THE ECOLOGY OF THE ANTHROPOLOGICAL MIND: GREGORY BATESON'S INFLUENCE ON THREE LATE TWENTIETH-CENTURY PACIFIC SCHOLARS[1]

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The influence of Gregory Bateson's path-breaking ethnography, *Naven*, is well acknowledged in anthropology, as well as his collaborative work with Margaret Mead on Bali. Bateson's later work, however, departed from anthropology, as conventionally conceived, to focus on issues of communication, psychiatry, animal ethology, cybernetics, and epistemology. These ideas have been influential for relatively few anthropologists. This essay focuses on the influence of Bateson's later ideas on three anthropologists, all of them Oceanists: Roger Keesing, Robert I. Levy, and Roy Rappaport. These scholars shared an exposure to Bateson's ideas prior to their popularization in collected essays published in *Steps to an Ecology of Mind* (1972). This essay pays particular attention to how Batesonian epistemology informed the work of these anthropologists.

Introduction

Gregory Bateson will always have a special place in anthropology for his innovative research on the Sepik region of Papua New Guinea and on Bali, at times in collaboration with his then-wife, Margaret Mead. His classic book *Naven*, subtitled *A Survey of the Problems Suggested by a Composite Picture of the Culture of a New Guinea Tribe Drawn from Three Points of View* ([1936] 1958), was not only a pioneering work of New Guinea ethnography, but also a unique experiment in explanation and understanding, a creative synthesis of social dynamics, ethos, and cultural patterning.

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Its profound influence on regional ethnography and on anthropological theory continues. Bateson and Mead's (1942) work on Bali, typified by the photographic book *Balinese Character*, harnessed unparalleled new techniques in photographic and film documentation to the development of theory about the cultural shaping of individual psychology. But after *Naven* and *Balinese Character*, Bateson changed from a purely anthropological thinker to a more interdisciplinary theorist. He did not pursue a typical anthropological disciplinary career in the postwar years, but worked instead on a unique range of issues: schizophrenia, animal and human communication, learning theory, and cybernetics. A collection of Bateson's essays on these and other topics was published in 1972 as *Steps to an Ecology of Mind* (hereafter, *Steps*). This book catalyzed much interest and substantially widened Bateson's audience. His biographer, David Lipset, characterized Bateson's persona in the last decade of his life (he died in 1980) as that of a "man of knowledge" (Lipset 1980: 279–302).

In this essay I examine the work of three anthropologists—as it happens, all Pacific scholars—who were students of Bateson, directly or indirectly, while he was pursuing his eclectic postwar researches, but prior to the publication of this work in *Steps*. My interest here concerns how these three scholars—Roger Keesing, Robert Levy, and Roy Rappaport—were able to use Bateson's post-*Naven*, interdisciplinary (or transdisciplinary) ideas to enrich their own theory and practice as they themselves remained within anthropology.[2]

These anthropologists applied Bateson's ideas, which would eventually be published in *Steps to an Ecology of Mind*, at a time when much of his postwar work was to be found in articles often secreted in obscure or specialized journals. The Batesonian ideas that interested Keesing, Levy, and Rappaport were not only those of the ethnographic Bateson of *Naven* and *Balinese Character*. They were also the cybernetic and communicational ideas that Bateson had developed over a period of three decades, beginning in the 1940s.

Bateson's Later Cybernetic and Communicational Epistemology

The event that started Bateson gestating these new ideas was his participation (along with Margaret Mead) in a pioneering set of interdisciplinary conferences sponsored by the Macy Foundation in New York from 1942 to 1953. The Macy Conferences, the transcripts of which have been collected and republished (Pias 2003), were instrumental in the development of systems approaches in a number of fields, from computer science to

neurobiology to the social sciences. At the sixth conference in 1950, the new term "cybernetics" was applied to these approaches. Although cybernetics tends to be associated today with the radical expansion of computer technology, the Macy Conferences, from their very beginning in 1942, included psychologists and social scientists, such as Lawrence Kubie and Lawrence Frank, as well as the anthropologists Mead and Bateson. By 1946 scholars from biology and philosophy were also included (Lipset 1980, 179). Of course, Bateson himself was the son of a prominent biologist and evolutionist, and Bateson's awareness of the problems of biological explanation formed a backdrop to his adoption of the new cybernetic ideas. These included seeing social and biological systems as composed of circular, feedback processes that led to self-regulation or self-amplification, as Bateson had already described with respect to his theory of *schismogenesis* in *Naven* (Bateson 1958: 171–72).[3]

In 1948 Bateson, who had failed to be rehired for a visiting professorship at Harvard, moved to San Francisco to teach at the University of California Medical School. In 1951 he affiliated with Stanford University, while spending most of his time at the Veterans' Administration Hospital in Palo Alto with the title (held from 1949) of "Ethnologist" on his door. The term "applied anthropologist" may seem odd to affix to the relentlessly theoretical Gregory Bateson, who was also often skeptical of well-meaning activism. Yet Bateson can be counted as one of the pioneers of the extension of anthropology away from its usual academic home ground. Much of Bateson's efforts were to go toward the study of schizophrenia, concerning which he developed his famous "double bind" theory (Bateson 1972: 201–78; Lipset 1980: 206–19).

More influential to anthropologists than the "double bind" would be Bateson's postwar contributions to communications theory. Some of this was worked out during 1948–1951, when Bateson collaborated with the Swiss psychoanalyst, Jurgen Ruesch, on possible cybernetic foundations for psychoanalytic theory (Lipset 1980: 184–9). This work would eventually be published as *Communication: The Social Matrix of Psychology* (Ruesch and Bateson 1951). As part of this project, Bateson developed a new way of thinking about nonlinguistic forms of human communication, an interest later taken up by the semiotics movement in anthropology. Bateson saw nonlinguistic communication as related (in a hierarchical manner) to conventional linguistic communication, which in an analogy to computers of his day he referred to as "digital" communication. By contrast, nonlinguistic ("analogic") human communication is a metacommunication about the relationship between the communicators, rather than the overt subject of

discussion. Bateson noted that such communication is similar to animal communication, which is also about relationship.[4] For example, Bateson developed a special interest in the study of play as a particularly instructive example of a metacommunicative (mostly nonverbal) frame in both animal and human communication (Bateson 1972: 177–93; see also Lipset [1980: 191–7]). Bateson supported this approach with evidence ranging from otter behavior (Lipset 1980, 192) to children's play and adult humor.

Bateson elaborated on this multileveled theory of communication by introducing Bertrand Russell's theory of logical types. For Russell this was a theory, propounded in *Principia Mathematica* (Whitehead and Russell 1913), of how to avoid certain logical paradoxes in which a class could be taken as a member of itself (Bateson 1972, 202; see also Lipset 1980, 189). Bateson, however, unafraid of paradoxes, creatively applied Russell's concept of logical types to derive a hierarchy of levels of learning and metacommunication in humans and nonhuman animals. Bateson later developed his theory of levels well beyond Russell in his opus, *Mind and Nature*, showing that the hierarchies it entails are levels not so much of classes but of contexts (Bateson 1979: 127–42).

Another theoretical thread Bateson initially developed in the 1940s and continued thereafter involved a twist on contemporary behaviorist models of learning. Bateson was interested in the ability to learn to learn, which he called "deutero-learning" (Bateson 1972: 159–76). Much of what anthropologists consider as culture—or what psychoanalysts view as transference—involves learning on this second-order level. Deutero-learning, sometimes denominated as "Learning II," involves generalizing from repeated behavioral sequences of adaptation. Eventually, Bateson postulated the theoretical possibility of a third level of learning, in which it would be possible to move from one second-level understanding to another. Such "Learning III" might only be possible for Zen masters and the like (Bateson 1972: 279–308).

Roy Rappaport later described Bateson's multileveled learning theory in the following way:

> The learning of individual facts or tasks could be an example of first-order learning. Second-order learning would involve the learning of how to learn such facts or tasks or, at times, the learning of particular contexts, such as (but not limited to) cultural contexts, in which such facts or tasks fit into a larger pattern. Third-level learning would be the ability to learn and shift between these larger contexts. Bateson, however, thought this last form of learning to be, in fact, rare. (Rappaport 1999: 304–7)

After spending much of the 1950s and 1960s developing cybernetic and communicational frameworks for schizophrenia and animal behavior, Bateson recognized that his disparate intellectual enterprises had important points of convergence. He felt that he had been developing a "new epistemology," as he termed it—one that took account of the wider webs of complex causality characteristic of ecosystems and social systems, and that thereby constituted a critique of narrow "conscious purpose" focused linearly on instrumental goals (Bateson 1972: 440–93). Bateson saw the realms of the aesthetic and of religion as potentially corrective of this linear narrowness of vision. He also recommended, in this regard, the fostering of what Martin Buber ([1923] 1970) termed "I-Thou" relationships, and of a more sympathetic involvement with the natural world (Bateson 1972: 446–7).

Three Anthropological Disciples of the Later Bateson

At this point in Bateson's career, a selection of his key papers was collected and published as *Steps to an Ecology of Mind* in 1972. This book influenced a number of movements and disciplines, but its effects upon publication are not my interest here. The three anthropologists under consideration—Roger Keesing, Robert Levy, and Roy Rappaport—share the distinction of having been influenced by Bateson's later ideas without the convenience of having seen those ideas collected in a more accessible published form in *Steps*. For Keesing and Levy, Bateson's influence involved an initial personal exposure to Bateson as a teacher.

These three scholars were very different in theoretical approach and subdiscipline. Keesing did fieldwork among the Kwaio people of the Solomon Islands. His initial interests were kinship theory and ethnoscience, although he later worked on religion and on issues of colonialism and ethnographic authority. Levy was a Freudian who conducted psychological tests and modeled his fieldwork on psychiatric interviewing practice; he studied in Tahiti and, later, Nepal. Rappaport was perhaps the preeminent ecological anthropologist of his generation, whose first book, *Pigs for the Ancestors* (1968), was a methodological tour de force, integrating hard-science ecological anthropology and a unique social anthropological perspective focusing on ritual cycles among the Maring of the New Guinea Highlands. His later work, culminating in his posthumous opus, *Ritual and Religion in the Making of Humanity* (Rappaport 1999), developed a careful and philosophically precise argument regarding the nature and evolutionary import of ritual.

Roger Keesing: Bateson's Communicational Ideas within a Mainstream Anthropology

Roger Keesing was the son of an influential New Zealand anthropologist, Felix Keesing. The younger Keesing was an undergraduate at Stanford in the 1950s, when Bateson's affiliation with Stanford coincided with his work on schizophrenia at the Palo Alto Veteran's Hospital. This began a friendship that lasted several decades. Several letters between the two testify to their close relationship, albeit a relationship with significant ups and downs. The subjects of this correspondence include kinship theory and Keesing's impending fieldwork among the Kwaio (Roger Keesing to Bateson, letter dated November 13, 1961 [University of California, Santa Cruz, Gregory Bateson Papers, Folder 759, document 759-5]). Keesing, who in the late 1960s and early 1970s taught at UC Santa Cruz, seems also to have been involved in lobbying Bateson to take up a position there, which Bateson eventually did, on a "soft money" basis, in 1972 (Roger Keesing to Bateson, letter dated October 29, 1968 [University of California, Santa Cruz, Gregory Bateson Papers, Folder 759, document 759-13a]).

In a 1972 article, "Paradigms Lost: The New Ethnography and the New Linguistics," Keesing suggested that cognitive anthropology should take into account not only the insights of transformational linguistics but, complementary to these, Bateson's concerns about the algorithms of the unconscious, which were not coded like the logics of language. Keesing quoted Warren McCulloch, Bateson's cybernetic mentor (1965, 395): "'man, like the beasts, lives in a world of relations, rather than in a world of classes, or propositions'" (quoted in Keesing 1972, 317). Keesing (1972, 320) argued that we need a less simplistic conception of the mind than Lévi-Strauss, for example, offered. He placed his bets, as he put it, with the "integrative framework of systems theory and cybernetics," (1972, 326), and even cited Rappaport's work (including *Pigs for the Ancestors*) as an example of this new approach.

Decades later, Keesing (1991) dedicated his paper, "Experiments in Thinking about Ritual," to Gregory Bateson as "teacher and friend." Now neglecting Rappaport's growing corpus on the topic of ritual, Keesing engaged in a number of thought experiments to define ritual's domain. Keesing's paper explored Bateson's analysis of communicative frames, derived from Bateson's study of play (Bateson 1972: 177–93). Keesing (1991, 65) defined ritual as a type of stylized, serious, scripted play, which can be recognized by its frame, rather than its content. Keesing (1991, 66) also noted that for Bateson, "ritual is not about 'things'—birth, rebirth, cosmic re-creation or what have you—but *relationships*, formal patterns that have substantive referents at different levels."

Reanalyzing Victor Turner's (1967) classic view of Ndembu ritual multivocality, Keesing (1991, 66) claimed "Bateson would have wanted to add that the iteration of a relational pattern on multiple levels is a major source of its power, both to 'mean' and to transform." In this vein Keesing asked whether the ritual frame, like the play frame, has the potential (or "power") to transform consciousness—a question that brings to his mind Bateson's encounter with a seemingly schizophrenic otter at the San Francisco zoo, cured of its withdrawal by the evocation of play (Keesing 1991, 67). Keesing (1991, 68) therefore proposed that rituals "work" as they do "because of the way participants think and participate while they are in the ritual frame," rather than "primarily because of the covert symbolic structures embedded in them." But at this point Keesing moved on from Bateson to Austin and Derrida, having marshaled Bateson's ideas into supporting his own struggle against the "symbolic anthropology" of the day.

In *Kwaio Religion*, Keesing's (1982) evocation of the later Bateson similarly follows upon an examination of Turner's concept of the multivocality of ritual symbols. The Bateson paper Keesing chose to foreground is "Style, Grace, and Information in Primitive Art" (Bateson 1972: 128–52).

> Bateson suggests that art—and, I would add, ritual and metaphor—depends on an integrative/aesthetic capacity to perceive *patterns* and *relationships*. These relationships are *by their nature* inexpressible in language, except by indirection. (Keesing 1982: 181–2, italics in original)

Any translation of ritual symbols thus inevitably distorts, whether this be anthropological interpretation or native exegesis. In a footnote, Keesing (1982, 182) followed Bateson (1972, 137) in quoting Isadora Duncan, "'If I could tell you what it meant, there would be no point in dancing it'"[5] Keesing (1982, 183) related this theme to a dilemma then being discussed in the ethnography of Melanesian rituals. This was the problem of how to assess indigenous exegesis (particularly when such exegesis is not explicit), and in such cases how or whether to discern covert meanings in rituals. This problem was central to the work of a number of anthropologists who had worked in the region, such as Gilbert Lewis, Alfred Gell, and Ron Brunton. Keesing noted in particular Lewis's distinction between the logic of iconicity in ritual versus "what can be conveyed in words." Initiation in particular changes these iconic and discursive logics of ritual as initiates proceed through new revelations (Barth 1975; Poole 1982). Indeed, Melanesians (in Keesing's view) tend to see ritual as action rather than communication. Ironically, this discussion is encompassed in "Symbolism

in Kwaio Ritual," a chapter whose title upheld precisely the conventional "symbolic anthropology" of the day that Keesing wished to subvert.

In addition to his prolix writing for his academic peers, Keesing was noted for a series of iterations of a challenging textbook for undergraduates. The first version was officially a collaboration between Keesing and his father (Keesing and Keesing 1971); Keesing (1976, 1981) then wrote versions under his own name; and it was a mark of the esteem in which Keesing was held by his colleagues that a posthumous edition was edited after his death by Andrew Strathern (Keesing and Strathern 1998). In these textbooks, undergraduates were exposed to the ideas of Bateson on play, art, and frame analysis that Roger Keesing was using in his professional work. Keesing was also fond of Bateson's humorous discussion of the croquet game in *Alice in Wonderland*, which Keesing used to illustrate why it is impossible that any science of humans and other organisms will ever fulfill the traditional natural science ambition of being able to predict their behavior. The most emphasized aspects of Bateson's work, throughout the various versions of the textbook, had to do with his ideas of communication about relationship and algorithms of the unconscious, ideas that Keesing used as part of his critique of the symbolic anthropology of the day (1976: 167, 169–70, 200, 424–5).

Keesing was profoundly affected by Bateson's person and ideas and considered him a friend and a strong intellectual influence (Keesing 1994, 311). Keesing was, at the same time, a mainstream anthropologist, not only conversant with trends in the discipline but often on the leading edge of them. Thus Keesing tended to use Bateson's ideas as part of an eclectic toolkit within established disciplinary frames and ways of thinking—that is, a Batesonian content subsumed into a conventional anthropological form.

Robert I. Levy: Bateson's Ideas within Psychological Anthropology

Robert I. Levy, like Roger Keesing, applied Batesonian ideas within an established disciplinary framework, in his case psychological anthropology. A trained medical doctor and psychoanalyst, Levy worked in the Langley Porter Neuropsychiatric Institute in San Francisco during the 1950s and early 1960s. He subsequently conducted anthropological studies in French Polynesia and Nepal. Bateson mentioned, by way of recommending Levy for his Nepal research, an acquaintance of about ten years "during which he has from time to time sat in on my classes and contributed importantly to discussions" (National Science Foundation, Proposal Rating Sheet for Robert I. Levy, Proposal P2 S1655A, n.d. [University of California, Santa Cruz, Gregory Bateson Papers, folder 848, document 848-5a]). Levy himself remarked that

> [T]he most important, transformative, and longest-lasting influence on me was Gregory Bateson, whom I first met when he was working near San Francisco on schizophrenia, work which lead [*sic*] to elaborations of his theory of learning (of great anthropological usefulness) and the double-bind theory of schizophrenia. Bateson's work, particularly the theoretical papers eventually collected in *Steps to an Ecology of Mind*, introduced me to the revolutionary shift in models of behavior initiated by cybernetics and communication theory, which allowed behavior/ mind/ thought to be understood (in part) as located and learned in a structured field of dynamic and mutually constructive relations in which individuals were nodes. He provided an entrée into the developments of late-twentieth century thought (including the French thought of recent decades, which traverses much of the same new ground from a different entrance place) and a partial corrective to the (still flourishing) mechanistic, intrapsychic, and "culture-personality" models which were residues of nineteenth-century ways of understanding. (Levy 1994: 188–9)

Levy cited Bateson frequently in his classic ethnography, *Tahitians: Mind and Experience in the Society Islands* (Levy 1973). Levy was not yet a professional anthropologist when, in 1960, Douglas L. Oliver of Harvard invited him to join a research team, along with other anthropologists and an archeologist, to conduct a multisited study of Tahitian (i.e., Society Islander) culture and behavior. Levy's particular role was to study the private and personal world of behavior among Tahitians. To do this he compared two communities, a traditional community he named Piri, and an enclave in the capital Papeete called Rotu.

Levy's field research methodology was based on traditional psychoanalytic categories, thus the Batesonian influence on his work is more evident in how he wrote up the research. For example, a chapter in *Tahitians* entitled "The Question of Maintenance" (a term taken from the psychiatric theorist, Jerome Bruner) used Bateson's authority to overcome disciplinary distinctions between individual and culture, in order to show how cultural ideas and institutions feed back upon the "internal" psychological structures of individuals. In particular, Levy analyzed certain traditional Tahitian institutions as sending "messages" to individuals in their psychological development. These institutions included local styles of *mahu* (homosexuality) and adoption that contrasted with their Western counterparts. Such institutions may be "good to think," in Lévi-Strauss's (1963, 89) sense, as illustrations of how culturally specific forms can affect the development of psychosexual

and other personality styles. To show how the message of cultural forms can be incorporated into the emerging development of the individual, Levy used Bateson's idea of mind outside the skin. For Bateson, "mind" is an entity comprised by ideas traveling in circuits and thereby forming cybernetic systems (Bateson 1972, 459; cited in Levy 1973, 471). These systems are not bounded by our traditional philosophical divisions between self or individual and society, culture, or environment.

Levy speculated about the village mahu (a male homosexual of a very public Tahitian style). Villagers held the stereotype that, in a manner "arranged by God," there tended to be just one such mahu per village. Levy saw the village mahu role as "part of men's minds," in the sense that non-mahu men define themselves by contrast with the mahu role. I suspect that Levy implicitly followed some of the homeostatic models of family dynamics that arose from Bateson's work with schizophrenics. For example, the "identified patient" can assume a role that enables other family members to define themselves as unlike the member receiving medicalized attention. It is important to note that Levy in no way intended to pathologize the Tahitian mahu; nor did he apply an American concept of normality, i.e., the medicalized equivalent of the proven grace of Calvinism, to Tahitian social and psychological ideas.

There is, to my mind, a subtle Batesonianism in the larger analytical structure of Levy's *Tahitians* that arises from Bateson's ideas about the proper use of abstractions. Bateson was very careful to avoid what he often referred to, following Whitehead, as misplaced concreteness; thus Bateson preferred vague or vernacular formulations when he felt his concepts to be imprecise. In a 1940 article reflecting on the intellectual history of *Naven* and entitled "Experiments in Thinking about Observed Ethnological Material," Bateson (1972, 84) noted this as a "trick of thought and speech, which I have found useful." Levy similarly presents his material in *Tahitians*:

> I have sliced up behavior, or rather abstractions at varying degrees from behavior . . . into gross categories—"bodies," "souls," "feelings," "thinking"—purposively naïve categories which are natural for me. Within these gross categories there are finer ones which take some account of native categories. (Levy 1973, 94)

The reference to "slicing up" behavior, and then the careful emendation of this to note that it is really abstractions, and not behavior, which are under discussion, are both marks of a faithful and attentive student of Bateson.

Outside of *Tahitians*, Batesonian ideas appeared in a 1984 article for *Ethos* entitled, "Mead, Freeman, and Samoa: The Problem of Seeing

Things as They Are." Levy expressed the hope, inspired by Bateson's hierarchy of learning, that the "clash of two systems of certainty" can enable individuals to learn about "the constructed features not only of the other system, but of all such systems" (Levy 1984, 89). This would be "third-level learning," which at first may bring all systems into question, prompting an "epistemological and ontological crisis" (Levy 1984: 89–90).

The Newars of Nepal, whom Levy (1990) studied after his Tahitian work, found themselves in a nexus of cultural contact that elicited for them a sense of crisis about the nature of reality. This led these Newars to a kind of critical analysis and creative insight, which Levy argued to be of the same nature as that which ought to result from anthropological participant observation and analysis. For Levy, anthropologists and sophisticated Himalayans alike were scaling, as it were, the higher Batesonian levels of learning (Levy 1984, 2001). Bateson himself may have felt third-level learning to be rare and on a par with Zen enlightenment, but for Levy, Learning III could indeed be the result of culture contact, not only for anthropologists, but also for the people they studied and learned from.

Roy Rappaport: His Earlier Cybernetics and Systems Theory Perspective

It is hard to determine to what extent Levy's studies with Bateson in the 1950s and early 1960s were influential in the thinking of Levy's cousin, Roy Rappaport, who, at the beginning of this period, was engaged in the hotel business. According to Rappaport's own account (1994: 166–7), Levy, along with the psychoanalyst, Erik Erikson, (who was also a friend of Bateson and Mead) were instrumental in bringing Rappaport to anthropology as a field of study. However, according to the same account, Rappaport's initial meeting with Bateson in Hawai'i did not occur until 1968, well after the completion of *Pigs for the Ancestors*. This is surprising, given the centrality of cybernetics to that work.[6] Evidently Rappaport, unlike Keesing and Levy, did not have the privilege of formally being Bateson's student. In fact, the 1968 edition of *Pigs for the Ancestors* contains only one citation of Bateson (Rappaport 1968, 207), specifically the 1936 edition of *Naven*, rather than the second edition of 1958 that incorporated cybernetic ideas. Bateson is mentioned in the company of a number of other theorists of ritual, such as Sigmund Freud, Max Gluckman, and Theodor Reik; however, in the ensuing discussion it is only the theories of Gluckman and Freud who are given specific attention.

The cybernetic citations in *Pigs for the Ancestors* demonstrate that what Rappaport sought at the time was a basic, mechanistic cybernetics or

systems theory. For example, Rappaport cited the article by Powers, Clark, and McFarland, "A General Feedback Theory of Human Behavior" (1960), which presented an abstract model of an organism as a "feedback control system," modified to include memory (1960, 71). However, the system it proposed is rather different from that in *Pigs for the Ancestors*, precisely in that Powers and his coauthors defined a goal-seeking system that has perceptions and attempts to make these perceptions match (or relate to) goals—in other words, a living organism. In *Pigs for the Ancestors*, by contrast, we see a pioneering effort to model an ecosystem in which humans are the ecological dominants, but not the conscious regulators. Rappaport described a system that does not control itself by using a centralized model or planning function and that, therefore, is not an organism writ large of the kind modeled by Powers et al. Nevertheless, Rappaport purported to find cybernetic regulators—specifically, "homeostats" and "transducers"—operating to ensure perpetuation of a system composed of both goal-seeking humans and nonhuman organisms. Much to the dismay of later critics (e.g., Gillison 2001; Sahlins 1976), the self-regulation of the system was, according to Rappaport, achieved by unconscious system operations that subsume most of the conscious activities of Maring ritualists and warriors. System regulation became, uncomfortably for many anthropologists, a partially unintended consequence of the social and ecological life of a human group. In a 1979 article, "On Cognized Models" (written for his collection of essays, *Ecology, Meaning, and Religion*), Rappaport explicitly made this point. Human views of the world are to be seen as "part of populations' distinctive means for maintaining themselves in their environments" (1979, 98), rather than as being complete models of those environments. At the same time, these human models of the world are richer and more meaningful than they would need to be if their only role were to regulate adjustment to environment. Furthermore, such regulation is accomplished, not merely by conscious human relations with the environment, but also by the ways these interact with environmental and social processes, whose ecological consequences are not always fully perceived.

Rappaport's model in *Pigs for the Ancestors* was exhaustively criticized at the time, though perhaps not as thoroughly understood, for reasons Bateson would have found familiar. One of the signal attractions of the cybernetic perspective to Bateson was the hope that it would enable the study of systems to be immunized from the traditional criticisms of teleology and purpose, which in classical (precybernetic) natural science were considered inimical to scientific method. The criticism of Rappaport's cybernetic approach as being "neofunctionalist," or simply "functionalist" (e.g., Sahlins 1976: 87–8), demonstrated that such traditional fears of

teleology were not universally assuaged by the new systems perspectives.[7] Anthropology proved resistant to the systems view, partly because of its methodological challenges, but also because of common misapprehensions of the cybernetic model, such as the idea that systems approaches could not deal with change. Rappaport responded to his critics on this and other issues in fifteen added chapters appended to the enlarged 1984 edition of *Pigs for the Ancestors* (1984: 299–444).

Second-Order Rappaport: Bateson's Ideas in the Study of Ritual

By the time Rappaport published this response to critics, however, he had entered what I term his "second-order" phase, drawing upon the difference between first-order and second-order cybernetics—a distinction that became popular in the cybernetics movement by the early 1980s. Second-order cyberneticists include the observer in the description of what is observed. It should be noted that the similarity with some postmodern approaches in anthropology and elsewhere is no accident, though the two currents of intellectual influence are parallel rather than convergent. This approach contrasted with mechanistic models that characterized much of the initial work in cybernetics, with its systems engineering focus.

Rappaport's systems view, in my opinion, developed a new richness, perhaps of a second-order type, after he met Bateson in 1968. Rappaport's major project after this time focused on the development of a comprehensive theory of ritual in human culture and evolution. I would argue that this later project has more "Batesonianism" in it than did Rappaport's earlier so-called "neofunctionalism." Perhaps the later Rappaport is also less "materialist" than the earlier, albeit the "materialism" of the earlier Rappaport has, in my view, been exaggerated. In fact, as I discuss below, the analysis of systems dynamics in Rappaport's later work is phrased in Bateson's later, in some ways "idealist," terms—in contrast to the more "materialistic" phrasings characteristic both of early cybernetics and Rappaport's earlier work.[8] Rappaport's posthumously published 461-page magnum opus, *Ritual and Religion in the Making of Humanity* (1999; hereafter, *Ritual and Religion*), presented a final synthesis of his earlier arguments published in *Ecology, Meaning, and Religion* (Rappaport 1979). The following discussion considers only those features of Rappaport's argument that owe the most obvious debts to Bateson.

Rappaport's later work asked the question why ritual is a universal feature of human culture. Both philosophical and theoretical, Rappaport's work used ethnographic examples primarily for illustration. The first two chapters of *Ritual and Religion* are devoted to the definition and

clarification of terms and development of a theory of ritual form. As part of such a theory, Rappaport cited Bateson among those scholars who broadened the domain of communication to include not only "*saying*," but also the kinds of "*doing*," which are more "efficacious" in the realm of information rather than (only) that of energy (Rappaport 1999, 51). Such communication can be self-referential. In these matters Rappaport, like the later Bateson (1979, 94), found the thinking of the nineteenth-century philosopher and semiotician, Charles Sanders Peirce, to be a useful framework for analysis.

Indeed, Rappaport considered some of the most important messages, which are entailed by the performance of ritual, to be self-referential messages. These can include messages to do with the relationship of individuals to social groups—for example, messages about an individual's status in a group. However, there is also the category of messages about the self that are received by the self. Rappaport saw these communications as constituting part of a "private system" of the psychological self, which has its own informational cybernetics. Such communications may not be easily translatable into discursive or logical terms, and may instead be characterized by what psychoanalysts called primary process, for example, the compressed metaphorical messages in dreams (see also Bateson 1972: 138–42). Although some psychoanalytic conceptions of "primary process" theorized it in terms of somewhat chaotic emotional drives, rather than communication or messages, Rappaport followed Bateson (1972) in foregrounding its communicational characteristics, as well as its emotional salience. However, for Rappaport, the self-referential in ritual is always within the context of a larger "canonical" and (more or less) invariant form. This too should be examined as communicational or informational action, rather than energetic or material substance.

Rappaport (1999, 109) set forth, "in possible disagreement with Bateson," an analytic opposition between mere information and meaning, implying that, in some discussions of information, Bateson may have conflated the two. In particular, and very importantly for ritual, the repetition of an identical sequence carries less "information," in one important technical meaning of that concept, than does a novel sequence. At least, this is so according to Anthony F.C. Wallace's (1966) anthropological interpretation of information theory, based on the work of the pioneering cyberneticist, W. Ross Ashby (1956; see Rappaport 1999, 285). Nevertheless, a repeated ritual could carry a greater sense of meaningfulness than the novel but trivial events of daily life. In spite of this apparent divergence from Bateson's use of the concept of "information," Rappaport used Batesonian (1951) communication theory in a discussion of the metamessage involved in the use of specific linguistic codes (Rappaport 1999, 127).

Rappaport spent considerable time developing the possible implications of an almost offhand speculation by Bateson in his introduction to *Steps to an Ecology of Mind* (1972: xxii–xxv). Bateson examined the Biblical and Iatmul origin myths to compare what is considered significant in them; he noted a distinction between the origin of matter, which is treated as relatively trivial, and the origin of order. Rappaport, who wished to establish the role of ritual in developing a meaningful unity of form and substance, developed Bateson's brief speculation into a full ethnographically illustrated discussion (1999: 155–64). Rappaport followed Bateson in noting the cross-cultural salience of the form–substance distinction—a distinction that, for Bateson, may have arisen from "an unconscious deduction from the subject–predicate relationship in... language" (Bateson 1972, xxv; Rappaport 1999, 165). Rappaport saw, arising from this projection into the universe of the structure of language, the transformation by myth and ritual of "the conventional into the natural" (1999, 167). This transformation is accomplished by re-creating through performance the primordial union of form and substance.

Rappaport next examined the vexing question of time. In the first instance, time seems to be what sociologist Emile Durkheim, following Aristotle, termed one of "the categories of understanding" that serve as a "framework of the intelligence" ([1915] 1961: 21–2; cited in Rappaport 1999, 171). Such frameworks of the intelligence were an important part of what could be called the Batesonian unconscious (Rappaport 1999, 173)—i.e., those assumptions (from nature, culture, or nature modified by culture) that form the "*how*" of our awareness, rather than the "*what*" of it. For Bateson, adaptation, or even ordinary perception, required that these assumptions generally not impede upon our consciousness, and, in fact, they could be almost inaccessible to it. They may exist as a "higher" logical type from that of our normal awareness. Rappaport followed this consideration of time as a category of perception with an ethnographically illustrated discussion, more Durkheimian than Batesonian, of the social ordering of time mediated through ritual.

In chapter 6, Rappaport returned to human universals of ritual tempos and transitions. For example, rites of passage can be considered digital transitions from one defined state to another, yet even computers must mediate their transitions through some analog process, however short in nanoseconds this may be. "The transition from 0 to 1 taking place *in the ignored interval* is not a digital but an *analogic* process" (Rappaport 1999, 217). Similarly, ritual "digitally" enables transitions of individuals from one marked social state to another, but within these transitional phases ritual brings them into a "time out of time," which is often characterized by a

social unison transcending the individual. This transcendence can be epitomized by dance, an activity characterized by a particular relationship to time and appealing to the right, or integrative, hemisphere of the brain, rather than the left, or discursive one (Rappaport 1999, 129). Rappaport did not directly cite Bateson as the authority on the left–right brain hemisphere contrast, a popular and, today, questionable opposition that was often in fact mentioned by Bateson but which does not derive from Bateson's work.

Rappaport then turned his attention to symbolism as anthropology usually understands it. Like Keesing, Rappaport examined Victor Turner's famous example of the multivocality of the Ndembu people's *mudyi* tree (Turner 1967). Rappaport similarly delineated the symbolic dimensions of his own work with the Maring of New Guinea.

"The Idea of the Sacred" (Chapter 9 of *Ritual and Religion*) considers a topic of great interest to both Rappaport and Bateson. Yet, certain key Rappaportian concepts about the sacred—those of ultimate sacred postulates and of unquestionableness, for example—were not influential for, nor influenced by, Bateson's own later work on the sacred (e.g., Bateson 1991: 245–313).

Nevertheless, drawing from earlier work by Bateson, Rappaport saw the "cultural truths" of particular sacred orders as belonging to the category of "truths whose validity is a function of their acceptance" (or "belief": Bateson 1951: 212–27, cited in Rappaport 1999, 304). Such truths included those of deutero-learning, or second-order learning, a concept Rappaport felt should be prominent in anthropological theory, in the place of similar (but in Rappaport's opinion, inferior) concepts, such as Pierre Bourdieu's notion of *habitus* (Rappaport, personal communication to the author, 1986; Rappaport 1999, 304). Here one notes that deutero-learning as second-order learning, "sinks" the patterns learned from repeated experience into increasingly *unconscious* levels of the mind. Much of shared culture is a function of shared deutero-learnings among the coparticipants in that culture. Bateson's (1958, 119) earlier term, "ethos," can be seen as referring to deutero-learnings, or "deutero-truths," shared by members of a society (Rappaport 1999, 306).

Even though more culturally relativist symbolic anthropologists of the day might have grounded ritual or the sacred on the deutero-truths or ethoses of a particular society, Rappaport did not do this. The truths of sanctity may be culturally variable, but nonetheless their kind of "truth" is established, not by symbolic meanings, but by the action of ritual. Rappaport mentioned in *Ritual and Religion* a personal communication with Robert Levy on the difference between isolated societies with little

cultural contact, which may rely more heavily on deutero-learning "to establish the public understandings that underlie social life" (Rappaport 1999, 307), and those with either greater internal differentiation or exposure to other social orders, which have to reckon with the fact that their own understandings are not universally shared.[9] Perhaps the latter societies have more need of the Rappaportian mechanisms of ultimate sacred postulates and ritual establishment of truths than do the former. However, Rappaport argued that in all societies the truths of sanctity in fact limit those of experience and take precedence over them (1999: 310–1); yet, if deutero-learning were enough, the sacred would not have been necessary, as it seems to be in all human societies to date.

The sacred, nevertheless, is used to sanctify particular social orders, for example, by placing "in God we trust" on the currency or by using sacred ritual to crown the king. The sacred also sets up ideas of cosmic order or "logos." Holiness is partly established as the sacred, which is for Rappaport its discursive or "logical" component (i.e., expressible in language, however "meaningless" that language might be to logical positivists). However, holiness also contains the numinous or religious experience that is experienced inarticulately (Rappaport 1999, 371). Rappaport discussed both William James in this connection, as well as Bateson's work, inspired by conversations with Aldous Huxley, on "grace." Bateson defined "grace" as the integration of

> [T]he multiple levels of which one extreme is called consciousness and the other the unconscious. For the attainment of grace, the reasons of the heart must be integrated with the reasons of the reason. (Bateson 1972, 129; quoted in Rappaport 1999, 383)

Art and the aesthetic are integral to the quest for grace, particularly for Bateson. The so-called "inarticulate" numinous nevertheless provides higher levels of meaning that dissolve distinctions. Rappaport contrasted Freud's and Marx's treatment of religion as an illusion with James's (1890) distrust of rational thought as too often an instrument of self-serving rationalization. More profoundly, Bateson saw religious (as well as aesthetic) phenomena as part of a corrective for purposive consciousness. For Bateson, the partial viewpoint integral to "conscious purpose" tends to cut through the integrative, systemic circuits of any larger whole, denominated as "mind." Bateson condemned this kind of partial view as pathogenic (1972: 144–6; cited in Rappaport 1999, 401).

From these heights of the numinous, Rappaport abruptly climbed down to the valleys of adaptive theory, for which, of course, Bateson's corpus

remained foundational. As mentioned earlier, Rappaport's systems theoretical perspective antedated his first meeting with Bateson and most of his published work. However, as I mentioned above, the systems theoretical discussion in the later Rappaport (beginning as early as 1977) had been recast in an "idealist" rather than "materialist" cybernetic idiom. Or more precisely, since cybernetics sees itself as transcending the idealist/materialist dichotomy, an idiom using informational rather than mechanistic language. Specifically, Rappaport uses Batesonian formulations that adaptive (i.e., cybernetic) systems "operate to maintain the truth value of certain propositions about themselves in the face of perturbations threatening to falsify them" (Rappaport 1999, 410). Rappaport attempted to recast ideas of self-organization and self-regulation in this light and cited the Batesonian criterion of flexibility. For Rappaport, flexibility is not the same as variability; rather, flexibility is "a product of versatility and orderliness" (1999, 418), or, perhaps better, versatility under a particular order. Rappaport also discussed the economics of flexibility in terms of the sequence of adaptive processes outlined in Bateson's article, "The Role of Somatic Change in Evolution" (1972: 346–63).

Rappaport explicitly analogized the adaptive responses of social systems to those of organisms, something which Bateson, in the article cited above, only does implicitly. Quickly mobilized, early responses to systemic perturbation are "energetically and behaviorally expensive, but easily and quickly reversible following the cessation of stress" (Rappaport 1999, 420). This is as true for social as for somatic adaptation. Later responses, which to be adaptive should be responses to repeated stress of the same kind, will be structural ones that are far less reversible, but that are less energetically or behaviorally expensive in confronting each instance of perturbation. These latter responses are increasingly "hard-wired," and they in fact can lead to a reduction of the long-term flexibility of the system. Rappaport's (1999) analysis of these matters in his chapter, "Religion in Adaptation," (and elsewhere) is exemplary and deserves to be far more widely read by systems thinkers and cyberneticians (and even land use planners). He extended this analysis to the conservatism of adaptation and the relation of general-purpose systems (e.g., organisms and societies as wholes) to special-purpose systems (e.g., organs and institutions). These entailed a hierarchical structure to adaptation. What Rappaport called the "ultimate sacred postulates" of ritual tend to be "empty" in terms of specifying the specific social adaptations of the societies for which they are sacred; the less "meaningful" they are in this ordinary language sense, the more adaptive they may be. In fact, "if a postulate is to be taken to be unquestionable it is important that no one understand it" (Rappaport 1999, 428)—a quality characteristic, for example, of what Catholic theologians call "mysteries."

Sacred propositions that uphold authorities are not always or only wielded by them. Thus, Rappaport (1999: 429–37) proposed a "cybernetics of the holy" by which dissent could emerge within the framework of the sacred propositions of a particular society. Such phenomena as prophecy and millenarian movements could enter here. However, it is also common for societies, particularly those whose inequalities of power make bottom-up corrections implausible, to exhibit what Rappaport considered maladaptations. These include the privileging of subsystems above the whole (e.g., "the business of America is business") or the oversanctification of particular low-level regulations of behavior (such as the Catholic prohibition against birth control, amusingly characterized by Rappaport 1999, 440 as entailing "very specific low-order rules concerning non-immaculate nonconception"). The emergence of writing allowed for the sanctification of texts such as the Bible. The maladaptation consequent upon this is a loss of adaptiveness fostered by the political and social conservatism known as fundamentalism. For Rappaport, fundamentalism exposes the sacred to dubiety and discredits the sacred by linking it too closely to the transient conventions of social life (1999, 445). The use of power to coerce belief can, like fundamentalism, lead to a discrediting of the sacred, but those who are led by this to alienate themselves from power's corruption of the sacred may themselves suffer a painful "alienation from the deepest parts of the self" (Rappaport 1999, 448). The secular privileging of fact, combined with the dissolving force of money, yields a deeply unsatisfying society which, according to Rappaport, is likely thereby to degrade the ecosystems upon which it depends. In fact, Rappaport concluded with what could be termed a "Deep Green" manifesto for founding the science of the future on holistic and ecosystemic ideas.

Ritual and Religion in the Making of Humanity is, in a sense, a work of constructivism. Ritual practice itself constructs human ideas of social and cosmic order and holism. In a discussion of Heraclitus' concept of *logos*, Rappaport (1999, 368) showed how "the liturgies of a range of societies" construct versions of cosmic order particular to those societies.[10] But this version of socially or culturally particular *logoi* contrasts with Bateson, who tended, in my opinion, to take as almost axiomatic the existence of a cosmic order that is beyond our abilities, individually or socially, to construct fully. Bateson was as emphatic as any postmodernist or constructivist in emphasizing how we create or invent the realities that we perceive and by which we act and think. Yet the *logos* represented by Heraclitus' fragment, "Listening not to me but to the Logos the wise agree that all things are One" (Kirk 1954, 65; quoted in Rappaport 1999, 459) is, I think, that of Bateson. Rappaport, too, seemed to strain toward such a larger conception

of cosmic holism in his own thought; yet, the kind of holism that ritual most often could be shown to create was of necessity a more culture-bound, limited variety. Rappaport's ultimate vision for what Stephen Toulmin (1982) called a "postmodern" science was one that might transcend this opposition. Rappaport envisioned a science that used the ecosystem concept and similar ones—not merely to illustrate how humans construct the worlds in which they live—but also to help humans explore and adapt to a world in which their constructions will always be inadequate to the larger systems in which they are inextricably embedded. Knowledge, as Rappaport liked to say, will never replace respect in human relations with ecological systems.

A Wounded Holism and Concluding Remarks

It is in this sense of worldview or, if one prefers, epistemology, that Rappaport—particularly in his later work—was the closest of our three anthropologists to Bateson. Rappaport is unique among these three thinkers in working not only with Bateson's communicational theories, but also with some of his lesser known refinements of cybernetics and systems theory. Bateson and the later Rappaport share in the deepest sense a wounded holism, one that is at once the result of their apprehension of possible ecological disaster and the cause of their ability to perceive the prospects for such disaster more clearly than others. Lambek (2001, 247) aptly notes, "Like Bateson, Rappaport appears to have been characterized more by his originality than his location within a paradigm." I sense, indeed, that this was the only kind of disciple whom Bateson would ever accept—since to think for oneself rather than in a paradigm was for Bateson both a personal imperative and one he wished for others as well. However, I do see their original paradigms as having a close family relationship, although it is quite possible to accept or use one without the other, since they are by no means necessary entailments one of the other.

The other two Pacific scholars discussed here, Levy and Keesing, were also more original than the common run of anthropologists. Nevertheless, it seems to me that Keesing's work, and to some extent also Levy's, remained more within the grain of the anthropology of their time than did Rappaport's later studies of ritual.

All three anthropologists had the benefit of personal contact with Bateson as a teacher and, in many ways, as a friend. Their acquaintance with his work antedates its wide dissemination, first achieved in the collection in *Steps to an Ecology of Mind*. In fact, Bateson at one point considered Robert Levy as the person who should write the book's introduction

(Bateson to Robert I. Levy, letter dated August 28, 1970 [University of California, Santa Cruz, Gregory Bateson Papers, folder 848, document 848-3]). Trends in the discipline since that time have moved away from Bateson's ideas, although the pendulum may be swinging back today.

A consideration of the profound effect that Bateson's work had on these three late twentieth-century anthropologists should not only keep alive their memory, but also demonstrate that Bateson's later work and teaching could and did have significant relevance to some of the best thinkers within the discipline of which he had been such a significant figure in the prewar period.

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NOTES

1. This article began as a paper delivered February 2, 2005, at the symposium, *Gang of Four: Gregory Bateson, Ruth Benedict, Reo Fortune, and Margaret Mead in Multiple Contexts*, during the Association for the Social Anthropology in Oceania (ASAO) annual meetings in Kauaʻi, Hawaiʻi.

2. I am not suggesting that these three were the only anthropologists of their era influenced by Bateson. Michael Lieber, an Oceanist as well as a student of the Caribbean, has used Batesonian perspectives since the 1980s. Like Rappaport, Lieber studied the intersection of culture and ecology, but Lieber's ecological perspectives may be in some ways closer to Bateson than was Rappaport's early systems theoretically influenced work. Lieber (1994: 19–34) also relied on Bateson for theories of cybernetics and communication. Lieber's fellow Micronesianist, Vern Carroll, was also influenced by Bateson and compiled the first bibliography of Bateson's works included in the 1972 printing of *Steps to an Ecology of Mind*. One should also mention Roy Wagner as a thinker pervasively formed by his encounter with Bateson's ideas. Though more recent trends in American anthropology have moved away from Bateson's later concerns, his work is foundational in parts of continental Europe, notably Norway (see the work of Thomas Hylland Eriksen 1993). It should also be noted that, in his most recent book, *Apologies to Thucydides*, Marshall Sahlins (2004), of all people, uses Bateson as a theoretical muse. However, it

is *Naven*'s *schismogenesis*, not cybernetics or the ecology of mind, so pilloried in *Culture and Practical Reason* (Sahlins 1976), which the latter-day Sahlins finds useful for his purposes.

3. *Schismogenesis* refers to a kind of self-amplifying social behavior. *Symmetrical schismogenesis* is a recursion of competitive interactions similar to an arms race, while *complementary schismogenesis* is a recursion of interactions that reinforce complementary roles while driving them to further and further extremes (Bateson 1958: 175–6). Since this concept was developed within Bateson's "anthropological period," it has been adopted by more anthropologists than Bateson's later epistemological ideas, discussed in this article.

4. See, for example, Bateson's (1951; 1972: 9–20) fictionalized dialogue about dance, or his research with dolphins, first published in 1966 and reprinted in *Steps* (1972: 364–78.)

5. Bateson, in his turn, expressed his debt to Anthony Forge (presumably a personal communication) for this quote.

6. Mary Catherine Bateson speculated that Margaret Mead may have "directed Rappaport to Bateson's work while he [Rappaport] was at Columbia, as she did with others" (Mary Catherine Bateson, e-mail message to the author, May 17, 2006).

7. Sahlins attributed the origins of the term neofunctionalism to human ecologists themselves (1976, 87). Sahlins' criticism of Rappaport's so-called neofunctionalism implies that Rappaport reduced the complexity of culture to its ecologically regulatory functions, but Rappaport, as mentioned, specifically noted that culture elaborates itself far beyond its role in regulating the adaptation of groups to environments. Rappaport's influences from the ecological anthropology movement of the 1960s, particularly as this expressed itself at Columbia University, were probably more responsible for the supposedly reductive "functionalism" in his approach than Bateson, whose influence was far greater on the "idealistic" examination of ritual across culture to which Rappaport later turned. Unfortunately, untangling these strands of influence more fully is beyond the scope of this essay.

8. Cybernetic epistemology is neither materialist nor idealist in the traditional sense, but the epistemology of the mature Bateson, who tended to describe cybernetic systems in terms of information, difference, ideas, and "*mind*," can still be contrasted to other versions of systems theory, which addressed or emphasized the more mechanistic aspects of systemic self-regulation. Of course, Bateson did build the "idealistic" aspects of his epistemology upon a careful reanalysis of the "mechanistic" ones, which formed an irreducible base upon which his conceptual structure was built. Bateson's efforts to include and explain the "materialistic" cybernetic base of the systems to which his theories of mind applied led some to conclude falsely that he was primarily concerned with systems that worked upon the analogy of a thermostat, or of a simplified model of a living organism.

9. Levy himself expounded upon this point in Rappaport's schema of ritual in a fascinating essay, "The Life and Death of Ritual," published in the posthumous festschrift for Rappaport entitled, *Ecology and the Sacred* (Levy 2001).

10. It should be emphasized again here that the ritual-engendered *logoi* described by Rappaport are social, and not psychological, phenomena. Although they differ from one ritual order to the next (these may, but do not have to, correspond to societies or cultures), they do not depend on the deutero-truths characteristic of any particular culture, but instead they derive, in a manner unique, as far as I know, to Rappaport's corpus, from a kind of general performativity of ritual itself.

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