

has so beautifully written, the infinite and the impossible, the innocent and the profane, the sacred and the sordid, all of which represent unique dreams of the earth.

During the Renaissance and well into the Enlightenment, in our quest for personal freedom, we in the European tradition liberated the human mind from the tyranny of absolute faith, even as we freed the individual from the collective, which was the sociological equivalent of splitting the atom. And, in doing so, we also abandoned many of our intuitions for myth, magic, mysticism, and, perhaps most importantly, metaphor. The universe, declared René Descartes in the seventeenth century, was composed only of "mind and mechanism." With a single phrase, all sentient creatures aside from human beings were devitalized, as was the earth itself. "Science," as Saul Bellow wrote, "made a housecleaning of belief." Phenomena that could not be positively observed and measured could not exist. By the nineteenth century the positivist tradition defined even the study of society, with the invention of the social sciences, an oxymoronic turn of phrase if ever there was one. The triumph of secular materialism became the conceit of modernity. The notion that land could have anima, that the flight of a hawk might have meaning, that beliefs of the spirit could have true resonance, was ridiculed, dismissed as ridiculous.

For several centuries the rational mind has been ascendant, even though science, its finest expression, can still in all its brilliance only answer the question *how*, but never come close to addressing the ultimate

question: *why*. The inherent limitation of the scientific model has long provoked a certain existential dilemma, familiar to many of us taught since childhood that the universe can only be understood as the random action of minute atomic particles spinning and interacting in space. But more significantly, the reduction of the world to a mechanism, with nature but an obstacle to overcome, a resource to be exploited, has in good measure determined the manner in which our cultural tradition has blindly interacted with the living planet.

As a young man I was raised on the coast of British Columbia to believe that the rainforests existed to be cut. This was the essence of the ideology of scientific forestry that I studied in school and practised in the woods as a logger. The rotation cycle — the rate at which forests were to be felled across the province, and thus the foundation of sustained yield forestry — was based on the assumption that all of the old growth would be cut and replaced with tree farms. The very language of the academic discipline of forestry was disingenuous, as if conceived to mislead. The "annual allowable cut" was not a limit never to be exceeded but a quota to be met. The "fall-down effect," the planned decline in timber production as the old growth was depleted, was promoted as if it were a natural phenomenon when it was, as everyone in the logging camps acknowledged, a stunning admission that the forests had been drastically overcut every year since modern forestry was implemented in the 1940s. "Multiple-use forestry," which implied that forests

were to be managed for a variety of purposes, began with a clear-cut. Old growth was harvested, though it was never planted and no one expected it to grow back. Ancient forests were described as "decadent" and "over-mature" when by any ecological definition they were at their richest and most biologically diverse stage. The intrinsic value of these rare and remarkable rainforests, like the inherent worth of the mountains and meadows of the Sacred Headwaters, had no place in the calculus of the planning process.

This cultural perspective was profoundly different from that of the First Nations, those living on Vancouver Island at the time of European contact, and those still there. If I was sent into the forest to cut it down, a Kwakwaka'wakw youth of similar age was traditionally dispatched during his Hamatsa initiation into those same forests to confront Huxwhukw and the Crooked Beak of Heaven, cannibal spirits living at the north end of the world, all with the goal of returning triumphant to the potlatch that his individual spiritual discipline and fortitude might revitalize his entire people with the energy of the wild. The point is not to ask or suggest which perspective is right or wrong. Is the forest mere cellulose and board feet? Was it truly the domain of the spirits? Is a mountain a sacred place? Does a river really follow the ancestral path of an anaconda? Who is to say? Ultimately these are not the important questions.

What matters is the potency of a belief, the manner in which a conviction plays out in the day-to-day lives of

a people, for in a very real sense this determines the ecological footprint of a culture, the impact that any society has on its environment. A child raised to believe that a mountain is the abode of a protective spirit will be a profoundly different human being from a youth brought up to believe that a mountain is an inert mass of rock ready to be mined. A Kwakwaka'wakw boy raised to revere the coastal forests as the realm of the divine will be a different person from a Canadian child taught to believe that such forests are destined to be logged. The full measure of a culture embraces both the actions of a people and the quality of their aspirations, the nature of the metaphors that propel them onward.

Herein, perhaps, lies the essence of the relationship between many indigenous peoples and the natural world. Life in the malarial swamps of New Guinea, the chill winds of Tibet, the white heat of the Sahara, leaves little room for sentiment. Nostalgia is not a trait commonly associated with the Inuit. Nomadic hunters and gatherers in Borneo have no conscious sense of stewardship for mountain forests that they lack the technical capacity to destroy. What these cultures have done, however, is to forge through time and ritual a relationship to the earth that is based not only on deep attachment to the land but also on far more subtle intuition — the idea that the land itself is breathed into being by human consciousness. Mountains, rivers, and forests are not perceived as being inanimate, as mere props on a stage upon which the human drama unfolds. For these societies, the land is

alive, a dynamic force to be embraced and transformed by the human imagination. This sense of belonging and connection is nowhere more perfectly elaborated than along the spine of the Andean Cordillera of South America and in the heights of the Sierra Nevada de Santa Marta, an isolated massif that soars to about 6,000 metres above the Caribbean coastal plain of Colombia. And it finds perhaps its most abstract and consequential expression in the exquisitely subtle philosophy of the Aboriginal peoples of Australia. These are the places I would like to explore in this lecture.

I FIRST TRAVELLED SOUTH through the Andes in the spring of 1974, when as a young student I was fortunate to join a botanical expedition charged with the task of unravelling the mysteries of a plant known to the Inca as the Divine Leaf of Immortality – coca, the notorious source of cocaine. It was a remarkable assignment. Cocaine, first isolated from the leaf in 1855, had revolutionized modern medicine, particularly ophthalmology, by allowing for the painless removal of cataracts. It remains our most powerful topical anaesthetic. The essences of the leaves still contribute to the flavour of one of the world's most popular drinks: coca makes Coca-Cola "the real thing." The soft drink company in turn provides the pharmaceutical industry with all the legal cocaine employed today by the medical profession.

By the mid-1970s the Latin American cartels were emerging, though no one knew quite how, and no one

realized how sordid and murderous they would become. The illicit trade, such as it was, still lay in the hands of the independent drifter. Efforts to eradicate the traditional fields had been underway for half a century, but these misguided purges had nothing to do with cocaine and everything to do with the cultural identity of those who revered the plant. Physicians in Lima, in particular, whose concern for the indigenous peoples of the Andes was matched in its intensity only by their ignorance of Indian life, glanced up to the Sierra in the 1920s and saw dreadful poverty, poor sanitation and nutrition, high rates of illiteracy, infant mortality, and disease. They sought an explanation. The real issues of land distribution, economic exploitation, and the persistence of debt peonage challenged the foundations of their own class structure, so they settled upon coca as the culprit. Every conceivable social ill and pathology was blamed on the plant. The eradication of the traditional fields became a state priority, and with the intervention of the United Nations in the late 1940s, international policy.

Remarkably, despite this public concern and hysteria, in 1974 little was known scientifically about the plant. The botanical origins of the domesticated species, the chemistry of the leaf, the pharmacology of coca chewing, the plant's role in nutrition, the geographical range of the cultivated varieties, the relationship between the wild and cultivated species — all these remained mysteries. It was widely acknowledged, of course, that coca was revered in the Andes as no other plant. In the time of the