

■ Research Paper

Conscious Purpose in 2010: Bateson's Prescient Warning

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In 1968, Gregory Bateson hosted a conference on 'the effects of conscious purpose on human adaptation'. In his conference paper, he warned that human conscious purpose distorts perception in a way that obscures the systemic ('cybernetic') nature of both self and environment. The ensuing years have paid little attention to his analysis of both the observer and the environment as cybernetic systems whose systemic natures are dangerously opaque to human purposive thought. But his analysis is sounder than ever on the basis of scientific developments of the last 40 years. Recent adaptive systems formulations in ecological theory have underscored how ecological systems, because of their systems nature, can be vulnerable to the unintended consequences of human actions. Modern neuroscience has also delineated many of the limitations of conscious thinking Bateson warned us against. In fact, a new work on the cerebral hemispheres has pointed to epistemological biases, characteristic of the left hemisphere in particular, that fit Bateson's portrait of the biases of conscious purpose. It seems that Bateson's 42-year-old warning was prescient and relevant to our predicament today. Copyright © 2011 John Wiley & Sons, Ltd.

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GREGORY BATESON, 1968: PRELUDE TO A CONFERENCE

In 1968, Gregory Bateson organized a conference at Burg Wartenstein, Austria, with participants from the worlds of cybernetics, ecology, anthropology, the humanities and education. The conference was under the auspices of the Wenner-Gren Foundation, an anthropological foundation, and it did not yield a proceedings volume. Instead,

Mary Catherine Bateson, participant and Gregory's daughter, wrote up a personal account of the interlocking discussions of the conference in a book, *Our Own Metaphor* (Bateson, M. C. 1972).

The subject of the conference was a characteristically Batesonian one, 'the effects of conscious purpose on human adaptation'. This dry phrase concealed a kind of origin myth of the disharmony between human activities, even the most well-intentioned, and their effects—often unintended—on the wider worlds and contexts in which those activities take place. History remembers 1968 as a year when throughout the developed world, there was a general desire that

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the world should change in desired ways, a widespread urgency that it do so as quickly as possible and a pervasive optimism that new ideas from a new generation would bring about welcome change.

A number of young people from this hopeful generation found themselves contemplating the work of Gregory Bateson. He was someone who was gathering insight from the margins, from Papua New Guinea and Bali, from people with schizophrenia, from playful animals. Here was someone equally at home in the cybernetics of Wiener and McCulloch and the poetry of William Blake. Bateson for his own part had a rapport with this generation but did not share their optimism about change, even though he had if anything a stronger and better-informed sense that the larger culture had gone awry.

After World War II, Bateson along with his then-wife and collaborator Margaret Mead participated in the movement against the threat of nuclear annihilation. But Bateson was also one of the earliest Deep Greens, before anyone used this term. As the son of the English geneticist William Bateson (who is now known to today's scientists as anticipating the perspective called 'evo-devo'), young Gregory was steeped in natural history and evolutionary theory. Indeed, largely because of the biology that was second nature in his family, he was ever since he was a small boy, intimately familiar with the plants and animals found near where he lived. By the 1940s and the 1950s, he used to take his daughter Mary Catherine, when she visited him in California, to the wild and natural areas of the Sierras and the coast (Bateson, 1984). His ongoing relationship with the natural world continued even when the focus of his daily work shifted to schizophrenia and family systems. He was sensitized, by upbringing, habit and theory, to notice ecological changes that were not yet acknowledged by the wider culture. By 1968, he was already looking at the possibility of global climate change due to human industrial activity.

Yet, Bateson also had a deep scepticism about activism and attempts at directional cultural change. As an anthropological participant in covert activities during World War II, he was, according to his daughter Mary Catherine Bateson, deeply

disillusioned by the use of deception and trickery in the service of a war that he always felt had been, in its larger purpose, justified (Bateson, 1984). In the 1950s, as he worked with schizophrenia patients and therapists, he witnessed how some people justified manipulation and lobotomy in what was deemed to be the best interests of patients. For him, the 'technology' of public relations and activist politics, even when deployed against 'the system' rather than by it, could also be destructive of the more delicate yet profound understandings between people, which could yield more lasting and beneficial change. Conversation or thoughtful investigation was for him a more potentially fruitful approach to the dilemmas of the time, as opposed to urgent yet possibly flailing action based on unexamined premises that might play into the larger dynamics that it purported to oppose.

For him, the investigation of human 'conscious purpose' was an interrogation of how cultures, and how the present moment, had gone so wrong—but this investigation also justified his profound discomfort with the most available and culturally popular means of righting them. It involved a kind of origin myth of the fall of humanity but did not provide an easy means of redemption. Our desires to fix things, now!, were to be subjected to a kind of Taoist double bind.

In this paper, I am concerned to restate and elaborate Bateson's position paper for the 1968 Burg Wartenstein conference, reprinted in *Steps to an Ecology of Mind*, in which Gregory Bateson set forth a tight logical argument for why logic and rationality might be insufficient to save us (Bateson, 1968, in Bateson, G., 1972; subsequent citations will reference Bateson, G. 1972). I think its message still resonates, and its wisdom is as appropriate for the 21st century as it was for the day in which it was written.

The paper begins with the Batesonian vision of how environments are put together, as reimaged by his cybernetics. I will discuss how this idiosyncratic vision can be understood, partly in its own terms and partly in the light of later approaches that go over similar ground. A theory of environments is also a theory of how environments change, and one of how humans couple with them, and I show how Bateson deals with both those issues. In counterpoint, the paper continues

with the Batesonian vision of how conscious purpose operates within the perceiving/acting observer. Then, Bateson shows the tragic mismatch between the wielder of conscious purpose and the wider world of unknown feedbacks and unintended consequences. He shows how modern technological capability and social organization heighten this mismatch. Finally, he finds whatever remedies he can, in the less purposive activities of the human mind—love, art and even religion.

FIRST, THE ENVIRONMENT

Bateson's argument is set forth in 20 numbered sections, most but not all consisting of one paragraph each. The first group of sections (1–5), in which he tries to set forth a view of human environments in the light of cybernetics, is somewhat difficult to approach in its own right. This is partly due to the proliferation of newer approaches to the same issue and to the theoretical and ideological problems that seem to bedevil attempts to see humans as embedded in larger systems with self-corrective properties.

Radical Batesonianism begins at the very beginning, Section 1, with a deceptively unassailable statement of what it means to be systemic:

All biological and evolving systems (i.e., individual organisms, animal and human societies, ecosystems, and the like) consist of complex cybernetic networks, and all such systems share certain formal characteristics (Bateson, 1972, 441).

These characteristics include a mix of positive and negative feedback loops: positive feedback refers to self-amplifying runaways, whereas negative feedback refers to self-maintaining or self-regulating chains of events. Bateson, later in this section, uses the term 'homeostatic' as a synonym of this kind of negative feedback.

This is where the trouble begins, as the word 'homeostasis' raises its own set of red flags. His use of this term, which refers to self-regulation that keeps organisms alive, has made his approach vulnerable to critics, such as Marxist-influenced anthropologists, who see all cybernetic and systems approaches in the context of earlier theories

of ecologies and, especially, societies as superorganisms. (In ordinary language, this kind of implicit model exists; for example, it is common to speak of the 'head' of an organization and of 'members', which also, particularly in an older English, refers to parts of the body—as in St. Paul's letters.) Such analogies have been used throughout history as an ideological support for authoritarianism and hierarchy. The 'organism' approach to larger systems also has been criticized as implying a boundedness that is a characteristic of living things but not, it is argued, to entities such as ecosystems or cultures.

Bateson of course was neither an authoritarian nor a hierarch. For example, in his anthropological work, he was not concerned with justifying particular patterns of social organization. More typically, he showed that they function by means of paradox and self-subversion, as illustrated by the *naven* ceremony of the Iatmul people in Papua New Guinea (Bateson, 1958) or that they were complex and hard to characterize, as exemplified by the idiosyncratic interweaving of aristocracy and village democracy in Bali (Bateson, 1972).

Neither was Bateson concerned with whether ecosystems or cultures formed bounded entities. In fact, for Bateson, the boundary of any system (including that of a 'single' organism) is always related to the purposes, analytic or otherwise, of an observer. This is in contrast to the theory of autopoiesis as it would later be developed by Maturana and others (Maturana and Varela 1987). This theory of autopoiesis involves the recursive self-fashioning of the autopoietic being's component parts, resulting in a clear boundary between organism and environment. However, for the very reason that boundaries are so clear in the case of organisms, Maturana refuses to see ecosystems and societies, whose boundaries are less easy to draw, as fully autopoietic.

Bateson's version of mental process does not rely on 'strong autopoiesis' in this sense but on the maintenance of any kind of ongoing value or relationship, by feedback systems that change other values or relationships in such a way as to maintain the reference one (as identified by an observer). Such systems may, or may not, maintain their boundaries in a way that Maturana would recognize as fully autopoietic.

To approach Bateson's 1968 position paper in our own time, we must therefore let go of some of the implications of the term 'homeostasis' even though Bateson used that term. We must assume a looser sort of system process, albeit one that is still characterized by both positive and negative feedback loops. We should continue to investigate what kinds of order and stability are created by positive and negative feedback processes in the absence of 'tight' autopoiesis. Beth Dempster and I, independently (although she has priority by a few years), have developed the term 'sympoiesis' for these kinds of processes, not so much to declare that (particularly in my case) they are well understood but rather to delimit a field for investigation (Dempster, 1998, Guddemi, 1997). A good example of a postulated sympoietic superentity would be Lovelock and Margulis's Gaia hypothesis of environmental temperature regulation (Lovelock, 1979). The hostile reception that hypothesis has received is indicative of the difficulties of the subject, both scientific and ideological.

One early attempt to apply cybernetic or systems ideas of this (possibly 'looser systems') kind to biological ecology in particular was that of Ramon Margalef (1968). However, to show how Bateson's ideas can have resonance today, I will show how they fit with the most influential contemporary synthesis of systems ideas in ecology, the 'panarchy' theory of C.S. Holling and his followers (Holling *et al.*, 2002a).

In the first chapter of the collaborative book entitled *Panarchy*, Holling, Gunderson and Ludwig describe a number of 'alternative views or myths of nature'. They are more or less explicit or intuitive theories of what natural environments are like. Of particular interest here are Nature Balanced, characterized by negative feedback and a forgiving dynamic equilibrium, and Nature Resilient, with multiple stable states rather than one unified one but still characterized by robust internal feedbacks. Also prominent in the environmental movement is the Nature Anarchic view, in which, aside from a small zone of safety, changes tend to precipitate cascading and self-reinforcing positive feedbacks. This view leads to the development of a strong precautionary principle. Holling and collaborators finally recommend, partly as a synthesis of these views, what they call the Nature Evolving view,

Nature Evolving is a view of abrupt and transforming change. It is a view that exposes a need for understanding unpredictable dynamics in ecosystems and a corollary focus on institutional and political flexibility (Holling *et al.*, 1972, 14).

Bateson's theory of environments, as he develops it in these first five sections of his 1968 position paper on conscious purpose, can also be seen as a synthesis of the views or myths of nature Holling and his collaborators describe.

Bateson begins his argument by evoking positive feedback, arms race and Nature Anarchic processes as inevitably arising out of living (social or ecological) interaction. But we observe more persistence and stability in nature than would be the case under a fully Nature Anarchic regime; and thus, there must exist negative feedback or so-called homeostatic processes that keep the aforesaid positive feedback processes in check. However, these homeostatic processes in their turn involve a stability of some variables, or 'propositions', which is always 'bought' by the variability of others. As Bateson wittily puts it, *plus c'est le même chose, plus ça change* (Bateson, 1972, 441).

In systems characterized by such a complex cybernetic web of self-amplificatory and self-regulating processes, external impacts ramify but can then be neutralized by changes in the system, which maintain 'its' values in the face of change. This would be Nature Resilient, and Bateson sees resilience as emerging from learning and from systems processes that Bateson believes are formally similar to learning. Acclimation and addiction are examples within the individual organism (Bateson, 1972, 442). Bateson provides an amusing social example of bootleggers who allegedly fought the repeal of prohibition.

But resilience, much less equilibrium, cannot always be relied upon, because perturbations (to use a Maturanian term) may be greater than the system can handle. In these cases, the warnings against Nature Anarchic are not necessarily crying wolf. Bateson's warnings of ecological disruption are sometimes strongly anticipatory of the later work of Tenner (1996) on technologies that 'bite back' their originators due to unintended (and sometimes ramifying) consequences.

In his Section 5, Bateson admits to the conservatism of this view of biological change—or he should say, biological change that preserves particular states of affairs (because there can also be purely destructive biological change). Even ‘basic’ and individual matters such as reward and punishment are relative to each other and to the arbitrariness (as Bateson, although not of course Maturana, sees it) of defining the boundaries of an individual organism. What is a reward if the organism-system is defined in one way, is the avoidance of punishment if the organism-system is defined in another.

Holling’s final approach to ‘what nature is like’, incorporating a variety of recently fashionable views, is what he calls Nature Evolving, represented in various fields by terms such as complex adaptive systems, complex systems, chaos and order, self-organization and nonlinear system behavior (Holling *et al.*, 2002a, 14). These approaches result in complex ‘adaptive maps’ of an often unpredictable and shifting landscape of stability and nonstability.

As Holling notes, all these theories are ‘partial truths’ (Holling *et al.*, 2002a, 19). Some of them seem to be importations from physics, albeit a more nonlinear physics than that which inspired the physics envy of earlier theorists of biology. It is sometimes hard for me to understand how they improve on Bateson’s 1968 view on the basis of cybernetics, as they sometimes seem to reinvent ideas found already in Bateson or other early cyberneticians. Their view of the complex adaptive landscape of environments seems to me reminiscent of Bateson’s. (Bateson was always sceptical of importing biological theories from physics or chemistry; in fact, he tried to create an explanatory firewall between the theories he thought appropriate for understanding biological organisms—largely his own version of cybernetics—and those appropriate for physics—or maybe not so appropriate even there, as he may have been primarily thinking here of the Newtonianism for dummies that has flourished in the academic social sciences, and certainly he also had in mind Freudian psycho-hydraulics. Whether Bateson would have found that complex systems physics was a better fit for biological systems is of course unknowable.)

The panarchy approach to ecological and social systems yields a world in which stable domains

are multiple, sometimes nested, sometimes abruptly changing. It is a ‘lumpy’ world with diversity and variable resilience. Systems do not always behave as their parts do, and surprise and unpredictability are endemic (Holling *et al.*, 2002b, 396–7, Table 15–1). If today’s theorists see the world of ecological systems as a world of partial truths and shifting stabilities, nonlinear and flirting with chaos, this should be a world that boggles our conscious, purposive minds every bit as much (and even more so) as the world of cybernetic ecological unities that Bateson has been thought to evoke.

THINGS ARE GONNA SLIDE, SLIDE IN ALL DIRECTIONS

Bateson clearly saw that any model of ecological (or socioecological) dynamics, which saw these as composed of interlocking positive and negative feedback loops, would entail a new way of thinking about destructive change. Thus (in Section 7 of his position paper), he sees destructive change as characterized by ‘runaway or slippage along the potentially exponential curves of the underlying regenerative circuits’ (Bateson, 1972, 442). This does not always result in total destruction of the system. This concept of change as slippage, applied to the ‘tightly’ autopoietic system of an organism, produces a new concept of disease. Applied to the arguably less tightly organized worlds of ecosystems and societies, it creates a new way of looking at environmental disruption. It represents an acknowledgement that Bateson is not dealing entirely with a Nature Balanced model. And some change is irreversible and causes irreparable harm. Cybernetics leads Bateson, in fact, to something of a combination of Nature Balanced, Nature Anarchic and Nature Resilient models. (For a more-detailed resilience theory in Bateson, one should turn to two articles in *Steps to an Ecology of Mind*, which set forth his theory of ‘the economics of flexibility’ (Bateson, 1972, 346–363 and 494–505).)

Thus, as he describes in his Section 6, Bateson is interested in revising our ideas of the self so as to include self in relationship to larger systems. His Section 8 outlines the problem of the resulting ‘coupling’ of ‘man’ and environment. (Really, it should be about the relationship between the

conscious organism or individual and the environment, the term man for the former being obsolete even in 1968, whereas the term coupling looks forward towards the later theories of Maturana and Varela.) But this coupling involves not only conflicts of interest between individual and system but also incompatibilities of information.

Ecologists may be puzzled by Bateson's invoking a figure from *Alice in Wonderland* here, to wit, Alice trying to use a flamingo as a mallet (and a hedgehog as a ball). To Bateson, this scene represents what he calls meta-randomness, the randomness of two systems that have different cybernetic foci ('goals' or 'purposes') that cannot readily be coordinated. Similarly, the coupling of humans with their encompassing environment risks a kind of meta-randomness if humans are not aware of (or do not make use of their awareness of) the systemic qualities of that ecosystemic environment.

PURPOSIVE OR LINEAR CONSCIOUSNESS

From the characteristics of the environment, and the human coupling with it, we now proceed to human beings as observers and changers of that environment, and to the conscious purpose that is the instrument and goal of that observation and alteration. In his Sections 9 to 12, Bateson delineates in firm strokes a stunning theory of the limitations of consciousness that by applying cybernetic first principles anticipates contemporary neuroscience.

The 'consciousness' that Bateson proceeds to dissect is not the sensation of qualia, the opposite of anaesthesia or sleep, or a passive recipient of sense data. It is perhaps better glossed philosophically as an organ of purposive agency.

Bateson's initial point is that consciousness is selective. The organism, in this case the human being, has far more information available at any given moment than is actively perceived consciously. In another article, Bateson made the point using an example that has always stayed with me:

Consider the impossibility of constructing a television set which would report upon its screen *all* the workings of its component parts, including especially those parts concerned in its reporting (Bateson, 1972: 136, fn 1).

This analogy would seem to refer primarily to self-reporting about the state of the organism, but the cybernetic perspective informs us that 'internal' and 'external' information both exist as part of the organism's ongoing process at any particular point in time. The analogy of the television set does bring to mind Bernard Baars's conception of consciousness as the 'global workspace' in which conscious attention is a kind of spotlight or theatrical proscenium that enables selected information to be processed and worked with. Baars says consciousness 'facilitates the flow of information between different elements of the mental theater' (1997, 163, Figure 8–1).

Baars also mentions—as functions of consciousness—prioritizing, problem solving, decision making, executive control, the recruiting and control of actions, error detection and the editing of action plans, learning and adaptation and 'creating the context for understanding' events (Baars, 1997, 157–162). These are all, of course, active functions that themselves exist within the context of enabling the agency of an (human) organism. They are not primarily engaged in the disinterested pursuit of truth or the mirror of nature. The cybernetic, autopoietic and evolutionary perspective on conscious action is the philosophically pragmatist one: conscious action exists as part of the ongoing adaptation or coupling of the organism with its environment.

But this focus on my purpose or goal, as part of the selection of what information comes into my consciousness, leads to precisely the distortion of perception that Bateson is worrying about. As Bateson writes in his Section 12, in his full statement of the central argument of the position paper,

If consciousness has feedback upon the remainder of mind (9, above), and if consciousness deals only with a skewed sample of the events of the total mind, then there must exist a *systematic* (i.e. nonrandom) difference between the conscious views of self and the world, and the true nature of self and the world. Such a difference must distort the processes of adaptation (Bateson, 1972, 444).

In particular, the human adaptation is very good at short-term actions dealing with simple cause and effect. In a less formal talk, Bateson gave at

approximately the same time, he explicitly sets this argument as an allegory of the fall of humanity, by burlesquing the famous experiments Kohler did on chimpanzees:

Let me offer you a myth. There was once a Garden. It contained many hundreds of species—probably in the subtropics—living in great fertility and balance, with plenty of humus, and so on. In that garden, there were two anthropoids who were more intelligent than the other animals. On one of the trees there was a fruit, very high up, which the two apes were unable to reach. So they began to *think*. This was the mistake. They began to think purposively. By and by the he ape, whose name was Adam, went and got an empty box and put it under the tree and stepped on it, but he found he still couldn't reach the fruit. So he got another box and put it on top of the first. Then he climbed up on the box and he got that apple. Adam and Eve then became almost drunk with excitement. *This* was the way to do things. Make a plan, ABC and you get D. They then began to specialize in doing things the planned way. In effect, they cast out of the Garden the concept of their own systemic nature and of its total systemic nature (Bateson, 1972: 434–435).

Less entertainingly and more rigorously, in the position paper we are considering, Bateson makes the same point:

Our conscious sampling of data will not disclose whole circuits but only arcs of circuits, cut off from their matrix by our selective attention. Specifically, the attempt to achieve a change in a given variable, located either in self or environment, is likely to be taken without comprehension of the homeostatic network surrounding that variable (Bateson, 1972: 445).

For 'homeostatic', we should today say 'complex adaptive system' or another term that, as discussed earlier, specifies a less tight form of organization than Bateson evoked. But the point still remains. There is a double contradiction in the human adaptation. Our consciousness aids our short-term successful adaptation by facilitating selective attention to features of the environment, allowing us to intervene in and manipulate cause–effect

relations. But the very powers of selective attention within our consciousness that enable us to do this also systematically blind us to the wider relationships and interconnectednesses in which the parts of our environment we are manipulating (and we ourselves) are embedded.

Which returns us in a way to Tenner (1996) and 'why things bite back'. According to Holling and his collaborators, Tenner's critique of technology comes out of a view of Nature Anarchic in which positive feedback relations can get out of hand, requiring a tough precautionary principle to prevent dangerous blowbacks. But, of course, Tenner and Bateson are not necessarily promoting this as a wider view of 'nature' as a whole. Instead, it is a take on the human intervention into 'nature', the particular human adaptation of goal-directed behavior, which always has the potential to bring about unintended consequences of possibly unpredictable magnitude and unforeseeable network spread.

ECOLOGICAL LOGIC OF ASYMMETRICAL POWER OVER ENVIRONMENT

Bateson derives a part of his ecological critique (or perhaps I should say his sense of ecological tragedy, in the classical sense) from a consideration of the ecological consequences of any organism that develops what I might call ecological power over its environment. Bateson's analysis here fits well with a cybernetic theory of power that I have been developing in a number of articles and conference papers, including an earlier International Society for the Systems Sciences paper (Guddemi, 2008).

I have been defining power, for example, human social power, as the relationship where A is adapting to B 'more' than B is adapting to A. Or in other words, the consequences for A of acting in reference to B are greater for A than the consequences for B of acting in reference to A are for B. A has less 'freedom of action' with respect to B than B has with respect to A and so on.

The keystone of the human adaptation is that we adapt the environment to ourselves rather than adapting ourselves to the environment. When we are cold or hot, we adjust the thermostat. Bateson remarks on the inescapable results of this change in ecological focus (while making sure to find

evolutionary parallels to underscore that we are organisms too and that our differences arose from systems dynamics):

In evolutionary history, the great majority of steps have been changes within the organism itself; some steps have been of an intermediate kind in which the organisms achieved change of environment by change of locale. In a few cases organisms other than man have achieved the creation of modified microenvironments around themselves, e.g. the nests of hymenoptera and birds, concentrated forests of conifers, fungal colonies, etc.

In all such cases, the logic of evolutionary progress is toward ecosystems which sustain *only* the dominant, environment-controlling species and its symbionts or parasites.

Man, the outstanding modifier of environment, similarly achieves single-species ecosystems in his cities, but he goes a step further, establishing special environments for his symbionts. These, likewise, become single-species ecosystems: fields of corn, cultures of bacteria, batteries of fowls, colonies of laboratory rats, and the like (1972:445).

In other words, the asymmetrical 'power' inherent in the human adaptation yields a situation in which human actions exert an ever-increasing adaptive pressure on other organisms, whereas these other organisms (and their ecological relations as they would be in the absence of humans) exert in most cases an ever-diminishing adaptive pressure on humans. All other things being equal (which they may not be forever), this draws for us a tragic blueprint for a global extinction crisis, a blueprint that can probably be stated and demonstrated mathematically.

In Section 17, Bateson, in fact, uses the term 'power' in a way that is completely atypical for him (he was famously sceptical of the term in almost all its usual employments). It is worth citing this section:

The power ratio between purposive consciousness and the environment has changed rapidly in the last one hundred years, and the *rate* of change in this ratio is certainly rapidly increasing with technological advance.

Conscious man, as a changer of his environment, is now fully able to wreck himself and that environment—with the very best of conscious intentions (1972:445–6).

Indeed, it is this very change in 'power ratio' that lessens any immediate *perceived* need to take in information from the environment that could serve as feedback enabling humans to change their course. 'Traditional societies' may have had a more 'balanced' relation to their environments not necessarily because of intrinsic superiorities within their way of thinking, nor because they themselves are (to use an infamous phrase) 'closer to nature', except in the sense that their power ratio vis-à-vis their environments was less and they were thereby forced to adapt sensitively to those environments to survive and persist. (And not all 'simpler' societies did escape damaging their environment, although specific examples of this, e.g. those discussed by Diamond (2005), are contested in their details). We are more remote from nature's feedback in an immediate sense, especially those of us who draw from different environments for our needs ('biosphere people' rather than 'ecosystem people', cf. Dasmann, 1976). Our consciousness can edit away, before we even perceive it, the environmental feedback that does not provide us with an immediate adaptive pressure in our daily lives.

FIDUCIARY BLINDERS AND THE IMPOTENCE OF CORPORATIONS TO BE WISE

Bateson rather abruptly turns his attention in his next section (18) to the consequences of the existing of 'self-maximizing entities' that legally have something like the status of persons. This is a favourite complaint of the Left in the United States usually accompanying a history of the Supreme Court's finding that corporations have the legal status of persons. Psychologist Dennis Fox, for example, notes (Fox, 1996) that the earliest attribution of legal personhood to a corporation was in 1819 in the Supreme Court's opinion in a case entitled *Trustees of Dartmouth College v. Woodward*. The more commonly cited Supreme Court ruling is that of 1886 in which the Supreme Court, in the case *Santa Clara County v. Southern Pacific Railroad* ruled that the Fourteenth

Amendment, which was written originally to give rights to former slaves, also legally protected corporate 'persons' (Hartmann, 2002).

This passage shows that Bateson is neither a Hobbesian nor what is typically called a conservative. In discussing this sort of corporate person, as well as other collectives that act in similar fashion while not always having the status of person, Bateson thunders,

In biological fact, these entities are precisely *not* persons and are not even aggregates of whole persons. They are aggregates of *parts* of persons. When Mr. Smith enters the board room of his company, he is expected to limit his thinking narrowly to the specific purposes of the company or to those of the part of the company which he 'represents.' Mercifully it is not entirely possible for him to do this and some company decisions are influenced by considerations which spring from wider and wiser parts of the mind. But ideally, Mr. Smith is expected to act as a pure, uncorrected consciousness—a dehumanized creature (Bateson, 1972, 446).

The legal concept of 'fiduciary duty' has experienced a similar corruption. Originally, the concept of fiduciary duty is that when one is legally acting for another one is required to pursue the other's interests rather than one's own. It is a high ethical conception. However, the concept of fiduciary duty has also been used by corporations to avoid taking environmental precautions any greater than enforced by government regulations. The idea is that the fiduciary duty of corporations towards their owners, or stockholders, requires them to maximize corporate profits, but at best only 'permits' them to take into account the concerns or interests of other stakeholders. According to a recent law thesis by Gail Henderson at the University of Toronto, 'The American Law Institute's Principles of Corporate Governance state that "a corporation should have as its objective the conduct of business activities with a view to enhancing corporate profit and shareholder gain"' (Henderson, 2009,15). This viewpoint is according to Henderson particularly prominent in the key corporate regulation state of Delaware (infamously the preferred site of corporate charters because of its 'business-friendly' regulatory history).

More generally, in any organization characterized by hierarchical power relations, the interests and purposes of the more powerful members become pre-eminent because of the need for the less powerful members to adapt themselves, to become the social equivalent of 'parasites and symbionts' to the dominant actors. (An earlier English political vocabulary actually used the word 'creatures' for those who were by necessity or circumstance dependent on others within a hierarchical system of patron-client politics, in a way that diminished their effective social autonomy.) Dynamics of this kind of course deprive organizations of the independent use of the minds of their subordinate members, to the detriment of the adaptation of these systems as a whole. Such subordinate members might, after all, be in a position to alert such organizations to neglected aspects of their own present or potential environments, aspects that would repay conscious attention.

CORRECTIONS, WISDOM AND THE RIGHT HEMISPHERE

Bateson's hope for correctives to the baleful effects of conscious purpose on human adaptation is primarily at the level of the individual (whom one's hope is situated in a position socially where one can make a difference to others). His implicit question is, what widens the mind? What expands the consciousness away from its narrow pragmatic focus so that it can perceive more than its purposes and plans? He believes these correctives can include love, the arts, the humanities, contact with the natural world and religion.

Bateson in his late work, although not in this article, does invoke the difference between the left and right hemispheres of the brain that was fashionable in the 1960s and the 1970s. The asymmetry between the hemispheres of the brain became less fashionable in the waning decades of the 20th century, but it has been revived in 2009 by a provocative book by Iain McGilchrist, *The Master and His Emissary: The Divided Brain and the Making of the Western World*.

McGilchrist uses the left and right hemispheres of the brain (as Bateson did) to symbolize or represent contrasting mental approaches to or

perspectives on the world. McGilchrist surveys the literature exhaustively before sailing out on the sea of historical speculation (where I believe he remains remarkably afloat in waters that could easily sink him).

In birds, according to McGilchrist, it is the left hemisphere/right eye that is used for getting and feeding and the right hemisphere/left eye that is used for 'for vigilant awareness of the environment' (2009, 26). Throughout the animal kingdom, evidently,

The left hemisphere yields narrow, focused attention, mainly for the purpose of getting and feeding. The right hemisphere yields a broad, vigilant attention, the purpose of which appears to be awareness of signals from the surroundings, especially of other creatures, who are potential predators or potential mates, foes or friends; and it is involved in bonding in social animals. It might then be that the division of the human brain is also the result of the need to bring to bear two incompatible types of attention on the world at the same time, one narrow, focused, and directed by our needs, and the other broad, open, and directed towards whatever else is going on in the world apart from ourselves. . . . The right hemisphere underwrites breadth and flexibility of attention, where the left hemisphere brings to bear focused attention. This has the related consequence that the right hemisphere sees things whole, and in their context, where the left hemisphere sees things abstracted from context, and broken into parts, from which it then reconstructs a 'whole': something very different. And it also turns out that the capacities that help us, as humans, form bonds with others—empathy, emotional understanding, and so on—which involve a quite different kind of attention paid to the world, are largely right-hemisphere functions (McGilchrist, 2009, 27–28).

Bateson also and similarly describes a difference between the left and right hemispheres, usually in less formal talks and publications. It is clear that for him as well, the nonverbal, artistic and metaphorical mental processes are found in the right hemisphere—the very processes that he hoped

would correct for the narrow focus of what he called conscious purpose.

We are still far from identifying the logical types and modes of the message material generated in the right and left hemispheres respectively, but it seems that, with exceptions of various kinds, the right hemisphere is the source of what used to be called 'primary process' thinking—sequences other than the indicative, the logical, and the 'true-or-false.' The left brain material can be qualified by 'perhaps,' 'it's as if. . .,' 'I guess,' 'I wish,' 'I see,' 'I heard that,' and so on. And each qualification saves the material from the false concreteness which indicative messages will always propose, and which the undisciplined left hemisphere commonly prefers. 'It's six o'clock' seems less ambiguous than 'Time and the bell have buried the day.' But do not be deceived into thinking that T.S. Eliot's line means 'the pubs are now opening' (Bateson, 1991, 291–2).

In the concluding passages of his 1968 position paper on conscious purpose, which we have been considering here, Bateson, in looking for remedies to purpose-induced shortsightedness, specifically turns to what he and McGilchrist might both consider matters of the right hemisphere of the brain. Bateson first evokes the 'I-Thou' relationship, as Martin Buber famously termed it, as one to try to establish between 'man' and society or environment, hoping (perhaps vainly as it turned out) that the 1960s phenomenon of encounter groups would bring more caring into these relations. He then argues for the arts and humanities, for contact between humans and animals and even for religion as possibly leading to a less narrowly perceptive cast of mind. In illustration of the last, he invokes the Book of Job in which 'Job's narrow piety, his purposiveness, his common sense, and his worldly success are finally stigmatized, in a marvelous totemic poem, by the Voice out of the Whirlwind' (Bateson, 1972, 447).

The Answer to Job brings, perhaps uniquely, to my own mind a phrase that was often used by the great anthropologist and Bateson scholar Roy Rappaport (who was my dissertation advisor). Rappaport said, 'knowledge can never replace respect as a guiding principle in our ecosystemic relations' (Rappaport, 1979, 100). The systems nature of our encompassing ecological and

ecosocial systems is such that we will not be able to create a predictive model that will tell us rationally what to do in each instance. Thus, we still have some need for our right hemisphere, metaphoric, intuitive mental powers. Bateson believed that art, music, poetry and love have adaptive significance, not only to our ancestors but also to ourselves. They enable us to transcend, at least individually and for a time, the narrow distortions of consciousness that attend pragmatic purpose.

Bateson seems prescient as we look back to 1968 and see how, in the ensuing years, the systems of society and environment maintained their values against those who saw further and differently. This too would have been for Bateson a cybernetic process. For McGilchrist, it is the left hemisphere in particular that fails to see the facts that do not support its logic or its worldview. Not only conservatives are subject to this myopia of purpose. It can also afflict those who attempt to solve problems, to achieve social or ecological change by standing on box A to reach the banana or by exerting leverage B on a system that is thought to be understood. Conscious purpose is for humans our glory and our tragic flaw. Overcoming its paradoxical effect on perception, if this can be overcome, is a project for the whole brain, and the heart, and there are no shortcuts.

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