

Gregory Bateson at 100

Brian Stagoll

Gregory Bateson (1904–1980) was a founding figure of family therapy. The centenary of his birth offers a chance to look again at his life and work for 'the patterns that connect'. Family therapy may have turned out to be a receding part of that pattern, but it remains important to place Bateson and his thinking in the larger contexts of knowledge; the 19th century history of Darwin and evolution, and 20th century developments in genetics, anthropology, cybernetics and psychotherapy. Bateson swam in all these vast currents, moving towards new aesthetic, holistic and contextual forms of systemic wisdom. His ideas are still very relevant to therapists, but even more, they may be vital to our very survival as a planet in this new century.

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The year 2004, the centenary of Gregory Bateson's birth, was marked by a flurry of conferences, symposia and new editions celebrating his life. It was a welcome revival. In family therapy Bateson has lately become a 'name distant and receding' (Pakman, 2004: 413). Few students seem to know much about him, and his papers are now only cursorily referred to. The centenary events reminded us of the time when Bateson was the central intellectual figure in our field. Chris Beels calls *Steps to an Ecology of Mind* (published in 1972):

the fundamental text of the invisible university to which my generation of social therapists belonged. I pictured dog-eared copies of its paperback edition in all of our canvas schoolbags (Beels, 2001: 88).

This was certainly true in those heady days of family therapy, as I knew them back in New York in the early 1970s. Bateson was our original hero, our guiding star. We carried Bateson with us, read him aloud to each other, and pondered his sometimes elegant, sometimes enigmatic prose. Here was a science of mind and order to overcome the pathological reductionism, materialism and dualism afflicting Western science and psychiatry. Here was our 'new epistemology', advancing us towards better ways of thinking based on ideas of cybernetic cir-

cularity, sacred unity and ecologic awareness, and building a foundation for the great integration of hierarchically ordered processes Bateson called 'mind'. It was an intoxicating mix of anthropology, communication theory and cybernetics, biology and philosophy, to add to the brew of our self-styled 'radical' innovations with families and systems. It was an enchanting, epistemologically exhilarating time.

But the Bateson star faded, like other lost causes of that era. Looking back it all seems rather giddy and bewildering. Just where did 'the new epistemology' go? Or as Marcelo Pakman asks in his *Family Process* commemoration 'What does the name *Gregory Bateson* stand for among family therapists today?' (Pakman, 2004: 414). Can we encounter Bateson again, without making the twin mistakes of deifying him as a transcendent figure to be adulated but never engaged, or reifying his ideas into mechanistic slogans? Both these mistakes were commonly made by family therapists, to Bateson's great annoyance. And is it possible to move beyond the views of the orthodox scientific community? Here Bateson was increasingly regarded as a curiosity, a man who had never settled into one discipline or position, whose interesting ideas drifted off into empty abstractions and mysticisms. A typical response of the period was the *Times Literary Supplement* reviewer who dismissed Bateson's grand 1979 summation *Mind and Nature* as 'coming from the intellectual lotus land of California where eclectic theories and mystical philosophies are as thick as the L.A. smog' (Rose, 1980: 1314). Bateson was by then living at the Esalen Institute as scholar-in-residence. He died in 1980. His daughter Catherine has written a moving account of his last days at the San Francisco Zen Centre (Bateson, M. C., 2004).



Brian Stagoll, 579A Brunswick Street, North Fitzroy Vic 3069. E-mail: Bstagoll@vicnet.net.au

Can we look back on Bateson's lifetime, and find, in his phrase, 'the patterns that connect'? How can we be connected to Gregory Bateson today?

A Personal Memory

We might start from Bateson's insistence that 'epistemology is always and invariably personal' (Bateson, 1979: 87). I once met Bateson, at a lecture at Bronx Community College in 1974. He was a towering physical presence, six feet five inches tall with a resonant King's English accent, but his very rumpled suit and hair made him appear kindly. He never stayed in one spot, but circled, chain-smoking and coughing, while interacting intensely with the audience. He would spin around to take up a question, and spin it back. He was elaborately collaborative, always with a mysterious smile. This was no formal lecture: he shifted from anecdote to analogy to aphorism, never in a straight line, all the time enormously alert to the responses of his audience. Margaret Mead called his personality 'as sweet as the kingdom of heaven' (Banner, 2003: 321). I was transfixed, and puzzled. Mead also wrote of

how in interaction he could generate an unusual augmentation of intelligence, a peculiar quality (hard to describe) in which he distilled ideas from interaction with other people which they in turn can distill again (Mead, 1977: 171).

This seemed about right, but I was also reminded of Bateson's own comment that many of the psychiatric residents he taught would say 'Bateson knows something but does not tell you'(!) (Bateson, 1972: xix). Elusive and engaging, memorable and unsettling. The world was never quite the same again. Where did it come from?

Cambridge 1904: Darwin, Mendel and William Bateson

Bateson was born in Grantchester in 1904, into the intellectual aristocracy of Edwardian England, the Cambridge of Russell and Whitehead, the Cavendish Laboratory and Lord Keynes (Lipset, 1980). It was an exceedingly rich intellectual milieu. His paternal grandfather, William Henry, was the Master of St. Johns College, Cambridge. A liberal reformer of University traditions, he married Anna Aiken, an early suffragette. William Henry had famously renounced his Christianity after reading *The Origin of Species*. Bateson's father William had founded the Cambridge School of Genetics. One of his research assistants was Nora Barlow,¹ the granddaughter of Charles Darwin. In 1900 William had come across Gregor Mendel's previously unknown 1865 experiments on crossbreeding

peas. He instantly recognised their significance and became 'Mendel's apostle', introducing Mendelian ideas to the English-speaking scientific world.

It was at a time when Darwinian theory had reached an impasse. The natural selection of species proposed by Darwin in 1859 used a model of 'blending inheritance'. This was a crucial weakness in the theory. Darwin could not explain why a trait, once selected, was then not blended away in future generations. Blending could not account for the way inherited features sometimes jumped unchanged across generations. The puzzle was solved with the recognition that traits were derived from pairs of 'Mendelian factors' (soon known as dominant and recessive genes), 'particles' that could preserve their identity across generations without becoming diluted (Keller, 2000). The (re)discovery of Mendel was the vital breakthrough in evolutionary theory. William Bateson wrote 'only those who remember the utter darkness before the Mendelian dawn can appreciate what happened' (Koestler, 1978: 182). He named his third son Gregory after Mendel, and coined the term 'genetics'.

Yet later, as William became identified as an 'anti-Darwinist', he was marginalised in the history of genetics. He was never convinced that natural selection, based on the model of one gene — one characteristic ('genetic atomism'), could adequately explain evolutionary change. He vigorously opposed the dominant statistical approach that based evolution on the accumulation of small, continuous variations. He did not believe this could account for the discontinuous variations found in species. William was trained in embryology, and always sought to demonstrate lawful patterns of form and symmetry in species. The degree of organisation required for the development of an adult organism could not be generated by single genes alone. For William, the genes in chromosomes were only part of the puzzle. A rancorous debate occurred, but the orthodoxy of genetic atomism prevailed, and Bateson was sidelined. But contemporary genomics, and advances in developmental biology linked with evolutionary theory (the so-called 'EvoDevo movement') have vindicated the elder Bateson (Bateson, P., 2002, 2005; Orr, 2005). Chromosomes are the site of genes, but genes interact with each other and move readily between chromosomes. It is not meaningful to talk about the function of a single gene in isolation. Genes only function in the context of the organism (Rosenfield & Ziff, 2006).

Genes code for proteins not people ... The developing embryo is always there to witness and critique its own development, and control and give order to the pathways of change (Bateson, P., 2005: 33).

William Bateson died defeated. At the end of his life he told Gregory it was a mistake to have committed his life to Mendelism, a blind alley (Koestler, 1978). The stances William took foreshadow many of the patterns of Gregory's life: the advocacy of new ideas, the sensitivity to exceptions and discontinuities, the fascination with form and pattern, the rejection of individual genetic determinism for models of interactional and ecologic lawfulness, the preference for qualitative rather than statistical understanding, and the embrace of mental as well as physical factors in evolutionary history. Even the sense of failure Gregory felt at the end of his life was like his father's (Lipset, 2005).² As Gregory remarked to his daughter in his last book, 'I have never quite managed to lay my father's ghost' (Bateson, 1987: 202).

Gregory's childhood was 'in the middle of natural history and beetle collecting' (Kohn, 2004).³ His forceful parents were free thinkers, but William insisted that his sons would not grow up into 'empty-headed atheists' and the Bible was read at breakfast, along with William Blake. Gregory had two older brothers, John and Martin. Both were brilliant students, destined by their parents for great careers in biology. John earned a Military Cross for heroism in World War 1, but was killed just before the Armistice. Grief-stricken Martin returned from war service, but never settled. He argued with his father about becoming a poet. He committed suicide in 1922, shooting himself near Piccadilly Circus in full public view, on his elder brother's birthday. It was described in a newspaper as the 'most dramatic and deliberate suicide ever witnessed in London' (Lipset, 1980: 93). The Bateson family papers remark that 'the Bateson family life took on the airs of a Greek tragedy' (Bateson Family Papers, 2005: 1).

New Guinea 1930s: Naven and Schismogenesis

Like his father, Gregory gained a first in zoology at Cambridge. His first publication was in collaboration with William, on genetic variations in the features of red-legged partridges (Bateson & Bateson, 1926). (William had been the first to show Mendelian ideas applied to animals [poultry] as well as plants.) In keeping with his educational milieu, Gregory went on an expedition to the Galapagos, but then against his father's wishes turned away from zoology. 'The most interesting fauna was the people in the world' (Lipset, 1980: 114). His move away from Cambridge was beginning. His break with his father came at a time when the first brilliant generation of field workers, led by W. H. Rivers and A. C. Haddon, were putting anthropology onto the intellectual stage. Gregory

came under the influence of his Cambridge peer A. R. Radcliffe-Brown, soon to establish the Chair of Social Anthropology in Sydney. In 1927, less than a year after his father's death, Bateson sailed for the Pacific, his home in various locations for the rest of his life. Bateson said of his move: 'I fled from my mother' (Lipset, 1980: 125). Beatrice, suffering three major losses, had become 'somewhat possessive' (Lipset, 1980: 126). Bateson commenced fieldwork in New Britain, and the Sepik River in New Guinea. For a short time he lived in Sydney, lecturing in Pacific languages in Radcliffe-Brown's department (and being visited by Beatrice). After a short return to England and a further conflict with Beatrice, he returned to the Sepik in 1932.

It was far from England and his mother, but he struggled. The objectivity and scientific methodology he was supposed to apply were as alien as the people he was studying. The prevailing theory of the time, led by Radcliffe-Brown, saw societies as functionally analogous to organisms, with the aggregate of parts seeking equilibrium. But the disconnected scraps of field work data he collected revealed no such unifying theme for Bateson. He wrote of being 'hopelessly sick of field work. My belly is full of travelling and poking my nose into the affairs of other races' (Lipset, 1980: 128):

Around this time he met Margaret Mead, and began one of the more remarkable partnerships of our time.⁴ She was enchanted by how English biologists think:

... they would pick up illustrations right across the field. One minute from embryology, the next from geology, the next from anthropology, back and forth, very freely, so that the illustrations from one spot illuminated, corrected and expanded the one from another (Howard, 1984: 173).

Bateson had intense conversations in New Guinea with Mead and her husband Reo Fortune. Revitalised, he returned to England, remarking: 'If you're out in the tropics and you have a major idea, the thing to do is pack up and come home' (Howard, 1984: 165).

Bateson's major idea was schismogenesis and it was incorporated into his first book, *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* (Bateson, 1958). Bateson described his book as 'experiments in thinking: a study of the ways data can be fitted together. The fitting together of data is what I mean by "explanation"' (257). His epistemologic and cybernetic explorations had begun. The Naven was an elaborate ritual then performed by the Iatmul, a headhunting people in the middle reaches of the Sepik River. The ritual involved transvestism, mock homosexuality and dramatic reversals of behaviour.

Bateson took several years to construct an ethnographic picture of the patterns that made sense of this exotic ritual. Bateson called the pattern he identified schismogenesis. Schismogenesis occurs when cumulative interactions between two distinct but related groups lead to more extreme or sharply differentiated patterns than would otherwise have occurred. Symmetrical schismogenesis occurs when each of the groups tries to outdo the other and behaviours escalate, for example, in domination or boasting. Complementary schismogenesis refers to a reciprocal relationship becoming more extreme or polarised, more one-down, one-up — for example, display–spectatorship. Such formal patterns of interaction can be seen in relationships at many levels of complexity; for example, marriages, international relations, arms races. Bateson proposed that the Naven ritual was a governor, a regulatory device, that stopped symmetrical schismogenesis between rivalrous kinship groups from escalating into runaway and mutual destruction (Lipset, 2005). The elaborate dance of the Naven periodically reduced tensions in a very patrilineal culture by re-establishing complementary relations between the groups.

The particular details of the Iatmul ceremony are perhaps not that important, but the idea of schismogenesis and its regulation has wide application. It was an example of the fundamental pattern Bateson was always looking for.

In *Naven*, Bateson was developing his critique of induction, or the building up of generalities and laws from small-scale data, which was the accepted basis of ethnography. Bateson was opposed to induction and the extreme empirical functionalism dominant in anthropology at the time: rather than gathering and analysing particular facts, he saw his project like an artist, trying to grasp the *wholeness* and *interrelatedness* of a culture, its ethos. He was interested in something beyond description of raw data or middle-range analysis of things such as kinship systems. Why, he asked, did *he* portray the patterns of culture the way he did? He was the observer observing himself, while resisting accepted methodologies and category systems. He advocated a combination of 'strict and loose thinking' that 'led me into wild hunches and at the same time compelled me into more formal thinking about those hunches, a double habit of mind (Bateson, 1972: 7). This did not make him popular with his anthropologist colleagues. *Naven* was dismissed as 'precocious metatheoretical introspection', and 'with too many personal elements to be called without qualification, scientific' (Wolff, 1944: 72).

Clifford Geertz described *Naven* as an 'eccentric classic that seems to consist mostly of false starts and second thoughts, preamble upon preamble, epilogue upon epilogue' (Geertz, 1988: 17). George Marcus commented on

its hyperselfconsciousness ... so questioned the grounds of its own authority ... that anthropologists did not know what to make of this eccentric work as ethnography (Marcus, 1985: 67).

But if British social anthropology did not appreciate Bateson, with his search for patterns, his critique of induction and his advocacy of 'strict and loose thinking', Margaret Mead certainly did.

“The elaborate dance of the Naven periodically reduced tensions in a very patrilineal culture by re-establishing complementary relations between the groups.”

Bali 1936: Mead and Visual Anthropology

Mead and Bateson married on the way to Bali in 1936, Bateson correcting the proofs of *Naven* on their honeymoon (Howard, 1984: 173). In Bali, they were funded to study cultural aspects of 'dementia praecox'. The Balinese were given to trances and, by Western standards, were out of touch with reality in ways Western psychiatry might define as schizophrenia, or so the argument went. What conditions of child raising in Balinese culture might create the propensity for engaging in trances, Mead and Bateson wondered. Bali was a tropical paradise,

perhaps the most richly stocked lumber room of gracious and beautiful magical beliefs and practices in South East Asia (Geertz, 1983: 50).

Bateson and Mead were captivated by the vividness of Balinese life. They pioneered visual anthropology with the systematic use of photographs. Bateson developed an astounding 25,000 still photos, all thoroughly annotated by Mead, along with 22,000 feet of moving film. Their elegant book, *Balinese Character: A Photographic Analysis*, has never been surpassed (Bateson & Mead, 1942). Bateson was clear about

what he wanted to achieve. Photos could capture the nonverbal bodily nuances that could not be adequately translated into text.

A new method of stating intangible relations among different types of culturally standardised behaviour by placing side by side mutually relevant photos. Pieces of behaviour spatially and contextually separated may be relevant to a single discussion — the same emotional thread running through them (Bateson, quoted in Parks, 2003: 263).

This book gives a glimpse of Bateson's aesthetic sense. He was, among everything else, a great photographer and seer. R. D. Laing commented:

he had the most distinctive perceptual capacities of anyone I've met, and to see someone like him observing human beings ... To get a feel of just what they're picking up and seeing and the edge they have on their contemporaries ... was a great consolation about life (Evans, 1976: 21).

As for the origins of the trance, Bateson's photos of Balinese children did reveal a pattern of intense arousal, then frustration by parental figures. Mead and Bateson speculated that the 'schizoid' withdrawal into vacancy and away from activity they observed in Balinese men was an effect of this childhood training in arousal and frustration. Bateson also noted that symmetrical schismogenic interactions were much less common in Bali than in the Iatmul. Instead, interactions were muted and static, and did not reach climax. As Bateson saw it, Balinese adults did not engage in competitive maximisation but were guided rather by values of balance and propriety. (What Bateson would have made of the terrible massacres in Bali 30 years later, we do not know.) The 'culture-and-personality' anthropology as practised by Mead and Bateson is now rather dated, but as Geertz notes, their observations of the Balinese were 'unmatched by any of the rest of us' (Geertz, 1988: 4).

World War II

Returning to New York at the outbreak of World War II, Bateson went on to England to see if anthropologists were needed. His daughter Mary Catherine was born while he was away and he soon returned (Bateson, M. C., 1984).

During the war he worked for the Office of Strategic Services, the forerunner of the CIA. Of this time Bateson said: 'It was two dully wasted years in India and Ceylon trying to introduce a few anthropological ideas into U.S. intelligence, relieved by fieldwork in Lower Burma' (Lipset, 1980: 175). Afterwards, he was consistently negative about his wartime experiences, and critical of the way intelligences (mis)applied anthropology. A friend said he was very disturbed by

the OSS treatment of the natives: 'I think he felt he was associated with a dishonest outfit' (Lipset, 1980: 174).

But another side is revealed in recent papers on the role played by anthropologists in Intelligence Services in World War II. Based on FOI data from Washington, they show Bateson to have been committed and brave, indeed decorated (Bateson, M. C., 1984; Price, 1998: 379). His war work involved the introduction of misinformation, and attempts to generate schismogenesis in enemy patterns of communications. It is not clear how successful this was at the time, but certainly these propaganda tactics were later used by the CIA. Bateson maintained his CIA connections, including his participation in the 1950s CIA experiments with LSD at Stanford (Stagoll, 2003).

Bateson did what was asked of him during the War. After all, he lived in the shadow of a brother who had died in World War I. But later he clearly regretted it, and it confirmed his lifelong suspicions of large organisations.

Post-War New York: 'The Knights of Circular Causality'

In 1946, Bateson became a founding member of an extraordinary cross-disciplinary group 'the Macy Conferences on Cybernetics'. This was a group of mathematicians and social scientists around Norbert Wiener who explored the applications of the new ideas of cybernetics, information theory, and digital computers coming out of wartime research (Heims, 1977). A recent biography of Wiener calls this group 'The Knights of Circular Causality' (Conway & Siegelman, 2005). In a time of both great hope and Cold War paranoia, Bateson and Mead wanted to extend their work in cultural anthropology into larger questions of how social systems organise and stabilise and progress. Bateson saw the possibility of the new cybernetics extending the precision of mathematics to social processes. Norbert Wiener became his mentor in the vocabulary of computers, formal logic and communication theory. Wiener had solved the wartime problem of anti-aircraft artillery control by specifying the mathematics of feedback in guidance and control systems. He had also coined the term 'cybernetics', Greek for 'steersman' (Galison, 1994). Machines (like organisms) received input and in turn produced output (behaviour). When output circled around to become input, the machine acquired a means for responding to the effects of its own behaviour. 'Output' becoming 'input' gave the machine a way of developing a purposeful 'mentality', as feedback advanced the machine to a goal.

Feedback loops are *abstract* patterns of relationships. They are embedded in physical structures or living organisms, but can be formally distinguished from these actual structures. In addition, feedback can couple machines and organisms, and the machine can be seen as an extension of the organism and vice versa. For Bateson, feedback, the capacity of a system to respond to information in self-corrective ways, was a general property of life, or more precisely 'mind' (Capra, 1997). This was an idea Bateson would develop over the rest of his life.

Cybernetic ideas provided a vocabulary that could unify biological and social sciences in a new paradigm of information. The focus in this new way of thinking was on form, pattern and circularity, of ideas in circuits rather than linear exchanges of energy. Information, 'the difference that makes a difference', was the foundation of this new paradigm. Bateson was not a mathematician, and indeed his dislike for engineering is well documented. His tool was the English language, using mathematical and logical concepts as metaphors in formulating his conceptual schemes. He strove for clarity and precision with, it must be admitted, varying success, but never mathematical rigour. But he could claim to be a founder of cybernetics.⁵ He was a key figure facilitating the Macy Conferences. Later he would also become the most trenchant critic of the mechanistic and determinist direction in which cybernetics drifted (Harries-Jones, 1995). Like his mentor Wiener, he was convinced 'the world was far too rich and complex ever to be contained by formal logic' (Heims, 1977: 157). He wanted a space for the sacred.

For Bateson, cybernetics became the explanatory epistemology for all communicative systems found in nature. Once the cybernetic rules of coupling and communication were understood, then the Cartesian dualisms of subject and object (or mind and machine, or nature and culture) could be dispensed with. It was no longer necessary to banish the Ghost from the Machine. Instead it was proposed that machines too had 'a mind': the Ghost and the Machine were one. The 'ancient superstition' of the mind/body split was resolved, at least for Bateson.

California 1950: Psychiatry, Alcoholism, Nonverbal Communication

In the late 1940s, depressed and separated from Margaret Mead, Bateson was not rehired at Harvard amid rumours that it was because he advocated all anthropologists should be psychoanalysed, and he moved to San Francisco. Here he became officially affiliated with psychiatry. Working at the Langley Porter

Clinic with Jurgen Ruesch, he researched psychotherapy or, as he put it 'the nature of communication among a tribe called psychiatrists' (Lipset, 1980: 196). Bateson lectured while continuing to work ethnographically, taping interviews, jotting notes and observing.

He also worked with alcoholics and studied Alcoholics Anonymous (AA). This work later became the subject of his great essay 'The Cybernetics of Self: a Theory of Alcoholism' (Bateson, 1971). Here Bateson proposed that the Twelve Steps Program of AA is effective because it coincides with a cybernetic epistemology. The alcoholic has a 'false pride' that leads to a belief that 'the bottle can be beaten'. This leads to a recurrent symmetrical battle for control that only leads to further drinking. Only by adopting a complementary position to the bottle, as AA proposes, can drinking stop. Only by accepting a 'greater power', that can't be controlled or overcome, will the battle with the bottle stop. The Twelve Steps of AA lead to this complementary position, as a new cybernetic epistemology based on giving up attempts at conscious control is adopted. The self is reorganised as the cycles of addiction and control are left behind.

The AA example was later used by Bateson as a metaphor for the logic of error in much larger domains. For example, he argued that the addictive patterns of consumption in industrial civilisation are fed by false beliefs that managerial and technologic solutions can always be found to control ecologic degradation. What is needed instead is a reorganisation of Western thinking about relations with the environment that recognises such control is not possible, just as the alcoholic has to let go of the addictive idea that 'he can beat the bottle'. For Bateson, we are part of nature, not separate. Nature is not something we can beat or overcome. Unilateral control of a larger system by one part of the system is not possible, and will lead to disaster. Bateson, quoting the Bible, says '[The Ecologic] God is not mocked' (Bateson, 1987: 142).

In an extension of his photographic studies in Bali, Bateson also studied nonverbal communication in families and the role of paralanguage and gestural and kinesic exchanges in regulating behaviour and qualifying meanings (Schefflen, 1972). Meaning is only fully revealed by taking in the whole picture of communication, both verbal and non-verbal, in a group. Later he was to claim:

We made a film in '49 at the Langley Porter Clinic of the fact that minor patterns of (non verbal) exchange are the major sources of mental illness. And nobody in '49 could look at the film; the professionals could just not see it (Brand, 1974: 29).

His theoretical book with Ruesch (1951), *Communication, the Social Matrix of Psychiatry*, received the same mute reception (Bateson & Ruesch, 1951). It proposed cybernetic circular models of information as the foundation of psychiatric theory. It foreshadowed later ideas of how systems of communication are constructed out of patterns of interaction. Bateson and Ruesch criticised tendencies in conventional psychiatry to reify abstractions into definitions of pathology, often based on materialistic psychic energy models (like Libido Theory). They foreshadowed the models of social constructionism that attempt to overcome splits between social (external) and psychological (internal) models of behaviour. In 1951, this message was perhaps too radical to be grasped. Today, with our reified DSM diagnoses, and reductionist neuromythologies, we may be no further advanced.

Logical Typing and the Paradoxes of Abstraction

A key concept developed in *Communication* was the distinction between analogic and digital coding. This idea had been initially proposed by Wiener and von Neumann at the first Macy Conference. In this 'Information Age' it is now utterly commonplace, but it was novel then. As we all now know, a signal is digital if it differs sharply from, or is discontinuous with, the external events it represents. By contrast, an analogic signal has a shape or continuity related to the subject matter it represents. Bateson argued that linguistic behaviour is mainly digital, while body language tends to be analogic. Human communication occurs simultaneously along both channels. To understand the relation between these two channels of communication, Bateson applied an analogy from logic, the Theory of Logical Types in *Principia Mathematica* (Whitehead & Russell, 1910). Put simply, Bateson argued that analogic communication was of a higher level, or logical type, than digital. One (the analogic 'metamessage') qualified or provided the context for the other (the digital 'message'). The metamessage functions to place any messages that are occurring within their correct context. The metamessage defines the context for the message.

This is a central Batesonian insight: that a vertical classification is *the* essential component in the ordering of communication. Communication has levels, and we must always look for and classify the levels of any communication, the messages and the metamessages. The ability to classify messages into logical types is essential to human communication. To fail to classify accurately is to generate confusion and paradox.

As we noted, Bateson derived these ideas from the work of Russell and Whitehead in *Principia*

Mathematica. They had proposed that there is always a discontinuity between a class and its members, a hierarchical gap. For example: the class of machinery is of a higher logical type or level of abstraction than a member of the class, such as typewriters or tape recorders. When a class is mistaken for a member, logical paradoxes can occur. The classic example is Epimenides' famous paradox presented by the Cretan who says 'All Cretans are liars'. (If this is true, it's not true, and so on.) The paradox contains both a statement, and a statement about the statement, the second being of a different level or logical type from the first. *Principia Mathematica* forbade such self-referential connotations of different hierarchical levels in logic, and insisted on markers, subscripts, quotation marks, and so forth, to indicate the levels. But nature, Bateson argued, is not so precise. Breaches of logical typing and confusion of levels are common in human communication. When levels of communication in a conversation are confused or not recognised, contradictions will arise and paradoxes will be generated, with behavioural consequences.

This idea led directly to Bateson's next project, titled 'The Paradoxes of Abstraction in Communication'. And so the famous (and infamous) Double Bind theory of schizophrenia was generated (Bateson et al., 1956: 44).

Palo Alto 1956: Double Binds and Schizophrenia

Looking back, it must be said that the Double Bind theory must be a candidate for both the most generative *and* the most misunderstood theory in psychiatry.

Bateson assembled a team, the Palo Alto group, all of whom later rose to prominence in family therapy, including Jay Haley, John Weakland and Don Jackson. According to Haley, they struggled for a long time 'with how "paradoxes of abstraction" were relevant to anything in human life' (Sluzki & Ransom, 1976: 62). Bateson believed in naturalistic observation, but even more in deduction. From analysis of thought disorder in schizophrenic subjects, Haley proposed that schizophrenic 'word salad' was an example of failing to separate the logical levels between literal and metaphoric statements. Such misreadings led to strange phenomena, such as the apocryphal patient who 'ate the menu when he was hungry'. Bateson was trying to discover the context which could make thought disorder intelligible.

During a trip to New York, he speculated with Wiener that a telephone system might be termed 'schizophrenic' if it took numbers mentioned in the conversation between subscribers for those numbers

which represent the names of subscribers. 'How would one teach a telephone exchange to make this error?' he asked (Heims, 1977: 151). Bateson's team hypothesised a learning context which could create paradoxical confusions.

As the original grant ran out Haley, acting as Bateson's secretary, penned a new proposal, arguing deductively that the unconventional habits of thought seen in schizophrenia were the effects of certain contexts: thought disorder was part of a larger system. The name Bateson's project gave to contexts carrying such confusions was 'the Double Bind'. The Double Bind conceived schizophrenic symptoms as a reaction to, and an attempt to solve, impossible communicational traps.

In its original formulation, the necessary ingredients of the Double Bind as were defined as

1. Two or more persons
2. Repeated experience
3. A primary negative injunction
4. A secondary negative injunction conflicting with the first at a more abstract level
5. A tertiary negative injunction prohibiting the victim from leaving the field
6. The complete set no longer necessary when the victim has learned to perceive his universe in double bind patterns.

These ideas were first published in the famous paper 'Towards a Theory of Schizophrenia' (Bateson, Jackson, Haley & Weakland, 1956). Bateson always thought it had been hurried into publication. The long deductive arguments were cut by the editors, leaving the impression the authors were generalising from case studies. This was not the case. Bateson later said 'it was too concretistic and a lot of people have spent, wasted, a lot of time trying to count double binds' (Cissna, 2005: 131).

The paper was a complex stylistic mix, echoing its different authors, and had its share of gaps and non-sequiturs, and it drew complex reactions for the next 40 years. The so-called ingredients were continuously revised by the group. Their final statement in 1962 withdrew from claims as to the 'cause' of schizophrenia, and the notion of a binder acting on a victim. Instead they proposed

the most useful way is phrasing double bind description in terms of people caught up in an ongoing system which produces conflicting definitions of the relationships and consequent subjective distress (Bateson et al., 1963: 42).

The idea of double binding gripped both the scientific and popular imagination, and become part of everyday talk. It had great intuitive appeal to clinicians working

with families and individuals whose lives seemed 'stuck' or 'in a bind'.⁶ The Double Bind came to mean many things, often far removed from the original construct: Catch 22, or incongruent, double messages or knots (Evans, 1976), or a situation where a person can't win no matter what, or mutual deception, concealment, denial and mystification. Sometimes the concept drew abuse. Shorter comments that it was a theory 'where the mother was the cause of the children's psychosis' (Shorter, 1997: 177). This was a misunderstanding, but not an incomprehensible one.

In truth, the theory was very slippery, particularly at an empirical level. It was, as Abeles concluded in a major review, 'an unresearchable construct':

It was not possible to isolate the participants and components and events and history and context of a pattern and still have that pattern (Sluzki & Ransom, 1976: 147).

Bateson himself acknowledged that the theory was 'so slippery that perhaps no imaginable set of empirical facts could contradict it' (Sluzki & Ransom, 1976: 320). For him, the Double Bind was an idea, a formal pattern deduced from observing communicative interactions, but not identical with any single instance of communication. Actual behaviours were markers (or embodiments) of the pattern, but the Double Bind was a class at a higher level of analysis. Double binds do not cause anything, and are no more (and no less) relevant to understanding schizophrenia than to understanding humour or creativity. Faced with a paradox, the organism may be forced into a pathologic 'schizophrenic' adaptation, or stumble onto a creative or humorous solution, a step out of the pattern.

Trying to understand Bateson's concept of Double Bind might be seen as leading to a form of deutero-learning, Bateson's term for 'learning to learn'. The attempt by therapists to recognise Double Binding patterns led to learning a new language, or 'epistemology' in Bateson's rather idiosyncratic use of the term. One can speak of testing theories, but one does not usually speak of testing a language. Languages or concepts are more or less useful, but not true or false in empirical terms. Looked at this way, Double Bind theory has been highly useful. To comprehend the double bind model meant learning to organise observations in terms of patterning of communication and systems of influence. By grasping this unit of analysis, therapists started thinking differently, thinking about levels and contexts in any organisation, or as we once used to say, 'thinking systems'. The Double Bind model generated a new way of seeing the world. This may be the lasting legacy of the idea. Certainly it was a generative idea, as well as a

controversial one. It kept the project group busy for ten years, producing 63 papers.

But ten years on, Bateson was growing tired of psychiatry. In particular, he was weary from his conflicts with Jay Haley, his talented collaborator. Haley was interested in applying cybernetic ideas to the practice of therapy. He wanted results. Bateson worried about Haley's manipulative and invasive methods. Bateson was always wary of consciously planned intervention at any level of the system, a theme he took on with greater passion as he got older. His opposition to Haley was particularly based on the latter's emphasis on 'power' as an explanatory principle of social interaction. For Haley, therapy was to be understood in terms of 'power tactics'. Bateson was not interested in what he called 'power plays' and was suspicious of Haley's incorporation of 'power' into his models of therapy. To Bateson, the metaphor of power led back to a kind of survival-of-the-fittest Darwinism he had learnt to abhor from William Bateson. For him, the question was 'How did organisms co-evolve together?' not 'Who was dominant?' He abhorred power talk with its hardened dualisms of winner/loser.

Bateson also felt preempted by his research team with their publication of *Pragmatics of Human Communication* in 1967. This book went on to become the classic text, explicating the new ideas of communication theory. Haley reported Bateson saying the book 'stole thirty of his ideas'. *Pragmatics* presented communication theory and practice abstracted from its larger cultural and evolutionary contexts. This did make the ideas very clear, but such simplification was anathema to Bateson. In a caustic letter to Paul Watzlawick he wrote:

I used to wonder how Kahunas (Hawaiian priests) feel when they see carvings of their gods in the shop window of a travel bureau. Now I know. Of course it is something of a compliment to have the white man admire the native arts. And the travel bureau is only being 'pragmatic'. And the loot is sometimes correctly labelled as to provenance and the native has no comeback (Harries-Jones, 1995: 28).

Bateson left Palo Alto accompanied by a

growing distaste for all the people concerned, including the psychiatrists, the patients, the psychologists, the families and the V.A. hospital and boredom with the repetitive nature of the transactional patterns all these persons exhibit (Harries-Jones, 1995: 28).

He set off to John Lilly's research centres in Florida and the Virgin Islands, and later to the Oceania Institute, Hawaii, to study communication among dolphins. As Parks acerbically notes: 'Nobody could reasonably expect him to change the lives of dolphins.

His real goal in Palo Alto had never been therapy, but research' (Parks, 2003: 271).

'Towards a Theory of Schizophrenia', despite its difficulties in empirical application (or perhaps because of its creative confusions!), was a new beginning, the foundational paper for the field of family therapy. It placed the intrapsychic field of psychoanalysis within a wider landscape — a network of exchanges between people. It gave birth to a new group of social and interactional therapies, of which family therapy was the first, including narrative, solution-based, strategic and network therapies (Hoffman, 1999). The borders of psychotherapy were expanded, as a new language that promised to make disturbed behaviour socially intelligible generated wider and wider descriptions. These descriptions used the language of communication and context, hierarchy and levels, boundaries and homeostasis, feedback and interaction. They were expanded, 'ecosystemic' ways of seeing the world and they drew many converts.

Don Jackson proposed the Palo Alto group form the Mental Research Institute (MRI) in Stanford, the first of many freestanding family therapy institutes in the world. Bateson did not join (Jackson, 2004).⁷ He did not want his consultant (Jackson) over him as director — he deeply understood the dangers of strange loops! In 1963 MRI sponsored *Family Process*, which remains the preeminent journal in the field.

In Milan, Palazzoli and her group rigorously extended Bateson's logic into a highly original therapeutic method, and formulated the key 'systemic guiding principles' of hypothesising, circularity and neutrality (Selvini et al., 1978, 1980). Circular questioning became for systemic therapy what free association was for psychoanalysis. It was based on the Batesonian idea of 'information of difference'. Questions are asked sequentially to bring out patterns and connections in a system, for example: 'Who is closest to who, next closest ... If brother left, who would be next closest, who would be saddest?' A whole range of inventive questions has since been generated. The early promise of the Milan approaches, with their rather extravagant declarations of 'cures' for schizophrenia and anorexia have faded, but their ideas and technical innovations have found wide and effective application (Campbell, 2004).

Much less dramatic than the Milan group, the careful and cumulative work in psycho-educational approaches to schizophrenia has perhaps borne greater fruit (Stagoll, 1989). The Double Bind theory prompted research into the entanglements, over-closeness and 'transactional' thought disorder often observed in families with schizophrenic members. These were not universal phenomena, and may well be

an effect rather than a cause of having a schizophrenic family member. Nevertheless, careful research has shown the validity of such constructs as Expressed Emotion, and the positive benefits of modifying negative affective interactional styles by psycho-educational and multiple family group processes. This may be the most important practical legacy of the ideas first proposed by Bateson.

Geertz writes that,

after a new powerful idea has burst upon the intellectual landscape ... to hold for a time the conceptual centre point around which a comprehensive system of analysis can be built, it will be subsequently tamed through application and extension until we recognise the idea does not explain everything ... Our attention shifts to isolating just what that something is and to disentangling ourselves from a lot of pseudo-science to which in the first flush of celebrity it has also given rise (Wilder & Weakland, 1981: 38).

The Double Bind was just such a powerful new idea, and family therapy in all its variety a conventional extension and application. But there was also 'a lot of pseudoscience'. Bateson seemed to think so. Late in life he referred to 'the whole god-awful business of family therapy' (Bateson, 1987: 204). He was impatient to disengage from the reifications, manoeuvrings and shallow empiricism of therapists.

Steps

In 1972 Bateson published *Steps to an Ecology of Mind* (Bateson, 1972). It was his first book in 20 years, and his most famous, an anthology of articles which had been scattered in inaccessible journals. *Steps* showed Bateson's thinking as a unified exploration across diverse areas, including Balinese culture, evolution, schizophrenia, alcoholism, dolphins and cybernetics. A technical label for this thinking might be 'systems theory', but Bateson preferred 'ecology'. The 'Steps' in his title referred to the active 'stepwise' participation needed by the reader in integrating his material. The book is obscure in parts, but other parts are elegantly clear and playful. Lyman Wynne has said Bateson was 'frustrating' to read and required second readings. But 'an open meditative frame of mind can transform the puzzling passage into one that is lucid and illuminating' (Wynne, 1976: 82). Many people who have persevered with Bateson have reported this reaction.

Harries-Jones compares Bateson to Wittgenstein in the way they both consistently try to demonstrate how formal thinking can operate to illuminate everyday living. Bateson is 'showing' how such thinking can occur: his examples and anecdotes are not so much to communicate facts and data as to bring forth ideas

and metaphors, provoking our mind to activity (Harries-Jones, 1995: 83). His way of thinking and seeing is not an abstraction, but a tangible experience that can be cultivated by practice. It elucidates and expands rather than describes. Bateson was fond of quoting e. e. cummings: 'ever the more beautiful answer who asks the more difficult question'.⁸ Bateson was always questioning, especially himself.

“Although adopted by the counterculture, he shared few of its ideas, and rejected its anti-intellectualism and the imprecise language of its pseudo-spirituality.”

Bateson became a hero after *Steps*, and in the New Age California of his time, something of a cult figure. He was involved with the early Green movement at the University of Santa Cruz. He lectured widely, speaking out more and more about the ecologic crisis, and the threats of nuclear war, and 'avoidance of the death of the largest system about which we can care' (Bateson, 1972: 220), 'The organism which destroys its environment destroys itself' (Bateson, 1972: 483). But he was no radical. Although adopted by the counterculture, he shared few of its ideas, and rejected its anti-intellectualism and the imprecise language of its pseudo-spirituality. He was opposed to bad thinking, be it from mechanical behaviourists or mystical idealists. 'He wanted to speak to both sides of our endemic dualism' (Mead, 1977: 175).

Like his father, he was a conservative, who respected rather than challenged the natural order of things. 'Perhaps the most convincing evidence that evolution is a mental process is its slowness, its fits and starts, its errors and stupidity. In a word, its conservatism' (Bateson, G., in Sluzki, 1976: xii).

Last Books: Mind and Nature

In the late 1970s, Bateson was dying of lung cancer, but with the help of his daughter Mary Catherine completed two more books. *Mind and Nature*, written for a general audience, is his most accessible book (Bateson, 1979). It returns to Bateson's first interest in evolution, developing the analogy between evolutionary change

and the structure of the mind. A 'mind' is any system with a capacity respond to information in self-corrective ways. 'Mind' is characteristic of living systems, from cells to forests to civilisations. For Bateson, there is a holistic unity among human mental process and culture and biology: 'Mind is a reflection of the large and many parts of the natural world outside the thinker' (Bateson, 1979: 9). He is not interested in reducing matter to mind, but in reintroducing mind into matter as its pattern and fabric, texture and weave. Mind is not above matter, it is not 'transcendent'. It is *in* matter or 'immanent'. All biological phenomena are, in his friend Warren McCulloch's phrase, 'Embodiments of Mind' (McCulloch, 1975).

Bateson's idea of 'mind' extended beyond the skin.

What I am saying expands mind outwards (just as Freudian psychology expanded the concept of mind inwards). 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 (Bateson, 1979: 462).

Bateson's defining criteria of mind includes any circular system of interacting parts, where interaction is triggered by difference ('difference is the analogue of cause'). A mind can include non-living elements as well as multiple organisms and the unit of survival is always the organism-plus-environment which co-evolve together. Such interacting systems select pattern from random elements, as happens in learning and evolution 'the two great stochastic processes' (Bateson, 1979: 147), that derive novelty out of randomness.

Bateson's strong implication is that the whole of nature is imbued with qualities of mind, and we should treat nature with the same respect due to a human mind. We live *within* the world of nature, not as 'rational onlookers' from the outside. Cartesian detachment and objectivity is a 'false epistemology' that results in 'inappropriate descriptions'. Whatever scientific understanding we achieve must be a kind of understanding that occurs from the 'inside'.

Epistemology is always and invariably personal. The point of the probe is always in the heart of the explorer. What is my answer to the questions of the nature of knowing? I surrender to the belief that my knowing is a small part of a wider integrated knowing that knits the entire biosphere or creation (Bateson, 1979: 87).

Bateson's last book *Angels Fear* (Bateson, 1987) was published posthumously, from 'miscellaneous, un-integrated and incomplete' manuscripts put together by Mary Catherine Bateson. His first publication had been co-authored with his father; his last was with his daughter. Questions about descent and adaptation at

all levels were central to both. Bateson traced destructive human actions to inappropriate descriptions, such as those based on supernaturalism (pure mind without matter) and materialism (matter without mind). He was equally opposed to both.

Very simply let me say I despise and fear both of these extremes of opinion and that I believe both extremes to be epistemologically naive, wrong and politically dangerous. They are also dangerous to something which we may loosely call mental health (Bateson, 1987: 198).

His task was 'to explore whether there is a sane and valid place for religion somewhere between these two nightmares of nonsense' (idem).

Religion provided 'a rich, internally structured model that stands in metaphorical relationship to the whole of life, and therefore can be used to think with' (Bateson, 1987: 195). Religious processes address vital epistemological problems around the limitations of knowledge and the unavoidable gaps in any description: 'the only kind of cognitive system that could provide a model for the integration and complexity of the natural world' (Bateson, 1987: 199). They can provide solutions to the mind/body problem. For Bateson, who called himself a 'fifth generation unbaptised atheist' (Nachmanovitch, 1982: 12), it was finally the sacred that could provide the model for the integrated fabric of mental process 'that envelopes all our lives'. He had returned to the hero of his youth, William Blake, as his inspiration. Like Blake, he was a visionary who saw in an original, unified and particular way (Harries-Jones, 2004).

Bateson offered two meanings of 'sacred': 'that with which we shall not tinker', and 'a sense of the whole which can only be met with awe ... and which inspires humility' (Bateson, 1987: 48).

'The sacred' is the whole, and it is the 'pattern that connects' (Bateson, 1987: 200). It is how parts fit aesthetically into a holistic order, where holism, unity and beauty were coincident with each other. It was not a transcendent, but an immanent holism. As Bateson said, from his house overlooking the Pacific, 'I am not a deist, but I do believe the ocean out there is alive: is that religious?' (Bateson, 1987: 177).

Bateson died haunted by a sense of urgency that the narrow definition of human purpose, which had lost 'the sacred' in a materialist and technological society, was leading to irreversible ecologic disasters. Bateson felt we are plagued by short-term solutions that worsen problems over time, by quantitative indicators displacing reflection, and by maximisation of single variables over harmonisation of more complex sets. Like his father, William, he felt he had not communicated what he knew, and he felt deeply misunderstood. Will his time

come, as it finally may be coming for his father? (Bateson, P., 2002).

The Legacy of Bateson

The most important task today is, perhaps to think in a new way (Bateson, 1972: 437).

Lipset, his biographer, comments that Bateson was 'doubly anachronistic, both ahead and behind his times' (Lipset, 1980: xii). He often seems a throwback to the 19th century, continuing the debates around Darwinism and science led by his father and his other great heroes (William Blake, Samuel Butler, Lewis Carroll, Lamarck, Whitehead and Russell). He did not link up to the contemporary debates in the philosophy of science or consciousness, especially in his last decade. He never refers to Popper, Kuhn, Feyerabend or Searle, and barely to Wittgenstein.

Yet in other ways he remained ahead of his times. He was a pioneer in advancing cybernetic and communication theory in social science and psychotherapy. Later, he developed holistic and evolutionary models of the self-organising biosphere. His insistence on relational thinking and 'double description', and recursively returning to the data to observe the observing observing, is a model for contextual thinking, a language of relations rather than things that leads beyond the linear stimulus-response paradigms of behavioural science and of genetics. His preference for thinking in aesthetic terms, of pattern rather than quantitative and reductive terms, provides an alternative to the dominant and (to Bateson) pathological systems of thought afflicting industrial civilisation.

Bateson made streams of ideas flow together into a confluence of aesthetic, holistic, interactive, recursive and, above all, contextual ways of thinking that foreshadow many 'postmodern' developments in biology, ecology and philosophy. His legacy was to show us just how we might develop a systemic wisdom, how we need to think if we are to survive in our new century.

At the end of his life, he wrote about the battle with Moloch,⁹ his Blakean image of orthodox scientific opinion:

Moloch after all is very *stupid* and quite capable of swallowing the notion that he is, and was always 'right' in what he 'meant' to say. It is *only* his language that was wrong. And if the battle must finally be joined, let us choose the battlefield. Moloch will surely do his best to fight the battle on some ground on which he has irrelevant advantage (He will accuse us of Lamarckism, obscurantism, failure of scholarship, etc., etc.) What is interesting is that the underlying battle is really about the choice of battlefield. Our stand is correctly and precisely upon the question: 'Which language shall be used?' (Keeney, 1981: 1).

Bateson offers a new language for taking that stand.

A Last Warning

In 1977 Bateson replied to Dr. Janice Stevens, who had argued

that double bind theory had contributed its share to the suffering of those who are called (and sometimes call themselves) 'schizophrenic'.

Bateson agreed, but noted that

suffering is the inevitable product of action combined with ignorance. Metrazol, insulin, lobotomy, EST and the inhumanity of gross contempt have contributed to the mass of suffering which radiates from 'schizophrenia'. The matter is simple! We are all deeply ignorant and there can be no competition in ignorance [he went on, perhaps referring to family therapists] ... Theory is becoming available to action-oriented people whose first impulse is that which is primarily in empiricism. 'Take it on the wards and try it. Don't waste time trying to understand the theory. Just use whatever hunches seem to follow from it'. Such people are likely to be frustrated and their patients hurt (Bateson, 1991: 149-150).

We ignore these words at our peril.

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Endnotes

- 1 Nora Barlow was the first to catalogue Darwin's correspondence and became a major Darwin scholar. She was also Gregory's godmother and a lifelong influence.
- 2 In a moving, new reading of his 1980 biography 25 years after publication David Lipset develops these themes in detail.
- 3 Kohn argues that the English love of bird watching, gardens and collecting set the cultural context for Darwin, and the striking dominance since of English scientists in evolutionary theory.
- 4 Mead later said their marriage was 'an incomparable model of what anthropological fieldwork can be like, even if the model includes the kind of extra intensity in which a lifetime is condensed into a few short years' (Howard, 1984: 176).
- 5 At the very first Macy Conference, 1943, three papers were presented: Norbert Wiener on feedback, John von Neumann on a theoretical model for the digital computer, Bateson and Mead on social science models. It was

probably the first time these revolutionary ideas had been presented in public.

- 6 Paul Gibney gives two lucid case examples showing how double bind ideas were useful in unsticking problem producing interactions (Gibney, 2006).
- 7 Don Jackson, with his links to East Coast interpersonal and Sullivanian psychoanalysis, and his clinical psychiatric background was perhaps the most charismatic and influential figure of all the Palo Alto group. We will never know in what therapeutic directions he might have gone had he not died prematurely in 1968 at the age of 48.
- 8 I am indebted to David Bathgate for this line.
- 9 Moloch: A Canaanite God to whom children were sacrificed ... in general, any influence which demands a sacrifice of that which we hold most dear.

References

- Banner, L., 2003. *Intertwined Lives. Margaret Mead, Ruth Benedict and Their Circle*, NY, Knopf.
- Bateson Family Papers, 2005. 1829–1940, NY, American Philosophical Society. www.amphilsoc.org/library/mole/b/batesonfam.htm. Accessed 2/7/05.
- Bateson, G. & Bateson, W., 1926. On Certain Aberrations of the Red-Legged Partridge, *Alectoris Rufa* and *Saxatilis*, *Journal of Genetics*, 16: 101–23.
- Bateson, G., 1958. *Naven. A Survey of the Problems suggested by a Composite Picture of the Culture of a New Guinea Tribe Drawn from Three Points of View*, New Haven, CT, Stanford University Press.
- Bateson, G., 1971. The Cybernetics of Self: A Theory of Alcoholism. Reprinted in *Steps to an Ecology of Mind*, NY, Ballantine.
- Bateson, G., 1972. *Steps to an Ecology of Mind*, NY, Ballantine.
- Bateson, G., 1976. Foreword. In C. Sluzki & D. Ransom, *Double Bind: The Foundation of the Communicational Approach to the Family*, NY, Grune & Stratton.
- Bateson, G., 1979. *Mind and Nature. A Necessary Unity*, NY, Ballantine.
- Bateson, Gregory & Mary Catherine, 1987. *Angels Fear*, NY, Macmillan.
- Bateson, G., 1991. The Double-Bind Theory — Misunderstood? In R. Donaldson (Ed.). In *A Sacred Unity: Further Steps to an Ecology of Mind*, NY, Harper Collins.
- Bateson, G., Jackson, D., Haley, J. & Weakland, J., 1956. Toward a Theory of Schizophrenia, *Behavioural Science*, 1: 251–264.
- Bateson, G., Jackson, D. D., Haley, J. & Weakland, J., 1963. A Note on the Double Bind, *Family Process*, 2: 154–161.
- Bateson, G. & Mead, M., 1942. *Balinese Character: A Photographic Analysis*, NY, New York Academy of Science.
- Bateson, Gregory & Ruesch, Jurgen, 1951. *Communication, The Social Matrix of Psychiatry*, NY, Norton.
- Bateson, Mary Catherine, 1984. *With a Daughter's Eye. A Memoir of Margaret Mead and Gregory Bateson*, NY, William Morrow.
- Bateson, M. C., 2004. Six Days of Dying — Part 1 Family Memoir. In her *Willing to Learn: Passages of Personal Discovery*, Hanover, NH, Steerforth Press.
- Bateson, Patrick, 2002. William Bateson: A Biologist Ahead of His Time, *Journal of Genetics*, 82, 2.
- Bateson, Patrick, 2005. The Return of the Whole Organism, *Journal of Bioscience*, 30, 1, Feb: 31–39.
- Beels, C. C., 2001. *A Different Story: The Rise of Narrative in Psychotherapy*, Phoenix, AZ, Zeig, Tucker, Theisen.
- Brand, Stewart, 1974. II *Cybernetic Frontiers*, NY, Random House.
- Campbell, D., 2004. The Method in the Madness: Re-reading *Paradox and Counterparadox*, Twenty-Five Years On. *Clinical Child Psychology and Psychiatry*, 9, 3: 437–442.
- Capra, F., 1997. *The Web of Life. A New Synthesis of Mind and Matter*, NY, Flamingo Press.
- Cissna, K. & Anderson, R., 2005. A Failed Dialogue? Revisiting the 1975 Meeting of Gregory Bateson & Carl Rogers, *Cybernetics and Human Knowing*, 12, 1–2: 120–136.
- Conway, F & Siegelman, J., 2005. *Dark Hero of the Information Age: In Search of Norbert Wiener, the Father of Cybernetics*, NY, Basic Books.
- Evans, I. E., 1976. *R. D. Laing: The Man and His Ideas*, NY, Dutton.
- Galison, Peter, 1994. The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision, *Critical Inquiry*, Autumn, 21, 1: 228.
- Geertz, Clifford, 1983. *Local Knowledge. Further Essays in Interpretive Anthropology*, NY, Basic.
- Geertz, Clifford, 1988. *Works and Lives, The Anthropologist as Author*, Stanford, CA, Stanford University.
- Gibney, P., 2006. The Double Bind Theory: Still Crazy Making After All These Years. *Psychotherapy in Australia*, 12, 3: 48–55.
- Haley, J., 1969. *The Power Tactics of Jesus Christ and Other Essays*, NY, Avon.
- Harries-Jones, Peter, 1995. *A Recursive Vision: Ecological Understanding and Gregory Bateson*, Toronto, University of Toronto.
- Harries-Jones, P., 2004. Revisiting *Angels Fear*: Recursion, Ecology and Aesthetics, SEED, 14, 1. www.library.utoronto.ca/see/SEED. Accessed 27/6/04.
- Heims, S. P., 1977. Gregory Bateson and the Mathematicians: From Interdisciplinary Interaction to Societal Functions, *Journal of the History of the Behavioural Sciences*, April, 13, 2: 141–5.
- Hoffman, L., 1999. Commentary, *Journal of Marital and Family Therapy*, 25, 4: 525.
- Howard, Jane, 1984. *Margaret Mead, A Life*, NY, Simon and Schuster.
- Jackson, D., 2004. Bateson Research Projects. www.mri.org/dondjackson. Accessed 3/8/2004.
- Keeney, B., 1981. Gregory Bateson: A Final Metaphor, *Family Process*, 20, 1: 1.

- Keller, E., 2000. *The Century of the Gene*, Cambridge, MA, Harvard University Press.
- Koestler, Arthur, 1978. *Janus, A Summing Up*, NY, Vintage.
- Kohn, M., 2004. *A Reason for Everything, Natural Selection and the English Imagination*, London, Faber.
- Lipset, D., 1980. *Gregory Bateson, The Legacy of a Scientist*, Englewood Cliffs, NJ, Prentice-Hall.
- Lipset, D., 2005. Author and Hero — Rereading Gregory Bateson: The Legacy of a Scientist, *Anthropological Quarterly*, 78, 4: 899–914.
- Marcus, G., 1985. A Timely Rereading of *Naven*: Gregory Bateson as Oracular Essayist, *Representations*, 12, Fall.
- McCulloch, W. S., 1975. *Embodiments of Mind*, Cambridge, MIT Press.
- McFale, M., 2005. Anthropology and Insurgency: The Strange Story of Their Curious Relationship. <http://www.army.mil/professionalwriting/volume3/august2005/17>
- McFarlane, W., Dixon, L., Lukens, E. & Luckstead, 2003. Family Psychoeducation and Schizophrenia: A Review of the Literature, *Journal of Marital and Family Therapy*, 29: 223–245.
- Mead, M., 1977. End Linkage: A Fool for Cross Cultural Analysis. In J. Brockman (Ed.), *About Bateson*, NY, Dutton.
- Nachmanovitch, S., 1982. Gregory Bateson: Old Men Ought to be Explorers, *Coevolution Quarterly*: 1–29 (also: www.freeplay.com).
- Orr, H., 2005. Turned on: A Revolution in Field of Evolution, *New Yorker*, 10/24/2005: also: <http://newyorker.com/critics/books/articles/051024crbo-books1>
- Pakman, M., 2004. On Imagination: Reconciling Knowledge and Life, or What does 'Gregory Bateson' Stand For? *Family Process*, 43, 4: 413–23.
- Parks, T., 1999. Unlocking the Mind's Manacles. In *Hell and Back: Selected Essays*, London, Vintage.
- Price, D., 1998. Bateson and the OSS: World War II and Bateson's Assessment of Applied Anthropology, *Human Organisation*, 57, 4: 379.
- Rose, S., 1980. Review of *Mind and Nature*, *Times Literary Supplement*, Nov. 21: 1314.
- Rosenfield, I. & Ziff, E., 2006. Evolving Evolution, *New York Review of Books*, May 11: 12–17.
- Schefflen, Albert E., 1972. *Body Language and Social Order. Communication as Behavioural Control*, NY, Spectrum Books.
- Selvini, M. P., Boscolo, L., Cecchin, G. & Prata, G., 1978. *Paradox and Counterparadox*. NY, Jason Aronson.
- Selvini, M. P., Boscolo, L., Cecchin, G. & Prata, G., 1980. Hypothesizing-circularity-neutrality, *Family Process*, 19, 1: 3–12.
- Shorter, Edward, 1997. *A History of Psychiatry. From the Era of the Asylum to the Age of Prozac*, NY, John Wiley.
- Sluzki, C. & Ransom, D., 1976. *Double Bind: The Foundation of the Communicational Approach to the Family*, NY, Grune & Stratton.
- Stagoll, Brian, 1989. Aspects of Family Therapy, *Current Opinion in Psychiatry*, 2: 377–83.
- Stagoll, Brian, 2003. Books Reconsidered: *One Flew Over the Cuckoo's Nest*, *Australian and New Zealand Journal of Psychiatry*, 37, 1, Feb: 118–120.
- Watzlawick, P., Beavin, J. & Jackson, D., 1967. *Pragmatics of Human Communication*, NY, Norton.
- Whitehead, A.N. & Russell, B., 1910. *Principia Mathematica*, Cambridge, University Press.
- Wilder, C. & Weakland, J. (Eds), 1981. *Rigor and Imagination. Essays from the Legacy of Gregory Bateson*, NY, Praeger Scientific.
- Wolff, K. H., 1944. A Critique of Bateson's *Naven*, *Journal of the Royal Anthropological Institute*, 74: 72.
- Wynne, L., 1976. On the Anguish and Creative Passions of Not Escaping Double Binds. In C. Sluzki & D. Ransom, 1976. *Double Bind: The Foundation of the Communicational Approach to the Family*, NY, Grune & Stratton. ☐

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Individual insight or understanding may serve as a protective device or may stop a dysfunctional family legacy, but it does not achieve forgiveness. Forgiveness takes place between people, not within an individual

(Terry D. Hargrave and William T. Anderson, 1992: *Finishing Well: Aging and Reparation in the Intergenerational Family*, NY, Brunner/Mazel: 157).

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