

OBITUARIES



GREGORY BATESON
1904–1980

Gregory Bateson died on July 4, 1980, at the age of 76, survived by his wife, Lois; three children, Mary Catherine, John, and Nora; and his adopted son, Eric. Mary Catherine, the child of his marriage to Margaret Mead, is Dean of Faculty at Amherst College and, like her parents, an anthropologist. We have been able to make use of the fine biography by David Lipset, *Gregory Bateson, The Legacy of a Scientist* (Prentice-Hall 1980) in preparing this article.

Gregory Bateson came from a distinguished line of English academics. His father, William, was one of the founders of modern genetics. His paternal grandfather, William Henry Bateson, had been the Master of St. John's, the Cambridge college in which Gregory matriculated, receiving his bachelor's degree (in natural sciences) in 1925 and his master's (in anthropology) in 1930 after a brief study under A. C. Haddon and field research in New Britain and New Guinea.

Little came from his first fieldwork among the Baining and Sulka people of New Britain, but the classic *Naven* (1936, 2nd ed. 1965) was the result of his work among the Iatmul, which began in 1929 and continued into the 1930s. His reputation in anthropology still rests to a considerable degree on this first book. Later, in the 1930s, he collaborated in field research in Bali with Margaret Mead, reported in *Balinese Character* (1942). In the 1940s and 1950s he brought his ethnographic method to bear on schizophrenia and other psychiatric phenomena (notably, disturbed communication within families) to considerable theoretical effect, and he also did research on the behavior of other species: sea otters and octopuses, and most importantly, porpoises. This work resulted in *Communication: The Social Matrix of Psychiatry* (1951), written with the psychiatrist Jurgen Ruesch; in *Perceval's Narrative* (1961), and in some of the items in his collected papers, *Steps to an Ecology of Mind* (1972). If the subjects of his research seem disparate, the list of topics over which he ranged seems even more so: biological evolution, adaptation, ecology, art, arms races, social organization, communication, cultural transmission, learning, play, fantasy, films, character and personality, and, more generally, the nature and pathologies of thinking and epistemology, of culture, and of a great class of integrative processes which he eventually called "mind." But he dealt with these phenomena in terms of a coherent and increasingly integrated set of highly abstract concepts influenced mostly by theories of communication and by cybernetics.

Bateson never held a regular position in an academic department of anthropology. He was a fellow at St. Johns, Cambridge University, from 1931 until 1937, but spent a good deal of that period in New Guinea and the United States. He entered the United States as a permanent resident in 1940, and served in Asia in the O. S. S. during World War II. In the late 1940s, he held visiting appointments at the New School for Social Research and Harvard; later he held visiting appointments at Stanford, the University of Hawaii, and the University of California, Santa Cruz. His regular employment during much of his career was in medical institutions and laboratories for the study of animal behavior. Moreover, with the possible exception of a time during the late 1930s and 1940s, when concern with the relationship of culture to character and personality was more general than it has been since, he never stood near the

center of contemporary anthropological interests. Although a general anthropological audience came to appreciate *Naven* in the late 1950s and the 1960s (25 years after its original publication), and although *Steps to an Ecology of Mind* made many of his essays published in obscure journals available to anthropologists and revealed to some readers new anthropological and intellectual horizons, he remained a deeply puzzling figure to a good many of his colleagues until the end of his life. His style, his concerns, his method, and his moral position all served to polarize his intellectual audience and, to a large degree, to make the enthusiasts and the skeptical puzzled about each other's responses. We wish to consider here some of the roots of the puzzlement.

To begin with, he proposed above all a way of looking at phenomena; he was visionary in the sense that one of his models, William Blake, was — he "saw" in a particular, unified, and in relation to many of his auditors and readers, original way. As Roger Keesing (1974) put it in his review of *Steps to an Ecology of Mind*, "To have a vision of the world one's fellow men do not share is lonely and even frightening. . . . Gregory Bateson has been blessed, and cursed, with a mind that sees through things to a world of pattern and form that lies beyond." Keesing and a growing number of others (including ourselves) shared the vision, at least in part, and shared a conviction of its importance and urgency, but to do so was a matter of temperament and of a particular intellectual history.

Then there was the way in which the vision was presented, especially his style of oral presentation. This style worked compellingly for some, but it irritated and confused others. One of us last saw him giving a farewell lecture, or more properly presiding over a happening, at a series gloomily entitled "Famous Last Words" at the Institute of Contemporary Arts in London, as part of a series that was to include the super-charismatic likes of Mother Theresa and the Dalai Lama. The intense and distinguished audience (a generally receptive group, in contrast to the annoyance Bateson stirred up in some English reviewers and cultural guardians, who were given to such remarks as that he wrote "from the intellectual lotus land of California, where eclectic theories and mystical philosophizing lie thick as Los Angeles smog. . . ." [*Times Literary Supplement*, Nov. 21, 1980, p. 1314, *Review of Mind and Nature*]) heard and watched a typical Batesonian performance. Hair and suit rumpled as always, sprawling into

and over a chair which could not properly contain his six-foot-five-inch body, a mysterious smile on his face, he started somewhere in the middle of things and proceeded to ponder out loud in front of the audience. As always, he resisted preexisting structures (David Lipset has shown how this was a central theme in Bateson's career), in this case a prepared lecture or even notes for a lecture. As always, he put himself at risk in front of an audience in a procedure that, as those who attended various of his public performances will remember, sometimes failed as didactic lectures.

But at another level, as he would have characteristically put it, he risked nothing at all, for at this level he was illustrating something rather than talking about it. He was not being a lecturer, presenting material, but an exemplar, representing it. He was performing a "meta-logue," a communication whose form is meant to illustrate its content. What he was trying to illustrate, as always, was that authentic, minimally erroneous communication and thought is responsive to the moment, to the condition of the presenter, the state of his understanding of his problem, and his sense of the audience. This involved considerable risk, and required some sense of trust, usually amply justified, in his listeners. But it was not for everyone.

This public stance was no different from the way he related to others in dyads and small groups, although in these situations he had clearer "feedback" to work with. Those who were susceptible to encounter with Bateson experienced an intense moment-to-moment collaboration involving an unusual sense of augmentation of intelligence. As Margaret Mead put it:

The peculiar quality of Gregory Bateson's mind in the way in which he distills ideas from interaction with other people, which they in turn can distill again, is hard to describe. It is closely related to the ideas themselves, for his most exciting ideas, schismogenesis, the double-bind, and the relationship of purposeful human behavior to linear systems have all been about relationships between individuals or groups of individuals, elaborated and stylized by experience or culture. [Brockman 1977:171]

Bateson collaborated in this way not only with Mead, but also with John von Neumann, Warren McCulloch, Claude Shannon, Norbert Weiner, and others in the development of

cybernetic theory; with Jurgen Ruesch on psychosocial communication theory; with Don Jackson, Jay Haley, and John Weakland and others on theories of schizophrenia and family pathology; and with a large network of colleagues in the social sciences, psychiatry, ethology, ecology, evolutionary theory, and family therapy on the cluster of interrelated problems he addressed in the course of his life's work. Such intense collaboration makes it difficult to evaluate fully Bateson's individual contribution to the groups, and to the various sets of problems he addressed. He would, in large part, have assessed the question of his "individual contribution" as itself an error of some sort, since it claims that it is a member of the group, not the group itself, which is doing the important thinking. (The proceedings of one of these groups, a Wenner-Gren conference on "The Effects of Conscious Purpose on Human Adaptation," is reported in illuminating detail in Mary Catherine Bateson's *Our Own Metaphor* [1972]). But those who have collaborated with him can attest that his contributions were central and seminal.

Bateson was fond of saying, in one of his analogies from one kind of system to another, that the mind is an ecological system and that introduced ideas, like introduced seeds, can only take root and flourish according to the nature of the system receiving them. He repeated his messages innumerable times to innumerable audiences, the redundancy being, he felt, necessary if what he had to say was to be truly heard. But he abhorred competitive struggle in the introduction of ideas, believing that it inevitably resulted in complicated forms of resistance and distortion.

His interactional style of learning and teaching (even his written works are in a sense processes of discussion with a fantasied, active interlocutor) has some bearing also in the question of his "scholarship." In a recent review of Bateson's last book, *Mind and Nature* (1979), Stephen Rose (1980) claims that Bateson's discussion of the central themes of contemporary philosophy of science owes "an unacknowledged debt to Popper and Feuerabend on problems of proof and objectivity," and Rose expresses astonishment that Bateson does not support his holistic approach with references to Luria and Piaget. As far as the substance of Bateson's argument is concerned, however, Rose comments:

The points made are wise and, to me, gener-

ally unexceptionable. That they're thrown out by Bateson without being rooted in the philosophical and epistemological debate that has raged around them for the past decade may be seen either as the irritating intellectual sloppiness of an autodidact or as the grandeur of a profound mind summarizing a lifetime of experience.

The bookish reviewer is irritated, and leans to the first choice.

Bateson belonged to no academic discipline. In his formation and career he was an "original," an "autodidact." His knowledge and sense of problem were formed in an exceedingly rich early intellectual milieu, by his lifelong informal intellectual network (which included a good sample of the century's better thinkers), by a genius for close observation of what fascinated him (essentially the structures and processes of the reality created through communication), and perhaps by some painful alienation from the ordinary. Although highly cultured in his understanding of European tradition, he was no scholar of contemporary documents in the social sciences. His favorite references are to William Blake, Samuel Butler, Larmarck, Alfred Wallace, Darwin, C. H. Waddington, R. G. Collingwood, Whitehead, Russell, the Bible, St. Augustine, Von Neumann, Norbert Wiener, and Lewis Carroll.

In part, his idiosyncratic path was a result of his institutional isolation. But he was not essentially a scholar, a critic of other's writings, so much as a natural scientist, for whom "nature was his book" is no banal characterization. He used anything that he could learn from others, integrated into his own vision (for he was polar opposite of an eclectic) to read that book.

Bateson's formal training under A. C. Haddon, whom he met late in his undergraduate career, was by present standards brief and sketchy. And although he wished to escape from zoology because his interest in it was "purely intellectual and not heartfelt" (as he wrote his parents in 1925), his anthropological concerns were rooted in the natural biological sciences, not only as a result of his undergraduate training but from the intense informal education he got during his childhood and adolescence from his father and his father's circle. His father's interest in biological morphology (particularly questions of symmetry and asymmetry) and its genera-

tion, maintenance, and disruption was shared by the son and, enlarged to include the morphology of behavior, constituted a leitmotiv of his life's work from his concept of processes of schismogenesis in Iatmul culture (Naven 1936, 1965) to the concerns of the book, *Mind and Nature*, which appeared a year before he died.

His interest in behavioral morphology, which for him involved structures of meaning and communication, led him from his early career to be distrustful of simple reductionistic models of cause and effect, which seemed to leave out too much and to distort understanding. He felt that explanations (and thought in general) that were not of the proper complexity in relation to the events he was trying to describe, were not only false in ways that he tried to specify, but were dangerous in that they led to destructive action. Bateson felt deeply that ways of understanding the phenomena of the world of communication necessarily have active moral consequences. We will return to this.

Someone has said that all thinkers (seen, of course, from the opposite camp) are either simpleminded or muddleheaded. For the simpleminded, Bateson with his subtle and complex models was a prince of the muddleheaded. In fact, this is the blindness of the two camps. Bateson's essays in understanding (including his criticism of the limits and implications of less adequate models) set standards, we believe, of logical coherence unexcelled by anyone writing in the social sciences today. Each of his essays assumes understanding of much that he has written before; but when they are understood in their entirety, a clear, integrated, and powerful vision emerges.

However, the interrelated web of his ideas, as well as his special point of view, makes it difficult to understand fully many of his essays in isolation (and this is true all the more of isolated phrases) until the point of view and general outlines of his system of ideas are grasped. A sentence such as "the transform of a difference travelling in a circuit is the elementary idea" (1972:549) or the significance of the "double bind" theory of schizophrenia requires some fairly elaborate contextual placement.

We believe that the kind of system and the way of thinking that Bateson worked toward provide intellectual tools that are much closer to contemporary ideas of how phenomena are organized than the received assumptions that he worked to modify. His seminal power lies in the

tification of his insights and in his pointing out and illuminating the kinds of problems and paradoxes that are the residuals of worn out paradigms. The sketchy selection of issues and approaches to which we are limited in this short appreciation are necessarily inadequate, and we must refer readers back to his writings for clarification and perspective.

Bateson was interested in something beyond ethnography and the description of either "raw data" or of data related to "middle-range analytic problems" such as, say, the organization of kinship systems. Terence Turner (1980), in a review of *Mind and Nature*, has observed that some readers and listeners tended to dismiss Bateson's work because he tended to move from general principles of the highest order of abstraction directly to (and from) examples, which he connected by metaphor or analogy, without seeming to come to grips with middle-range analytic problems.

This was, in fact, Bateson's conscious and committed method, and was directed toward what he took to be the mission of those sciences dealing with meaning and communication, including anthropology. He was concerned with advancing the search for *fundamental* principles of structure and process in those sciences, and for the classes of data and kinds of observation proper to the illumination of those fundamentals.

Many investigators, especially in the behavioral sciences, seem to believe that scientific advance is predominantly inductive, and should be. . . . They believe that progress is made by the study of the "raw" data, leading to new heuristic concepts. The heuristic concepts are then to be regarded as "working hypotheses" and tested against more data. Gradually, it is hoped, the heuristic concepts will be corrected and improved until at last they are worthy of a place in the list of fundamentals. About fifty years of work in which thousands of clever men have had their share have, in fact, produced a rich crop of several hundred heuristic concepts, but, alas, scarcely a single principle worthy of a place in the list of fundamentals. [1972:xix]

In Bateson's view the heuristic concepts generally employed in social science explanation are in a class with the "dormitive principle" made to account for opium's soporific qualities in Moliere's *The Doctor in Spite of Himself*.

For the sake of politeness I call these

"heuristic" concepts; but in truth most of them are so loosely derived and so mutually irrelevant that they mix together to make a sort of conceptual fog which does much to delay the progress of science. [1972: xviii]

Explanation is the mapping of data onto fundamentals . . . [and] the ultimate goal of science is the increase of fundamental knowledge . . . [but] the vast majority of the concepts of contemporary [social science] . . . are totally detached from the network of scientific fundamentals. [1972:xix]

Bateson argued that many aspects of the fundamental structure and processes relevant to the segment of the world involving communication, messages, and meaning had to be carefully distinguished from those that were relevant to other aspects of the world. When you kick a stone, he would say, the movement of the stone is determined by its mass, and by the energy and direction of your kick; when you kick a dog it moves with the energy of its own metabolism because it understands something.

His arguments about these distinctions were to clear the ground. In the physical world, "chains of cause and effect . . . can be referred to forces and impacts" (1972:xxi). But in the world of meaning (and here is one of his examples at the service of a search for fundamentals):

Nothing—that which is not—can be a cause. . . . Remember that zero is different from one, and because zero is different from one, zero can be a cause in the psychological world, the world of communication. The letter which you do not write can get an angry reply; and the income tax form which you do not fill in can trigger the Internal Revenue boys into energetic action, because they too have their breakfast, lunch, tea and dinner and can react with energy which they derive from their metabolism. [1972:452]

Bateson sometimes used the terms *pleroma* and *creatura*, which he borrowed from Jung (who claimed to be following Gnostic usage) for the two domains.

The *pleroma* is the world in which events are caused by forces and impacts and in which there are no "distinctions." Or, as I would say, no "differences." In the *creatura*, effects are brought about precisely by difference. [1972:456]

These differences are the subset of changes

("the differences which make a difference") within or environing a "system" which is ordered in such a way that it responds to them, so that they are for that system meaningful messages.

These differences and the systems for which they are significant, (their elements, structures, class, and species characteristics) were what concerned him. Bateson tried to work out some of the ways in which the "*creatura*" was structured, maintained, and learned, something of its evolutionary and adaptive features, and of its pathologies. For this he extended the idea of "mind."

I suggest that the delimitation of an individual mind must always depend upon what phenomena we wish to understand or explain. Obviously there are lots of message pathways outside the skin, and these and the messages which they carry must be included as part of the mental system whenever they are relevant. [1972:458]

(We will note below a further extension of the idea of "mind" in his later thinking.)

His interrelated concepts of end-linkages, levels of communication, schismogenesis, the double-bind theory of schizophrenia, the evolutionary implications of play, the significance of context and context markers, the specific formal properties of analogical communication, ways of structuring and communicating relationships, were all (in addition to a large numbers of less formalized conceptions) attempts to develop analytic tools for dealing with the "*creatura*" in what he thought were the terms adequate to it. Central to all this was a powerful learning theory (developed in a series of papers in *Steps to an Ecology of Mind*) which includes the concept of a "second level learning" (*deuterolearning*), suggesting how features of world view and aspects of character (both culturally agreed on and individual) glossed by terms such as "fatalism," "instrumentalism," "passivity," "free will," and so on, are learned, and how they come to be the "common sense" of groups. He also suggests in considerations of "third level learning" how the certainties of second-level learning may, under quite precisely specifiable conditions, be broken down or "transcended," an idea which has interesting implications for superordinate systems of social control and integration.

Bateson came to see the sociopsychological forms with which he was concerned as related to larger processes of evolution and adaptation. He

discerned systematic relations of a number of kinds between processes of evolution viewed as phylogenetic "learning," and the learning which takes place at the individual and cultural level.

Important aspects of his thinking about the relationship of the mobile and dynamic processes of adaptation in individual organisms (such as tanning in response to sunlight or individual learning) to less mobile aspects of adaptation (such as skin color prior to tanning) are presented in a dense, closely argued, and important paper, *The Role of Somatic Change in Evolution* (1963, reprinted in Bateson 1972). The paper, which is difficult to summarize briefly, deals with the "economics of flexibility," what Bateson took to be logically necessary relations between mobile adaptive mechanisms and more stable structures, in relation to aspects of time sequences, to the magnitude and nature of disturbances within the adapting system, and to aspects of hierarchy or "logical typing." The details of his argument, which have had an important influence on some biologists (e.g., Slobodkin and Rapoport 1974) have significant implications for the understanding of the "economics of flexibility" in other types of systems, including sociocultural and psychological ones.

In another essay, *Style, Grace and Information in Primitive Art* (1972:128-152) Bateson discusses an "economics of consciousness" that is formally similar to his arguments about the "economics of flexibility." Because the data-processing capacity of consciousness is limited, it must be conserved. For this, it is necessary to "sink" into the unconsciousness of habit, knowledge, and skills which will then continue to seem true, apt, or necessary regardless of environmental change, maintaining in an accessible "place" only that which must be continuously modified. But this "sinking" of knowledge is done at a price. That which is "sunk" becomes inaccessible and difficult or impossible to change.

The approach to adaptation taken by Bateson not only makes "functional" changes continuous with evolutionary transformations, but also implies their logical relationship. He attempted to examine "consciousness" within this overall schema. In hierarchically organized adaptive systems, evolutionary transformations in subsystems are elements in the self-regulatory processes of the more inclusive systems of which they are parts. Evolutionary changes in such subsystems may be accounted for by what they

maintain unchanged in the larger system. To put this in terms of the "mind-like" characteristics of such systems, the changes are at the service of a stability which can be defined by reference "to the ongoing truth of some descriptive proposition" (1979:62). The changes in a tightrope walker's position conserve the truth of the orienting proposition that he is on the tightrope. In this regard there is, of course, a profound difference between cultural and biological evolution. In biological evolution, "the Weismannian barrier between soma and germ plasm is presumed to be totally opaque. . . . In cultural evolution and individual learning, the coupling through consciousness is present, [but] incomplete and probably distortive" (1972:444). The latter can, therefore, conserve the truth value of "wrong propositions." Bateson took this problem to be intrinsic to consciousness itself, in particular to a certain aspect of consciousness, namely, purpose. "*The cybernetic nature of self and world tends to be imperceptible to consciousness* insofar as the contents of the 'screen' of consciousness are determined by considerations of purpose" (ibid., italics in original).

These kinds of arguments are based in large part on analogies. In his search for significant similarities and contrasts in systems involving communication and meaning, Bateson believed (and here he picks up emphases of Vico and such Romantic protestors against empiricism as Blake) that it was legitimate to use intuitions based on aspects of order glimpsed in the examination of any complex "cybernetic" system (and perhaps based, ultimately, on our own sense of ourselves as organized systems of person/environment) to explore other organized realms. He called this *abduction* "the lateral extension of abstract components of description" (1979:142), which he took to be as important as deduction and induction. "Metaphor, dream, parable, allegory, the whole of art, the whole of [social?] science, the whole of religion, the whole of poetry, totemism . . . the organization of facts in comparative anatomy—all these are instances or aggregates of instances of abduction. . . ." He then, characteristically, pushed the idea further in his search for analogies of order. "But obviously the possibility of abduction extends to the very roots also of physical science, Newton's analysis of the solar system and the periodic table of the elements being historical examples" (1979:142-143).

Bateson's growing theoretical emphasis on the adaptational nature of human thought and

behavior led to a close fit between his intellectual and moral positions. He was deeply disturbed by the decimation of aboriginal populations, by the degradation of ecological systems, by economic oppression, and by senseless wars and arms races; but he took them and the countless other disasters and fearsome omens of contemporary life to be manifestations of a limited number of deeper disorders of a systemic nature, some or all of which could be defined in the formal terms of cybernetic systems of communication and meaning that comprised, for him, life, mind, and society. One of the causes of these breakdowns, he thought, involves the peculiar nature of human consciousness as an adaptive system. In his view, as we have noted, consciousness is dominated by purposefulness, and purposeful thought has a linear structure. That is, it establishes goals and devises means for attaining them without being governed by, or even aware of, the circular and reticulate structure of cause and effect that orders the systems in which purposeful action takes place.

It should be noted that the primacy of this kind of "consciousness" (which is more a matter of discursive, culturally prescribed "rational thought" than, say, Freudian "consciousness") in mental activity, the range of situations to which it is thought to apply, and above all its influence on action and the available power coupled to it, vary among individuals and groups. Thus, "when implemented by modern technology a consciousness dominated by purpose becomes disruptive of the balances between individuals, their societies and their ecosystems" (1972:434).

The cure for the inadequacies of consciousness, of purposive rationality, is not to reject it in favor of a passionate nonrationality (and here Bateson separates himself from the extreme Romantic position) but to augment and complete it. For Bateson the inadequacies of linear, purposive, discursive processes of consciousness are corrected by enlisting the aid of the non-discursive, pattern-comprehending, emotionally saturated "primary processes," in Freud's sense, processes which to Bateson, however, quoting Blake's "A tear is an intellectual thing," represented legitimate aspects of knowing. Art, aspects of religion, and complex symbolic form are vehicles for conveying necessary information. Taking his metaphor here from religious language, art, for example, is "part of man's quest for grace." He thought of grace as involving the integration of "diverse parts of the

mind—especially those multiple levels of which one extreme is called 'consciousness' and the other the 'unconscious' (1972:129).

When the world is viewed as circuits of information and meaning in which the submind of the actor participates, then the world's problems centrally include, as we have noted, failures of conscious understanding that involve for Bateson errors in the epistemology of individuals.

Bateson's intellectual analysis, then, had deeply moral or—if one prefers—ideological implications. This was a source of his attraction to some, a problem for others. He felt that the proper understanding of mind or "creatura" entailed an understanding of proper action (including when not to act), as an understanding of human physiology does to the ideal physician. Starting from such a conviction he had to explain the sources of what he took to be human error, and his analysis of consciousness or, in some moods, "Western" consciousness, derived from this. In his morality, ignorance was responsible for evil.

It is of some value, we think, to anthropologists to comment on the growth of his moral position. Bateson's early work on the patterning of culture, of the *deutero truths* (that is, what is true is what a particular community agrees to be true) that grew out of the structure of experience and learning (deuterolearning) in such communities, shares with the anthropology of the time two morally significant assumptions. First, the patterning of the system has ontological priority over the "individual" (the latter being a problematic construct to Bateson). This dissolving of the individual as a focus of praise or blame, of responsibility for noncivilized behavior (to take it back a step to Boas), was an important liberal response to colonial and racist ideologies. (An interesting ideological climax of this stance was Ronald Laing's antipsychiatry, influenced by Bateson, which saw the family system as responsible for the victim's schizophrenia.) Second, and allied to the decentering of the individual, was an implication that each culture provided an alternate, equally valid, and equally arbitrary way of phrasing reality and creating the illusion of sanity.

This relativistic assumption about the cultural creation of reality out of the "unpunctuated flow of events," this devaluation of innocent common sense about the realness of the world (to which Bateson's analyses so powerfully contributed) with its implications for tolerance

but beyond this resignation, solipsism, or worse, was gradually countered in Bateson's thought.

The tension is conveyed in an afterword he wrote in 1977 to a collection of celebratory essays, *About Bateson*:

In solipsism you are ultimately isolated and alone, isolated by the premise "I make it all up." But at the other extreme, the opposite of solipsism, you would cease to exist, becoming nothing but a metaphoric feather blown by the winds of external "reality." . . . Somewhere between these two is a region where you are partly blown by the winds of reality and partly an artist creating a composite out of the inner and outer events. [p. 245]

He was concerned with the *limits* of the cultural determination of truth in various ways. He asked in speculations on "third level truth" what happens when learning involves the submitting of cultural truths to some more complex learning, such as the learning occurring out of the intimate knowledge of two different cultural systems. One possibility was a transcending of the particular system of cultural common sense to some more general understanding of the human condition. Another probe at the limits of relativism was the study of those systems which were pathological as systems of communication, which had to break down in whole, or in relation to some component. The double-bind theory was concerned with such systems.

But perhaps most important: by relocating cultural systems in larger systems of support, that is, by emphasizing anew their adaptive consequences, he found a basis for cultural comparison and for the idea of error.

The moral stance here is not that different from cultural relativism in its motivation. Both positions—a radical relativism and a critique of pride, power, and narrowly defined pragmatic thinking as pathological—are criticisms of Western attitudes of superiority and exploitation over other peoples and over nature. But the two are profoundly different in their content. The notion of cultural relativism, as vague as it may be, has difficulty accommodating the notion of error. There is little place in a radical doctrine of cultural relativism, as there is in Bateson's developed conception, for the possibility that an entire culture might be suffering from systemic disorders of internal adjustment or external adaptiveness.

Much of this draws on a very old intellectual tradition, going back, as Bateson himself remarked, at least to Heraclitus who noted for

example the danger that reason at the service of private advantage posed to Logos, the cosmic order. Bateson acknowledged and drew support from many illustrious progenitors. Much of his work was highly innovative—double-bind theory, schismogenesis, the logical typing of aspects of learning, and many other ideas that time must test. Perhaps above all he was a channel through which certain new ways of looking at things (or revitalized old ways) flowed to a segment of for the most part American and English intellectual workers (his works are now being translated into French and Spanish) in half a dozen fields. He gave some of these ideas clearer form and applied them to novel events and materials.

He would have considered a valedictory article concerned with his originality and individuality to have missed the point. As he put it,

Freudian psychology expanded the concept of mind inwards to include the whole communication system within the body—the autonomic, the habitual, and the vast range of unconscious process. What I am saying expands mind outwards. And both of these changes reduce the scope of the conscious self. A certain humility becomes appropriate, tempered by the dignity or joy of being part of something much bigger [1972:462-463].

He had extended his idea of "mind," beyond the skin. He extended it once again, particularly in his last book *Mind and Nature*. He elaborates there the characteristics of systems which seem to him to have the essential features that also characterize human mind, and he found them essential aspects of living systems (including systems such as ecological systems made up of "living elements") in general, as well as complex cybernetic systems constructed by man.

He tried to grasp the intellectual and moral implications of this view of the individual as a subsection and representative of such more general processes.

And last, there is death. It is understandable that, in a civilization which separates mind from body, we should either try to forget death or to make mythologies about the survival of transcendent mind. But if mind is immanent not only in those pathways of information which are located inside the body but also in external pathways, then death takes on a different aspect. The individual nexus of

pathways which I call "me" is no longer so precious because that nexus is only part of a larger mind. The ideas which seemed to be me can also become immanent in you. May they survive—if true. [1972:465]

ROBERT I. LEVY

University of California, San Diego

ROY RAPPAPORT

University of Michigan

REFERENCES CITED

Bateson, Gregory

1942 (with Margaret Mead) *Balinese Character: A Photographic Analysis*. New York: New York Academy of Sciences.

1951 (with Jurgen Ruesch) *Communication: The Social Matrix of Psychiatry*. New York: Norton.

1961 *Perceval's Narrative: A Patient's Account of his Psychosis, 1830-1832*, by John Perceval. Edited with an Introduction by Gregory Bateson. Stanford: Stanford University Press.

1965 *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 ed. with an epilogue. Stanford: Stanford University Press. (The first edition was published by Cambridge University Press in 1936.)

1972 *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution and Epistemology*. New York: Chandler. (Paperback edition, Ballantine Books.)

1979 *Mind and Nature: A Necessary Unity*. New York: E. P. Dutton.

Bateson, Mary Catherine

1972 *Our Own Metaphor*. New York: Knopf.

Brockman, John (ed.)

1977 *About Bateson*. New York: E. P. Dutton.

Keesing, Roger

1974 Review of "Steps to an Ecology of Mind." *American Anthropologist* 76:370.

Rose, Steven

1980 Review of "Mind and Nature." *Times Literary Supplement*, November 21:1314.

Slobodkin, L., and A. Rapoport

1974 *An Optimal Strategy of Evolution*. *Quarterly Review of Biology* 49:187-200.

Turner, Terence

1980 Review of "Mind and Nature." In *These Times*, September: 17-23.

BIBLIOGRAPHY

prepared by

Vern Carroll and Rodney E. Donaldson¹

I. Books, Articles, and Reviews

1926 (with W. Bateson) On Certain Aberrations of the Red-legged Partridges *Alectoris rufa* and *saxatilis*. *Journal of Genetics* 16:101-123.

1932a Further Notes on a Snake Dance of the Baining. *Oceania* 2:334-341.

1932b Social Structure of the Iatmul People of the Sepik River (Parts I & II). *Oceania* 2:245-291.

1932c Social Structure of the Iatmul People of the Sepik River (Part III). *Oceania* 2:401-453.

1935a Music in New Guinea. *Eagle* 47, no. 214: 158-170. (The *Eagle* . . . a magazine supported by members of St. John's College, Cambridge, England. Printed at the University Press for subscribers only.)

1935b Culture Contact and Schismogenesis. *Man* 35:178-83 (art. 199).*

1936 *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*. Cambridge: Cambridge University Press. Reprint. New York: Macmillan 1937.

1937 An Old Temple and a New Myth. *Djawa* 17:291-307. Text reprinted in *Traditional Balinese Culture*. Jane Belo, ed. pp. 111-36. New York and London: Columbia University Press, 1970. (Note: the reprint excludes five of the eight original photographs and adds two photographs which do not appear in the original.)

1941a Experiments in Thinking About Observed Ethnological Material. *Philosophy of Science* 8:53-68. Paper read at the Seventh Conference on Methods in Philosophy and the Sciences, April 28, 1940, at the New School for Social Research, New York.*

1941b Age Conflicts and Radical Youth. Mimeographed. New York Institute for Intercultural Studies. Prepared for the Committee for National Morale.

1941c The Frustration-Aggression Hypothesis and Culture. *Psychological Review* 48:350-355. Paper read at the 1940 meeting of the Eastern Psychological Association in the Symposium on the Effects of Frustration.

1941d (with Margaret Mead) Principles of Morale Building. *Journal of Educational Sociology* 15:206-220.

- 1941e Review of Conditioning and Learning, by Ernest R. Hilgard and Donald G. Marquis. *American Anthropologist* 43:115-116.
- 1941f Review of Mathematico-Deductive Theory of Rote Learning, by Clark L. Hull et al. *American Anthropologist* 43:116-118.
- 1942a (with Margaret Mead) Balinese Character: A Photographic Analysis. Special Publications of the New York Academy of Sciences, vol. 2. New York: New York Academy of Sciences.
- 1942b Some Systematic Approaches to the Study of Culture and Personality. Character and Personality 11:76-82. Reprinted in *Personal Character and Cultural Milieu*, Douglas G. Haring, ed. pp. 71-77. Syracuse, New York, 1948. Rev. ed. Syracuse University Press, 1949.
- 1942c Comment on The Comparative Study of Culture and the Purposive Cultivation of Democratic Values, by Margaret Mead. In *Science, Philosophy and Religion; Second Symposium* (held September 8-11, 1941 at New York). Conference on Science, Philosophy and Religion. Edited by Lyman Bryson and Louis Finkelstein, pp. 81-97. New York: Conference on Science, Philosophy and Religion in Their Relation to the Democratic Way of Life, Inc. (Reprinted widely under the title *Social Planning and the Concept of Deutro-Learning*.)*
- 1942d Morale and National Character. In *Civilian Morale*. Society for the Psychological Study of Social Issues, Second Yearbook. Goodwin Watson, ed. pp. 71-91. Boston: Houghton Mifflin (for Reynal & Hitchcock, New York).*
- 1943a Cultural and Thematic Analysis of Fictional Films. Transactions of the New York Academy of Sciences, series 2, vol. 5, no. 4:72-78. Address to the New York Academy of Sciences, January 18, 1943. Reprinted in *Personal Character and Cultural Milieu*. Douglas G. Haring, ed. pp. 117-123. Syracuse, New York, 1948.
- 1943b An analysis of the film *Hitlerjunge Quex* (1933). Mimeographed. New York: Museum of Modern Art Film Library. Microfilm copy made in 1965 by Graphic Microfilm Co. Abstracted in *The Study of Culture at a Distance*. Margaret Mead and Rhoda Metraux, eds. pp. 302-314. Chicago: University of Chicago Press, 1953. A copy of the first three reels of this film, with analytic titles by Gregory Bateson, is in the Museum of Modern Art Film Library.
- 1943c Human Dignity and the Varieties of Civilization. In *Science, Philosophy and Religion; Third Symposium* (held August 27-31, 1942, at New York). Conference on Science, Philosophy and Religion. Lyman Bryson and Louis Finkelstein, eds. pp. 245-255. New York: Conference on Science, Philosophy and Religion in Their Relation to the Democratic Way of Life, Inc.
- 1943d Discussion concerning The Science of Decency. *Philosophy of Science* 10:140-142.
- 1944a Psychology—in the War and After (Part VII): Material on Contemporary Peoples. *Junior College Journal* 14:308-311.
- 1944b Pidgin English and Cross-Cultural Communication. Transactions of the New York Academy of Sciences, series 2, vol. 6, no. 4: 137-141. Paper read to the New York Academy of Sciences, Section of Anthropology, January 24, 1944.
- 1944c Cultural Determinants of Personality. In *Personality and the Behavior Disorders*, vol. 2. Joseph McV. Hunt, ed. pp. 714-735. New York: Ronald Press.
- 1944d (with Claire Holt) Form and Function of the Dance in Bali. In *The Function of Dance in Human Society: A Seminar Directed by Franziska Boas*, pp. 46-52. Boas School. New York: The Boas School. Reprinted in *Traditional Balinese Culture*, Jane Belo, ed. pp. 322-330. New York and London: Columbia University Press, 1970.
- 1944e (with Robert Hall, Jr.) A Melanesian Culture-Contact Myth in Pidgin English. *Journal of American Folklore* 57, no. 226:255-262.
- 1946a Physical Thinking and Social Problems. *Science* 103, no. 2686 (June 21, 1946):717-718.
- 1946b Arts of the South Seas. *Art Bulletin* 28:119-123. Review of an exhibit held January 29, 1946 to May 19, 1946, at the Museum of Modern Art, New York.
- 1946c The Pattern of an Armaments Race, Part I: An Anthropological Approach. *Bulletin of the Atomic Scientists* 2, nos. 5 & 6: 10-11. Reprinted in *Personal Character and Cultural Milieu*. Douglas G. Haring, ed. pp. 85-88. Syracuse, New York, 1948.
- 1946d The Pattern of an Armaments Race, Part II: An Analysis of Nationalism. *Bulletin of the Atomic Scientists* 2, nos. 7 & 8: 26-28. Reprinted in *Personal Character and Cultural Milieu*. Douglas G. Haring, ed. pp. 89-93. Syracuse, New York, 1948.
- 1946e From One Social Scientist to Another.

- American Scientist 34 (October 1946): 648ff.
- 1946f Protecting the Future. Letter to the New York Times, December 8, 1946, section 4, p. 10.
- 1947a Sex and Culture. Annals of the New York Academy of Sciences 47:647-660. Paper read to the Conference on Physiological and Psychological Factors in Sex Behavior, New York Academy of Sciences, Sections of Biology and Psychology, March 1, 1946. Reprinted in *Personal Character and Cultural Milieu*. Douglas G. Haring, ed. pp. 94-107. Syracuse, New York, 1948.
- 1947b Atoms, Nations, and Cultures. International House Quarterly 11, no. 2:47-50. Lecture delivered March 23, 1947, at International House, Columbia University.
- 1947c Review of The Theory of Human Culture, by James Fiebleman. Political Science Quarterly 62:428-430.
- 1949a Bali: The Value System of a Steady State. In *Social Structure: Studies Presented to A. R. Radcliffe-Brown*. Meyer Fortes, ed. pp. 35-53. Oxford: Clarendon Press. Reprint. New York: Russell & Russell, 1963.*
- 1949b (with Jurgen Ruesch) Structure and Process in Social Relations. Psychiatry 12:105-124.
- 1951a (with Jurgen Ruesch) Communication: The Social Matrix of Psychiatry. New York: Norton; Toronto: George McLeod. Reprint, New York: Norton, 1968.
- 1951b Metalogue: Why do Frenchmen? In *Impulse*, Annual of Contemporary Dance, 1951, Marian Van Tuyl, ed. San Francisco: Impulse Publications, 1951. Reprinted in *ETC: A Review of General Semantics* 10 (1953):127-130. Reprinted also in *Anthology of Impulse*, Annual of Contemporary Dance, 1951-1966. Marian Van Tuyl, ed. Brooklyn: Dance Horizons, 1969.*
- 1952 Applied Metalinguistics and International Relations. *ETC: A Review of General Semantics* 10:71-73.
- 1953a An Analysis of the Nazi Film *Hitlerjunge Quex*. In *The Study of Culture at a Distance*. Margaret Mead and Rhoda Metraux, eds. pp. 302-314. Chicago: University of Chicago Press. Abstract by Margaret Mead of An Analysis of The Film *Hitlerjunge Quex* (1933), by Gregory Bateson. (cf. Bateson 1943b).
- 1953b The Position of Humor in Human Communication. In *Cybernetics: Circular Causal and Feedback Mechanisms in Biological and Social Sciences*; Transactions of the Ninth Conference (held March 20-21, 1952, at New York). Conference on Cybernetics. Heinz Von Foerster, ed. pp. 1-47. New York: Josiah Macy, Jr. Foundation.
- 1953c Metalogue: About Games and Being Serious. *ETC: A Review of General Semantics* 10:213-217.*
- 1953d Metalogue: Daddy, How Much Do You Know? *ETC: A Review of General Semantics* 10:311-315.*
- 1953e Metalogue: Why Do Things Have Outlines? *ETC: A Review of General Semantics* 11:59-63.*
- 1954 Metalogue: Why a Swan? In *Impulse*, Annual of Contemporary Dance, 1954. Marian Van Tuyl, ed. pp. 23-26. San Francisco: Impulse Publications. Reprinted in *Anthology of Impulse*, Annual of Contemporary Dance, 1951-1966. Marian Van Tuyl, ed. pp. 95-99. Brooklyn: Dance Horizons, 1969.*
- 1955a A Theory of Play and Fantasy: A Report on Theoretical Aspects of the Project for Study of the Role of Paradoxes of Abstraction in Communication. In *Approaches to the Study of Human Personality*. pp. 39-51. American Psychiatric Association. Psychiatric Research Reports, no. 2. Paper delivered to a symposium of the American Psychiatric Association on Cultural, Anthropological, and Communications Approaches, March 11, 1954, at Mexico City.*
- 1955b How the Deviant Sees His Society. In *The Epidemiology of Mental Health*, pp. 25-31. Mimeographed. An Institute Sponsored by the Departments of Psychiatry and Psychology of the University of Utah, and by the Veterans Administration Hospital, Fort Douglas Division Salt Lake City, Utah, May 1955, at Brighton, Utah. Reprinted in *Steps to An Ecology of Mind, as Epidemiology of a Schizophrenia*.*
- 1956a The Message "This is Play." In *Group Processes*; Transactions of the Second Conference (held October 9-12, 1955, at Princeton, New Jersey). Conference on Group Processes. Bertram Schaffner, ed. pp. 145-242. New York: Josiah Macy, Jr. Foundation.
- 1956b Communication in Occupational Therapy. *American Journal of Occupational Therapy* 10:188.
- 1956c (with Don D. Jackson, Jay Haley and John Weakland) Toward a Theory of Schizophrenia. *Behavioral Science* 1:251-264.*
- 1958a Naven: A Survey of the Problem Suggested by a Composite Picture of the Culture

- of a New Guinea Tribe Drawn from Three Points of View, 2nd ed., with added epilogue 1958. Stanford: Stanford University Press; London: Oxford University Press, Reprint. Stanford University Press, 1965; London: Oxford University Press, 1965 (cf. Bateson 1936).
- 1958b Language and Psychotherapy—Frieda Fromm-Reichmann's Last Project. *Psychiatry* 21:96-100. The Frieda Fromm-Reichmann Memorial Lecture, delivered June 3, 1957, at the Veterans Administration Hospital, Palo Alto, California.
- 1958c Schizophrenic Distortions of Communication. *In Psychotherapy of Chronic Schizophrenic Patients*. Sea Island Conference on Psychotherapy of Chronic Schizophrenic Patients, sponsored by Little, Brown, October 15-17, 1955, at Sea Island, Georgia. Carl A. Whitaker, ed. pp. 31-56. Boston and Toronto: Little, Brown; London: J. & A. Churchill.
- 1958d Analysis of Group Therapy in an Admission Ward, United States Naval Hospital, Oakland, California. *In Social Psychiatry in Action: A Therapeutic Community*. Harry A. Wilmer, ed. pp. 334-349. Springfield, Illinois: Charles C Thomas.
- 1958e The New Conceptual Frames for Behavioral Research. *In Proceedings of the Sixth Annual Psychiatric Institute* (held September 17, 1958, at the New Jersey Neuro-Psychiatric Institute, Princeton, New Jersey), pp. 54-71. n.p.
- 1959a Letter in response to Role and Status of Anthropological Theories, by Sidney Morganbesser. *Science* 129 (February 6, 1959): 294-298.
- 1959b Panel Review. *In Individual and Familial Dynamics*. Vol. 2, Science and Psychoanalysis. (Report of a conference held in May 1958, at the Academy of Psychoanalysis, Chicago.) Academy of Psychoanalysis, Chicago. Jules H. Masserman, ed. pp. 207-211. New York: Grune & Stratton.
- 1959c Cultural Problems Posed by a Study of Schizophrenic Process. *In Schizophrenia: An Integrated Approach*. Alfred Auerback, ed. pp. 125-148. New York: Ronald Press Co.
- 1960a The Group Dynamics of Schizophrenia. *In Chronic Schizophrenia: Explorations in Theory and Treatment*. Institute on Chronic Schizophrenia and Hospital Treatment Programs, State Hospital, Osawatomie, Kansas, October 1-3, 1958. Lawrence Appleby, Jordan M. Scher, and John Cumming, eds. pp. 90-105. Glencoe, Illinois: Free Press; London: Collier-Macmillan.*
- 1960b Minimal Requirements for a Theory of Schizophrenia. *Archives of General Psychiatry* 2:477-491. Second Annual Albert D. Lasker Memorial Lecture, delivered April 7, 1959, at the Institute for Psychosomatic and Psychiatric Research and Training of the Michael Reese Hospital, Chicago.*
- 1960c Discussion of Families of Schizophrenic and of Well Children, by Samuel J. Beck. *American Journal of Orthopsychiatry* 30:263-266. 36th Annual Meeting of the American Orthopsychiatric Association, March 30 to April 1, 1959, San Francisco.*
- 1961a Perceval's Narrative: A Patient's Account of His Psychosis 1830-1832, by John Perceval. Edited and with an introduction by Gregory Bateson. Stanford: Stanford University Press; London: Hogarth Press, 1962. (Paperback edition, William Morrow, 1974).
- 1961b The Biosocial Integration of Behavior in the Schizophrenic Family. *In Exploring the Base for Family Therapy*. M. Robert Gomberg Memorial Conference (held June 2-3, 1960, at the New York Academy of Medicine.) Nathan W. Ackerman, Frances L. Beatman, and Sanford N. Sherman, eds. pp. 116-122. New York: Family Service Association of America.
- 1961c Formal Research in Family Structure. *In Exploring the Base for Family Therapy*. M. Robert Gomberg Memorial Conference (held June 2-3, 1960, at the New York Academy of Medicine). Nathan W. Ackerman, Frances L. Beatman, and Sanford N. Sherman, eds. pp. 136-140. New York: Family Service Association of America.
- 1963a A Social Scientist Views the Emotions. *In Expression of the Emotions in Man*. Symposium on Expression of the Emotions in Man (held at the meeting of the American Association for the Advancement of Science, December 29-30, at New York). Peter H. Knapp, ed. pp. 230-236. New York: International Universities Press.
- 1963b Exchange of Information About Patterns of Human Behavior. *In Information Storage and Neural Control*. Houston Neurological Society Tenth Annual Scientific Meeting, 1962, jointly sponsored by the Department of Neurology, Baylor University College of Medicine, Texas University Medical Center. William S. Fields and Walter Abbott, eds. pp. 173-186. Springfield, Illinois; Charles C Thomas.
- 1963c (with Don D. Jackson, Jay Haley, and John H. Weakland) A Note on the Double Bind. *In Family Process* 2:154-161.

- 1963d The Role of Somatic Change in Evolution. *Evolution* 17:529-539.*
- 1964 (with Don D. Jackson) Some Varieties of Pathogenic Organization. In *Disorders of Communication*. Proceedings of the Association, December 7-8, 1962, at New York. Association for Research in Nervous and Mental Disease, Research Publications, vol. 42. David McK. Rioch and Edwin A. Weinstein, eds. pp. 270-290. Baltimore: Williams & Wilkins. Edinburgh: E. & S. Livingstone.
- 1966a Communication Theories in Relation to the Etiology of the Neuroses. In *The Etiology of the Neuroses*. (Report of a symposium sponsored by the Society of Medical Psychoanalysts, March 17-18, 1962, at New York.) Joseph H. Merin, ed. pp. 28-35. Palo Alto, California: Science & Behavior Books.
- 1966b Slippery Theories. Comment on Family Interaction and Schizophrenia: A Review of Current Theories, by Elliot G. Mishler and Nancy E. Waxler. *International Journal of Psychiatry* 2:415-417. Reprinted in *Family Processes and Schizophrenia*. Elliot G. Mishler and Nancy E. Waxler, eds. New York: Science House, 1969.
- 1966c Problems in Cetacean and Other Mammalian Communication. In *Whales, Dolphins, and Porpoises*. International Symposium on Cetacean Research (sponsored by the American Institute of Biological Sciences, August 1963, Washington, D.C.). Kenneth S. Norris, ed. pp. 569-579. Berkeley and Los Angeles: University of California Press.*
- 1967a Cybernetic Explanation. *American Behavioral Scientist* 10, no. 6 (April 1967):29-32.*
- 1967b Review of Person, Time, and Conduct in Bali, by Clifford Geertz. *American Anthropologist* 69:765-766.
- 1968a Redundancy and Coding. In *Animal Communication; Techniques of Study and Results of Research*. (Report on the Wenner-Gren Conference on Animal Communication, held June 13-22, 1965, at Burg Wartenstein, Austria.) Thomas A. Sebeok, ed. pp. 614-626. Bloomington, Indiana and London: Indiana University Press.*
- 1968b Review of Primate Ethology. Desmond Morris, ed. *American Anthropologist* 70:1035.
- 1968c Conscious Purpose Versus Nature. In *The Dialectics of Liberation*. David Cooper, ed. pp. 34-49. Congress on the Dialectics of Liberation, held July, 15-30, 1967, at London. Harmondsworth, England; Baltimore, Maryland; Victoria, Australia: Penguin Books, Pelican Books. Reprinted under title: *To Free a Generation; The Dialectics of Liberation*. New York: Macmillan, Collier Books, 1969.*
- 1969a Metalogue: What is an Instinct? In *Approaches to Animal Communication*. Thomas A. Sebeok and Alexandra Ramsay, eds. pp. 11-30. The Hague and Paris: Mouton.
- 1969b Comment on The Study of Language and Communication Across Species, by Harvey B. Sarles. *Current Anthropology* 10:215.
- 1970a An Open Letter to Anatol Rapoport. *ETC: A Review of General Semantics* 27:359-363.
- 1970b On Empty-Headedness Among Biologists and State Boards of Education. *BioScience* 20:819. (In hardcover edition only of *Steps to an Ecology of Mind*.)*
- 1970c Form, Subsistence and Difference. *General Semantics Bulletin*, vol. 37. 19th Annual Alfred Korzybski Memorial Lecture, delivered January 9, 1970, at New York.
- 1970d The Message of Reinforcement. In *Language Behavior: A Book of Readings in Communication*. Johnnye Akin et al., eds. pp. 62-72. *Janua Linguarum, series maior*, 41. The Hague: Mouton.
- 1971a The Cybernetics of Self: A Theory of Alcoholism. *Psychiatry* 34:1-18.*
- 1971b A Re-examination of Bateson's Rule. *Journal of Genetics* 60, no. 3 (September 1971):230-240.*
- 1971c A Systems Approach. Evaluation of Family Therapy, by Jay Haley. *International Journal of Psychiatry* 9:242-244.
- 1971d Introduction to The Natural History of an Interview. University of Chicago Library Microfilm Collection of Manuscripts in Cultural Anthropology, series 15, nos. 95-98.
- 1971e Metalogue: Why do Things Get in a Muddle? (written 1948). In *Steps to an Ecology of Mind*.*
- 1971f From Versailles to Cybernetics. Lecture given to the Two Worlds Symposium, April 21, 1966, at Sacramento State College, California. In *Steps to an Ecology of Mind*.*
- 1971g Style, Grace and Information in Primitive Art. (Report on the Wenner-Gren Symposium on Primitive Art and Society, held June 27 to July 5, 1967, at Burg Wartenstein, Austria.) In *Steps to an Ecology of Mind*. Reprinted in *Primitive Art and Society*. Anthony Forge, ed. pp. 235-255. New York: Oxford University Press.*
- 1971h The Logical Categories of Learning

- and Communication, and the Acquisition of World Views. Paper given at the Wenner-Gren Symposium on World Views: Their Nature and Their Role in Culture, August 2-11, 1968, at Burg Wartenstein, Austria. Published in *Steps to an Ecology of Mind as The Logical Categories of Learning and Communication*.*
- 1971i Pathologies of Epistemology. In *Steps to an Ecology of Mind*. Reprinted in *Mental Health Research in Asia and the Pacific*, vol. 2. (Report of the Second Conference on Culture and Mental Health in Asia and the Pacific, held March 17-21, 1969, at Honolulu, Hawaii.) William P. Lebra, ed. pp. 383-390. Honolulu: East-West Center Press, 1972.*
- 1971j Double Bind, 1969. Paper given at the Annual Meeting of the American Psychological Association, September 2, 1969, at Washington, D.C. In *Steps to an Ecology of Mind*.*
- 1971k Statement on Problems Which Will Confront the Proposed Office of Environmental Quality Control in Government and an Environmental Center at the University of Hawaii. Prepared for the University of Hawaii Committee on Ecology and Man, as testimony before a committee of the Hawaii State Senate, 1970. Published in *Steps to an Ecology of Mind as The Roots of Ecological Crisis*.*
- 1971l Reconstructing the Ecology of a Great City. Paper prepared for the Wenner-Gren Symposium on Restructuring the Ecology of a Great City, held October 26-31, 1970, in New York. Published in *Steps to an Ecology of Mind as Ecology and Flexibility in Urban Civilization*.*
- 1971m The Science of Mind and Order. In *Steps to an Ecology of Mind*, by Gregory Bateson. Ballantine, 1972.*
- 1971n Comment (on an open letter to Gregory Bateson). ETC XXVIII, no. 2 (June):239-240.
- 1972a Steps to an Ecology of Mind. Scranton, Pennsylvania: Chandler. (Paperback edition, 1972, Ballantine) (British edition 1973, Paladin Books; preface by Adam Kuper).
- 1972b Our Own Metaphor, M. C. Bateson, ed. (Report on the Wenner-Gren Conference on the Effects of Conscious Purpose on Human Adaptation, held July 17-24, 1968, at Burg Wartenstein, Austria; Gregory Bateson, Chairman.) New York: Knopf.
- 1972c Effects of Conscious Purpose on Human Adaptation. (Invitational Paper for the Wenner-Gren Symposium on Effects of Conscious Purpose on Human Adaptation, July 17-24, 1968, at Burg Wartenstein, Austria). In *Steps to an Ecology of Mind*, Condensed version reprinted in *Our Own Metaphor*, M. C. Bateson, ed. New York: Knopf.*
- 1973 Both Sides of the Necessary Paradox, an interview edited by Stewart Brand. Harper's 247 (November):20+. Reprinted in *II Cybernetic Frontiers*. Stewart Brand, ed. pp. 9-38. New York: Random House, 1974. (Note: the reprint contains a short additional interview.).
- 1974a Observations of a Cetacean Community. In *Mind in the Waters*. Joan McIntyre, ed. pp. 146-165. New York: Scribner's.
- 1974b Distortions Under Culture Contact. In *Mental Health Research in Asia and the Pacific*, Vol. 3. William P. Lebra, ed. pp. 197-199. Honolulu: University of Hawaii Press.
- 1974c C. G. Jung's *Septem Sermones ad Mortuos*. In *Whole Earth Epilog*, p. 749. Baltimore, Maryland: Penguin Books. Reprinted in *The Next Whole Earth Catalog*. Stewart Brand, ed. p. 592. New York: Random House, 1980.
- 1974d Definitions of "Conditioning," "Adaptation," "Learning Model," and "Double Bind." In *Cybernetics of Cybernetics*. Heinz von Foerster, ed. pp. 97-101, 299, and 419-420. (BCL Report 73.38).
- 1974e Gratitude for Death. *BioScience*, Vol. 24, no. 1, p. 8.
- 1974f Ecology of Mind: The Sacred. In *Loka: A Journal from Naropa Institute*. Rick Fields, ed. pp. 24-27. Garden City and New York: Anchor Books.
- 1974g A Conversation with Gregory Bateson. In *Loka: A Journal from Naropa Institute*. Rick Fields, ed. pp. 28-34. Garden City and New York: Anchor Books.
- 1974h The Creature and Its Creations. *CoEvolution Quarterly* (Winter 1974-75), pp. 24-25.
- 1974i Draft: Scattered Thoughts for a Conference on "Broken Power." *CoEvolution Quarterly* (Winter 1974-75), pp. 26-27.
- 1975a Introduction. In *The Structure of Magic: A Book About Language and Therapy*, by Richard Bandler and John Grinder, pp. ix-xi. Palo Alto, California: Science and Behavior Books.
- 1975b What Energy Isn't. *CoEvolution Quarterly* (Spring), p. 29.
- 1975c Counsel for a Suicide's Friend. *CoEvo-*

- lution Quarterly (Spring), p. 137.
- 1975d Orders of Change. In *Loka II: A Journal from Naropa Institute*. Rick Fields, ed. pp. 59-63. Garden City and New York: Anchor Books.
- 1975e Some Components of Socialization for Trance. *Ethos* 3, no. 2 (Summer): 143-155. Reprinted in *Socialization as Cultural Communication*. Theodore Schwartz, ed. pp. 51-63. Berkeley, California: University of California Press, 1976.
- 1975f "Reality" and Redundancy. *CoEvolution Quarterly* (Summer), pp. 132-135.
- 1975g Caring and Clarity: Conversation with Gregory Bateson and Edmund G. Brown, Governor of California, edited by Stewart Brand. *CoEvolution Quarterly* (Fall), pp. 32-47.
- 1976a Address to the Governor's Prayer Breakfast. *CoEvolution Quarterly* (Spring), pp. 82-84. Reprinted in the *Esalen Catalog* (January-June 1981), pp. 8-9.
- 1976b Invitational Paper (to the Mind/Body Dualism Conference, held July 27-30, 1976 at the Wheelwright Center in Marin County, California). *CoEvolution Quarterly* (Fall), pp. 56-57.
- 1976c Foreword: A Formal Approach to *Explicit, Implicit and Embodied* Ideas and to Their Forms of Interaction. In *Double Bind: The Foundation of the Communicational Approach to the Family*. Carlos E. Sluzki and Donald C. Ransom, eds. pp. xi-xvi. New York: Grune and Stratton.
- 1976d A Comment by Gregory Bateson (on Haley's 'History'). In *Double Bind: The Foundation of the Communicational Approach to the Family*. Carlos E. Sluzki and Donald C. Ransom, eds. pp. 105-106. New York: Grune and Stratton.
- 1976e For God's Sake, Margaret: A Conversation with Gregory Bateson and Margaret Mead, edited by Stewart Brand. *CoEvolution Quarterly* (Summer), pp. 32-44. Reprinted in part as Margaret Mead and Gregory Bateson on the Use of the Camera in Anthropology. *Studies in the Anthropology of Visual Communication*, Vol. 4, no. 2, (Winter 1977), pp. 78-80.
- 1976f The Oak Beams of New College, Oxford. *CoEvolution Quarterly* (Summer), p. 66. Reprinted in *The Next Whole Earth Catalog*. Stewart Brand, ed. p. 77. New York: Random House, 1980.
- 1976g The Case Against the Case for Mind/Body Dualism. *CoEvolution Quarterly* (Winter 1976-77), pp. 94-95.
- 1977a The Thing of It Is. In *Earth's Answer: Explorations of Planetary Culture at the Lindsfarne Conferences*. Michael Katz, William P. Marsh, and Gail Gordon Thompson, eds. pp. 143-154. New York: Harper and Row.
- 1977b Epilogue: The Growth of Paradigms for Psychiatry. In *Communication and Social Interaction*. Peter F. Ostwald, ed. pp. 331-337. New York: Grune and Stratton. (November 17, 1976 talk to Langley Porter Clinic.)
- 1977c Afterword. In *About Bateson: Essays on Gregory Bateson*. John Brockman, ed. pp. 235-247. New York: E. P. Dutton.
- 1978a Towards a Theory of Cultural Coherence: Comment. *Anthropological Quarterly* 51 (January):77-78.
- 1978b A Conversation with Gregory Bateson Conducted by John Welwood. Revision, Vol. 1, no. 2 (Spring), pp. 43-49.
- 1978c Intelligence, Experience and Evolution. Revision, Vol. 1, no. 2 (Spring), pp. 50-55. (Lecture delivered March 1975 at Naropa Institute.)
- 1978d Number Is Different From Quantity. *CoEvolution Quarterly* (Spring), pp. 44-46.
- 1978e Protect the Trophies, Slay the Children. *CoEvolution Quarterly* (Spring), p. 46.
- 1978f The Double Bind—Misunderstood? *Psychiatric News* 13:40-41.
- 1978g The Birth of a Matrix, or Double Bind and Epistemology. In *Beyond the Double Bind*. Milton M. Berger, ed. pp. 39-64. New York: Brunner/Mazel.
- 1978h Bateson's Workshop. In *Beyond the Double Bind*. Milton M. Berger, ed. pp. 197-229. New York: Brunner/Mazel.
- 1978i Theory vs. Empiricism. In *Beyond the Double Bind*. Milton M. Berger, ed. pp. 234-237. New York: Brunner/Mazel.
- 1978j The Pattern Which Connects. *CoEvolution Quarterly* (Summer), pp. 5-15.
- 1978k Nuclear Addiction: Bateson to Saxon. *CoEvolution Quarterly* (Summer), p. 16.
- 1978l Letter to W. C. Ellerbroek, M.D. *CoEvolution Quarterly* (Summer), pp. 16-17.
- 1978m Breaking Out of the Double Bind, an interview edited by Daniel Goleman. *Psychology Today*, Vol. 12 (August), pp. 42-45+.
- 1978n Symptoms, Syndromes and Systems. *The Esalen Catalog* (October-December), pp. 4-6.
- 1979a Mind and Nature: A Necessary Unity. New York: E. P. Dutton. (British edition, London: Wildwood House Ltd.) (Paperback

- edition, New York: Bantam, 1980.).
- 1979b The Magic of Gregory Bateson (excerpts from an address to a Conference entitled *From Childhood to Old Age: Four Generations Teaching Each Other*, Southfield, Michigan, March 1979). *Psychology Today*, Vol. 13 (June), p. 128.
- 1979c The Science of Knowing. The Esalen Catalog (April-July), pp. 6-7.
- 1979d Letter *In* Gregory Bateson on Play and Work, by Phillip Stevens, Jr. Association for the Anthropological Study of Play Newsletter, Vol. 5, no. 4 (Spring), pp. 2-4.
- 1979e Letter to the Regents of the University of California (a memorandum entitled *Formal and Educational Aspects of the Arms Race*). *CoEvolution Quarterly* (Winter 1979-80), pp. 22-23.
- 1980a (with Robert W. Rieber) *Mind and Body: A Dialogue*. In *Body and Mind: Past, Present and Future*. Robert W. Rieber, ed. pp. 241-252. New York: Academic Press.
- 1980b In July, 1979. (two letters relating to nuclear armaments and the University of California) The Esalen Catalog (September 1980-February 1981), pp. 6-7.
- 1980c Health: Whose Responsibility? *Energy Medicine* 1:70-75. (Keynote address at Governor's Conference, Berkeley, May 3, 1979.) Excerpted in The Esalen Catalog (May-October), pp. 4-5.
- 1980d Nuclear Armament as Epistemological Error: Letters to the California Board of Regents. *Zero* 3:34-41.
- 1980e Syllogisms in Grass. *The London Review of Books*, Vol. 2, no. 1 (January 24.), p. 2.
- 1980f Men are Grass: Metaphor and the World of Mental Process. Address to the Lindisfarne fellows annual meeting, June 9, 1980. Lindisfarne Letter no. 11.
- 1980g An Analysis of the Nazi Film 'Hitler-junge Quex.' *Studies in Visual Communication*, Vol. 6, no. 3, pp. 20-56. (cf. Bateson 1943b).
- 1980h Letter *In* An Exchange of Letters Between Maya Deren and Gregory Bateson. October, Vol. 14 (Fall), pp. 18-20.
- 1981a The Manuscript (a poem, written October 5, 1978). The Esalen Catalog (January-June), p. 12.
- 1981b Allegory. The Esalen Catalog (January-June), p. 13. (Written May 12, 1979.)
- 1981c Entretien avec Gregory Bateson (1979), par C. Christian Beels. In *La Nouvelle Communication*. Yves Winkin, ed. Paris: Editions Du Seuil.

II. Films

The following films in the series *Character Formation in Different Cultures*, produced in collaboration with Margaret Mead for the Institute for Intercultural Studies, were released in 1951 by the New York University Film Library, New York, New York 10003. All are 16mm, black and white, sound:

- A Balinese Family, 2 reels.
- Bathing Babies in Three Cultures, 1 reel.
- Childhood Rivalry in Bali and New Guinea, 2 reels.
- First Days in the Life of a New Guinea Baby, 2 reels.
- Karba's First Years, 2 reels.
- Trance and Dance in Bali, 2 reels.

The following films, produced by Gregory Bateson, are as yet not available commercially. Both are 16mm, black and white, sound:

- Communication in Three Families, 2 reels.
- The Nature of Play—Part 1: River Otters, 1 reel.

¹ The items for 1926-1971 are based on a compilation by Vern Carroll for *Steps to an Ecology of Mind*, and used here with the kind permission of the publisher, Chandler Publishing Company. The list has been supplemented by Rodney E. Donaldson for those years, and he has added the items for the years 1972-1981. Some minor items have been omitted. Those items marked with an asterisk appear in the collected essays, *Steps to an Ecology of Mind* (1972a).