The self-reflexive mind: the life's work of Gregory Bateson

VICTOR N. KOBAYSHI
University of Hawaii, Manoa

The life of the unorthodox scientist and seminal thinker, Gregory Bateson (1904–1980), is especially congenial to the examination of how biographies of researchers inform their research and how their research in turn informs their biographies.[1] It is especially so because this kind of self-referential theme was itself one that informed Bateson's research from the early years of his career as an anthropologist and multi-disciplinary thinker to the end of his life. Awareness of how one observed and how one thought about the observations and engagement in self-reflexive analysis were so much a natural and habitual undertaking for Bateson that they were an integral part of his personality.

Bateson's early ethnographic fieldwork in the early 1930s among the Iatmuls of New Guinea already exhibited the self-referential theme. In the 1958 epilogue to his book on the fieldwork, *Naven*, first published in 1936 (the year he and Margaret Mead were married), he noted that he "was trying not only to explain by fitting data together but also to use this explanatory process as an example within which the principles of explanation could be seen and studied" (Bateson, 1958, p. 281). This theme continued to be found in his work for the rest of his life. As he elaborated upon his research and found analogues in various fields of knowledge, from art to biology, he developed the theme still further. He was interested in the "formal" aspects of descriptions of phenomena as well as the phenomena themselves, and the "formal" aspects involved noting patterns that kept recurring in the observation of various phenomena, whether the observations were of people, porpoises, snails, leaf patterns, or ritual ceremonies.

The theme gained a strong foothold for Bateson when he attended the intellectually inspiring Macy Foundation conferences beginning in 1942, and continuing after the war, where ideas from the new science of cybernetics were discussed by such participants as Norbert Wiener, John von Neumann, Margaret Mead, and Walter Pitts. Bateson first met Warren McCulloch at the 1942 conference, and they became close friends, corresponding and discussing ideas until McCulloch's death.

Discussions at the Macy conferences about information theory, self-regulating systems, and feedback made Bateson realize that he had already been groping towards a cybernetic, ecological model in his thinking about various subject matter. His 1936 description of Iatmul culture in *Naven* (Bateson, 1958) had been cast in terms of a non-lineal cybernetic systems perspective. He had interpreted the *naven* rituals among the Iatmuls as self-corrective processes that reversed the degenerative pattern which he had called "schismogenesis," a term that anticipated the notion of positive feedback in the cybernetic view of self-regulating systems. He was already noting that individuals in a system could learn about the processes and introduce corrective change into a runaway system that was leading to destructive consequences.

Not only must we think of a social network changing from moment to moment and impinging upon the individuals, so that processes tending toward disintegration will be corrected by activation of other processes tending in an opposite direction, but also we have to remember that the component individuals of that network are themselves being trained to introduce this type of corrective change in their dealings with each other. (Bateson, 1958, p. 291)

Learning to learn

Bateson also extended the self-reflexive theme to investigations in the area of learning theory. In 1942 he published a comment on a paper presented by Mead. In that response, he proposed that the context of learning, especially in a learning experiment, had to be examined when considering the kind of learning taking place. He went on to say that it was possible for an organism in such experiments to learn to become more adept at learning the successful strategy for solving the type of learning problem posed in the experiments (Bateson, 1972, pp. 159–176). He showed that the contexts of classical Pavlovian learning experiments were different from contexts of instrumental reward or escape or from the use of rote learning in certain cultures. He pointed out that it was theoretically possible for organisms to "learn about learning" and to become adept at learning differing items of behavior in the same kind of contexts.

Bateson expanded his discussion of learning theory in 1964, when he proposed various levels of learning, based on a hierarchy of logical types. In this work he acknowledged the influence that Bertrand Russell's theory of logical types had on his thinking. At the end of the piece he noted that the essay itself had the limitations of the learning theory he had discussed (Bateson, 1972, pp. 279–308). He pointed out the difficulty of explaining complex circuit relations in a narrative medium that constrained the discourse to a lineal perspective:

> It should . . . be noted that the structure of this essay is *inductive* in the sense that the hierarchy of orders of learning is presented to the reader from the bottom upward, from level zero to level III. But it is not intended that the explanations of the phenomenal world which the model affords shall be unidirectional. In explaining the model to the reader, a unidirectional approach was necessary, but within the model it is assumed that higher levels are explanatory of lower levels and vice versa. It is also assumed that a similar reflexive relation – both inductive and deductive – obtains among ideas and items of learning as these exist in the lives of the creatures which we study (Bateson, 1972, p. 308, emphasis in original).

The investigation of learning contexts also took Bateson into studies of the multiple classes of information involved in verbal communication and of the relationship between such communication and kinesics and other non-verbal forms of communication. His investigation included studies of messages about messages in complicated feed-back loops and communication circuits. The studies explored play, fantasy, humor, and schizophrenia.

After his divorce from Margaret Mead in 1950, Bateson worked with the Veterans Administration Hospital in Palo Alto until 1963, where some of his famous studies of schizophrenic behavior were conducted with Don D. Jackson, Jay Haley, and

John H. Weakland, and resulted in the "double-bind theory" of schizophrenia (Bateson, 1972, pp. 194–270). The use of a cybernetic systems perspective to look into the matter of schizophrenia had been anticipated in his 1936 study of the *naven* rituals of the Iatmul (Bateson, 1958, pp. 171–197). "Double-bind" and "schismogenesis" were closely related to each other and of great value in understanding complex systems. The value of Bateson's work was pointed out by the famous geneticist, C. H. Waddington, who was also Bateson's long-time friend. Waddington (1977, pp. 92–96) contended that Bateson's concept could be applied to a vast array of the "World Problematique," the problems of "atomic warfare, the population explosion, the food problem, energy, natural resources, pollution, and so on." (p. 13)

Bateson found more evidence for his "double-bind" and meta-learning theories in Hawaii in 1969, as a researcher at the Oceanic Institute. Through the work with porpoises by Karen Pryor, he proposed that some mammals might transcend operant conditioning experiments and perform behavior that could be called "creative" (Bateson, 1972, pp. 271–278). Earlier he also saw a possible connection between his theories and mystical states of being, in particular Zen Buddhism (Bateson, 1972, pp. 201–227), and in his later years, he continued from time to time to look into the relationship. His interest in mysticism had more to do with understanding what exactly was involved and what scientific truths might be extracted from possible insights that might be provided by mystics than it did with mystical religious dogma.

Because his theoretical studies indicated that such significant persons as parents were involved in a systemic relationship with mental health patients, and what was pathological was the relationship, rather than the isolated patient, Bateson was regarded as one of the founders of family therapy. However, he himself avoided immediate application of his theories. He saw any applications of scientific theory to life, especially to human beings, as "vulgar" in that such applications oversimplified complex relationships that became even more complex when a therapist became involved. The therapist became a part of the system and reflected only the insights of one member of the ecology, rather than providing an understanding of the system as a whole. Therapy often involved manipulative behavior on the part of the therapist, and thus the therapist might be contributing to the pathology of the system, rather than to its sanity. In a comment published in 1942, he affirmed a statement made by Mead at a conference that "by working toward defined *ends* we commit ourselves to the manipulation of persons, and therefore to the negation of democracy (quoted in Bateson, 1972, p. 159n, emphasis in original). In one of his seminars at the University of Hawaii, Bateson talked about his intense work with some of the schizophrenic patients during his Palo Alto years, admiring their sensitivity and their keen ability to detect manipulative overtures of which he himself was not aware. He also had a feeling for the extreme suffering of schizophrenics and found it painfully difficult to work for more than a year with them.

Conscious purpose

Bateson also believed that the major problems of the world, such as overpopulation and the deterioration of the biological environment, were related to the value placed on the ability to manipulate the environment for the immediate benefit of people: insecticides improve the crop yield for the farmer and freeways speed up traffic. But

ultimately, in Bateson's view, conscious purpose was anti-ecological. It was based on a false and dangerous conception of the human mind; it was a 'product of an almost totally distorted epistemology and a totally distorted view of what sort of thing a man, or any other organism, is" (Bateson, 1972, p. 136). Purposive, pragmatic action, was especially disastrous in contemporary times, because of the availability of powerful technology that not only magnified the immediately practical and useful results but also the long-term damage to the ecosystem. Also, conscious purpose contributed to an escalation of problematic conflicts, such as in a nuclear arms race.

Contemporary society values control, conscious purpose, and practical results. For the influential American thinker, John Dewey, a major goal in education was the development of intellectual skills that were useful in solving practical problems for the improvement of the human community. Dewey articulated for Americans the idea that all thinking must be in the end practical, and that the test for its use lies in promoting deliberate control over the environment. Bateson argued otherwise, emphasizing the search for "eternal verities," truth, and the insights of art and religion. Because of Bateson's emphasis on social communication and networks of persons, he was once compared to Dewey by a student in one of Bateson's seminars at the University of Hawaii. However, Bateson quickly negated any connection between his ideas and those of Dewey.

Bateson questioned the ability of human beings to engage in conscious purpose without harming the ecosystem. For one thing, human perception itself was extremely limited and was inadequate to note the full complexity of nature. Bateson was impressed by Warren McCulloch's research that indicated that what a frog saw was limited by its optic system; the research would indicate also that human perception, for similar reasons, was very limited (Bateson, 1977, p. 237).[2]

In July 1967, Bateson was invited to speak at the Congress on the Dialectics of Liberation in London. His talk, "Conscious Purpose Versus Nature," proposed that the information utilized in consciousness was not a random sampling of our total mind, but a highly selected sample, and therefore provided a highly distorted view of nature (Bateson, 1969). Bateson gathered a group of 14 scientists and scholars to a conference in the summer of 1968 to discuss "The Effects of Conscious Purpose on Human Adaptation," where the connection between the "World Problematique" and conscious purpose was again explored. Two years later, in the Nineteenth Annual Korzybski Memorial Lecture in 1970, he proposed, as he had in the conference, that consciousness itself provided a limited and distorted view of what constituted the world. Human beings never can perceive reality directly; they perceive only some kind of representation of reality. Furthermore, that representation of reality is always based on differences or transformations of differences in shape, size, color, height, etc. To a large degree, what we perceive is contributed by the human mind (Bateson, 1972, pp. 448–465).

> If, as we must believe, the total mind is an integrated network (of propositions, images, processes, neural pathology, or what have you – according to what scientific language you prefer to use), and if the content of consciousness is only a sampling of different parts and localities in this network; then, inevitably, the conscious view of the network as a whole is a monstrous denial of the *integration* of that whole. From the cutting of consciousness, what appears above the surface is *arcs* of circuits instead of either the complete circuits or the larger complete circuit of circuits. (Bateson, 1972, p. 145, emphasis in original)

In his talk to the William Irwin Thompson's Lindisfarne Association in 1975, Bateson also pointed out that the products of conscious purpose quickly became built into the fabric of a culture:

> The adoption of any invention becomes irreversible very quickly. It become built deeply, irreversibly, into the physiology of our society within very few years of invention. There is no barrier between immediate adaptation and pickling the change into society.
>
> For this reason, more than any other, I distrust consciousness as a gimmick added to the evolutionary scene. Conscious cerebration is much too fast. It doesn't give any time for growth into the new state of affairs. There is no trial and error or tentative assimilation which would slowly flow, hesitate and flow, hesitate and flow, into new patterns. (Bateson, 1977b, p. 154)

From metalogues to art

Bateson's "metalogues," which were based on an imaginary conversation between himself and his daughter on problematic subjects, were supreme examples of the self-reflexive theme. The structure of the successfully constructed "metalogue" was, for Bateson, itself an example of what was being discussed. "This conversation should be such that not only do the participants discuss the problem but the structure of the conversation as a whole is also relevant to the same subject" (Bateson, 1972, p. 1).

He also considered the entire subject matter of evolution as an example of this theme: "The history of evolutionary theory is inevitably a metalogue between man and nature, in which the creation and interaction of ideas must necessarily exemplify evolutionary process" (Bateson, 1972, p. 1). In the conclusion of one of the metalogues between daughter and father, "Why do things have outlines?," Bateson (1972) discussed the outline of the metalogue itself while also expressing distaste for applied science:

> D: What did you mean by a conversation having an outline? Has this conversation had an outline?
>
> F: Oh, surely, yes. But we cannot see it yet because the conversation isn't finished. You cannot ever see it while you're in the middle of it. Because if you could see it, you would be predictable – like the machine. And I would be predictable – and the two of us together would be predictable –
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> D: But I don't understand. You say it is important to be clear about things. And you get angry about people who blur the outlines. And yet we think it's better to be unpredictable and not be like a machine. And you say that we cannot see the outlines of our conversation till it's over. Then it doesn't matter whether we're clear or not. Because we cannot do anything about it then.
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> F: Yes, I know – and I don't understand it myself. . . . But anyway, who wants to do anything about it? (p. 32)

The use of "metalogues" also showed Bateson's continual search for the appropriate medium, format, and language for the scientific description and explanation of human phenomena. The medium itself had to exemplify what was being described and explained, while also showing as much of the complexity of the phenomena as possible.

Even in his early work as an anthropologist, Bateson expressed dissatisfaction with the usual ways in which cultures were described.

Bateson noticed that artists – from poets to dancers, who wrote, spoke, drew, or danced – communicated a better sense of the "feel" of a culture than anthropologists who somehow had difficulty reporting the aesthetic sensibility of a culture and thus failed to describe an important property of the *whole* of a culture. Reporting on a culture (including its aesthetic) as accurately and as completely as possible was for him important to making anthropology more scientific. The challenge led him to consider an area usually not considered "scientific": aesthetics, which was another important theme in Bateson's life work.

Although he grew up in the home of a noted English scientist, art had been an important part of Bateson's life from his early childhood. His father, William Bateson, a renowned Cambridge University biologist, had introduced the work of Gregor Mendel in England and had coined the term "genetics." In fact, Gregory, William Bateson's third son, was named after the Austrian monk. Mendel had discovered some important aspects of how hereditary traits were passed on from one generation to another by crossing varieties of peas, and noted how certain dominant and recessive traits were passed on from one generation to another. Although a scientist, William Bateson considered art superior to science, and passed on to Gregory this high regard for art. The elder Bateson also collected works of art, including engravings by William Blake, whose drawings and poetry figure prominently in Gregory's life and writings.

Gregory Bateson noted that through their work great artists communicated complex emotive messages and provided perceptual perspectives that pushed or pulled people towards what they did. They cultivated inspiration in a culture, and pointed to what was sacred in its life. Bateson argued that great novelists like Jane Austen or John Galsworthy expressed in their writings much of the emotional details of their culture. These important aspects of culture did not fit easily into the analytic approach and the usual prose of the anthropologist. He sought ways to bring the sensitivity of the artist into ethnographic observations and this search is felt in his entire life's work.

A more scientific anthropology, for Bateson, was one that incorporated the aesthetic. The opening paragraphs of his earliest book, *Naven*, first published in 1936, show that concern:

> If it were possible adequately to present the whole of a culture, stressing every aspect exactly as it is stressed in the culture itself, no single detail would appear bizarre or strange or arbitrary to the reader, but rather the details would all appear natural and reasonable as they do to the natives who have lived all their lives within the culture. Such an exposition may be attempted by either of two methods, by either scientific or artistic techniques. (Bateson, 1958, p. 1)

The artist had the freedom to use words, paint, the camera, sound, etc., in very special ways that were usually avoided by the conventional anthropologist.

> The artist is content to describe culture in such a manner that many of its premises and the inter-relations of its parts are implicit in his composition. He can leave a great many of the most fundamental aspects of culture to be picked up, not from his actual words, but from his emphasis. He can choose words whose very sound is more significant than their dictionary meaning and he can so group and stress them that the reader almost unconsciously receives information which is not explicit in the sentences and which the artist would find it

hard – almost impossible – to express in analytic terms. This impressionistic
technique is utterly foreign to the methods of science. (Bateson, 1958, p. 1)

This concern with the aesthetic aspects of scientific description drew him to photo-
graphy and cinema. Bateson and Margaret Mead were pioneers in ethnographic film
when they put the camera to use in their study of Balinese culture (Bateson & Mead,
1942). Bateson devoted an entire section in their book to a discussion of the scientific
issues involved in using the camera in their description of Balinese culture: how the
photographer influences what is recorded, how the Balinese react to the camera, and
the decisions involved in editing, cropping, and altering film (Bateson & Mead, 1942,
pp. 49–54). Later, during his Palo Alto years, Bateson also filmed schizophrenic
children and their families.

Even just before their deaths (Bateson in 1980 and Mead in 1978), the two argued
about how best to photograph ethnographic settings. Mead noted that if she had to
shoot such films again she would place the camera on a tripod and have the camera
collect data from a fixed position. The anthropologists could later study the photo-
graphic record and interpret it in different ways. Bateson thought that the best way
to shoot an ethnographic film was to get a good artist to do it. The artist would make
the decisions as to how to move (or not move) about with the camera, what to frame
and for how long and from what angle and from what distance, thus capturing what
was most significant to the artist. Mead argued that one would have to study the
artist's motivations in order to understand the film, and would not get an accurate
picture of the culture; the data would not be objective (Bateson & Mead, 1976).

Bateson acknowledged Kant's point that the act of scientific observation itself was
an act of aesthetic judgment. There were multiple perspectives on a selected "piece"
of "reality," and the scientist makes judgments, aesthetic judgments, about which
fact to pick out as the one to look at, while at the same time indicating and reflecting
upon that particular perspective. There never was such a thing as "raw data," he
once said in a seminar at the University of Hawaii – data was always "cooked" because
the act of perception itself was based on unconscious "judgment" as to which fact to
single out over the many others. That act of "judgment" was influenced by culture,
as well as by the personal situation of the observer. But Bateson was not a relativist:
the data selected can be "cooked" skillfully or poorly. Reality was always distorted,
but some distortions were better than others, because they pointed to something of
great significance to us, to deeper truths about mind and nature.

Furthermore, the attitude of the reporter towards the culture must be made clear
to the audience, if indeed the report is to be scientific. The perspective of the
observer must be noted and explored in terms of both it limitations (how it distorts
and circumscribes what is observed) and its contributions to how it illuminates what
is observed. The language used by the anthropologist, for example, must be criticized
in terms of its congruence with what has been described.

The ecology of mind

Bateson observed his subjects with great skill and carefully thought about whatever
he observed. He also examined how he proceeded in his thinking, noting how the
structure of his thought was related to the thought itself. These processes themselves
constituted a complex network of relationships. As he conducted this self-referential,

self-reflexive kind of analysis, he incorporated principles of its results into his own life and being. His keen observations led him to find details and patterns that usually were not noticed or discussed by others, but were in fact avoided.

Most people ordinarily do not like to reflect so deeply and honestly on their observations and experiences, and on the truth of them. Nor do they like to notice the metaphors implicit in their thinking and whether those metaphors are appropriate, sane, in correspondence with something called "truth." For one thing, the thinking becomes complex and abstract, as it becomes layered with levels and meta-levels that are soon multiplied beyond comprehension. Also, Bateson noted that people tend to uphold these implicit metaphorical premises, and act on them in such a way that the premises "worked" and are self-validating. In the case of many schizophrenics, the premises are upheld, even if they cause schizophrenics great pain. People's perception of the world itself is deeply structured by these principles. Bateson was especially critical of sociologists and psychologists who were interested only in quantitative data and did not consider the fact that the data already were shaped by the unconscious premises made about the nature of the world, or that "number is different from quantity," or that "quantity does not determine pattern" (Bateson, 1980, pp. 53–64).

In his ecological and cybernetic view of the world, Bateson looked for connections among what seemed to be unrelated areas of study. He raised such questions as:

> What pattern connects the crab to the lobster and the orchid to the primrose and all the four of them to me? And me to you? And all the six of us to the amoeba in one direction and to the back-ward schizophrenic in another? (Bateson, 1978, p. 7)

Bateson was a pioneer in the search for new epistemological foundations, new ways of feeling and perceiving and thinking that would be more congruent with how living systems worked. In his own life, he worked to rid himself of what he found to be conventional and destructive habits of thought and to replace them with new ways of thinking and feeling. Towards the last years of his life, he undertook the difficult task of making what he intellectually knew to be true to become for him the basis of new habits of perceiving, thinking, and feeling. The conclusions that he reached through a lifetime of observation, analysis, and thought became the basis of his lived biography.

Body and mind; gesture and thought

There are many thinkers whose ideas are cherished, but whose behaviors do not match, are not congruent with, their professed thoughts. Gregory Bateson comes close to the ideal of an authentic intellectual in that his ideas, as they developed, became incorporated into his very being.

Perhaps that is one of the reasons why he attracted so many students who at first did not quite understand what he taught, but who first felt the importance of his thought through his manner, his speech, his demeanor, and his very presence. Stephen Nachmanovitch describes his first meeting with Bateson in 1972 when he was a graduate student:

> He was physically enormous, slow-moving, with Jehovah-like shock of white hair and a benign smile that mixed inexhaustible good humor with the sadness of one who's seen it all. The voice was a deeply resonant King's English. We

spent some time walking circles round each other, didn't say much. But there was an arresting sense of recognition – of what? There weren't words for it that day, but it's what he came to call "The pattern which connects." The following week I moved down to Santa Cruz to become Gregory's student. (Nachmanovitch, 1982, p. 35)

For Bateson, the full process of thinking involved the entire body, and the body expressed and therefore communicated that process. He was most fascinated with the body language of Konrad Lorenz when the renowned ethnologist presented a series of lectures in Hawaii. "When he spoke of the Einsteinian universe," Bateson said, "his body seemed to twist and contort a little in empathy with that abstraction." Lorenz's posture was also expressive when he described the behavior of various animals. "At one moment, he *is* a goose; a few minutes later, a ciclid fish." Bateson observed that the body provided important intellectual insights.

> Lorenz's empathy with animals gives him an almost unfair advantage over other zoologists. He can, and sure does, read much from a (conscious or unconscious) comparison of what he sees the animal do with what it feels like to do the same. (Many psychiatrists use the same trick to discover the thoughts and feelings of their patients.) (Bateson, 1980, pp. 156–157)

In our culture, we tend to think of reality as composed of things or objects. Bateson, on the other hand, concluded after almost a lifetime of thinking about biological ecosystems, of working with schizophrenics, and discussing with colleagues and students, that reality, perceived in terms of relationships, constituted a saner epistemology. The process of learning was what made behavioral science so different, and so difficult, compared to the science of things.

> It is this fact – that the patterns of society as a major entity can by learning be introjected or conceptualized by the participant individuals – that makes anthropology and indeed the whole of behavioral science peculiarly difficult. The scientist is not the only human being in the picture. His subjects also are capable of all sorts of learning and conceptualization and even, like the scientist, they are capable of errors of conceptualization. This circumstance, however, leads us into a further set of questions posed by communications theory, namely, those questions which concern the *orders* of event which will trigger corrective action, and the order of that action (considered as a message) when it occurs. (Bateson, 1958, p. 292; emphasis in original)

The human being thus is able to reflect on a situation, and then act on that reflection, and as a consequence culture becomes constructed on the basis of that reflection. The culture, in turn, also shapes the ways of perceiving and acting of those born into it. The civilization that we have created therefore can be based on erroneous premises that nevertheless "work" and are self-validated. The contemporary ecological crises may thus be symptoms of the error in our epistemology, because they indicate that the premises eventually yield undesirable and unintended consequences.

But Bateson knew that, even when we realize that the basic premises implied in our thinking and acting may be in some way erroneous, "it is exceedingly difficult to get rid of the error, that it's sticky. It is as if you had touched honey. As with honey, the falsification gets around; and each thing you try to wipe it off on gets sticky, and your hands still remain sticky" (Bateson, 1972, p. 479).

Nevertheless, Bateson cultivated in himself the ability to perceive the world in terms of relationships, patterns, and forms, and avoid perceiving in terms of things and objects. But that ability came to him

> Only at very brief moments. . . . Most of the time I still see the world, feel it, the way I always did. Only at certain moments am I aware of my own introversion. But these are enlightening moments that demonstrate the irrelevance of interven- ing states. (Bateson, 1977, p. 246)

Bateson insisted that the life of an intellectual be congruent with the intellectual's beliefs, that honesty is sacred in an intellectual community. This insistence was revealed during a critical period in the history of the University of Hawaii, when a 1967 controversy involving a professor, Oliver Lee, advisor to an activist student group, led to the sudden resignation of a highly regarded University president, Thomas Hale Hamilton. Faculty and student groups argued that due process was ignored when Hamilton denied Lee tenure; Lee had received a letter of intent earlier that he was to receive tenure, and the groups protested Hamilton's decision. Bateson wrote a position statement for an *ad hoc* committee of the Hawaii faculty to which he had been invited and which was formed to discuss the student protests about the Vietnam war, the irrelevancy of higher education, and civil rights issues which were taking place on many campuses, including Hawaii. In the statement, Bateson argued that Lee should leave the University because, in merely agitating the students, and not actually joining them and acting on their beliefs, Lee was guilty of cowardice:

> I believe that Oliver Lee should be gotten rid of as soon as possible, preferably without due process. On what is alleged against him and seems to be undisputed, the man is evidently an agitator and a coward. If he had in fact shot some of his own officers in a combat situation, no doubt due process would deal with him. If he himself had advocated this course of action or had conspired to perform it, again due process would deal with him. He has, so far as I know, committed no crime. He has gotten students of the University to do these things for him. I regard this as not criminal but as both agitational and cowardly. (Bateson, 1967)

He further argued that the issue of "due process" reflected the American tendency to avoid basic issues by converting them into impersonal and legalistic issues. For Bateson, the real issue involved in the student movement was the educational mission of the universities in America: "Oliver Lee is in the main a red herring – a matter to fight about at a moment when people wanted a battle for other and more serious reasons." Bateson's views, of course, were not received warmly by campus liberals, with his seemingly anti-civil liberties position, and were not given much consideration.

Bateson was appointed by California Governor Jerry Brown in 1976 to the Board of Regents of the University of California system, and during the Bakke court case against the University Regents on the issue of affirmative action quotas to the medical school, he again came from left-field in his comments on the case (Sheils & Lubenow, 1977, p. 141). He criticized the preoccupation with the Bakke case, whether *pro* or *con*, as being irrelevant, and an avoidance of a more fundamental problem of higher education. "I do not think it matters much whether 10,000 boys like Bakke get into the university. They will be the lowest of our students anyway." He criticized a system which mass-produced mediocre graduates and a Regents' agenda that primarily dealt with "trivia."

> Obviously, Bakke himself, with his very mediocre qualifications and his probable tendency to fritter his energies in politics and litigation, would make only a mediocre doctor at best, even if he passes through the mill which grinds out the medical men. (Quoted in Moskowitkz, 1977, p. 5)

While Bateson criticized the litigational nature of the United States to the point of considering many civil liberties issues as symptomatic of a pathological society, he was an intensely warm and humane person and generous to others. Before moving to California in 1972, Bateson lived in Hawaii, as associate director of research at the Oceanic Institute, beginning in 1964, and he frequently visited the University of Hawaii campus to participate in seminars and lectures. Several students and faculty members gathered around him, becoming fascinated by him and his unconventional ideas. Bateson was extremely generous with his time, and accepted invitations to visit classes to discuss his ideas and to spend much time meeting with individual students, who sometimes visited his office at the Institute, or at his home. It was clear that the ideas he asked students to deal with were extremely important to him, that he cared about the intellectual processes involved between himself and the students, and that significant ideas took time to take root because they required new metaphors, new foundations that eventually became grounded in the unconscious.

> Ty Cashman tells the story of how he once asked: "Bateson, what are you really up to?" The wry answer was: 'I'm trying to make sure that of the thousand who survive, twenty will know how to think." (Gilman, 1985, p. 33)

Bateson did not like to be interrupted by people who dropped by just to exchange hurried greetings. He preferred to be engaged in an intellectual conversation with them. During his sojourn at Santa Cruz, he had a sign on his office door that read something like, "Don't knock unless you're willing to stay an hour." Bateson's generosity also was recalled in Waimanalo, where he gave, outright, a large sum of money to a Hawaiian neighbor who was in financial distress. During lunch hour meetings of a small *ad hoc* group of some Hawaii faculty members who gathered to discuss the student protest movements on Vietnam, racial segregation, and student participation in univesity decisions, Bateson often brought with him a huge loaf of French bread and a whole block of butter. He cut large slices, and offered them to the group, making lunch a Holy Communion that was conducted by an anthropologist in the field.

Gregory and I found out that we both had a high regard for the ideas of Paul Goodman, and worked to have him teach part time at the University of Hawaii, while being part-time at the Oceanic Institute. Goodman delivered a series of weekly evening lectures on the educational crises, and Bateson agreed to serve as a discussion leader for the two-hour period following each week's lecture. The class was divided into four small discussion groups which rotated among Bateson, the local leader of the Republican Party, a prominent Catholic clergyman, and a businessman, all of whom acted as "teaching assistants." Goodman circulated among the groups. Bateson represented "science," the others politics, religion, and business. Bateson listened very carefully to what each member of his group had to say, often remaining silent for a long time. There was an older student who always spoke animatedly in a loud voice, making proclamations and tending to hog the discussions. Once Bateson sharply interrupted him, to the surprise of the student, who thereafter became more collaborative in the discussions. Bateson's action was done without any hint of malice, and it

greatly impressed the student. Gregory often told short tales that illustrated important ideas, and he often spoke in metaphors.

Gregory also gladly accepted an invitation to visit my graduate seminar in "educational issues." He always enjoyed the opportunity to discuss his ideas with anyone willing to be engaged. A few of my students became so interested in what he had to say that they spent hours with him, at his home or at his office at the Oceanic Institute in Waimanalo. Several wrote dissertations using some of Gregory's ideas, such as "end-linkage," "schismogenesis," and "deutero-learning," which he never tired of explaining and discussing. Later, after the Institute had been disbanded, and Gregory had moved to California, one student sent him a copy of her thesis on mysticism and music and their connection to Bateson's ideas. A few weeks later, she received a two-page response in the mail saying that the paper "seems excellent and of course it is always nice to be quoted." The letter then proceeded to examine, point by point, some of the statements made in the thesis, making such comments as "'Self-actualized' – I suspect Maslow of coining a word which would compromise between Buddhist denial of 'ego' and Occidental manipulative bullying of ego" or "Please, please don't bracket me with de Chardin. Roman Catholic theology and epistemology is better than the lousy biology that he wanted to incorporate into it" (Bateson, 1975).

Bateson explored the cybernetic ideas of feedback in systems and expanded the discussion of these ideas to such diverse areas of inquiry as evolution, psychology, and aesthetics. He titled one of his major books, *Steps to an Ecology of Mind* and it, of course, was a more general form of the proposition that "X affects the evolution of Y and Y affects the evolution of X." His definition of "co-evolution" introduced greater precision into the proposition: "A stochastic system of evolutionary change in which two or more species interact in such a way that changes in species A set the stage for natural selection of changes in species B. Later changes in species B, in turn, set the stage for the selecting of more similar changes in species A" (Bateson, 1980, p. 249).

For Bateson, living systems, including the ecosystem, have recursiveness, that is, there is feedback into the system, and thus they have a self-reflexive aspect. Norbert Wiener illuminated this feature in the cybernetic notion of "feedback," where information is fed back into the system, in such a way that it might either correct the system by keeping it in a relatively stable state ("negative feedback"), or it might pull it apart ("positive feedback" or schismogenesis), and the system goes runaway. There was also a second kind of recursiveness, and that is of the sort where properties of the whole of a system are fed back into the system, adding to its complexity, its resilience. The work of art is perhaps of this sort; it is a product of a culture and expresses something about the whole of the culture, while adding to the evolution of the culture, and influencing the direction which it takes. Learning was another example. Evolution in nature as well as in the mental world of ideas was this sort of process.

And, in one of his last written statements, Bateson wrote characteristically, "If our explanations or our understanding of the universe is in some sense to match the universe, or model it, and if the universe is recursive, then our explanations and our logics must also be fundamentally recursive" (Bateson, 1977, p. 242).

Notes

1. See the following for biographical information on Bateson: Lipset's (1980) book was written while Bateson was still alive, and is an 'authorized biography' according to the publisher. Also important is the book by Bateson's and Margaret Mead's daughter, Mary Catherine Bateson (1984), Mead (1972) and Howard (1985) include discussions of Mead's life with Bateson.

2. The research on the frog's perception is in McCullock (1970).

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