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ON GREGORY BATESON'S EPISTEMOLOGY, HIS DEFINITION OF MIND, AND ITS SOLUTION TO THE CARTESIAN DUALISM – OR MIND-BODY PROBLEM

INTRODUCTION

What is *epistemology*? As we may divine it comes from the Greek words *episteme*, knowledge or learning, and *logia*, logical discourse or learning (as an act). Thus the study of the nature of knowledge, or theory of knowledge. The learning about learning, or meta-learning.

Epistemology is often contrasted with *ontology*, the theory of what *is*, what exists or is real. What is being and reality. The central concern of metaphysics, a tall order. Though can we really separate these two concepts, ontology from epistemology? Can we assert any metaphysical truth about reality, without explaining and showing how we arrived at that insight, how we can know what we think we know?

Gregory Bateson (1904–1980), perhaps the most underestimated writer and thinker of the last century, did not think so. As a scientist and rigorous researcher in several fields he argued for a wider approach, one combining empirical science, cybernetics and philosophy. Where there is “Epistemology” and epistemology, the latter mostly unconscious, or even non-verbal and an inherent necessity for all living organisms. How animals learn who is an enemy or friend, how plants know when to sprout, how the amoeba knows where to find nourishment. How a child learns to name its world. Ever the naturalist, Bateson directs us to the process of knowing, more than the mere possibility. While propositions claiming “ontological” status become less important; either vain speculation or subordinated to a convincing and recursive epistemology.

But the question arises, how do we recognize a better epistemology? This was a life-long concern for Gregory Bateson. He was critical of the dominant paradigm in occidental science, its materialist bias and strict anti-teleology. A discipline he still had learnt so well and initially adopted. Over the years he came to believe that the discovery of cybernetics and systems theory was a fundamental breakthrough in our efforts to establish any real science of the living world. A new or added paradigm that could transcend our ancient dualisms; which Descartes in Bateson's view had made even worse with his separation of mind from body.

Who was Descartes? We will come to that, suffice to say he was a great French writer, thinker and mathematician, who may be called a father of modern western philosophy and science. However, his dualist ideas now seem his weakest legacy, amounting to a purely physical and mechanical view of the body and all biology. In our time the best thinkers reject this dualism for some kind of monism. But their solutions are seldom, if ever, clear and convincing. While most of our everyday thinking and "science" still contends with the physicalist strictures laid down by Descartes.

For example, aren't we still plagued by it daily, whenever we read a new article on which gene may determine obesity or autism; or just where consciousness may be located in the brain? When we strain to fathom the frontiers of quantum mechanics¹; or wonder whether an allergy is imagined or physical; or still would like to believe in extra-sensory perception, even out-of-body experiences? The following story is over twenty years old, but I believe it is as valid today.

In late July 1996, *The Economist*, under the unusual section heading "Moreover", had a single three-page article enticing readers with a portrait of a famous thinker on the first page and this introduction: "What is mind? No matter. What is matter? Never mind". Seldom has that bluff advice been so ignored. Yet the mind-body problem is as old as philosophy. Why the sudden revival of interest?

"Raise a glass to René Descartes", the author continued, "who was born four hundred years ago in the village of La Haye below the vineyards of the Loire. If

¹ See Prof. David Albert's fierce review, "On the origin of everything" (The New York Times, 2012, 23 March) of a new book by Lawrence M. Krauss, *Why there is something rather than nothing*.

provocation is a test of great philosophy, Descartes belongs with the elect. By the time he died of pneumonia in Stockholm in 1650, he had bequeathed the modern version of two deep but simple questions. Are minds and bodies distinct? If so, how do they interact? There are still no good answers. But spurred by recent work in neuroscience and artificial intelligence today's philosophers are trying harder than ever to find some."

In other words about this age-old philosophical question concerning a dualism, or fateful split, between mind and matter; in Cartesian terms between the human spirit (or mind) – and body, where the former is usually understood as consciousness. As always the article was well written and researched, if mainly reporting on the efforts by contemporary Anglophone philosophers to solve the riddle.

"Faced with the tenacious picture Descartes left," it later said, "modern thinkers have chosen among four basic strategies. One, idealism, denies the independent reality of matter. In the English-speaking world it is shunned by polite society except in literature faculties, some of whose denizens have deconstructed the world into subjective oblivion. Another strategy is to reject the independent reality of mind. This is materialism. A third is to expose the problem as a muddle. The last is to accept the Cartesian gap and try to bridge it."

Those were the present alternatives. And, essentially, what followed was a survey of attempts at solutions according to the second, materialist – and the fourth, dualistic, kind of strategy. This last was mainly represented by a young Australian thinker, David Chalmers (1996), who in a noticed work had challenged the various ways of assigning consciousness any material foundation or location. The third strategy was hardly given any scope, except for mentioning Ludwig Wittgenstein (1889–1951) as its wildest advocate. While the first, idealism, was tactfully neglected. As could be expected in our technological age, more or less subtle materialist explanations predominated.

However, our thoughts and feelings are not that easily reduced to physics and chemistry. Chalmers' critique had been difficult to refute; while his effort to bridge the gap was less convincing, by seeming to just make consciousness into some transcendental "counterpart to the forces and particles of physics". Even if the "idea of a mental force is not itself absurd", *The Economist* wrote, it too much resembles the hypothesis of a basic life force or *élan vital*; a notion which science since long has abandoned. And finally it said, "the more neu-

rosience explains the brain, the less mysterious consciousness must surely become". A pious prospect, I thought, as the ambitious article ended on the note that "Descartes's two questions are still waiting for answers."

Has this aged? Not much, I'm afraid. Time humbles all, and artificial intelligence is often called "machine learning" today, a more modest concept. While some scholars have certainly made some epistemological progress, if not yet moved the popular paradigm or general opinion. We are still struggling with this confusion. At the time, and though I just had an inkling of Bateson's solution, this excited me enough to try to respond in a letter to the Editors. Which of course became too late and too long. Thus it wasn't published (though appreciated, I was politely told). Regardless of the outcome, it was instructive to try to be so brief. And I enjoyed to discover some ideas, besides better understanding Bateson's. Here is what I wrote.

A LETTER TO THE ECONOMIST

Sir – your report on the so-called mind-body problem, "Science does it with feeling" (July 20th), was most interesting. It's indeed gratifying that, besides global politics and economy, you also take on such philosophical and possibly more profound subjects. However, even if he is not a professional philosopher but just a leading neurologist, I missed any reference to Antonio Damasio and his book "Descartes' Error" from 1994. You state that there are still no good answers to Descartes' questions; whether minds and bodies are distinct and, if so, how they might interact. But professor Damasio is certainly on the right track with his organismic and, albeit limited, contextual approach. Unfortunately he seems to be unaware of the Anglo-American thinker who may have solved this problem long ago, the strangely underrated anthropologist and bio-ecologist Gregory Bateson (1904–1980). In this he appears to be in noble company of *The Economist*, who also could have benefitted from Bateson's insights in other areas you have covered, such as artificial intelligence and the present revival of interest in Darwinism.

Bateson's main work can be found in his famed collection of papers, *Steps to an ecology of mind* (1972; new ed. 1987), and in his last book, *Mind and nature* (1979). He would surely have objected to the gross vulgarity of trying to present his view of mind (and body) in anything less than a major essay, but let me still make an attempt.

Together with his first wife, Margaret Mead, and other notables such as Norbert Wiener (1894–1964) and Warren Sturgis McCulloch (1898–1969), Bateson was one of the founders of cybernetics during the forties; and it is his original contribution to this discipline, combined with his wide-ranging studies in animal and human communication, which informs his epistemology. Though critical of Sigmund Freud (1856–1939), he also showed that human consciousness is but a small and fallible part of mind. And, whereas Freud let mind expand inwardly, Bateson lets it reach out into nature, where a coral reef or a redwood forest could be found to show all the necessary characteristics of mental process, or mind. These six characteristics or criteria of mind, in his own words a cornerstone of his last concluding book and, in passing, a solution to the mind-body problem, are (with my added comments in brackets):

1. A mind is an aggregate of interacting parts or components. (Thus, mind never exists in one chunk or piece; but as an organized cluster of multiple and different parts where the parts themselves are not capable of that organization. Single particles cannot “think”.)
2. The interaction between parts of mind is triggered by difference, and difference is a non-substantial phenomenon not located in space or time; difference is related to negentropy and entropy rather than to energy. (This is perhaps the most subtle and difficult point to grasp. It brings us away from the non-living, mechanical world of physical forces and impacts, to the living and n.b. *perceived* world of information and communication.)
3. Mental process requires collateral energy. (For example Bateson liked to say, if you kick a dog, the dog will respond with his own energy, not with the energy from your kick. In other words, in any informative or communicative event – which includes all “behavior” – the energy for the “effect” or response has to be available in advance and in the respondent. Fully understood, this makes energy an irrelevant factor in the continuing context – after all, it is strictly speaking only a physical quantity, i.e. mass by the square of velocity ($E = MC^2$). “Mental force” or “psychic energy” is thus a misnomer and a false, misleading metaphor.)
4. Mental process requires circular (or more complex) chains of determination. (This comes from the cybernetic discovery of feedback and re-

cursive systems. In other words, a lineal, unilateral or unidimensional, system cannot maintain or create any “steady state”.)

5. In mental process, the effects of difference are to be regarded as transforms (i.e., coded versions) of events which preceded them. The rules of such transformation must be comparatively stable (i.e., more stable than the content) but are themselves subject to transformation. (The most simple unit of information is: a difference which makes a difference, or a trace in time; an insight from Claude Shannon which Bateson developed and disseminated. Thus, this is also the simplest “unit” of mind. Or the lowest level of mental operation is the perception of a difference², as Bateson says in what may be his last interview, “Mind and body: a dialogue”, Robert W. Rieber; first printed in 1980.)

6. The description and classification of these processes of transformation disclose a hierarchy of logical types immanent in the phenomena. (Another of Bateson’s cornerstones was Alfred North Whitehead’s and Bertrand Russell’s theory of logical types in *Principia Mathematica*.³ Loosely speaking this refers to the necessary separation in logic of different levels of abstraction, in order to avoid oscillating paradox. Like Korzybski’s famous dictum “the map is not the territory” or, more mundanely, the name is not the thing named. Also, there can be a difference between two differences. And so on, in a ladder of levels which quickly defies our comprehension. The notable point here is that this is not just an arbitrary human conceptualization, but an immanent pattern in all organic life.)

And, Bateson adds, after having presented this list of necessary and sufficient characteristics of mind, “I shall argue that the phenomena which we call thought, evolution, ecology, life, learning, and the like occur only in systems that satisfy these criteria.”

So – if this begins to make sense to us, we know what constitutes a mind. Though, to understand how it solves the mind-body problem, a few qualifications might be necessary. At first glance, Bateson may seem to confirm a du-

² Gregory Bateson also used the term “distinction”, but here it is “difference”; perhaps emphasizing the mostly unconscious nature of micro-perception, simple neuronal transmission. Distinction requires an agent.

³ Cf. also B. Russel’s (1903). *Principles of mathematics*.

alism between mental process or form – and material substance⁴, which looks suspiciously similar to the traditional one between mind and matter. This, however, is not a real Cartesian split but an illusion springing from the fact of our present materialist bias, so ubiquitous also in *The Economist*. Alas, the literary deconstructivists do have a point (though they have lost their bearings). We cannot truly know the “real world”, or the *Ding an sich*, because it is – infinite. Thus, all is description and a mostly unconscious selection; the map is not, and will never be, the territory.

Nevertheless, our descriptions can be more or less harmonious with nature (or natural history, as Bateson would have it, including our own corresponding one). To become more so, which is his grand project, we first have to accept the above; that we all create “the World” as we see it and speak it. There is no objective experience, and science may probe but can never really prove anything, as Bateson makes clear in *Mind and nature* (1979: 27–30). It is perhaps ironic that anyone who has ever experienced psychosis (or psychedelics) would probably be better equipped to understand the gist of this than most academics.

But, I digress in fear of the ultimate provocation this entails: that “matter” is just another illusory abstraction. You see, says Bateson to Rieber, “the brain is only an idea of the mind ... And the mind is only a function of the brain.” Both statements are valid – and still remind us of the Cartesian split. But if we turn it around, as Bateson has done (and he did sometimes disparage himself as a Neo-Platonist), then we can reconcile the idea of matter *within* the world of mind, as defined above. While vice versa it becomes impossible. We tend to believe in a “physical” world as we feel obliged to believe our senses. But we have necessarily forgotten who first taught us how to *interpret* our sensations⁵. And the only “thing” we can really sense or perceive is – a difference which makes a difference.

This, says Bateson, is the solution to what used to be called the mind-body problem. Mind is no more separate from body than velocity is separate from matter. Or than acceleration is separate from velocity. In other words, the con-

⁴ Substance and form are the terms used in Bateson’s central introduction to *Steps...*, “The science of mind and order”, but their relationship matches that of the Jungian terms he also used; *pleroma* and *creatura*.

⁵ In his introduction to *Journey to Ixtlan* (1972), the existential anthropologist Carlos Castaneda gives a very clear example of this “phenomenological” aspect of reality. Bateson may have been interested in Castaneda.

cepts of mind and matter are of different logical types, but what we call mind is an immanent phenomenon of any “body of matter” whose organization has reached a certain level of complexity.

Finally, there are two implicit and related points which may need to be spelled out. First, mind is not equal with consciousness (a mistake even Dr. Damasio seems to make), but consciousness arises as a further complexity of mind – and probably of yet another logical type. Bateson has some deprecating comments on the limited and dangerous nature of unaided consciousness or “mere purposive rationality”, but he was otherwise retiring about the mystery of consciousness. However, a posthumous volume of texts, co-authored by his daughter Catherine and titled *Angels fear* (Bateson, G. & Bateson, M. C., 1987), deals with this, and especially the sacred function of the boundary between conscious and unconscious – or the cultural prerequisite for some parts of mind to remain un-conscious. While much earlier, as shown in *Steps...*, Bateson had already dealt with the logistical impossibility of consciousness to be but a fraction of all of mind.

That consciousness must be linked to the emergence of natural language and human community would hardly seem too bold to say, though. In any case, it leads us to the last point: Bateson’s critique of the occidental over-emphasis of the ego or selfhood. And related to that, his aversion for the illusory concept of “control”, as in control of self or others, in any living relationship; ultimately including our obsolete, Baconian ideas of control over nature, what our existence depends upon, our environment and ecology. To expand on this here would lead too far, and the reflective reader should now anyway be able to see the shifting, artificial and arbitrary quality of our “common-sense” boundaries, separating our-’selves’ from others and the world. Yet, in various contexts, Bateson is both poetic and precise on this subject and manages, with a clarity Jacques Lacan (1901–1981) would have envied, to come to similar conclusions as the late and much-hyped French psychoanalyst – about our delusional, not to say paranoid, concepts of individual “identity” or ego.⁶

CONCLUDING UNSCIENTIFIC POSTSCRIPT

That was it (the footnotes are added; and please excuse the namedrop of Lacan, a ghost of bygone times). It was written in a feverish rush on a summer vacation

⁶ Worth mentioning is here is the book of Jacques Lacan (1988 [1977]) on *The ego in Freud's theory and in the technique of psychoanalysis*. Editor’s note.

abroad, and I fear it became reader-unfriendly. Moreover, I must now admit to a painful shame. I referred to Gregory's posthumous book, *Angels fear*, edited and co-written by his anthropologist daughter, Mary Catherine Bateson. Which I read when it was published in 1987. Recently, I read it again. And now, as I look once more, I finally see it is all there. About his recursive epistemology constituting an interface between our communicative organic and the non-communicative inorganic world, truly transcending Cartesian dualism. You don't really understand some things until you *recognize* them; but how can you recognize them when you don't understand? A circle, or a slow spiral of Kierkegaardian repetition.⁷ It takes time to begin to digest Gregory Bateson, but once you really do, you cannot let go. And you have to move with him, it never ends. If I would be obliged to present his "epistemism" in just a few words today, it might look like this: The mysterious world of matter is ultimately not so "material" or substantial, while *our* singular, phenomenal world is neither so "spiritual" or disembodied; there are only different levels of complexity. And all we can really perceive – is "a difference that makes a difference". The rest is a partial, selective, individual and collective, more or less true creative projection.

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Half a century ago, in the introduction to *Steps to an ecology of mind*, Bateson wrote: "It is all too clear that the vast majority of the concepts of contemporary psychology, psychiatry, anthropology, sociology, and economics are totally detached from the network of scientific fundamentals" (2000 /1972/: xxvii). Yet still we have, on the one hand, post-modern "humanists" deconstructing all values and criteria of truth as relative and governed by hidden interests – while on the other we have so-called scientific researchers of schizophrenia receiving major grants to inject spinal fluid from psychotic patients (*sic*) into the brains of hundreds of rats; or well-paid professors who excitedly warn against a coming "war of the species" between ourselves and superior robots of the future. These are symptoms. This is a part of the problem rather than part of the solution. And the problem is schizoid by arising from our dissociated view of reality. From a so-called natural science not being able to say anything sensible about living phenomena, about what ultimately defines life – without first correcting an impossible dualism.

⁷ The allusion to the notion of repetition used by Søren Kierkegaard (1813–1855) in his book of 1843 published under the pseudonym Constantin Constantius, which was translated for the first time by Walter Lowrie in 1941. Cf. Kierkegaard (1941 [1843]). Editor's note.

And in his last major lecture, in New York 1977, Bateson recollected: “We used to argue about whether a computer can think. The answer is ‘No’. What thinks is a total circuit, including perhaps a computer, a man, and an environment. Similarly, we may ask whether a brain can think, and again the answer will be ‘No’. What thinks is a brain inside a man who is part of a system which includes an environment. To draw a boundary line between a part which does most of the computation for a larger system, and the larger system of which it is a part is to create a mythological component, commonly called a ‘self’. In my epistemology, the concept of self, along with all arbitrary boundaries which delimit systems or parts of systems, is to be regarded as a trait of the local culture – not indeed to be disregarded, since such little epistemological monsters are always liable to become foci of pathology. The arbitrary boundaries which were useful in the process of analyzing the data become all too easily battlefronts, across which we try to kill an enemy or exploit an environment.” (Bateson, 1991, p. 202)

The French have a saying that “the more it changes, the more it remains the same”. But that is not always true. Everything changes, when we realize the world takes precedence over “me” – or in the words of the great Swedish poet Gunnar Ekelöf (1907–1968), “the bedrock in you is the bedrock also in others”. And that we are “responsible” for how we project, or create, our image of the world.

Perhaps all true poets and mystics, and some philosophers, have always known this. Even Carl Gustav Jung (1875–1961) spoke evocatively about a phenomenon which might accompany the “individuation” of middle age: as the inner turns out to be more real, and the outer to be more surreal – and both ever more entwined with each other (cf. Jung, 1967).

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