where the neo-Darwinians went wrong in trying to excise mind from the process of evolution. He does this by showing what was wrong, and what was right, about Lamarck's attempt to explain the emergence of new species from the efforts an individual animal makes to fulfill a purpose. E.g., Lamarck postulated that giraffe's necks became long from the effort to reach leaves at the top of trees. Bateson affirms a genetic-somatic barrier that prevents the body's acquired traits from being written directly into the genome, and he agrees with a process in which the change in a species occurs from the natural selection of organisms that display traits more fit for surviving in its environment. These traits are thus selected as part of a stochastic learning process. The variable traits selected from can come from genetic mutations, reshuffling of genes (*M&N* 173) or from the variety of genetic traits already present in an existing population. Bateson finds the most convincing argument against Lamarck here to be the *rigidity* that a direct change of the genome from the soma would bestow on the next generation. Somatic changes are reversible: one can tan in a sunny environment, and become less tan in a cloudy environment. Building changes into the genome costs us that flexibility (*M&N* 169). He also postulates that Lamarckian adaptation would also quickly (in evolutionary time) make us so different that we would no longer be able to interbreed (*Angels* 101).

But whereas Lamarck is wrong at the level of the individual and genome, he is right at the level of populations in their relation to the environment (hence his category mistake): "The

population behaves as a Lamarkian unit" (*M&N* 177). There is stochastical learning in the organisms-in-environment system as the environment selects out phenotypes with certain traits that provide that fit of somatic trait to a changing environment (so a next generation of giraffe will have longer necks if that proves to be a survival advantage for members of the species). Bateson even goes so far as to show how, given co-evolution, the species can become ready for change in the direction that an individual animal pursues to achieve its purposes ( ). For example, if additional speed becomes more important for survival, and let's say an animal needs a speed of 7 to outrun its predators or catch its prey, an animal that has a genetic capacity to train to speeds from 5-7 would survive, but an animal that has a genetic capacity to train to speeds of 7-9 can survive with less expenditure of energy, which would give it a survival advantage, and a greater propensity to see its genes replicated in the next generation.[6] Two great stochastic processes, those involved in habit formation and those involved in natural selection, thus work together towards adapting a species to change (*Steps* 257, 258).

When we more clearly see the mental circuits involved, and apply a cybernetic understanding, we see that the unit of selection is not the individual gene or the individual animal, or even the family or phenotype, but the total individual-environment circuit (*Steps* 491). And we can focus on the genes in the body (in epigenesis), or on the body in the environment (in developing skills and habits), or the species in its ecology (in evolution) as systems. What will be relevant for understanding the maintenance and change of these circuits is not just the change in the individual, but the change in the environment, and the mutually informed changes of changing individuals in changing environments. Bateson thus favors the explanation of Russell Wallace over Darwin, who, by likening the struggle for existence with a steam engine, "proposed the first cybernetic model" of evolution (*Steps*, 434). The units of evolutionary change are self-correcting systems and "Self-corrective systems …are always conservative of something" (*Steps* 435).

For Bateson, systems build upon systems, and we can look at a human being and the community of minds constitutive of it (from cells to metabolic systems to symbiotic bacteria), or at a society and the community of human minds (and their various behaviors) constitutive of it, or at the wider ecology and the groups of animal and plant minds (and various processes) within it. "We get the picture, then, of mind as synonymous with cybernetic system—the relevant total information-processing, trial-and-error completing unit. And we know that within Mind in the widest sense there will be a hierarchy of subsystems, any one of which we can call an individual mind" (*Steps*, 466).

At the lower end we have atoms and material parts and processes that are not minds, but which can be parts of mind, and at the high end we have the widest-deepest mental system of Mind that Bateson calls "Eco" (*Angels* 142) but this ecological God does not operate independently of its own material subsystems. It is important to see that Bateson is not advocating a transcendent notion of Mind here that has a will and "creates" from outside the phenomena that physics and biology study. Bateson does see a role for religion and the sacred (as we shall see), but he sees no designer God fixing organisms to their purposes and bestowing meaning—that sort of teleological creation towards purpose would be an epistemological mistake for Bateson. Bateson does, however, bring back a scientifically respectable notion of purpose and "final causes" by talking about self-maintaining systems. He sees this notion of purpose as part of nature and open to scientific study, but he also sees how it can become dangerous in the hands of minds with rational consciousness like ours.

[6] Here I modify Bateson's example in *M&N* pp. 172, 173.

Purpose, Insanity & the Human Mind

Like information, parts (subsystems), have "meaning" in terms of the wider patterns and context in which they make a difference. Likewise, parts can have a "purpose" in relation to the wider system within which they operate. Bateson discusses how teleological purpose was a mystery in philosophy for 2500 years. Although we understood that there were purposes or goals, we did not know how to explain them. Hints of how purposes emerge in self-corrective systems came relatively recently, for example, with "Lamarck's transformism (1809), James Watt's invention of the governor for the steam engine (late eighteenth century), Alfred Russell Wallace's perception of natural selection (1856)…and Hegelian and Marxian analyses of social processes" (*M&N* 117). The underlying principles only begin to become clear with cybernetics, which Bateson sees as the first rigorous exploration of wholes (*Angels* 181). Bateson points to a pivotal paper by Rosenblueth, Wiener, and Bigelow, titled "Behavior, Purpose and Teleology" (1943) as providing a key to the age-old problem of purpose, when it proposed "that the self-corrective circuit and its many variants provided possibilities for modelling the adaptive actions of organisms" (*M&N* 118).

Purpose & a form of intention show up in mind when learning can actually change the system itself, unlike a thermostat or governor, which remain unchanged (except in wider mental systems that typically include humans). Self-maintaining or growing biological systems, however, *need* to be corrective in that they have parts that self-promote; parts which are held in check by other parts of the system or environment. In biological systems, "parts have expansive characteristics." If they did not, says Bateson, "they would go out, and you would go out, too" (*Steps* 437). Parts of mind are limited in their excesses by the wider system that creates a stable balance through its self-corrective change.

Bateson says, "The mysterious final causes of Aristotle…fit right in with what modern cybernetics calls positive feedback, providing a first approach to purpose and causality" (*Angels* 11). But unchecked, the escalating fulfilment of purpose in a sub-system can lead to what Bateson calls "schismogenesis" in the wider system. Schismogenic change happens when positive feedback to one behavior or part of mind creates a "progressive differentiation" (*Steps* 68).

Parts (mental sub-systems) seek to fulfill objectives/purposes specific to themselves, but other parts and the circuits of the wider system are jeopardized when one part goes into "exponential runaway" (*Steps*, 447; *M&N*, 117). This can take place when a positive feedback loop loses its negative restraint and escalates its purposive activity exponentially. We see this in nature when a predator that kept a population in check is overhunted, or when a species is brought to a new location where it no longer has its natural controls and becomes invasive.

Schismogenesis is a form of insanity in a mental system that can destroy the overachieving part as well as the system on which it depends. A similar form of schismogenic insanity happens when a part of the system attempts to control the direction of whole to suit its own purposes. The part thereby engages in a serious epistemological mistake, since the information available to the part necessarily excludes the information about the total system. The results of this sort of mistake are ignorant, destructive and "ugly" (*Steps* 267). Conscious purposiveness can become especially ugly by ignoring the wisdom inherent in complex mental-ecological systems.

We misidentify the self when we isolate it to consciousness and its constructs. Minds have memory and form habits. Even simple systems respond to changes in the next coursing of

information along the same circuit—so even the steam engine with its governor—has "memory" (*Steps* 316). Systems that build upon systems build up more complex memory and more interconnections with their wider environments. Habits and skills are also a form of memory. Information and patterned responses to familiar contexts aid complex mental systems in their sustenance, functioning and growth. We humans relate in circuits with other humans, and with the environment, in terms of higher-order dispositions to behavior called "character," which are acquired from the memories of our societies and their traditional practices.

"'I' am the aggregate of those characteristics which I call my 'character'," says Bateson. "'I' am my habits of acting in context and shaping and perceiving the contexts in which I act. Selfhood is a product or aggregate of Learning II"—that is, of learning to learn (*Steps* 304). "The total self-corrective unit which processes information, or, as I say, 'thinks' and 'acts' and 'decides,' is a system whose boundaries do not at all coincide with the boundaries of either the body or what is popularly called the 'self' or 'consciousness'" (*Steps*, 319). The self goes beyond consciousness, and the mind goes beyond the self.

There is great wisdom in minds and their operations, but very little of it is available to the sliver of mind we call consciousness. Consciousness in not just the tip of an iceberg, it relies on complex networks of interactions available to the body's memory, the social memory, the species' memory, and evolutionary memory. The human mind—to function well long-term—needs to act in concordance with many other minds and levels of mind. Unfortunately, consciousness is not wise; it is not designed to take all the relevant information into consideration.

The Danger of Conscious Purposiveness

While all minds show "awareness" in being responsive to information, not all minds are conscious. Bateson speculates that consciousness was a trait developed in complex biological systems because through it a mind/organism is better able to see and process a certain range of differences/information that enables them to pursue a purpose more directly; consciousness is thus a "short-cut device" (*Steps* 439). Like learning & habit formation in the organism's environment, consciousness allows for flexibility in adaptation that is not available at the genetic and phylogenic levels. The downside, however, is that consciousness does not see the whole system. In fact, it would be "silly" and burdensome if it did (*Steps* 138). It is more efficient and a better use of consciousness to have more and more of our activities sink into the unconscious, since skills and processes that function on "generalities of relationship which remain permanently true" or stable, can be more efficiently executed via more automatic processes (*Steps* 142). "What gets to consciousness is selected; it is a systematic (not random) sampling of the rest [of the "total mind"]" (*Steps* 438).

Bateson uses the example of medical practice to illustrate his point (*Steps* 145, 439). When we combat a disease, or fix an injury, it is enough to plug the leak, and move on to the next leak. Precisely because "purpose has determined what will come under inspection"… "Medicine ends up, therefore, as a total science, whose structure is essentially that of a bag of tricks. Within this science there is extraordinarily little knowledge of…the body as a systemically cybernetically organized self-corrective system" (*Steps* 439).

Parts can have purposes in relation to wholes, or systems, of which they are a part. Self-sustaining parts, like us, can more directly fulfill some of these purposes with the help of conscious, rational purposiveness. The problem is that we intervene to accomplish our purposes without knowledge of the complex network of circuits that form the greater minds of which we

are just a part. This makes conscious purposiveness, unaided by the balance provided by awareness of the wider systems, "necessarily pathogenic and destructive of life" according to Bateson (*Steps*146).

Acting on conscious purposes with partial knowledge can create runaways, such as arms races between antibiotics and infectious diseases, and the more literal arms races between countries. Out of our ignorance of a total system of relations and their complex functioning—and out of the selection of "individuals" (or peoples, or countries) as independent, isolatable things—we can fall into pathological patterns. We can get ourselves into "double-binds," where destructive behaviors are reinforced by conscious efforts to mitigate them. In double-binds the message, at one level, is contradicted at a different level, and pushing the message inadvertently reenforces the pathological behavior. Bateson uses the example of an alcoholic fighting to give up alcohol. The "fighting" only reaffirms the dependence on alcohol, which prompts a relapse to abuse. The double-bind creates a downward spiral until "rock bottom" is hit. It is then that, as AA recognizes, surrender and the recognition a greater power (a higher mind), can break the cycle and restore sanity (*Steps* 313).

Seeing the destructive nature of conscious purposiveness and the insanity of the double-binds it brings, Bateson lends new insight into the myth of Eden. God here would represent that total system of systems and its evolutionary wisdom. And actually, according to Bateson, God did not kick us out of the garden, we kicked God out. That process began when Adam, unable to reach the apples high in the tree, stacked up some boxes underneath and accomplished his goal (*Steps* 441). That was the turning point. Our ability to use our conscious intelligence to pursue our purposes separated us from the garden of harmonious relationships with the rest of the earth's evolutionary systems. After getting that apple, Adam and Eve "really went to work on this purposive business, and pretty soon topsoil disappeared. After that, several species became "weeds" and some animals became "pests"; and Adam found that gardening was much harder work" (441). With the advancement of farming technology, Adam pitted himself against nature, and had to work harder and harder, due to his interference in the wider circuits of organisms-environment.

We see, with the mental process of evolution, that diversity in the gene pool and among species allows for a flexibility to change that brings adaptation rather than largescale destruction. But when one part overruns the system that part becomes more populous and diversity is reduced. "The logic of evolutionary progress is [then] toward ecosystems which sustain *only* the dominant, environment-controlling species, and its symbionts and parasites" (*Steps* 451). The world becomes filled with the sort of organisms we use or consume, cows, chickens, corn, etc., in great monoculture crops, as we engage in an arms race with weeds and pests that we also put in runaway mode. There are some natural "built in" correctives to our overpopulation, of course, according to Bateson, but they are not always pleasant or effective: Bateson mentions "epidemics, wars, and government programs" (*M&N* 117).

Attempts to control complex systems on the basis of the small arc that is under our conscious awareness will lead to varieties of schismogenesis. This, for Bateson, is not just a problem with regard to our attempting to control *nature* for the purpose of controlling disease, or feeding and housing more and more humans. We can cause a mess when we consciously tamper too much in complex social, political and economic systems by applying purposive, rational, top-down controls and ignoring traditional wisdom (*Angels* 97).

Because "There is not time for more than a little consciousness," and much of our memory and wisdom is stored in traditional and cultural practices, faith becomes important for Bateson, though "faith" comes to have a different meaning, as we trust the constructs of our

perceptual systems and the (generally beneficent) organization of long-evolved, wider-than-human minds (Angels 96, 97).

There can be deep systematic wisdom in our "cultural inheritance," which stores "the aggregate of presuppositions that underlie all communications and interaction between persons" (*Angels* 97). Not all of what makes a social organization work is accessible to consciousness, and since "many presuppositions are inaccessible to examination or alteration," this "results in a certain conservativism" (*Angels* 97). But not all traditional cultural practices, especially those destructive of the natural environment, display a greater ecological wisdom.

> On the one hand, we have the systemic nature of the individual human being, the systemic nature of the culture in which he lives, and the systemic nature of the biological, ecological system around him; and, on the other hand, the curious twist in the systemic nature of the individual man whereby consciousness is, almost of necessity, blinded to the systemic nature of the man himself…If you follow the 'common sense' dictates of consciousness you become, effectively, greedy and unwise (*Steps* 440).

We think we are intelligent because we understand some social and economic relations, but we are largely ignorant of the total complex of systems within which we function. Top-down executions of control organized by conscious goals, even if well-meaning, act on partial knowledge. The danger of elitist or radical revolution, then, is obvious; it might cause a total disruption. But there is also the opposite danger and hubris of a society or government that rigorously attempts to resist change and maintain the status quo under ever-changing circumstance. In both radical and radically conservative contexts, attempts to use scientific technology to control social systems and individual behavior are dangerous— and Bateson was familiar with some of these attempts, since he worked for the US government promoting propaganda during WWII.[7] Bateson thus warns, "we social scientists would do well to hold back our eagerness to control that world which we so imperfectly understand." He then points to a better motive for scientific exploration, that motive is "a curiosity about the world of which we are a part…The rewards of such work are not power but beauty" (*Steps* 269).[8]

Here we begin to see where aesthetic value can act as a corrective for conscious purposiveness. Although conscious purposiveness alone is destructive of life, aesthetic experience can help us find a "wisdom" that heals by "correcting a too purposive view of life and making the view more systemic" (*Steps* 147).

Environmental Wisdom and Beauty

Using conscious purpose to achieve our goals can be rewarding short-term and locally, but destructive long-term and of wider systems upon which we depend. Bateson sees a check against this self-destructive tendency in the recognition of wider systemic wholes. Through

[7] Charlton, op. cit., 20.

[8] Bateson here can provide an argument for *basic research* in science that is not tethered to useful results. Solving immediate problems open to consciousness, in order to improve welfare, acts from a limited arc in a system and can have potentially dangerous consequences. Basic research guided by personal and aesthetic interest helps reveal more about the system (parts and processes of which are not immediately concerned with human welfare), which increase understanding and might (or might not) later be useful in recognizing runaway and preventing destruction; for example, the basic RNA research that allowed for mRNA vaccines against Covid 19.

religion, dreams, beauty, art, and play, we can loosen the grip of rational purposiveness and experience the wisdom that has been built up in networks of relations over the course of biotic and human evolution.

According to Bateson, access to wider networks of mind, and the healing of insanity, can come through religion While Bateson thought of himself as a "fourth generation atheist,"[9] he came to see value in religion and religious language, which speaks, like dreams, in a language of "primary processes" (*Steps* 138-142) that emphasizes relationship over any particular subjects that might be the nodal points of relationship (*Steps* 139). Bateson talks about how the Lord's Prayer or the mass, for instance, can possess healing wisdom at a deeper level of mind. "[T]he mass could embody—encapsulate—some complex truth you had no access to in any other form. And it could do that even while proposing a great many propositions of lower logical type that seem like nonsense" (*Angels* 108).

Without taking the superstition and myth that surrounds religions literally ["'Our Father…' This is the language of metaphor" (*Angels* 25)], Bateson sees a religious awareness of the "sacred" as essential for what we might call mental health. Seeing the world as sacred adds an understanding of the inherent value of all that is around us, and leads us to be humble with respect to the power and knowledge of intelligence immanent in wider forms of mind. A religious attitude thus provides a check on conscious purposiveness and an access to healing.

Another opportunity for healing is aesthetic experience in nature. Beauty is something recognized only by mind, but not just human minds. According to Bateson, other animals recognize beauty as well, and can use that recognition as a clue to the health of a biotic system. As Noel Charlton points out, Bateson describes alpha animals as "necessarily beautiful"[10] and "[v]ery often, says Bateson, when we recognize an organism or habitat as beautiful it is in fact 'fit' in the Darwinian sense; it is a well-integrated fellow (mental) system. We recognize pathologies by their ugliness."[11]

So when a male bird of paradise entertains a prospective mate, the symmetry and color of its feathers, and the movements in its dance, provide information about the overall health of bird as an organism and its fit with its environment. Natural beauty can thus code information regarding reproductive health and fitness, and beauty can code other harmonious functions of a system or mind. Bateson speculates on the evolutionary value of beauty, and the information it can provide, when he says,

> a self-recursive communication system may be aware of disruption of its own function. It may have pain and many other types of awareness. It may also be aware of harmony in its own function, and that awareness may become the basis for awe and awareness of beauty in the larger and more inclusive system." (*Angels* 181)

Minds recognize beauty, but mind is also that which is recognized in the experience of beauty.[12] Bateson says, "The 'primrose by the river's brim' is beautiful because we are aware of the combination of differences which constitute its appearance could only be achieved by information processing, *i.e.* by *thought*. We recognize another mind within our own external

[9] Charlton, *op. cit.,* 166.
[10] Charlton, *op. cit.,* 117, 156.
[11] Charlton, *ibid.,* 153, 154.
[12] This confirms, to some extent, Archibald Alison's theory that beauty is a sign of mind: "matter is not beautiful in itself, but derives its beauty from the expression of mind" ("Essays on the Nature and Principles of Taste" (1790). In *Eighteenth-Century British Aesthetics*, edited by Dabney Townsend. (Amityville, NY: Baywood, 1999), 417.

mind" (*Steps*, 471). Beauty is a kind of meta-pattern that condenses information—a pattern that connects one mind with another. Bateson thus defines aesthetic experience as being "responsive to *the pattern which connects*" (B&N 9). This makes aesthetic experience especially conducive for connecting us with wider wholes, both within and without.

When we experience the beauty of nature, we connect with the wider environment that we were evolutionarily selected to be a part of, and we experience deeper harmonies. Relevant information is coming to us and going from us, but not at a conscious level of awareness; we unconsciously recalibrate (Angels 49). Engagement with beauty adds to the "…the unifying effects of art or experience in nature…[it] enables our conscious selves to recognize the deeply interrelated engagement that we already have."[13] The experience and recognition of these wider unities is the coming of wisdom.

Not just natural biological (mental) systems, but psychological and social (mental) systems present patterns that can be reflected in the patterns of art and can evoke aesthetic experience. Both art and dreams, like religion, use the language of primary processes. This iconic language of mental circuits is closer to the body's processes. It is also the language that many animals "speak" according to Bateson (*Steps* 141). Primary process language was a developmental step towards our spoken language, with its subjects and predicates, but it does not have some of the limitations and distortions that spoken languages impose. The language of primary process is more fundamental, more relational, and knows no negatives or past or future tense (*Steps* 139). This language can connect us more deeply with biological and evolutionary needs. It can also connect us more broadly with circuits undetected by the conscious mind, and so by accessing and using this primary process language both art and dreams can be important tools for psychological and social healing.

Art can connect us to deeper psychological and biological truths. It can also connect us with wider mental circuits as it codes information about the society of which the artist is a part. Even the materials chosen convey information, according to Bateson, "The *code* whereby perceived objects or persons (or supernaturals) are transformed into wood or paint is a source of information about the artist and his culture" (*Steps* 130).

Aesthetic experience can give us information—meaningful knowledge—about nature, about ourselves, and about our culture and society. The process of making art is especially beneficial in restoring our engagement with greater wholes. In "dreams and the creativity of art, or the perception of art, and poetry and such things. And…[in] the best of religion" we "relax that arrogance" of the conscious mind "in favor of a creative experience in which… conscious mind plays only a small part" In these activities, "the whole individual is involved." Thus, "in creative art man must experience himself—his total self—as a cybernetic model" (*Steps* 444).

Loosening the grip of consciousness puts us in touch with other forms of knowledge. Art engages in finding "patterns that connect" with us, especially patterns of patterns that relate and integrate *different levels* of our being. Bateson says, "artistic skill is the combining of many levels of mind—unconscious, conscious, and external—to make a statement of their combination" (*Steps*, 470). And, like religion, art can often convey healing truths in ways that cannot be made explicit to consciousness. Bateson quotes Isadora Duncan: "If I could tell you what it meant, there would be no point in dancing it." Bateson says this captures the recognition that the message art gives can be "falsified if communicated in words" (*Steps* 138). As Charlton

[13] Charlton, *op. cit*. 144.

puts it, "*iconic* or *symbolic* representations of the greater whole… enable our access to a metaphorical or nonverbal understanding of wholeness."[14]

That there is wisdom that cannot be communicated consciously is integral to the sacred and fosters humility. "Mere purposive rationality unaided by such phenomena as art, religion, dream and the like, is necessarily pathogenic and destructive of life…life depends upon interlocking circuits of contingency, while consciousness can see only such short arcs of such circuits as human purpose may direct" (*Steps* 146). Experiencing and practicing art can thus be healing.

Engagement in aesthetic experience can be healing by connecting us with our unconscious minds, or with our wider social and natural minds. It can also be a basis for empathy and understanding. With Bateson's help, we can see why art is the best cultural ambassador we have. We may consciously fear another culture, focus on our differences, or see them as competitors, but when we see the beauty of their art, we recognize in them what is best about ourselves. We see a wider system in which we both are a part, and can begin to aim for a "dynamic equilibrium within one major community" (*Steps*, 64).

When we experience beauty in art—in our own or in other cultures' art—or beauty in nature, we recognize minds with similarities to our own; we experience deeper harmonies that take us outside of the limited arc of consciousness and its purposes and fears—we recognize that we are all part of the same evolutionary story.

> The beauty of the woods through which I walk is my recognition both of the individual trees and of the total ecology of the woods as a *system*. A similar esthetic recognition is still more striking when I talk to another person. (*Steps* 332)

Conclusion: Healing Minds

It might seem that in his attempt to give us back a world filled with beauty and meaning Bateson has chosen a cold and mechanical metaphor—and stretched it very thin. We associate mind with calculation, reason, and abstraction, and contrast that with the heart and its passion, poetry, and embroiled connections. Part of the blame here is due the unfortunate associations we have with the word "mind," and Bateson wants to change that, but part of it may also be the fault of a still too mechanical and deterministic picture of the world.

Bateson works to unify heart and head. The emotions or passions, and the behaviors they inspire, are all immanent in mental circuits in his broader understanding of mind. Bateson quotes Pascal "The heart has *reasons* which the reason does not at all perceive" (*Steps* 321). He talks about these "algorithms of the heart" as being part of the language of primary process. Being unconscious and in a different language, these are "doubly inaccessible" and when we do access them, through "dreams, art, poetry, religion, intoxication, and the like, there is still a formidable problem of translation" (*Steps* 139). While it is difficult to talk rationally about the heart without introducing abstractions, Bateson does not mistake the map for the territory, and the richness of emotional life is not reduced. Even in discussing mind and "patterns that connect," he starts with the concrete, and always endeavors to bring us back to the concrete: "What pattern connects the crab to the lobster and orchid to the primrose and all four of them to me? And to you?" (*M&N* 8).

[14] Charlton, *ibid*., 144.

But mind not just a metaphor for Bateson, it is the closest we can come to a literal description of the phenomena he considers.[15] Yet when something typically associated with human brains is stretched so wide to encompass life and living systems one can worry that the usefulness of the term might be diminished. The corrective for this is to distinguish the many kinds and levels of mind that have emerged, as mind and life develop and diversify. Bateson recognizes how minds below, above and parallel to our own—though homologous—can function differently and take on different qualities. We see this clearly in his rejection of Gaia, even while he endorses Eco as the widest ecological mind. Eco was not a mind like we are, and Gaia, the idea that the earth itself is a living being, was not a mind because it was too "Pleromatic, thingish" a conception (*Angels* 149).[16] While ecological systems are replete with mental circuits, one can also question whether most ecological systems have sort of unity over time and learning that would qualify them as minds even in Bateson's sense, or whether they, like Gaia, are too disparate and thingish.

While "mind" is stretched thin, *insanity* does seem an excellent metaphor for how human consciousness can interfere with natural systems. And such purposive interference in complex systems with limited knowledge always has consequences. "Lack of systematic knowledge is always punished," says Bateson (*Steps* 440), and this is what he means when he says that God, or Eco, "will not be mocked" (*Angels* 147). But while we are not able to mock Eco, we can certainly drive him insane, and we do so at our own peril.

The ignorance surrounding conscious purposiveness was relatively benign until we developed the technological power to act on our epistemological errors and really disrupt systems and force schismogenic change at a planetary scale (*Steps* 440, 493), e.g., with climate change and melting ice caps (*Steps* 495). Yet Bateson leaves us with hope. Bateson once said, "Nature is a double-binding bitch" (*Angels* 147), but he also saw that double-binds pushed far enough can enabled breakthroughs to new levels of understanding (*Steps* 276, 303).

Bateson's emphasis on the sacred, the aesthetic, and noncommunicative knowledge in the process of healing (*Angels* 80), might mistakenly lead one exclusively to the command "thou shalt not tinker" (*Angels* 148), but Bateson is also confident that through the proper study of systems we can gain knowledge that is unavailable to us today. He recognizes that areas where "angels fear to tread" might one day be open to us (*Angels* 65). Perhaps, as he had hoped, by fostering both aesthetic experience and ecological wisdom we can break through the double-binds that spin us into destructive runaway behaviors; we can learn to see value in nature and learn how to preserve systems important to life and mind.

[15] Charlton, *ibid*., 64, 65.

[16] It might be that Bateson was too hasty in dismissing the notion of Gaia. Charlton works to show how this conception can be made consistent with Bateson's views (Charlton, *ibid*., 190-194).