

**Bateson, Gregory**

Sylvia S Tognetti

Volume 5, **Social and economic dimensions of global environmental change**, pp 183–184

Edited by

**Mr Peter Timmerman**

in

**Encyclopedia of Global Environmental Change**  
(ISBN 0-471-97796-9)

Editor-in-Chief

**Ted Munn**

© John Wiley & Sons, Ltd, Chichester, 2002

---

# Bateson, Gregory

(1904–1980)

Gregory Bateson was a British anthropologist, trained at St. John's College, who built his career in the US, and who also made significant and innovative contributions in the fields of communication, cybernetics, information, psychiatry and learning theory. He was the son of geneticist William Bateson who is regarded as the founder of the field of genetics, and grandson of William Henry Bateson, who had been a master at St. John's College where he brought about significant reforms. Gregory was first married to Margaret Mead with whom he pioneered the use of visual methods in ethnographic research in Bali (Lipset, 1980). They were parents of Mary Catherine Bateson, an anthropologist and contemporary author who collaborated with him and who carries on some elements of his work.

Beginning with the publication of the ethnography *Naven* in 1936 (Bateson, 1958), a consistent underlying theme in all of Bateson's work was a concern with science as a *process* of knowing rather than an accumulation of facts, and with the social implications of errors in scientific thought that occur as a result of what Whitehead referred to as "the fallacy of misplaced concreteness," or that of regarding scientific explanation as a description of external and concrete phenomena, rather than as a product of interaction between the observer and that which is observed. A second fallacy he observed was that of seeking to control an interactive system of which one is a part, through quantitative measurement. An example of these types of errors is found in the characterization of ecosystems at a single level of analysis, as composed of discrete entities that respond mechanically to inputs and outputs of energy. According to Bateson, reliance on this type of analysis would only increase the likelihood of runaway ecological degradation, because the false sense of an ability to predict and control the factors of interest would only make a pathological system more efficiently pathological. This would lead to more rapid self-destruction, since it does not address the false premises upon which the model is based. Organizing society and technology around this false sense of control would also reduce flexibility and thus the capacity to respond to ecological degradation (Bateson, 1979; Harries-Jones, 1995). The most famous example of this in Bateson's work is the alcoholic who attempts to assert his mastery over his drinking problem by resorting to a stiff drink to bolster himself.

Instead, Bateson stressed the importance of relationships that provide the basis for organization, and that are a greater limiting factor than energy. Relationships, which are sustained through communication of information rather

than by energy flows, are also important as a source of information about context and meaning. Recursive relationships in turn lead to pattern, which cannot be characterized through linear logic and quantitative analysis, which are therefore inadequate for characterizing living systems. An example of this error is found in Darwinian theories of evolution, in which evolution is characterized as a linear process and a force of progress, which fails to account for organization and denies interdependent relationships among organisms and their environment (Bateson, 1979; Harries-Jones, 1995).

Another important contribution was his concept of the double-bind, a paradoxical and incoherent situation in which contradictory rules appear simultaneously relevant, such as when a child receives conflicting cues from a parent, or in which a playful situation is understood literally. In other words, given that meaning changes with context, behavior is constrained by a perceived context or definition of a relationship that is no longer relevant, which leads to nonsensical beliefs. Context is taken to include relationships as well as fundamental premises and habitual behaviors that are seldom questioned, all of which constrain action, and that are normally taken as a given. In clusters, such beliefs have been linked to schizophrenia as well as to forms of common madness (Bateson, 1979; Jaeger, 1994). Associated with this is the concept of deutero- or double-loop learning, which refers to learning about context which, in contrast with rote-learning, provides a frame of reference and meaning to a given situation. Papers addressing these and related concepts were brought together and published in his best-known book, *Steps to an Ecology of Mind* (Bateson, 1972).

Bateson alluded a number of times to a new unnamed science, for which, in his final book, *Mind and Nature* (Bateson, 1979) he offered a set of epistemological principles. In sum, he is widely regarded as having provided a new perspective on the ecological predicament. In retrospect, many of his ideas can be found embedded in the concepts of post-normal science and adaptive management of ecosystems (Tognetti, 1999).

## REFERENCES

- Bateson, G (1958) *Naven: A Survey of the Problems Suggested by a Composite Picture of the Culture of a New Guinea Tribe Drawn from Three Points of View*, 2nd edition, Stanford University Press, Stanford, CA.
- Bateson, G (1972) *Steps to an Ecology of Mind*, Chandler, San Francisco, CA.
- Bateson, G (1979) *Mind and Nature: A Necessary Unity*, Bantam Books, New York.
- Harries-Jones, P (1995) *A Recursive Vision: Ecological Understanding and Gregory Bateson*, University of Toronto Press, Toronto.

Jaeger, C C (1994) *Taming the Dragon – Transforming Economic Institutions in the Face of Global Change*, Gordon and Breach, Yverdon.

Lipset, D (1980) *Gregory Bateson: The Legacy of a Scientist*, Beacon Press, Boston, MA.

Tognetti, S S (1999) Science in a Double-bind: Gregory Bateson and the Origins of Post-Normal Science, *Futures*, **31**, 689–704.

SYLVIA S TOGNETTI USA