

CHAPTER 5

In Praise of Heresy¹

It is a rare privilege to be here today, and, for me, keenly nostalgic. It was just 60 years ago — in 1938, as a 21-year-old student at Victoria University College — that I first became interested in anthropology.

The late 1930s, when Hitler, Mussolini and Franco were on the rampage, were the most angst-ridden years through which I have so far lived. The mood of desperation and derring-do was caught by W.H. Auden in his poem of 1937, *Danse Macabre*.

*It's farewell to the drawing room's mannerly cry,
The professor's logical whereto and why,
The frock-coated diplomats polished aplomb,
Now matters are settled with gas and with bomb ...
For the Devil has broken parole and arisen,
Has dynamited his way out of prison
Like influenza he walks abroad,
He stands by the bridge, he waits by the ford ...
Millions already have come to their harm,
Succumbing like doves to his adder's charm,
Hundreds of trees in the woods are unsound:
I am the axe that must cut them to ground ...
I must take charge of the liquid fire,
And storm the cities of human desire ...*

The Spanish Civil War was raging. In 1937, in the Basque village of Guernica, 1,654 were killed in an air raid by bombers from Nazi Germany — a monstrous event that still lives in the torment of the painting by Picasso.

1 A lecture given at Victoria University of Wellington, on 2 March 1998.

When, in 1938, I participated in the Plunket Medal oratory contest of the Victoria College Debating Society, I spoke on John Cornford who had been killed in Spain on his 21st birthday. He was a Cambridge poet, and — of all things — the communist great-grandson of Charles Darwin.

Also, in those same years at Victoria, I played the part of Ernst Tausig in Clifford Odets' anti-Nazi play *Till the Day I Die*, in which there was high-flown talk of 'brothers' living in 'the soviets of the world'. It was most certainly a deeply confusing and troubled time to be at university.

At Victoria University College from 1934 I was a student of Tommy Hunter (as we called him), the Professor of Philosophy and Psychology, and of Ivan Sutherland. And then, from 1937, of Ernest Beaglehole.

After taking his PhD at London University in 1931, Ernest Beaglehole went on to Yale to work with Edward Sapir, the brilliant student of Franz Boas, who in 1899, at Columbia University in New York, had become the first professor of anthropology in America.

Boas was a German geographer, a neo-Kantian idealist with a deep antagonism to evolutionary theory, whose compelling idea, in the words of one of his students, was 'the complete moulding of every human expression — inner thought and external behavior — by social conditioning'.

It was this Boasian paradigm of the 1930s that Ernest Beaglehole adopted, having become friendly with Margaret Mead, while in America, and brought back with him to Victoria University College in 1937. To me, seeking some kind of yardstick in terms of which to comprehend human behaviour, it came as a revelation, and on 6 September 1938, in the student newspaper *Salient* (of which, at the time, I was the Literary Editor) in an article entitled 'Anatomy of Mind', I echoed Margaret Mead and Ernest Beaglehole in declaring that 'the aims and desires that determine behaviour' are all derived from 'the social environment'.

It was precisely this paradigm that Margaret Mead, in research devised and supervised by Franz Boas, had apparently validated in her famous book of 1928, *Coming of Age in Samoa*.

So taken by it was I, that in 1939, with the encouragement of Ernest Beaglehole, I decided to go to Samoa as a school teacher, so that I might investigate there at first hand the cultural determination of human behaviour. And this, without ever having completed a first degree at Victoria.

When I arrived in Samoa so complete was my acceptance of Dr Mead's Samoan writings that in my early inquiries I dismissed or ignored all evidence that ran counter to her findings. Indeed, it was not until I had become fluent in the Samoan language, had been adopted into a Samoan family and, having been given a title, had begun attending chiefly courts, that I became fully aware of the extent of the discordance between Mead's account and the realities I was regularly witnessing. When I left Samoa in November 1943, after a stay of over three and a half years, it had become apparent to me, after prolonged inquiry, that Mead's depiction of Samoa was gravely defective in numerous ways, and her account of the sexual mores of the Samoans in outright error.

By virtue of my first-hand investigations, I had — unwittingly — become a heretic.

Back in New Zealand, while waiting to sail for England as a member of the Royal New Zealand Naval Volunteer Reserve, I informed Ernest Beaglehole, as well as my other anthropological mentor, H.D. Skinner, the Director of the Otago Museum, of my misgivings about Dr Mead's account of Samoa. Neither of them took me seriously. That so famous an anthropologist as Margaret Mead could have been so mistaken was beyond belief.

This was also my experience, in the late 1940s, in the Department of Anthropology at the London School of Economics, when I reported my misgivings to Professor Raymond Firth and others. By that time Dr Mead's reputation was securely established, and Raymond Firth, as he told Mead in 1950, had 'a very real respect and admiration' for her work. And so, I remained an unrequited heretic.

The term heretic is derived from the Greek word for choice, and so refers to someone who chooses to think for himself, and then — if he has the nerve — challenges the views of those with whom he associates.

This is a hazardous and dangerous activity. In religious organisations, and especially those with creeds (a word which comes from the Latin *credo*, I believe), heresy is heavily interdicted. Heresy, then, is a word that makes those with religious beliefs shudder.

It is only a few hundred years since heretics were burned at the stake, as was Servetus in Geneva in 1553 and Bruno in Rome in 1600. And, as recently as 1993, Dr Peter Cameron, one of its ordained ministers, was convicted of heresy by the Presbyterian Church of Australia for having, in a sermon, advocated the ordination of women and questioned certain of the views of St Paul.

Religions then — Buddhism being a notable exception — are closed systems of belief, with any questioning of ordained doctrine by an adherent being strictly forbidden under pain of punishment.

In science, however, which is an open system of understanding, in which 'truth is the perpetual possibility of error', things are different. In contrast to closed systems of belief, science advances by shaking the foundations of knowledge; by showing that the relevant facts are at variance with accepted dogma.

This is a highly disturbing activity, and in the history of science has led to outright suppression, as in the case of Galileo, 'the creator of modern scientific method', who in 1633, under the threat of torture by the Holy Roman and Universal Inquisition, was forced to renounce the Copernican world system.

And although Charles Darwin finished up safe and sound in Westminster Abbey, he was subjected to all manner of obloquy after the publication in 1859 of his heretical book, *On the Origin of Species by Means of Natural Selection*.

We are here dealing with major paradigm shifts within science. The most recent of such major shifts occurred in the mid-1960s with the shift in the earth sciences from fixism to plate tectonics. Niles Eldredge has recorded how, in undergraduate courses at Columbia University in the early 1960s, plate tectonics was said to be nonsense, while by the time he entered graduate school, it had become the 'new truth'. This was with the publication in *Science* in 1966 of a key paper on the spreading of the ocean floor. Plate tectonics was the brainchild of Alfred Wegener. And, as Lawrence Bragg has recorded, when Wegener's heretical views

were first presented in Manchester in 1922, the local geologists were furious. ‘Words cannot describe,’ says Bragg, ‘their utter scorn of anything so ridiculous.’

Even in science then obscurantism can be a potent force. Indeed, as T.H. Huxley once observed: ‘Every great scientific truth began as a heresy.’ But because it is an open system in which (in Bronowski’s words) ‘the test of truth is the known factual evidence’, science does genuinely advance, with plate tectonics having now supplanted fixism.

Further, as Carl Sagan pointed out in his last major book *The Demon-Haunted World*, science — remarkably — is a system of thought that actively encourages heresy, and which gives its highest commendation to those who ‘convincingly disprove established beliefs’.

And so, in both science and scholarship, heretical thinking deserves to be both praised and actively practised.

But in science, being a successful heretic is far from easy, for the convincing disproof of an established belief calls for the amassing of ungainsayable evidence. In other words, in science, it is required of a heretic that he ‘get it right’.

David Williamson’s play *Heretic*, which some of you will have seen, is about what the great Scottish philosopher David Hume declared to be the only question of unspeakable importance: ‘What is the ultimate nature of human kind?’ Today, at the end of the 20th century — 60 years on from 1938 — we are, as I shall presently explain, nearer to having a scientifically informed answer to this question than ever before.

A major ideology of the 20th century — in some ways not dissimilar to Marxism — is the doctrine that ‘all human behaviour is the result of social and cultural conditioning’. Under the influence of Franz Boas and his students, this paradigm, which systematically excludes biology, has dominated 20th-century anthropology. It is now commonly referred to as Boasian culturalism.

In 1917, two of Boas’s students, Alfred Kroeber and Robert Lowie, without presenting any kind of empirical evidence, proclaimed that between cultural anthropology and biology there was an ‘abyss’, an ‘eternal chasm’, that could not be bridged.

It was in an attempt to obtain evidence for this ideological stance that Franz Boas in 1925 imposed on another of his students, the 23-year-old Margaret Mead, the task of studying heredity and environment in relation to adolescence among the Polynesians of Samoa. Mead arrived in American Samoa on 31 August 1925. After two months of study of the Samoan language in the port of Pago Pago, she spent just over five months in the islands of Manu'a before heading back to New York by way of Australia and the south of France.

In 1928 in her book *Coming of Age in Samoa*, which became the anthropological bestseller of all time, Mead concluded that adolescent behaviour in humans could be explained only in terms of the social environment. 'Human nature,' she declared, was 'the rawest most undifferentiated of raw material'. Then, in full accord with Franz Boas, she wrote of 'the phenomenon of social pressure and its absolute determination in shaping the individuals within its bounds'. This was cultural determinism of the most doctrinaire kind.

In 1930 Mead's extreme conclusion was incorporated in the *Encyclopedia of the Social Sciences*, and, for those who went through college in America in the 1930s, *Coming of Age in Samoa* was not only required reading but a classic of universal truths — as it was also at Victoria University College.

In 1955, after completing my doctoral studies at the University of Cambridge, and a year spent at the University of Otago, I became a member — as I still am — of the Research School of Pacific and Asian Studies (as it now is) of The Australian National University in Canberra.

And from there, in 1965 (after an encounter with Dr Mead in Canberra in 1964) I returned to Samoa for just over two years to investigate in detail every aspect of her account of Samoan behaviour.

By this time Margaret Mead had become a major celebrity. In 1969, *Time* magazine called her 'Mother of the World'. She went on to become, in the words of her biographer Jane Howard, 'indisputably the most publically celebrated scientist in America'. Indeed, during the last decade of her life, she came to be viewed as an omniscient, wonder-working matriarch. One of the jokes circulating in America at the time was that when Dr Mead called on the oracle at Delphi, she addressed the age-old sibyl with the words: 'Hullo there, is there anything you'd like to know?' In the *American Anthropologist* of 1980, she was said to have been 'truly the most famous and influential anthropologist in the world'. She had become the revered

Mother-Goddess of American cultural anthropology. A huge impact crater on the planet Venus — measuring some 175 miles across — has been named after her.

To challenge the conclusions of such a Mother-Goddess was, some would say, somewhat headstrong, but in August 1978 I wrote to Dr Mead offering to send to her a draft of the refutation of her Samoan researches, on which I was working. It was a refutation, in Popperian vein, in which I marshalled a wide range of ethnographic evidence that systematically established the extent to which Dr Mead had misreported and misconstrued Samoa. How this had happened, I had no idea. Unfortunately, Margaret Mead died on 15 November 1978, without having read my heretical text.

When it was finally published by Harvard University Press in 1983 the consternation, especially in America, was immense. Without warning, the Meadian reverie about Samoa had been shattered. For American anthropologists, as one of them remarked, this was ‘a seismic event’ and, as they surveyed the fallen masonry, the embarrassment of those whose beliefs had been so rudely shaken quickly turned to fury against the antipodean antichrist who had so desecrated their *sanctum sanctorum*. In no time at all, as one observer has recorded, there were many who seemed willing to tear Derek Freeman ‘limb from limb’.

Anyone who challenges the pronouncements of a Mother-Goddess is obviously of unsound mind. Thus, I was said to be ‘crazy’, to be ‘fueled by accumulated venom’, ‘to throw nothing but spit-balls’, to have sought to bribe Samoan academics, and — most imaginatively of all — to have ‘attacked a missionary with an axe’. The way of a heretic can be quite hilarious.

Things reached their apogee in November 1983 when, during the 82nd meeting of the American Anthropological Association in Chicago, a special session devoted to the evaluation of my refutation was held. It was attended by more than a thousand. The session began conventionally enough, but when the general discussion began, it degenerated into a delirium of vilification. One eye-witness has described it as ‘a sort of grotesque feeding frenzy’; another wrote to me saying: ‘I felt I was in a room with ... people ready to lynch you’.

What is more, at the annual meeting of the American Anthropological Association later that same day, a motion denouncing my refutation as ‘unscientific’ was moved, *put to the vote*, and passed!

That the members of a professional association could seek to dispose of a major scientific and scholarly issue in this undisguisedly political way, attempting to dismiss by a show of hands, a refutation based on a cogent array of factual evidence is a stunning instance of the untrammelled ascendancy of what Francis Bacon, in his *Novum Organum* of 1620, called 'the Idols of the Tribe'.

I now come to what was for me the most unexpected of denouements.

When I arrived back in American Samoa in 1987 I was introduced by Galea'i Poumele, the then Samoan Secretary of Samoan Affairs, to a dignified Samoan lady whom I had never previously met. During my previous visits to Manu'a she had been living in Hawaii where she had gone with her family in 1962. She was Fa'apua'a Fa'amu who, in 1926, had been Margaret Mead's closest Samoan friend. In 1987, at 86 years of age, she was still in full command of her mental faculties.

Samoans are much given to what has been called 'recreational lying', or *taufā'ase'e*. In O'Meara's words, 'all ages engage in it; people tell you stories, especially about sex, try to get you to believe in them, and then sort of chuckle inside'. Among Samoans it is 'one of their main forms of entertainment', and very much a part of Samoan culture.

Fa'apua'a's sworn testimony to Galea'i Poumele was that when Mead had insistently questioned herself and her friend Fofoa about Samoan sexual behaviour, they were embarrassed, and — *as a prank* — had told her the exact reverse of the truth.

In 1988, and again in 1993 (after I had found in the Library of Congress a number of letters, all of them in Samoan, that Fa'apua'a had written to Mead in 1926), Fa'apua'a's testimony was investigated in great detail by Dr Unasa L. Va'a (as he now is) of the National University of Samoa. In 1990, I obtained from the archives of the American Philosophical Society, in Philadelphia, copies of the personal correspondence of Franz Boas and Margaret Mead for the years 1925 and 1926. Then, in 1992, in Washington DC I was able to research all of Mead's Samoan papers in the Manuscript Room of the Library of Congress. From these and other primary source materials it has been possible to determine just what befell the 24-year-old Margaret Mead in Samoa in 1926. It is a revealing story.

When Margaret Mead was Boas's PhD student at Columbia her fervent desire was to do ethnological research in some untouched part of Polynesia. And so, when Boas imposed on her his quite different project in which she had no real interest, she at once entered into a private arrangement with the Bishop Museum of Honolulu to do in Samoa the kind of ethnological research on which her heart was set. This arrangement she kept entirely secret from Boas, her official supervisor, who had repeatedly instructed her to refrain from ethnological research while in Samoa. Immensely ambitious, she was defiantly burning her candle at both ends. It was to lead directly to her hoaxing by Fa'apua'a and Fofoa.

On New Year's Day 1926, the island on which Mead was working was stricken by a devastating hurricane, which, in Mead's words, 'razed 75% of the houses of Ta'u to the ground' and 'generally disorganized native society'. Largely because of this disruption, Mead persisted in her ethnological research for the Bishop Museum, postponing indefinitely any systematic investigation of the sexual behaviour of the adolescent girls she was supposed to be studying.

So it was, during the ides of March, while doing ethnology on the island of Ofu, and with her work on adolescents, through neglect, being in a state of acute crisis, that Mead, hoping to make up for lost time, began questioning her travelling companions Fa'apua'a and Fofoa (who were both 24 years of age) about the sexual behaviour of Samoan girls.

From Mead's diary and from Fa'apua'a's testimony we can date this questioning to 13 March 1926. What the embarrassed Fa'apua'a and Fofoa told Mead was the exact reverse of the truth, and we have the clearest possible evidence of this in a letter that Mead wrote to Boas the very next day. In it she tells Boas that in Samoa there is no 'curb' on sexual behaviour during adolescence, this being precisely the false information which, as a prank, had been communicated to her the previous day by Fa'apua'a and Fofoa. In fact, in Samoa in those days there was a virginity cult with ritual defloration at marriage. And so, Mead's letter to Boas of 14 March 1926 is, for the historian, 'a smoking gun', and proof positive that she had indeed been hoaxed.

A few days after her hoaxing Mead wrote to Boas again saying she was proposing to cut short her fieldwork by over a month. Her planned investigation of the sexual behaviour of the adolescent girls she was supposed to be studying was never undertaken. Instead, she relied on the totally false information with which she had been hoaxed.

And so, as David Williamson has me saying in his play: 'A whole view of the human species was constructed out of the innocent lies of two young women.'

We are here dealing with one of the most remarkable happenings in the intellectual history of the 20th century. Margaret Mead, the historical evidence demonstrates, was comprehensively hoaxed by her Samoan informants. Then in her turn, by convincing Franz Boas, Bronislaw Malinowski, Ruth Benedict and others of the 'genuineness' of her account of Samoa, she unwittingly misinformed and misled the entire anthropological establishment, as well as the intelligentsia at large, including such sharp-minded skeptics as Bertrand Russell and H.L. Mencken.

That a Polynesian prank should have produced such a result in centres of higher learning throughout the Western world is surpassingly comic. But behind the comedy there is a chastening reality. It is now apparent that for decade after decade in university and college lecture rooms throughout the Western world, students were misinformed about an issue of fundamental importance by professors, who, by placing credence in Mead's conclusion of 1928, had themselves become cognitively deluded.

All in all, it is one of the most momentous stories in the history of anthropology. It is told, in detail, in my forthcoming book *The Fateful Hoaxing of Margaret Mead: An Historical Analysis of Her Samoan Researches*, which is to be published later this year in the USA by Westview Press.

The aim of both Boas and Mead was to exclude biology — and particularly evolutionary biology — from the study of human behaviour. Although, as is now known, Mead's extreme conclusion in *Coming of Age in Samoa* was counterfeit and wholly misleading, it was enthusiastically accepted by Franz Boas. In 1934, when still Professor of Anthropology at Columbia University, Boas concluded in the *Encyclopedia of the Social Sciences* that 'the genetic elements which may determine personality' are 'altogether

irrelevant as compared with the powerful influence of the cultural environment'. It is this anti-evolutionary ideology that has dominated thinking in the social sciences for most of the 20th century.

We now know that Mead and Boas were massively mistaken. Boas died in 1942. By that time Oswald Avery and his colleagues were already actively exploring the characteristics of DNA, which had been discovered as long ago as 1869. Since the determination of the chemical structure of DNA by Crick and Watson in 1953, an event ranked by John Maynard Smith as 'the most important discovery in biology since Darwin', genetics and molecular biology have effloresced in the most prodigious way. 'We have witnessed,' in the words of Ernst Mayr, 'unprecedented breakthroughs in genetics, cellular biology and neuroscience ...'. Never before have there been such fundamental advances in our understanding of the mechanisms of life.

In a recent paper on 'The Human Genome' by Mandel, it is estimated that there are 'about 3,000 genetic diseases' known in humans, with many of them 'affecting brain function' or behaviour in some way. This makes nonsense of Boas's conclusion of 1934.

From the work on the human genome, as on the genomes of other forms of life, it has become apparent, as the great evolutionary biologist Dobzhansky once remarked, that we humans are 'kin to everything that lives'. A remarkable instance of this has recently come to light with the successful sequencing of the 6,000 or so genes of yeast — a unicellular fungus that is used in the baking and brewing industries. Howard Bussey of McGill University, who coordinated the sequencing of yeast chromosomes 1 and 16, was giving a seminar on his work when a distinguished colleague raised his hand. 'What,' he asked, 'is a muscle protein like myosin doing in yeast? Yeast doesn't move!' 'Myosin,' Howard Bussey explained, 'does the same job in yeast as it does in people. It binds with actin and other proteins that move things like mitochondria around in cells.' 'The contractile proteins, as in yeast,' Bussey went on, 'or, for that matter in tomatoes, are woven together in animals to form muscles.' Something to reflect on when next you have a tomato sandwich: we are indeed kin to everything that lives.

Simon Easteal, who heads the Human Genetics Group in the John Curtin School of Medical Research at The Australian National University, having established that there is only 1.6 per cent difference between human

nuclear DNA and that of chimpanzees, has, with his colleagues, concluded that humans diverged from chimpanzees only some 3.6 to 4 million years ago. Other geneticists suppose it to have been up to 5 million years ago.

We have, then, reached a juncture in human understanding when, as Daniel Dennett has recently put it: 'the fundamental core of contemporary Darwinism, the theory of DNA-based reproduction and evolution, is ... beyond dispute among scientists'.

We are, it is now utterly clear, the products of evolution. Or, to put it more dramatically, we are not fallen angels but risen apes. This key realisation changes all of our long-established assumptions about ourselves. In its light, human history, for the first time, becomes fully intelligible, and human behaviour understandable as never before. This radical transformation in human understanding — which has come to a peak in the late 1990s — I shall call 'the new evolutionary enlightenment'. And, I confidently predict that, because it is based on fully tested scientific knowledge, it will ultimately far outshine the enlightenment of the 18th century.

The fundamental advances of the last 40 years in genetics and molecular biology have been accompanied by comparable advances in primatology, human ethology and, in particular, in the neurosciences. On 17 July 1990, the President of the United States of America proclaimed the 1990s to be 'The Decade of the Brain'. It was ushered in by the publication of Paul MacLean's book *The Triune Brain in Evolution*, in which it is shown that the human brain contains three phylogenetically given formations, the reptilian, the palaeomammalian, and the neomammalian, which reflect an ancestral relationship to reptiles, early mammals and late mammals.

The principal feature of the palaeomammalian brain is the limbic system which is primarily concerned with visceral processes and the emotions. It is in this phylogenetically ancient part of our brains, which is virtually identical with the limbic systems of our primate cousins, the chimpanzees, and which evolved long before the emergence of cultural adaptations, that much of our human nature is physiologically programmed.

Thus, Joseph LeDoux and his colleagues have recently shown that the amygdala (which is part of what MacLean calls the limbic system) has to do, in all species that have an amygdala, with fear responses. 'The remarkable fact,' states LeDoux, 'is that at the level of behavior, defence against danger, is achieved in many different ways in different species, yet the amygdala's role is constant, and has been maintained through diverse

branches of evolutionary development.’ The amygdala then is one of the ‘emotion systems’ of the human brain, each of which, as LeDoux puts it, ‘evolved for a different functional purpose and each of which gives rise to different kinds of emotions’. Further, ‘these systems operate outside of consciousness and constitute the emotional unconscious’.

The amygdala in *Homo sapiens* is thus in no sense the product of recent social or cultural conditioning. These findings make arcane nonsense of the claim of Clifford Geertz, following Boas and Mead, that ‘our emotions ... like our nervous system itself’ are ‘cultural products’. Rather, as Roger Shepard notes in his contribution to the recently published *Characterizing Human Psychological Adaptations*, certain elements of human cognition and behaviour are phylogenetically given. As W.D. Hamilton has precisely put it, ‘the *tabula* of human nature was never *rasa* and is now being read’.

Even more significant are the frontal lobes of our brains, often described as ‘the neocortex of the limbic system’, which are the seat of consciousness and, most importantly, of the human capacity to make choices. This capacity, as the researches of J.Z. Young, John Tyler Bonner, Antonio Damasio and others have demonstrated, is *biologically* given. Thus, as Richard Passingham, one of the foremost researchers in this field, has put it: ‘Human beings are capable of voluntary action in the most restrictive sense; that is, voluntary action involving the conscious comparison of alternative courses of action.’

The human capacity to make choices, from which both art and science spring, is then biologically given. And further, in the light of modern research, it is evident that the two main mechanisms that have operated in the course of human evolution and history are the related mechanisms of natural selection and choice, for it was natural selection that produced the brain in the frontal lobes of which the capacity to make choices is located.

Our biologically given capacity for choice is then of enormous human significance. For one thing, it means that, by our very nature, we are inescapably ethical animals, for we have in the frontal lobes of our brains a mechanism for either good or evil.

Further, as R.J. Rose has recently put it: ‘We inherit dispositions not destinies. Life outcomes are consequences of lifetimes of behavior choices. The choices are guided by our dispositional tendencies, and the tendencies find expression within environmental opportunities that we actively create.’ Thus, as McGue and Bouchard have remarked: ‘The heritability

of psychological function does not imply the genetic determination of human behavior.' Indeed, there are good grounds for renaming our species *Homo elegans* — the choosing primate.

In 1965, Clifford Geertz defiantly declared: 'there is no such thing as human nature independent of culture'. This is most certainly true. What can be said at the end of the 20th century is that it is equally true that 'there is no such thing as culture independent of human nature'.

It was Margaret Mead's view that anthropology will evolve into 'an increasingly exact science'. It is now evident that the way in which this is likely to be achieved is by the emergence of a new anthropological paradigm in which full recognition is given to both biological and cultural variables, and to their complex interaction.

As long ago as 1987, in an editorial in *Science*, Daniel Koshland declared: 'the debate on nature and nurture in regard to behavior is basically over. Both are involved, and we are going to have to live with the complexity.' This is unquestionably the case, and at the end of the 20th century it is crystal clear that anthropology, of necessity, must operate within an interactionist paradigm. And this, ineluctably, involves the abandonment of Boasian culturalism, which is now a completely superseded belief system. In adolescent, as in *all* human behaviour, *both* 'physiological conditions' and 'cultural conditions' (to use Boas's terms) are always involved, in varying degree: it is *never* 'nature or nurture' but always 'nature and nurture'.

The time is thus conspicuously at hand for an anthropological paradigm that gives full recognition to the radical importance of both biological and cultural variables, and of their past and ongoing interaction. To enact this — as I say in the Afterword to *The Fateful Hoaxing of Margaret Mead* — is the principal task of the anthropology of the 21st century.

In the *New Zealand Free Lance* of 12 January 1938, there was a full page of photographs on a 'Climbing Tragedy in the Southern Alps'. It recorded how Norman Dowling, aged 26, of Wellington had slipped on a precipitous slope of Mr Evans and fallen to his death, dragging his two companions with him. Aged 21, I was one of those companions. If I had been killed, it is unlikely in the extreme that the Mead myth about Samoa would ever have been exposed. Such are the vicissitudes of human history.

In the 1938 issue of *Spike*, the literary journal of Victoria University College, there is a poem of mine: 'for a friend killed on Mt Evans'. It contains two lines that will serve as an epitaph for all headstrong and dogged heretics. With these lines then — of 60 years ago — I end this wittingly nostalgic lecture:

*Grant vision's end, to apprehend
All substance and illusion.*

E fili e le tai aga a le va'a
The qualities of a canoe are tested in deep waters
(Samoan proverb)

This text is taken from *Dilthey's Dream: Essays on human nature and culture*, by Derek Freeman, published 2017 by ANU Press, The Australian National University, Canberra, Australia.