

WISDOM OF THE ELDERS

...”Knowledge of ancient people versus modern man”

Discussion Paper
Lecture for dr. **Hans ADAM**

Philosophies and Natural Sciences

Handed in by

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Mauritanian woodworker smoking traditional pipe, R'geuiba village Parc National du Banc d'Arguin



Young Tuareg girl
Aïr, Ténéré Niger



Young Afari girl in traditional garb;
Awash, Ethiopia.

Introduction

David Suzuki, Ph.D., is a professor of zoology at the University of British Columbia in Vancouver, Canada; he is an environmentalist and broadcaster and had received numerous prizes for his contribution to science and conservation of the earth.

Peter Knudtson is a Vancouver-based writer specializing in Natural history, Science, ecology, animal behavior, he has a masters degree in biology from California State University, BA in premedical in zoology from the University of California, Riverside, and he studied at UC Berkeley's Graduate School of Journalism.

David Suzuki speaking in front of the Australian Museum Society:

Science is a very competitive activity, and we judge our fellow scientists by the papers they publish. And if you stop publishing you are very quickly written off by your peer group. We say "oh yeah, she's over the hill, or he's gone senile, he's passed it." And that's why even today all across this country and Canada you see all these old farts in the lab who have not had an original thought in years, but who are still doing their experiments 'cause they wanna keep publishing, they don't wanna be written off. There are though, many scientists who achieve all of the honors and the recognition, the Nobel prizes and the awards, who can afford then to sit back and say: "... you know, I'd like to look at the bigger picture.... like, how did we get here, where are we going, what's it all about?" And often they are written off as senile, but if you read what they are writing at that point, you find some very interesting things. When Peter and I chose the title "Wisdom of the Elders", we were not just talking about the elders in the aboriginal world, we were talking about scientific elders, whose words as elders are too often discarded or ignored. So here is one. Here is an elder that I think is pretty hard to write him off as a light weight. His name is Albert Einstein. He said: " one cannot but be in all. When one contemplates the mysteries of eternity, of life, of the marvelous structure of reality, it is enough if one tries to merely comprehend a little of this mystery each day, never loose a holy curiosity...."

Now those are remarkable words coming from a scientist, all, mystery, holy.... those are words we typically say, well that's religion, that has nothing to do with science. And one day Einstein was asked by a very good friend:

"Do you believe that absolutely everything can be expressed scientifically?" Now remember that's what I was taught - and certainly early in my career, that's what I believed. Give us up grant money and time and we'll answer anything you wanna ask. So when Einstein was asked, can everything be explained scientifically, his answer was Yes, it would be possible, but it would make no sense, it would be description without meaning, as if you would describe Beethoven's symphony as a variation of wave pressure. And of course he is absolutely right. You see, a physicist could describe a Beethoven symphony very precisely as the sequence of wave pressure striking your ear, but he would absolutely miss the spiritual sense that makes that symphony of any meaning to you.

And I find that among my colleagues in genetics, those who now have seen the human genome project - the project to decipher the 3 billion letters in a human cell - the genetic blueprint of human kind, who think that within that blueprint then resides a complete understanding of what it is to be a human being, they have lost the essence of what Einstein was saying. You simply can't have that kind of description without the spiritual sense that goes with what a human being is.



New World on behalf of their monarchs.

Suzuki experiences with aboriginal peoples have convinced him, both as a scientists and as an environmentalists, of the power and relevance of their knowledge and worldview in a time of imminent global ecocatastrophe. This is how the germ of *Wisdom of the Elders* formed in his mind.

The book became possible when Peter Knudtson expressed similar concerns and hopes. Their shared perceptions and fundamental belief in validity and power of aboriginal notions of the sacredness of Nature have produced this book. Centuries before the age of discovery, colonization and technological expansion, the native populations of North America lived in peace and harmony with the natural world around them.

This book makes a recollection of the sacred wisdom of the Sioux, Pueblo, Hopi, Navajo, and other native peoples around the world to show how we can create our own “sacred” ecology.

It also provides insights for saving our planet and what science is all about in the native world and in the Western societies. The author begins with a recollection of actual technological events and he looks at the outcome of them with great criticisms. Then he compares them with the world of the indigenous people so that the reader can begin to appreciate and give credit to the “first people.”

In spite of impressive developments in space travel, nuclear power, telecommunications, genetic engineering, and computers, life has improved significantly only for a small – diminishing-proportion of the world’s population. Even among this privileged minority- the 20 percent of humankind who live in the industrialized nations- immense problems of economic disparity, malnutrition, prejudice, alienation, violence, poverty, and drug abuse have increased rather than diminished. But the rapid and catastrophic degradation of the planetary biosphere has been the main catalyst of a radical reassessment of the power and limits of scientific insight and application.



The clashes of two cultures – the European invasion of the Americas

The warnings are everywhere: in the acid-induced mortality of deciduous forests in Germany, Quebec, and the American Midwest; in the sudden and mysterious death of thousands of seals in the North Sea; and in the carcasses of beluga whales in the St. Lawrence River, which are so heavily loaded of chemicals that they must be treated as toxic waste.

Even weather and climate appear to be changing while water tables are plummeting, deserts are expanding, forests are disappearing, and 25 billion tons of agricultural topsoil are blowing away annually (Suzuki, 1993). Once-abundant stocks of cod, herring, and salmon are vanishing with frightening speed. These signs should be taken as global analogues of the canaries that coal miners once took into the pits with them to warn of poisoned air - except now, they indicate trouble on the entire biosphere of the planet. Too often, most of us assume that “they” - the scientists and engineers - will do something to pull us through. But we are walking to the dangers of clinging to a faith that sciences and technology can forever resolve the problems they created in the first place. The power of scientific insight is undeniable, but its consequences are wider than we can ever foresee.

For example pesticides: Powerful chemicals such as DDT are relatively selective in that insects are more sensitive to it than other animals. And while geneticists could have predicted that over time any pesticide would be rendered less effective by selection of mutations to resistance, target pests such as malaria-carrying mosquitoes were dramatically destroyed at first. Yet no one predicted before the extensive use of DDT that pesticides are biomagnified up in the food chain to concentrations at hundreds of thousands of times their original levels. The reason is that biomagnification was only discovered when a high incidence of sterility in birds was traced back to pesticides. Therefore, Suzuki concludes that we know so little about the biological and physical properties of the planet that we cannot predict the long-term impact of our quickly evolving technology.

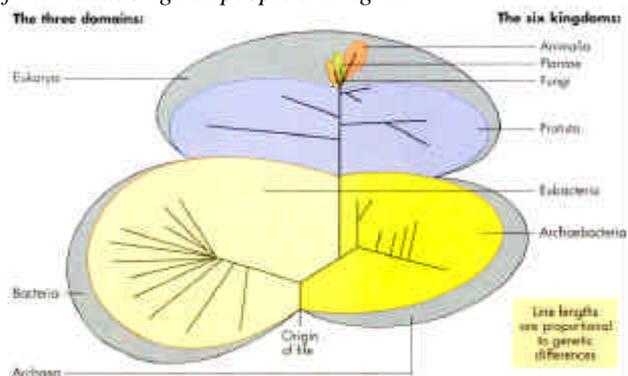
Our world is being radically transformed by our “muscular” technologies. But if we cannot predict the global ecological effects of our activities, how can we control or manage them? We cannot, and increasingly, some of the leading scientific thinkers who are trying to find solutions to the ecocrisis are using terms hitherto considered inappropriate in science.

Thus Harvard biologist E.O. Wilson proposes that we foster biophilia, a love of life. We must rediscover our kin, the other animals and plants with whom we share this planet. We are related to them through our DNA and evolution. To know our kin is to come to love and cherish them. Stanford university ecologist Paul Ehrlich goes even a step further and suggests that the answer to the global difficulties should be “quasi-religious.” He believes that our main dilemma is not a lack of information or technological capability. Rather, our problems is inherent in the way we perceive our relationship with the rest of Nature and our role in the grand scheme of things. Both of these eminent scientists emphasize that science alone is not enough to solve the planetary environmental crisis and that we must re-create for ourselves a sense of place within the biosphere that is steeped in humility and reverence for all other life.

David Suzuki speaking in front of the Australian Museum Society - Is man better than an animal?

.... the attitude within the dominant society, if I were to say to one of you, I watched you last night at the party, and boy you sure acted like an animal! That's an insult, because we believe that we are superior to animals. If I call someone a chicken, or if I say someone eats like a pig, or as stubborn as a mule, or as dumb as an ox, or I made an ape out of someone - we use these terms as terms of denigration, as put downs of the animal world, because we really believe that we are separate and better than them. But you know something, scientists.... scientists who are the “ultimate reductionists” are finding evidence of our incredible connections. When they begin to explore the world of DNA (the genetic material) and compare the DNA of human beings with the DNA of other life forms, they find that aboriginal people are right!

If we compare a human DNA with the DNA of the great apes, the gorillas, the orangutans, and chimpanzees, 98% of our DNA is identical. They are our closest relatives. And if you compare our DNA with the DNA of a snake, of an insect, of a fish, or of a bird, or a tree, vast tracks of our DNA are still identical. We are all related, because we are all descendents from one original cell some 3 and a half billion years ago (according to the snowball-theory, only some 550 million years). And if you begin to recognize that other species are our relatives, our kin, than as Willson and Ehrlich point out, surely the goodness, we would treat them with greater respect and care than if we simply look at them as commodities or resources.



Based on the sequences of rRNA genes, living things fall into three domains (Bacteria, Archaea, and Eukarya). The fungi, plants, and animals in this scan are just tiny branches



Nomads, father with his son on horseback
Daurian steppe Mongolia

Sacred Connections to the Land

Native Identity and the land: Haida, Nisga'a and Nlaka'a'pamux

Canada's westernmost archipelago, off the tip of the Alaska panhandle, is the home of the Haida people, who know the islands as Haida Gwaii. Haida Gwaii has been home to its aboriginal inhabitants since the beginning of time.

The land and all the creatures that inhabit it represent their history, their culture, their meaning, their very identity. Without them, the Haida are no longer Haida. The Haida refer to whales and ravens as their “brothers” and “sisters” and to fish and trees as the “finned” and “tree people”. Is not this just a different way of expressing E. O. Wilson's sense of the kinship with all other life-forms that results from our common evolutionary history?

At a meeting with the non-Haida citizens of Sandspit, the forest industry town in Haida Gwaii, loggers insisted on their legitimate right to jobs and to their way of life on the islands. Finally, a Haida elder rose and said, “most of you have lived here for only five or ten years.

Our people have been here for thousands of years. How many graves of your people are there in Sandspit?" After a stunned silence, the answer came back: "none", the elder continued, "there are Haida graves throughout the islands, and that makes the land sacred to us. This is where we belong". The Haida has a profound sensitivity to human interconnection with all life on their homeland, they can give to the world an alternative to Western culture's narcissism coupled with an ecologically destructive worldview. The Haida believe that a common sustainable future based on Haida respect for the land and its plants and animals is possible for all people.

When Suzuki met James Gosnell, the great chief of the Nisga'a, the people on the mainland East of Haida Gwaii, James once told him of his first encounter with clear-cut logging on his land, He had been walking through the forest, and he suddenly came to a vast cleared area... "I could not breathe", he told him, "It was as if the land had been skinned of life, I could not believe that anyone would deliberately do that to the earth".

He was expressing that sense that her people's identity was based on the land, the trees, and the whole of the life within it.

In reference to our own cultural heritage, to our religious traditions, a young Lytton Indian described the Stein Valley as his cathedral, a spiritual place where he could go and feel the pressures of modern life fall away as he regained a sense of peace, and oneness with Nature and a reconnection with the past.

The Potlatch: Possessions and Sharing

In the dominant culture of the West, we regard property, ownership, possessions, and wealth as natural goals and rights of all citizens. But Suzuki encountered a very different attitude at a potlatch of the Hieiltsuk people in Bella Bella. There it was obvious why Europeans were horrified by this ritual. Prestige and honor among British Columbia's coastal Indians come not from accumulation of wealth but from giving it away, from sharing with the community. During the nightlong potlatch celebration, guests shared food, dance, song, and speeches and were given gifts for participating in and witnessing the event. To a British Columbian coastal Native, the right to give a potlatch is a privilege that must be earned; it brings recognition that is never forgotten. To those for whom possessions and wealth are the very definition of status and importance, the potlatch would be incompressible. At James Gosnell's Settlement Feast, members of the very poor community gave over seventy thousand dollars to honor James and to settle obligations. Then within an hour, the entire amount was redistributed within the community.

Native customs are evidence of an astute understanding of the psychology of human interactions. Yet aboriginal peoples around the world are in the final stages of an assault by conquerors who are intent on exploiting their land and resource base. Of course, the history of our species is one of conquest and takeovers of territories. But like the current spasm of species extinction, the destruction of indigenous people is now occurring with frightening speed. Once these people have disappeared, their body of priceless thought and knowledge, painstakingly acquired over thousands of years, will disappear forever. And like a species that has lost its habitat and survives only in zoos, indigenous people who have lost their land and eke out a living in tiny reserves or urban slums lose their uniqueness and identity.

Native Knowledge and Preservation of nature: Innu



"Modern" Innu People

In government and business, departments and ministries of forests, fisheries, oceans, and atmosphere are driven by human priorities, not by concern for trees, animals, water, air, or soil. No representatives speak on behalf of the animate and inanimate parts of our environment. Many environmentalists are reluctant to allow indigenous people, whose cultures are built around the use of animals and plants, to exploit the land that has always belonged to them. Aboriginal peoples' relationship with other life-forms comes from a deep respect that is ultimately self-interested.

From this attitude of respect, gratitude, and humility, aboriginal people have acquired an understanding of their relatives that is far more extensive than the uni-dimensional kind of information that is gleaned by scientists.

In Labrador, the Innu - nomadic hunter-gatherers who depend on caribou for their way of life-are now threatened by NATO jets practicing low-level training flights over the landscape. Suzuki can attest from personal experience that the sonic booms shock the system; his heartbeat skyrocketed, and he trembled for several minutes after experiencing them. The Innu find the flights profoundly upsetting and say animals are affected adversely as well. Furthermore, chemical emissions from the afterburners are building up in the soil and water. The Innu have lived in this unforgiving land for thousands of years and have accumulated a vast lore about the animals and plants upon which they depend not only for food but for medicines and raw materials for clothing and shelter. They know the land intimately.

When the author talked to the caribou "expert" in Labrador, Suzuki found that his technical knowledge was limited and fragmented. He was reminded of a visit he made to the World Wildlife Fund research station near Manaus in the Amazon rain forest. Three scientists, frog experts, were there at the time, and their knowledge of their subject was impressive. One of them took us on a night hike and in pitch dark; he could find frogs that were barely 1cm long. But when Suzuki asked about a bird we scared up and a strangler plant on a tree, he shrugged his shoulders, "Don't ask me, I am a herpetologists," he said. Yet whenever he asked the Kayapò Indians on the Xingù River in Brazil about an insect, plant, or bird, they always knew it by name and could relate an anecdote about it. Scientific expertise is so narrowly focused and specialized that it can barely comprehend the dimensions and the interconnectedness of life.

The Kayapo Indians live in the Amazon River Basin of Brazil



For example, the Kung people. *The Kung people* have the ability to read game trails. They can see clues that are completely invisible to me and can estimate the freshness of a trail and identify the species, sex and size of the animal that left it. Their pharmacological knowledge is also remarkable.

They know how to find water in the middle of the desert and where to dig for truffles. They are superbly adapted to survive in an environment that would have finished me off in days and they did it with a lot of time left for rest and recreation.

These practices of good conservation and sustainable harvesting are at the heart of their traditions. “The river is like our refrigerator that keeps fresh meat”, they say, and “the forest is like our drug store that has our medicines. It is like a supermarket with all of the food and the things we need. Why would we poison our water or clear the forest?”

As the author’s understanding of indigenous people’s deep attachment to place has grown, he is impelled to support many groups seeking allies to protect their land. If biodiversity and ecosystem integrity are critical to salvaging some of the skin of life on earth, then every successful fight to protect the land of indigenous peoples is a victory for all of humanity and other living things. More and more people from dominant western cultures are recognizing this and forming alliances with indigenous peoples. One of them is a remarkable Swiss shepherd named Bruno Manser, who sought out the nomadic Penan of Sarawak in Malaysia and lived with them for seven years. Manser has described their gentle ways and their deep pleasures in daily life. The Penan live totally on the productive capacity of the forest and express a profound understanding of its plants and animals.

Visions of the Natural world

Such tales are mere droplets in the vast global reservoir of traditional indigenous knowledge about the natural world. However fragmentary, they reveal a profound understanding, often ingeniously encoded in symbolic systems, of the underlying interconnectedness of the universe- a perspective, increasingly echoed by modern science, that is exceedingly relevant to our times. They remind us, however metaphorically, of the shared origins of all forms of life, the ecological integrity of natural systems, and the ancient bonds of kinship between human beings and other species. They underscore the fundamental relationship between life and land. They illuminate the cyclic temporal processes of nature, the role of ordinary human beings in maintaining its precarious balances, and the prospect of sinister, long-term consequences in the wake of human greed, hubris, and neglect.

The book *Wisdom of the elders* is an exploration of the often striking parallels between traditional Native ecological perspectives and Western scientific ones, particularly in modern biology. As biologists, one specializing in animal behavior and the other in genetics, the authors have found ourselves increasingly intrigued in recent years by the shared truths, as well as the undeniable differences, in these two distinct, yet often strikingly complementary ways of knowing about the natural world.

We believe that it is time, at long last, for modern, science driven industrial societies to begin to grant traditional native nature-wisdom and the long-suffering “First Peoples” of the world. who are its guardians and rightful heirs the respect they have always deserved.

But beyond the boundaries of a number of bold Native communities, who will publicly bear witness to the more tragic dimensions of this collision of Old World and New that was heralded by Columbus’s first voyage? Who will pay appropriate respect to Native memories of the past several centuries of oppression-the murderous violence, rapes, and military assaults; the catastrophic epidemics of deadly introduced diseases; the epochs of brutal

slavery and forced labor; the fierce religious persecution; the state-sanctioned erosion of sacred traditional landholdings; and the relentless political and economic exploitation at the hands of a succession of foreigners? And who will pause to pay tribute to the impressive precontact intellectual, spiritual, and social achievements of First peoples in the Americas and elsewhere and openly acknowledge that some of the recent arrivals have attempted to raze this precious legacy from the face of the earth?

The tragic story of the relationships between Native and non-Native peoples over the past five hundred years (not just in the Western Hemisphere but all around the world) is a poignant and unfinished story. In this century alone, for example, approximately 90 of Brazil's 270 Indian tribes, along with their precious legacies of languages and traditional knowledge, have been utterly erased from the face of the earth.

Nonetheless, it is crucial to understand that the recent political and cultural domination of Native communities around the world by foreign influences have contributed to an exaggerated devaluation of Native thought, including traditional Native ecological insights. As a result, Native views of nature have too often been unjustly denigrated as somehow inherently simple, primitive, or naive; reflective of an earlier and therefore inferior stage in human cultural progress; and beyond this, however poetic or endearing, as completely irrelevant to our sophisticated modern needs and times.

We must reevaluate the relevance of indigenous knowledge to our spiritually and environmentally turbulent modern lives, and, in recognizing its intrinsic value, take immediate actions to honor and protect Native cultures around the world.

And unlike Columbus, we embark on this uncertain voyage in a spirit of respect for aboriginal worldviews and gratitude for the compassion and the contemplations of generations of Native peoples who have long lived intimately immersed in nature.

Who are the first Peoples of the World?

On this voyage, we will encounter a variegated global tapestry of Native cultures and populations that can be called "First Peoples." Indigenous peoples themselves generally know very well who they are, even if time and disruptive political policies have sometimes blurred traditional group names, linguistic divisions, and geographic boundaries.

Indigenous peoples are generally viewed as the descendants of the original inhabitants of a given geographic territory that may have been subsequently taken over (militarily, politically, or simply through settlement) by outsiders. Consequently, they are usually seen as historically, politically, and culturally dominated—although not necessarily conquered peoples (some aboriginal populations have survived by simply sidestepping, in some fashion, destructive foreign impacts). In much of the Indian subcontinent, for example, as well as in other areas of Asia, time has clouded a particular tribal group's clear claims to antecedence as a first people. In Africa, North- and Latin America, and elsewhere, massive domination by European colonial powers has not only imposed arbitrary political boundaries upon traditional aboriginal territories but has drastically altered the composition of precontact aboriginal populations.

Finally, indigenous peoples are generally considered to possess distinctive cultures— in which, at least traditionally, they have a profound and deeply rooted sense of place and relationship with the entirety of the natural world. In spite of their cultural diversity, is bound together in part by an assortment of shared primary ecological perspectives and themes.

Native and Scientific Ways of Knowing about Nature

The native mind:

This aboriginal vision of the natural world, in its various incarnations and with constant modification, helped *Homo sapiens* navigate through countless crucial cultural transitions, ranging from the domestication of animals and early agriculture to the margins of modern industrialization.

The scientific mind: Is, in comparison, a relative upstart. Its roots are for the most part in the much shallower soils of seventeenth-century European Christianity and natural philosophy, although some of its ideas descend into the deeper tilts of ancient Judeo-Christian and Greek thought. Despite the profound differences in the sensibilities and separate historical lineages of these two modes of thinking, argues Lèvi-Strauss, both are alive and neither is inherently superior or inferior to the other.

Traditional Native knowledge about the natural world is often extremely sophisticated and of considerable practical value. Prescientific aboriginal systems for identifying, naming and classifying soils, plants, insects, and other elements of local environments and deriving medical and economic benefit from them are perhaps the most powerful illustration of this. In the rainforests of the Philippines, for instance, the Hanunoo people know how to distinguish sixteen hundred different plant species for their fruits alone, and hundreds more for their roots, nuts, and other edible parts. Traditional Bolivian healers use some six hundred different medicinal herbs, and their counterparts in Southeast Asia may use up to 6,500 kinds of plants for their medical concoctions. In addition, more than seventy-five percent of the 121 prescription drugs used around the world that are derived from plants are said to have been discovered on the basis of initial clues found in traditional indigenous medical practices.

David Suzuki speaking in front of the Australian Museum Society:

....Kate Lucky, a Vintu-indian, now Californian territory, speaking about the difference of white people and Indians.... and I must say that this could just as easily have been the difference between yellow people and Indians; because certainly in the last two decades, yellow people (Chinese, Japanese, Taiwanese, Koreans) have been some of the most destructive people on this planet. David Suzuki:

Kate: when the Indians all die, then god will let the water come down from the north, everyone will drown; that is because the white people never cared for the land or deer or bear.

When we Indians kill meat, we eat it all up. When we dig roots, we make little holes. When we "burn" the grass for grasshoppers, we don't ruin things, we shake down achorns and pinenuts(?); we don't chop down the tree; we only use dead wood. But the white people plough up the ground, pull out the trees, kill everything..... the Indians don't hurt anything but the white people destroy all, they blast rocks and scutter them on the ground; the rock says don't, you are hurting me, but the white people pay no attention. When the Indians use rocks, the take little round ones for their cookings, the white people dig deep long tunnels, they make roads, they dig as much as they wish, they don't care how much the ground cries out. How can the spirit of the land like the white man? That is why god will destroy or upset the world; because it is soar all over. Everywhere, where the white man has touched it is soar, aboriginal people have lived on their land for 10s of thousands of years..... we desperately need to learn those lessons from them if we are to come with some kind of balance with the world, to leave something for future generations.

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