

## ENCUENTROS



# *The Light at the Edge of the World*

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Lecture by

**Wade Davis**

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The Cultural Center of the Inter-American Development Bank, an international financial organization, was created in May 1992 at the Bank's headquarters in Washington, D.C., as a gallery for exhibitions and a permanent forum from which to showcase outstanding expressions of the artistic and intellectual life of the Bank's member countries in North, Central and South America, the Caribbean region, Western Europe, Israel and Japan. Through the IDB Cultural Center, the Bank contributes to the understanding of cultural expression as an integral element of the economic and social development of its member countries.

The IDB Cultural Center *Exhibitions* and the *Concerts and Lectures Series* stimulate dialogue and a greater knowledge of the culture of the Americas. The *Cultural Development in the Field Program* funds projects in the fields of youth cultural development, institutional support, restoration and conservation of cultural patrimony, and the preservation of cultural traditions. The *IDB Art Collection*, gathered over several decades, is managed by the Cultural Center and reflects the relevance and importance the Bank has achieved after four decades as the leading financial institution concerned with the development of Latin America and the Caribbean.

## THE LIGHT AT THE EDGE OF THE WORLD

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*Wade Davis*

One of the intense pleasures of travel is the opportunity to live amongst those who have not forgotten the old ways, who still feel their past in the wind, touch it in stones polished by rain, and taste it in the bitter leaves of plants. To know that jaguar shamans still journey beyond the Milky Way, or that the myths of the Inuit elders still resonate with meaning, is to remember a central revelation of anthropology: that the world in which we live does not exist in some absolute sense, but is just one model of reality, the consequence of a set of intellectual choices that our lineage made, albeit successfully, many generations ago. Whether it's the Penan in the forests of Sarawak and Borneo, or the voodoo acolytes in Haiti, or the yak herders on the flanks of Qomolangma, the goddess mother of the world, all of these people and cultures teach us there are other ways of being, other ways of thinking, other relationships with the spirit realm itself. This idea can only fill you with hope.

Together these cultures make up an intellectual and spiritual web of life, an ethnosphere, if you will, that envelops

and insulates the planet as surely as does the biosphere. You might think of the ethnosphere as the sum total of all thoughts, dreams, ideas and intuitions brought into being by the human imagination since the dawn of consciousness. Just as the biosphere is being severely eroded, so too is the ethnosphere. In fact, no biologist would dare to suggest that more than half the known species of life could be on the brink of extinction. Yet this is well known to be the most optimistic scenario in the realm of cultural and linguistic diversity. The great indicator, of course, is language loss.

When each of you was born, there were six thousand languages spoken on earth. A language isn't just a body of vocabulary or a set of grammatical rules, it's a flash of the human spirit; it's a vehicle through which the soul of each individual culture comes into the material world. Of those six thousand languages, spoken when we were born, fully half today are not being taught to schoolchildren. Today, there remain only three hundred languages that are spoken by more than a million people. Linguists tell us that within an-

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other century, this diversity may be condensed to only a few hundred languages. In other words, during our period in history, half of humanity's legacy is disappearing before our eyes. It is important to remember that whether a thousand people, a hundred thousand people, or a million people speak a language, every language represents a particular intellectual and spiritual lineage that goes back to the dawn of time.

As a young anthropologist emerging from Harvard in the early 1970s, I never understood how I was expected to turn up at some village—perhaps of the Barasana in the northwest Amazon of Colombia, a people who believe they came up the river from the east, in the belly of the sacred anaconda, or in canoes dragged by the sacred anaconda, and were regurgitated onto the various affluents of the northwest Amazon—I never understood how I was expected to turn up in their village, announce that I was there for six months, say to the head man that they were going to feed and house me, and guess what, I'm here to study your private lives. If someone that intrusive turned up on our doorstep, we'd call the police. So very early on, I tried to find a conduit to culture, the right means or metaphor to break down the inherent barrier that exists, by definition, between an outsider and a people with whom that outsider seeks to live as a guest.

If, for example, I wanted to learn the life ways of the people of the northwest Amazon, I became a botanist. After all, these were a people for whom plants meant everything. In a world of water, silence and vegetation, some societies like the Barasana do not cognitively distinguish the color green from the color blue,

because the canopy of the forest is equated to the dome of the heavens themselves. So if you want to understand the ways of the people of the Anaconda, the Cubeo, the Tukano, the Barasana, the Makuna, and other diverse groups of Colombia and the Amazon, plants are the obvious means of doing so.

By contrast, if you want to understand the ways of the Inuit, a people for whom blood on ice is not a sign of death, but an affirmation of life, the obvious conduit to culture was the hunt. Because the myths of these people are nothing more or less than the expression of the covenant that exists between predator and prey, and a way for them of rationalizing the terrible fact that to live, they had to kill the thing they love most, which are the animals upon which they depend.

Very often in ethnography, landscape holds the key to character. The great writer Lawrence Durrell once said that you could depopulate France and resettle it with Tartars, and within a few generations, the national traits would reemerge: the affection for good food, beautiful women and men, a restless cynicism, a reflexive anti-Americanism. Durrell was getting at something all travel writers understand: just as landscape defines a people, so culture springs from a spirit of place. One of our great Canadian writers, Margaret Atwood, said that to understand the essence of America, England and Canada, you need only three words: for America, frontier, and all that implies; for England, island, and what that implies; and for Canada, survival, because it is indeed the weight of the north that sweeps over our imagination and defines the essence of the national soul. Indeed, one of our great French-Canadian poets,

Gilles Vigneault, once expressed our muted patriotism in these words: My country is not a country, it is the winter.

I have often found that landscape is key to character. Recently I was on assignment in northern Kenya with groups of nomadic people known as the Rendille and the Ariaal. They live in the Kaisut Desert, on an anvil of the sun. For these people, drought is not some kind of cruel anomaly; it's a regular feature of climate. Surviving drought is the critical imperative that has allowed them to become who they are. They are herders of camel and cattle, and it behooves any individual to have as many of those beasts as you possibly can, so that if there is a dire drought, at least some of your herd may survive. In order to have great numbers of animals, it's useful to have great numbers of children. Having great numbers of children is an incentive for polygamy, and so these are polygamous societies, where an elder may have as many as four or more wives to sire offspring.

Naturally, as in so much of the world, the women do all the work. But in doing all the work, they also yield the children that are useful for the families and the family's survival. That said, if the elders are allowed and encouraged by their wealth to have several wives, there is still the problem of what to do with the virile young men. This society essentially gets rid of them by dispatching them to the remote *fora*, encampments at the periphery of the community lands where animals forage and where they can raid the herds of enemies. To make this separation desirable, it is enveloped in prestige. The greatest moment of that young man's life is that moment of his public circumcision where, with his entire age set, he

sits in front of the *manyatta* as warm milk is poured over his body, and he stays motionless as the nine cuts are made to his foreskin in this ritual moment. If he flinches, he will not only shame his family for life, he will in fact in some cases be severely beaten and even killed; few fail, since the honor is so grave. And so they are sent off to the *fora*, the young men, the warriors, to look after the animals, live on a diet of wild herbs and blood that is drawn each night from the jugular of one of the heifers, and mixed with the fresh and sweet milk to make sort of a tangy and salty strawberry smoothie, which is in fact the foundation of the diet.

Of course, all this time, the warriors are not permitted to go back into the domestic space, but at the same time there is the problem of sexual desire. To mitigate the possibility of clash between elder and warrior, pre-marital sexual intercourse is not only allowed, but also encouraged. Pre-marital pregnancy is severely tabooed, and if a young girl does become pregnant, she will be forced to abort, in sometimes quite ferocious ways. The young warrior is allowed to come back and formally beat a young girlfriend, sleep with her in the presence of her parents—but critically, when that young girl becomes betrothed to an elder, all relations must cease. And yet still the virile young man is allowed to come to the wedding of the young girl, and is encouraged to openly mock the virility of the old man who has taken her away. So you begin to see how something as simple as the imperative of survival, the need to survive drought, bifurcates like a crystal through the culture, and creates the reality of an entire people.

This idea of connecting culture and

landscape and spirit perhaps came to me because I was fortunate to be raised in northern Canada. Canada is a rather amazing country. Few Americans realize that you can take all the lower 48 states, fit them into Canada, and still have over two thousand kilometers to go before reaching the end of our national territory. I had one of those marvelous jobs that only our socialist government could create. We had three million acres that the government had established as a wilderness park, without the foggiest idea of what was inside the boundaries of that park. I was given the job of the first park ranger in Spatsizi, a rugged knot of mountains in northern British Columbia. My job description was deliciously vague: public relations and wilderness assessment. In two four-month seasons, we saw six people. There was no one to relate to publicly, and wilderness assessment was a license to move around the park at will, a young man on the loose.

In the course of those ramblings, I came upon an old native grave that just said, "Love Old Man Antoine, died 1926." Intrigued by the origin of this grave at the headwaters of the Stikine River, I paddled my canoe across the headwaters to a spike camp of a big game hunting outfit. I knew that here was an old man called Alex Jack, whose native name in Gitxsan was Atehena, "he who walks leaving no tracks." Not only did Alex know about the gravesite, he had actually traveled into the country in 1926 to study with Antoine, and arrived on the day that his future brother-in-law was laying the great man to rest. Indeed, he was a great man, a legendary shaman, who divined the future in stones dropped into buckets of water forged out of spruce roots. In-

trigued by that connection between a living elder and of course, an ancient shaman in a single generation, I quit my job as a park ranger, and hired on as a hunting guide, on the condition that I could always work with Alex.

For two further seasons, I tried to pry from his memory myths of the landscape. He was happy to talk of the winters, when the wind blew so cold that families had to decide which of the children would live, and which would be abandoned to die. He would use the word "survival" when describing the place they had lived, because survival indeed was the main metaphor for these people.

By chance, at the end of my tenure as a hunting guide, one of our clients killed a moose and abandoned the carcass in the bush. I flew out with my canoe on the float of our bush plane, landed and chased a pack of wolves away from the kill, and turned up two days later with 1,500 pounds of moose meat in my canoe. As Alex looked at this meat, and as we got the horses to drag the meat to the smokehouse where we could cure it for his winter supply, he suddenly said, "Gee, it's a funny thing, I kind of remember, maybe I got a story, come by my place tonight." Well, that night I began to record 25 years of trickster/transformer tales of We-gyet, the anthropomorphic figure of folly of Gitxsan lore. All of these stories were stories of moral gratitude played out against landscape.

I once asked Alex how long the cycle of tales was, and he said it was a good question. He had asked his father in March month, the time of good ice. To find out, they had slapped on their snowshoes and begun to walk, telling the cycle of tales as they went along. As Alex re-

called, they got all the way to the end of the vast lake, and all the way back, with the story not even halfway done. In order to measure the duration of a myth, one had to move through sacred geography, telling the story along the way.

Alex told me also how the Catholic missionaries came into the country and tried to evangelize his father. Being an open-minded kind of man, he asked the missionaries what kind of animals they had in heaven. When the missionary said there are no animals in heaven, his father couldn't understand. Suddenly it dawned on the old man that heaven was a place where the missionaries didn't allow animals, and he turned to the priest and said, You've got to be out of your mind. You are telling me I can't carouse, I can't gamble, I can't mess around on my woman, I can't do all the things that make life worth living, and then to go to a place where you don't allow animals? You can forget it. And that was the end of that.

From that upbringing in British Columbia, I was very fortunate to attend Harvard University in a rather serendipitous way. There I encountered, in a time of relatively few heroes, one of the few men who loomed large on the Harvard campus. A kindly professor who shot blowguns in class, and kept outside his door a bucket of peyote buttons, available as an optional laboratory experiment. In time, mountains in South America would bear his name, as would national parks. Prince Phillip would call him the father of ethnobotany. The students knew Richard Evans Schultes as the greatest living Amazonian explorer, the world's authority on medicinal and hallucinogenic plants, the plant explorer who had sparked the psychedelic era with his dis-

covery of the so-called "magic" mushrooms in Mexico in 1938.

In 1941, having identified *ololiuqui*, the long-lost Aztec sacred plant, the serpent vine, and having collected the first specimens of *teonanacatl*, the sacred flesh of the gods, Richard Evans Schultes took a semester's leave of absence from Harvard. He disappeared into the forests of the northwest Amazon, where he remained for twelve years, traveling down unknown rivers, living among unknown societies, all the time enchanted with the wonder of the equatorial rainforest. In time, he would collect more than 30,000 botanical specimens and 2000 medicinal plants, and describe more than 300 new species, previously unknown to science.

Schultes was an odd choice to become a '60s icon, because his politics were wildly conservative. He professed not to believe in the American Revolution, and he always voted for Her Majesty Queen Elizabeth II. In fact, one of his colleagues said that the only way for Schultes to go native would be to go to England. He would not use a Kennedy stamp, and insisted on using the name Idlewild Airport. When Jackie Onassis came to Harvard to tour the glass flowers exhibit at our museum, Schultes, who was then the museum director, disappeared. When I later wrote his biography, a book called *One River*, I confirmed that he had hidden in the cupboard for three hours rather than guide her through the exhibits.

These kind of archaic political views belie the fundamental decency of the man. In fact, between the extremes of his personality, in the space created by what appeared to be contradictions, there was room for anyone to move. His students ranged from quietly determined

scholars to a more eclectic group drawn to his work in the plant hallucinogens. By far his greatest protégé was a man from Pennsylvania called Timothy Plowman. The first time I saw Tim was in his basement office at the museum, which had the atmosphere of a gypsy tearoom. There were Persian carpets on the floor, patchouli and incense in the air, a beautiful dog, and a forest of living plants. As I turned the corner, there was a woman naked to the waist typing furiously at a manuscript. Her name was Teza, and she was a botanical illustrator. Later we published her illustrations of new species we had found, and they were the only drawings I ever saw that captured the feel of wind on paper.

If Timothy was in the basement, the great professor loomed large in the fourth floor aerie. I remember going to see him for the first time. I walked into his office unannounced and said, “Sir, I’m from British” – that’s all it took, that adjective – “I’m from British Columbia, I’ve saved up some money in a logging camp, and I want to go to South America like you did and collect plants.” He looked across a mound of specimens, and simply said, “Well, son, when do you want to go?” Two weeks later, I was in the Amazon on my first trip, which lasted fifteen months. And that was typical of Schultes.

In all the years I studied with him, I never had an intellectual discussion. That’s not how he taught, he taught by example. He’d say to you things like, there’s one river you really should know, knowing full well that getting to that river would involve experiences such that if you emerged from the forest alive, you’d be a wiser and more knowledgeable human being. One of the pearls he dropped my

way before going to South America was that I should look up his man in Colombia, Tim Plowman. Schultes had secured for Tim one of the dream academic grants of the 1970s: a quarter million dollars from the U.S. Department of Agriculture to study a plant known to the Inca as the divine leaf of immortality, the most sacred plant of the Andes—coca, the notorious source of cocaine.

Efforts to eradicate the coca fields have been underway for fifty years. However, I must make you realize that the whole idea of coca eradication came originally from a group of physicians in Lima, whose concern for the fate of the highland Indians was matched in intensity only by their ignorance of Andean life. They looked up in the mountains, and they saw malnutrition, poor sanitation, lack of literacy—and they had to find a culprit. Because issues of economy, land distribution and the hierarchy of Peru cut too close to the foundations of their own bourgeois world, they had to settle on another culprit, and they chose coca.

The eradication of coca initially had nothing to do with pharmacology, but everything to do with the cultural identity of those who revered the plant. Even at the time of our grant, astonishingly little was known about coca. Nobody knew how many species yielded the drug, nobody knew where the point of origin was of this most important of cultivated plants, nobody had ever done a nutritional study of the plant, even though it was something consumed every day by millions of South American Indians.

So on a journey that was made possible by the great professor, inspired by him and certainly infused at all times with his spirit, Timothy and I traveled the length

and breadth of South America. We knew, of course, that coca was the great plant of pre-Columbian America. The Inca, unable to cultivate it at the imperial capital of Cusco because of the elevation, replicated it in gold and silver leaf in fields that colored the horizon. At the time of the Inca, you could not approach any holy shrine if you did not have the leaf in your mouth. If you had the leaf in your mouth at the time of your demise, your route to the afterworld was assured. There was no gesture or moment in the Andes that was not mediated by an exchange of this sacred plant. In many places in the Andes, distances were not measured in terms of miles or kilometers, but in terms of coca chews. When men and women met on the trail, they did not shake hands, they exchanged leaves.

Even today, throughout the Andean region, no child can be brought into the world, no elder can be led gently into the realm of the dead, and no field planted or harvested, without some kind of gesture towards the Apu, towards Pachama ma, the Earth itself. Coca is a source of illumination; the diviners can read the future on the back of the leaves, but this skill only belongs to someone who has successfully survived a lightening strike.

Of course, one thing we did was the first nutritional study of coca, and what we discovered horrified our backers at the U.S. government. We found a small amount of cocaine in it, roughly half to one percent dry weight, analogous to the amount of caffeine in a coffee bean. No one notices the irony, at every drug abuse conference, when DEA agents bolt for the coffee pot at 10:00 in the morning. But to compare coca to cocaine is like com-

paring the luscious fruit of a peach with the prussic acid found in a peach pit. In addition to the small amount of cocaine that is absorbed benignly through the mucous membrane of the mouth, a mild and valid stimulant in a harsh and unforgiving landscape, coca is chock full of vitamins. And coca has more calcium than any plant ever studied by the U.S. Department of Agriculture, which made it perfect for a culture that traditionally lacked a milk product, especially for young mothers. It also turned out that coca has enzymes that enhance the body's ability to digest carbohydrates at high elevation, which made it perfect for the traditional potato diet of the Andes.

In one elegant scientific essay, we put in the stark profile the draconian efforts that are still underway to eradicate the traditional fields, with herbicides that pollute the headwaters of the Amazon. We showed that this plant had been used with no evidence of toxicity, let alone addiction, for over four thousand years by the pre-Columbian peoples of the Amazon and the Andes.

Now I mentioned at the beginning this notion of different ways of being; well, this is a society that exemplifies that. The Inca and Kogi are descendants of the ancient Tairona civilization that once carpeted the Caribbean coastal plain of Colombia. In the wake of the conquest and the madness that ensued, these people retreated into the peaks of the Sierra Nevada de Santa Marta, a vast volcanic *massif* that rises to 20,000 feet from the Caribbean coastal plain. In a bloodstained continent, these people were never conquered. To this day, they remain ruled by a ritual priesthood.

The training for the priesthood is

rather astonishing. The young acolytes are taken away from their families at the age of two or three, sequestered in stone huts in a world of darkness and shadows for eighteen years (two nine-year periods deliberately chosen to mimic the nine months of gestation they spent in their natural mother's womb) so that they are metaphorically in the womb of the great mother. During that entire time, they are indoctrinated in the values of their society, values that maintain the proposition that their prayers and their prayers alone maintain the cosmic or ecological balance. At the end of this arduous initiation, they suddenly are let out by the priests, the *mamas*, and before first light, suddenly, in that crystal moment of awareness of their first dawn, everything they have learned in the abstract is affirmed in stunning glory as they see the sun rise over the flanks of the Sierra Nevada. The priest sort of steps back and with his body language says, you see it is as beautiful as I said, it is that wondrous, it is yours to protect as the elder brother. They call themselves the elder brothers; we, who they believe have ruined the world, are known and dismissed as the younger brothers. And this relationship between spirit, culture and landscape plays out in marvelous ways.

I have just come back from Peru, where I took part in a remarkable ritual race called the *mujonomiento*. In the communities and environs outside Cusco, once each year at the height of the rainy season, the fastest young boy dresses up as a woman, and is pursued by the male population that runs the boundaries of the community lands, which are marked by sacred places called *mujones*, where prayers are uttered, coca is given to the

earth, and shouts of solidarity echo across the flanks of the mountains. It is an astonishing feat because it's about 25 kilometers in length. You begin early in the morning at 11,500 feet, you drop about 1500 feet, climb 3000 feet to the summit of the sacred mountain, drop 3000 feet on the other side, climb another 3000 feet, and then run on a long final stretch home. It is done at a complete and total run, and you can see the *waylaka*, the transvestite figure, in a photograph I took just four days ago in Peru, when I participated in this *mujonomiento*. The fabulous thing about this is that by the end of the day, the runners emerge as spirit beings who, through ritual, have once again defined their sense of place, their sense of belonging.

Now Schultes sent us out to the forest because he thought we could find new plants for the modern pharmaceutical industry. In a sense what we did instead was find a new vision of life itself, and that's the lesson we brought back. We did look for new drugs, and we recognized always the adage of Paracelsus: that the difference between a poison, a medicine and a narcotic is simply dosage.

So we hunted for new biodynamic plants. A plant that exemplifies this adage is a curious genus described by Schultes in the 1940s: *Methysticodendron amenesium*, or *datura*, sometimes known as the tree of the evil eagle. The plant contains a series of tropane alkaloids, including atropine, which in modest dosage can be an efficacious treatment for asthma. The leaves also contain scopolamine, useful to treat motion sickness. But in excessive dosage the plant brings on an induced state of psychotic delirium, marked by visions of hellfire, a sensation

of flight, a burning thirst, and complete madness. This, of course, is very closely related to the hexing herbs of Europe, like belladonna.

Belladonna gets its name because it was a cosmetic in the Renaissance: atropine dilates the pupil, and the Mona Lisa had those great eyes because she squeezed belladonna into her eyes. She couldn't see a damn thing, but she looked beautiful. The hexing herbs of Europe are also the origin of the notion of the witch and the broomstick at Halloween. I'm sorry to tell you that Hallmark Cards did not invent that. These drugs are topically active, and a very effective way for a woman to absorb them and take them in is through the moist tissue of the genitalia; the broomstick was an applicator. Her journey was not a literal journey through space; it was a hallucinatory journey through the landscape of her imagination to the orgiastic assemblage of demons. That's just a little something to lay on the PTA next October.

One of the most interesting religious practices I have studied in South America is the cult of the Cactus of the Four Winds. This is an ancient healing cult that occurs today throughout the northern coast of Peru, but especially in the mountains and environs of the town of Huancabamba. What makes it interesting is the entire complex; acolytes come from all over South America to be treated by the *maestros*. There is a nocturnal ceremony where you imbibe, through the nostril, about a liter of alcohol infused with tobacco and sometimes datura leaves. At night you drink a concoction of the San Pedro cactus, *Trichocereus pachanoi*, which we know from ceramics and iconography has been used in Peru for over four thousand years; it's

full of a drug called mescaline.

During the ensuing intoxication, diagnosis is made. But critically, treatment can only occur the following day, at the end of a long ritualistic pilgrimage to a series of holy lakes called *las Huaringas*, which are isolated, further up in the mountains. Around the periphery of those lakes grow the medicinal plants that are long believed to be efficacious. But again, here's the metaphor: to heal the body, you must make some kind of physical sacrifice, some kind of alignment with the spirit realm through the use of magic plants; and then you must move through sacred geography. Remember that the word "sacrifice" in English has as its origin to make sacred. To reach the holy lakes, where there is a moment of metamorphosis, where you can be baptized for the promise of a new dawn, then, and only then, are you open to the pharmacological potential of the medicinal herbs. So this is a clue to the nature of the shamanic art of healing, and this notion of different realities.

In the delta of the Orinoco River, there is a fascinating people called the Warao, known in Venezuela as the canoe people. For most of their lives, they never touch solid ground. They live in the delta, believing that the delta is a flat plain, and to get the clay to make the fire pads, to cook their food in the huts, they must dig to the bottom of their world. Among the Waraos, shamanism is highly developed.

Now in our society, shamanism is much misunderstood. There is this feeling from the New Age movement that shamans are kind of these pleasant grandfathers with feathers and beads who are benign figures. I have been with a lot of shamans, and I've never met one who wasn't at least

a little crazy; that's their job. They are the ones who, as Joseph Campbell said, swim in the waters the rest of us would drown in. They are the ones who go into those waters, when most of us would be much happier to just look after our kids. What most human beings want is to house and feed their children, protect their elders, and they are happy to delegate to the shaman these curious issues of the spirit. This really accounts for the role of these curious psychotropic plants.

Shamanism has a very different notion of the nature of health and disease. In our society, the priest is concerned with the domain of the spirit, and the physician concerned with the physical body; but in these societies, in the role of the shaman, priests and physicians are one. The state of the spirit determines, and is critical to, the state of the body. Therefore, diseases can be treated on two very different levels: on the one hand, diseases can be treated symptomatically, much as we do, only with medicinal plants instead of medicinal drugs. Critically, that notion of treatment is seen somehow as mundane, because to really get to the source of a problem, the shaman must invoke some technique of ecstasy, to soar away on the wings of trance, get into those distant metaphysical realms where they can work their deeds of medical, magical and indeed spiritual rescue.

This accounts for the use of these curious hallucinogenic plants—like ebené, the “semen of the sun,” seen in the upper Orinoco, used by the Yanomani. It comes from the blood-red resin of several species of the genus *Virola*, in the nutmeg family. It has in that resin two very powerful tryptamines, 5-methoxy-N,N-dimethyltryptamine and N,N-dimethyltry-

tryptamine. To have this snuff blown up your nose is rather like being shot out of a rifle barrel lined with Baroque paintings and landing on a sea of electricity. You can hardly call it hallucinogenic, because by the time you are under its influence, there is no one home anymore to experience the hallucinations; it creates not the distortion of reality, but the dissolution of reality. In that spiritual state, the shamans believe that they can commune with the *hekura* spirits and work their deeds of rescue.

Now if we slip from the Orinoco into the eastern forests of Ecuador, we'll go to one of the most fascinating tribes in South America: the Waorani, who were first contacted peacefully in 1958. In 1957 there was a terrible tragedy, after the missionaries dropped from the air 8x10 glossy photographs of themselves, in what we would say to be friendly postures. They forgot that these people of the forest had never seen anything two-dimensional in their lives. The Waorani picked up the pictures from the forest floor, tried to look behind the face to find the form for the figure, found nothing, concluded they were calling cards from the devil and promptly speared five missionaries to death.

The Waorani didn't just spear outsiders, they speared each other. We traced genealogies back eight generations, and found only two cases of natural death. When we pressed them on it for a moment, they admitted that one of the fellows had died getting old, but they speared him anyway. Fifty-four percent of their mortality was due to them spearing each other. Ninety-five percent of Waorani men had been bitten by a poisonous snake, fifty percent more than once. Yet they had a perspicacious knowl-

edge of the forest that was astonishing. Their hunters could smell animal urine at forty paces and tell you what species had left it behind. They had this knowledge of the forest, which led them to develop some remarkable aspects of their technology. For example, there is *curare*, the flying death: the poison used for the darts is drawn from the astringent bark of the liana in several different species. Here you can see a jaguar shaman with his hunting apparatus, and a piranha jaw on his chest to launch the poison dart, to ensure that the venom enters the muscle of the prey.

A fascinating thing about the Waorani is that they had medical attention at the time of contact, so they are one of very few societies in South America whose health status at the time of contact is known for certain. They were an astonishingly healthy people, no common colds, no infectious diseases whatsoever, not even any secondary bacterial infections. There was one woman who had been speared by a hunting party as a young girl. The spear had gone completely through her and missed any vital organs. They cut it off back and front, and as was their tradition, they packed the wound with the mud of the peccary's watering hole, hardly an antiseptic thing to do. After a little while, the tissue around the spear point had become necrotic. She lifted herself from her hammock one day, the spear popped out as a sliver would come out of our skin, and she was back in the fields within a month. They were an astonishingly healthy people.

And it raised a lot of interesting questions about the health status of the indigenous peoples of the Americas at the time

of contact. The word "decimate" in Latin meant to kill one in ten. But nine out of ten—ninety percent of the peoples from the Arctic to Tierra del Fuego—were wiped out within a generation by the pathogens of Europe.

The Waorani raise other interesting ethical issues. Anthropologists are sometimes accused of trying to sequester indigenous people into some kind of zoo, like some kind of biological specimen, and in fact anthropology is not about preservation. It's not change that we fear, what we fear is the inability of individuals and cultures to deal with change. Change, in fact, is one constant. Indigenous societies only disappear when they are overwhelmed by forces that are beyond their capacity to adapt to. And it's not technology alone that takes away ethnicity. A Waorani does not stop being a Waorani when he wears sunglasses. Did Americans stop being Americans when they gave up the horse and buggy and adopted the automobile? The key point is to allow cultures to have a way to stay, to make their own choices.

In a similar sense, we romanticize indigenous people, perhaps sometimes to their detriment. We have this kind of Rousseauian or Thoreauvian notion of Indian people being the first conservationists. That's absurd, because indigenous people are neither sentimental nor weakened by nostalgia. There is not a lot of room for nostalgia in the searing sun of the Sahara, or for sentimentality in the swamps of the Asmat. Indigenous people don't have a notion of stewardship in the forest; they lack the technological capacity to impact the forest. Indigenous people, nevertheless, have an essential relationship with the Earth, which is

based on far more subtle intuition. The idea is that the Earth itself is breathed into being by human consciousness.

Now, what does that mean? It means that a young Runa from the mountains of Peru, who believes that a mountain is the abode of an apu spirit, will be a profoundly different human being than an American kid from Montana, who believes that a mountain is a pile of inert rock ready to be mined. A Kwagiulth who believes that the forests of British Columbia are the domain of Huxwhukw and the Crooked Beak of Heaven, cannibal spirits living at the north end of the world, will be a profoundly different human being than a Canadian child raised to believe that a forest exists to be cut.

Anthropologists are sometimes accused of trying to sequester indigenous people in the past. Along with that, we are also accused of embracing a kind of extreme relativism. As if, to cite a terrible and extreme example, we could somehow rationalize the heinous acts of the Nazis—because after all, they were an ethnic group, they had their rules, there were structures to those rules, and so on. The key point is that anthropologists in no way suggest the abdication of judgment. What we espouse is a kind of serious relativism, in which judgment is suspended until understanding can be gained. No anthropologist would rationalize heinous acts of cruel and vicious human beings. Far more often, the anthropological lens comes into focus in those cultures that have been misunderstood and much maligned in the ignorance of those making those judgments. And that brings us to the country of Haiti.

In the early 1980s, in the wake of my years in the Amazon, I got a rather aston-

ishing assignment. My professor asked me to go to Haiti to try to find the drugs used to make zombies. At the time I thought he himself was speaking from the realm of the phantasmagoric. But indeed, it was an interesting and serious assignment, because a zombie, by folk definition in Haiti, is the living dead. It's an individual who has been magically brought to his end, passed to the ground, and then somehow magically resuscitated to face an uncertain fate, a fate invariably involves some form of enslavement. But along with this image of the phantasmagoric was a series of reports in the popular folk and academic literature, of instances where, at least according to oral testimony, persons had returned to the realm of the living.

There was the case of a man called Clairvius Narcisse that really forced science to pay attention. This man was pronounced dead at an American-directed philanthropic institute in 1962. Two physicians witnessed his death, both American trained, one an American—and his sister and family members were at his bedside at the time of his demise. Years later, someone turned up who claimed to be this man. His case came to the attention of the head of the psychiatric institute in Port-au-Prince, the late Dr. Lamarque Douyon, who had been investigating the zombie phenomenon. He was working on a long series of inquiries, securing evidence, and having forensic experts in Scotland Yard verify the fingerprints on the death certificates. Douyon also had a list of questions that only someone who knew the family background presumably could answer. This man was able to answer all those questions accurately.

Moreover, in Haiti, a zombie is a total

pariah. Douyon figured that no sooner would someone show up in Haiti and pretend to have been a zombie, than a leper would stand up on Hyde Park Corner and flaunt their disease. All these lines of evidence led Douyon, and his colleague, the preeminent psycho-pharmacologist Nathan Kline, head of the Rockland State Research Institution in New York, to go public in 1982 on the BBC, saying that they had found the first legitimate instance of zombification.

They obviously didn't believe in magic, so they had to believe there was a folk preparation that could bring on a state of apparent death so profound that it could fool a Western-trained physician. Indeed, the Haitian government had accepted the existence of this folk preparation with such assurance that it was specifically mentioned in the penal code of the country. And yet, incredibly, no one had ever gone down, taken the people at their word, to see if there was anything to this. My assignment was to go down to Haiti, try to work with the traditional society, secure the formula for the preparation, and try to make sense out of this sensation.

The first thing I had to do was embrace in my own mind an understanding of voodoo. It's interesting, if I asked you to name the great religions of the world, what would you say? Christianity, Buddhism, Islam, Judaism, Hinduism, whatever. There is always one continent left out: sub-Saharan Africa—the tacit assumption being that African people had no religion.

Well of course, by ethnographic definition, they did. Voodoo has many forms. Where did we get this idea of voodoo being a black magic cult? Of children bred

for the cauldron, zombies crawling out of the grave to attack people? Well, it turns out the U.S. Marine Corps occupied Haiti twice in the 20<sup>th</sup> century, the first time between 1915 and 1936. Everybody above the rank of sergeant got a book contract. Those books had names like *Black Baghdad*, *Cannibal Cousins*, *Voodoo Fire in Haiti*, *The White King of La Gonave*, *The Magic Island*, and so on. There is a slew of these books, full of children bred for the cauldron, pins and needles in voodoo dolls—none of which exists, by the way. Those books gave rise to the RKO movies of the 1940s: *Night of the Living Dead*, *Zombies on Broadway*, *The White Zombie Slave*. In any other era, these movies and books might have been forgotten. But coming out when they did, during the era of Jim Crow, they essentially said to the American people, any country where such abominations occur, can only find its redemption through military occupation. And that began the real notion we have of voodoo being something evil.

Voodoo is not only not evil, it is the quintessentially democratic faith, because the believer not only has direct access to the spirit realm, but actually receives the spirit into the body. The voodooists like to say, you white people go to church and speak about God; Indians eat their magic plants and speak to God; but we dance in the temple and become God. The essence of voodoo is a dynamic relationship between the living and the dead, whereby the dead return to the realm of the living, and the living in time will give birth to the dead. There are 401 spirits in the voodoo pantheon, and a proper voodoo death is one in which the individual spirit and the body disassociate. A year and a day after the demise of the body, the voo-

doo priest or priestess, the *houngan* or the *mambo*, will ritualistically reclaim your spirit from beneath the realm of the invisible, from beneath the water, from Guinée, the ancient homeland of Africa. They put that spirit into a little vessel that is placed in the inner sanctuary of the temple. But in time that spirit, initially associated with your particular ancestors—father, grandmother, grandfather—becomes part of the vast ancestral pool of energy. Out of this pool of energy emerge the archetypes, the 401 *loa* of the voodoo pantheon.

In this quintessentially democratic faith, even the dead must be made to serve the living. To serve the living they must become manifest; to become manifest they must return to Earth, invoked by the chants, invoked by the rhythm of the drums to momentarily displace a soul of the living, so that for that brief shining moment, a human being becomes a god. There is a photograph taken the instant in which this *hounsis*, this acolyte, was taken by the spirit. Every spirit has its own persona, its own personality: there's Agwe, the goddess of the sea; Erzulie Freda, the goddess of love; and Ogoun, the god of war and metallurgical elements. You can see in this photograph Ogoun's sword, the characteristic red scarf, the cornmeal *vevé* indicating that the spirit to be born is Papa Ogoun.

It's a rather extraordinary thing to see your friends in this plane in one moment, and transformed in the next to the realm of the spirits. We don't know our gods in this direct way, and tend to have two responses: either fear that finds an outlet in disbelief, or awe for those of us who don't know our gods in this direct way. When a spirit possesses you, you are the

god, and how can a god be harmed? So you have these theatrical gestures, a machete to the stomach, but more profoundly, voodoo acolytes handling burning embers with impunity. They give astonishing examples of the ability of the mind to affect the body that bears it, when catalyzed in a state of extreme excitation.

Voodoo is not an animistic religion; it does not believe that rocks have spirits, but it does believe that spirits tend to dwell in places of great natural beauty, and the voodooists are drawn to those places in the same spirit that we go to a cathedral. We don't go there to worship the building, we go there to be in the spirit of God. And here are the voodooists at the sacred mud bath, a moment of metamorphosis, transformation, or even more profoundly, at this extraordinary waterfall that I named my first book after, Saut d'Eau. Water is a sacred essence in Africa, and of course, Damballah-Wedo, the serpent god of Dahomey, is a repository of all spiritual wisdom, the source of all waters. When the first rain fell, a rainbow, Ayida-Wedo, was reflected, and Damballah fell in love with Ayida, and their love entwined them in a cosmic helix in which life was fertilized.

At this astonishing waterfall in Central Haiti, once each year, arrive as many as 20,000 acolytes dressed in white robes. They move across a limestone escarpment, with the motion of night clouds, as they descend on this amphitheater, illuminated by the branches of the sacred mapou tree, which in turn is lit up by the light of tens of thousands of candles. Merely to step behind the thin cold veil of the divine, to touch the water of the waterfall, is to become possessed by Damballah-Wedo. At any one point in

time you have thousands of acolytes, possessed by the serpent god, slithering across the wet stones like snakes. Here you can see a man who's gone into the waterfall fully clothed, and allowed the sheer power of the waterfall to tear his clothes off his body. Metaphorically, like the snake transformed with a new skin, he will emerge for the following year, renewed, spiritually alive, pure of heart and solid in spirit. I think you can see from this photograph, from the beatific look on this woman's face, that this is no black magic cult. It's a legitimate religious worldview that deserves to be recognized as such.

That said, there is sorcery in African faith. To ask why there is sorcery in African faith is to ask why there is evil in the universe. When a disciple asked Lord Krishna that, he responded, "To thicken the plot." Every religion has an image of light and darkness; we have it in Christianity when the fallen archangel becomes the devil, and the Christ child is the Son of God. Every religion makes manifest that dichotomy and resolves it in harmony such that light wins out over darkness, and voodoo is no different. But in the realm of the zombie, we are now walking down that narrow thread woven through the bigger fabric of voodoo that is indeed the world of darkness.

The zombie phenomena, if it was to have any credibility, was going to be based on the outcome of this pharmacological investigation. I wasn't just looking for any drug that can kill someone, lots of drugs can kill someone; I was looking for a drug that could bring someone to the point of death, such that they could fool a Western-trained physician, and still return to the realm of the living. There are not

many drugs that indeed can do that.

My first step was to work within the Bizango Shanpwel, the secret societies that are the most powerful arbiters of social and political life in parts of rural Haiti. The first step in the elaboration of the poison is to go into the cemetery. It's important to note that some aspects of voodoo haunt us, perhaps, but we should again recognize the cultural matrix. People get very upset by animal sacrifice, for example, until they realize that blood is not blood, it's sacred essence. It is blood that must be returned to the Earth in a healing moment. Before we judge that too harshly, we have to ask what it was like the last time we took Holy Communion.

Remember that the theory of transubstantiation empowers the Catholic priest to turn that wine into blood. When you take the Eucharist in a Catholic Church, you are not taking a symbol of Christ, you're drinking human blood. Every time a Catholic takes mass and takes Holy Communion, they participate in an endo-cannibalistic ritual. So if you can drink blood in a Catholic Church, I think you should be able to drink chicken's blood in a ritual moment in Haiti. By the same token, we use bones in our own rituals in Catholicism and throughout the Christian church, because of the metaphor of ashes to ashes and dust to dust.

Human remains are a powerful magical ingredient of the preparation. A cadaver is brought up from the dead and re-buried in the inner sanctum of the sorcerer's temple. The so-called antidote is prepared, but that's essentially a support for sympathetic magic. Things become more interesting when you look at the critical and consistent ingredient in the actual preparation of the so-called

poison itself. It turns out that the consistent ingredient was one of a number of species of marine fish in the *Tetraodontiformes*, a pantropical order that also includes the famous fugu fish of Japanese culinary delight. These fish have in their viscera, their ovaries, on the surface of their skin, one of the most powerful neurotoxins ever discovered in nature. It's called tetrodotoxin. It is roughly 160,000 times stronger than cocaine as an anaesthetic, and one thousand times stronger than sodium cyanide as a poison; a lethal dose would balance on the head of a pin. But more interesting is the way that it kills: it kills by blocking sodium channels in the nerves, bringing on peripheral paralysis and dramatically low metabolic rates, and yet consciousness is retained until the moment of death.

Because of a thousand-year-old tradition in Japan, there is an enormous biomedical literature as to exactly how these fish kill. When I looked into that literature, I found case after case after case of individuals nailed into their coffins by mistake. It turned out that in Japan, by folk custom, if you succumb to the fish, you are laid out beside your grave for three days, to make sure you are really dead.

Suddenly this took the entire zombie thing from the phantasmagoric to the plausible. It showed, without doubt, that the Haitian sorcerers had found a natural product in their environment, containing a very powerful drug. A drug that, if applied in the correct dosage, could not only make someone appear to be dead, but indeed had made people appear to be dead many times in the past, throughout the South Pacific.

Suddenly this forced you to ask the \$64

million question: who is controlling the process? The final phase of my Ph.D. dissertation was becoming a member of the secret societies, the Bizango Shanpwel, and documenting their executive and symbolic function. It turns out the fear in Haiti is not of zombies, as those movies in the '30s would imply, but of becoming a zombie. In fact, zombification is a form of social sanction invoked by the secret societies, as a punishment for those who transgress rules of the traditional society. In this sense, it's very much a mirror image of what we know to go on in equatorial West Africa, where secret societies are the most powerful arbiters of social-political life. For generations, we have known that they use poisons to punish those who transgress their rules.

This was a rather extraordinary outcome, because it allowed us to analyze the zombie phenomenon, which had been used in an explicitly racist way to denigrate an entire people. We turned it on its head, and showed that in fact it was based on a manipulation of natural products that could only be said to be genius. It was based on a cultural matrix that could be understood and appreciated. There is no assembly line in Haiti making zombies, for all kinds of reasons: it is an exceedingly rare event, if indeed it occurs at all. But the critical thing is that its value as a social sanction depends not on how often it occurs, but that it is perceived to be able to occur. And this allows us to make sense out of sensation.

Now in one of the great ironies of my life, the book I wrote about voodoo and Haiti became a Hollywood movie. And it became one of the most egregious Hollywood movies I have ever seen. Hemingway said, if you ever decide to sell a book

to Hollywood, just start off in Tucson, drive west to the California State line, throw the book over, and then go back to Arizona and have a drink. I didn't exactly go back to Arizona, but after a few months' experience with some of these filmmakers, I disappeared to the forests of Borneo.

I always wanted to go to a place wet with the innocence of birth. I wanted to live with the nomadic people of the rainforest, because at one point in human history, before the Neolithic, we were all nomads, wanderers on a pristine planet. It was only with the birth of agriculture, which allowed the creation of surplus and the rise of sedentary life, that the poetry of the shaman was turned into the prose of the organized priesthood. I always wanted to live with a people who were nomads in the rainforest.

The Penan live in the northern third of Borneo, at the head of the rivers that flow away into the South China Sea. The rivers are the domain of the Dyak head hunters, who traditionally preyed on the Penan. The Penan themselves fled into the hinterland they knew so well. Every aspect of their life, through their traditions and their generations, was based on manipulation of the natural world around them. From childhood to old age, the forest counted for everything. They depended on the forest for every single aspect of their material well being. Their houses could be built in a few hours, lived in for as long as a month, depending on the supply of the various products of the forest itself.

I wanted to live with nomads because nomads are different. In a nomadic society, for example, there is no incentive to accumulate material possessions, because

you have to carry everything on your back. The wealth of the society is measured not in objects, but rather in the strength of the relationships amongst people. Sharing in these societies becomes an involuntary reflex, because you never know who will be the next to bring food to the table. What does that really mean, and what is the lesson for all of us? In our society, if you pass a homeless person in the street, you may feel poorly about them, but you see them as a kind of inevitable consequence of our economic reality. Whereas the Penan—and I have been with Penan in New York, San Francisco and Vancouver—they turn to you and say, “Don't you understand that a poor man shames us all?”

The Penan turned to the forest with great dexterity. A father uses these curious plants to kill fish; the plants have toxins that interfere with the respiration in the gills of the fish, and the fish can be readily harvested by hand from the surface of the water. A woman makes a sleeping mat from the rattan pond. A hunter returns with 150 pounds of boar meat, food that will feed the settlement for two weeks. You can see a cornucopia of produce from the forest of a people who only know the ways of that forest. By knowing the ways of the forest, they return to that forest for signs: the flight of birds is the cursive hand of nature. These people are a totally non-literate oral tradition, and what that means is that the total vocabulary of the entire language is encapsulated in the vocabulary of the best storyteller.

As they turn to the forest for inspiration, they sadly today hear nothing but the sound of machinery. In a single generation, the Penan homeland has been ravaged by the most egregious example

of deforestation is probably the history of the world. You hear so much about the history of the Amazon being destroyed, but the Amazon is a vast forest the size of the continental United States. In 1985, fully 45% of the tropical whole log exports of hardwood came out of Malaysia, most of it out of the east Malaysian state of Sarawak and Sabah, and much of it from the homeland of the Penan. In a single generation, the Penan have seen their homeland penetrated by roads; they've seen the forests cut down, and the terrible red soil appear that has polluted their rivers. They see the formerly crystal rivers now polluted and silt-laden, carrying half of Sarawak away to the South China Sea, where the Japanese tankers hang light on the horizon, ready to fill their holds with raw logs ripped from the forests of Borneo.

You see women in settlements serving the itinerant loggers as prostitutes and laundresses, women who were raised in the forest. You see older people forcibly brought to the settlement camps to live within structures they believe are carved from the bones of their spirits. You see a people who finally, in the mid-1980s, said, "Enough!" And in what began as a kind of quixotic gesture, with blowpipes against bulldozers, the Penan electrified the international environmental movement by shutting down logging for several months in the entire state of Sarawak. This was the event that led then-Senator Al Gore in his book, *Earth in the Balance*, to call the Penan the leading fighters in the struggle to save the Earth. This then gets to the dark undercurrent of this presentation.

One or two generations from now, the 20<sup>th</sup> century and the early part of the 21<sup>st</sup> century will not be remembered for wars

or technological innovations. It will be remembered as the era when we stood by and either actively endorsed or passively accepted the massive destruction of both the biological and cultural diversity of this planet.

It's interesting that genocide, physical extermination of a people, is universally condemned. Yet ethnocide, the destruction of a people's way of life, is not only not condemned; in many parts of the world, it is encouraged and advocated as appropriate policy. Wherever one goes, one sees this clash of cultures, this clash of history.

Recently I have been travelling a great deal in Tibet for the National Geographic Society. Until you travel in Tibet, you don't really grasp the enormity of what has happened there. I once traveled several thousand kilometers from Western China overland through southeastern Tibet, to Lhasa and on to Katmandu, with a young Tibetan. He told me an extraordinary story, once we got to Lhasa and had some privacy. His father had been a confidant of the Pachen Lama, the second of the great religious authorities, so of course his father had been murdered immediately by the Chinese. His uncle had fled, and his aristocratic mother was incarcerated as a counter-revolutionary. As a young infant, he was smuggled into the jail by his sister, who at great risk to herself managed to get him into a community of women, where he spent several months hidden in the skirts of his mother. His sister was then taken to a labor camp, and during the Cultural Revolution, she inadvertently slipped on a Mao armband that fell off the arm of an adjacent worker. For that transgression, she was given seven years of hard labor.

Since the Chinese occupation of Tibet, over six thousand temples, monasteries and religious structures have been destroyed. Today, an all-out war against the Buddhist faith is underway. Over 1.2 million Tibetans have been killed for religious and cultural ideals. The amazing thing is what happened after the worst repression of the Cultural Revolution was relieved, and the liberalization of the 1980s began. Suddenly a people that had been reduced to a homogeneous whole, people for whom the chanting of the dharma had been displaced by the chanting of slogans in favor of the eternal life of Mao Zedong, suddenly out of the ground, they brought out their relics, costumes, and artifacts. Suddenly, within a few years, the religious spirit had been revived. This indeed is the great lesson of Tibet, that they do pursue the dharma, and the dharma teaches that life is effervescent. The Chinese will go someday, and without doubt, the Tibetan people will remain free, and return to what they once had.

To end this evening on a more optimistic note, I want to return to my own country of Canada and emphasize a rather astonishing thing that has happened. Some of you may not know that in April of 1999, Canada gave back to the indigenous peoples, to about 26,000 Inuit, administrative control of a homeland the size of Western Europe. This is a great moment of restitution for our country, because we have not always been kind to the Inuit. Indeed when the Europeans first met the Inuit, they took them to be savages; the Inuit took the Europeans to be gods. Both were wrong, but one did more to honor the human race. What the British in particular could

not understand was that there could be no better measure of genius than the ability to exist in a landscape with a technology limited to what you could carve from bones, stone, slate and small bits of wood that floated up like flotsam from the sea, and were considered as precious as gold.

If there is one motif in the history of the Arctic, it is that when the Europeans mimic the ways of the Inuit, they achieved great feats of exploration. But when they failed to do so, they suffered terrible deaths. The Inuit don't fear the cold, they take advantage of it. The runners of their sleds were originally made from three Arctic char fish placed into a row and wrapped in caribou hide, and greased with the stomach contents of the caribou.

I recorded a wonderful story from an elder, when I went narwhal hunting at the tip of Baffin Island. During the 1950s, there was an effort to establish Canadian sovereignty over an archipelago that could have gone to a European country, and we forced the Inuit into settlements. This man's grandfather refused to go, so the family, fearful for his life, took away all of his tools and weapons, thinking that would force him into the settlements. Did it? No. In the middle of an Arctic night, with a blizzard howling outside, the old man stepped outside of the igloo, pulled down his caribou hide trousers and defecated into his hand. As the feces froze, he shaped it in the form of a knife. He sprayed saliva along the edge to give it a sharp edge, and as his shit knife took form, he butchered a dog with it. He skinned the dog with it, took the skin and made a harness, took the ribcage and made a sled, harnessed up an adjacent dog and disappeared, shit knife in belt,

over the ice flows. Talk about getting by with nothing...

To my mind that is a great symbol of hope for the indigenous people, and indeed for the Inuit. All over the world, these people are still with us, and the miracle of our time is that they are still with us. In a place like California, there were eighty languages spoken at the time of contact. Amazingly, fifty are still with us today, but tragically, not one is being whispered by mothers to children. Every view of the world that fades away, every culture that disappears, diminishes the possibility of life. Knowledge is lost, not only of the natural world, but also of realms of the cosmos, intuitions about the spirit realm itself. This critically reduces the human repertoire, which is our only defense against the common problems that affect us all.

If there is one lesson that I've discerned from my travels, it is that diversity is not just the foundation of stability, as the ecologists teach: it's an article of faith, a fundamental indicator of the way things are supposed to be. If diversity is a source of wonder, then its opposite, this condensation of a blandly amorphous generic world culture, is a source of dismay.

There is indeed a fire burning over the Earth, taking with it plants and animals, cultures, languages, ancient skills and visionary wisdom. Quelling this flame and reinventing the poetry of cultural diversity is probably the most important challenge of our times. In the end we need the visions of these young Penan boys, just as we need the hopes of my own two young girls flanking Alex Jack, the Gitksan elder I mentioned, just as we need the memories of Alex himself. Because for all of us, these myths and memo-

ries and dreams stand apart as symbols of the naked geography of hope. Thank you very much.

A handwritten signature in black ink that reads "Wade D." followed by a long, sweeping horizontal line that extends to the right.

**Wade Davis** (British Columbia, 1953) holds degrees in anthropology and biology and received his Ph.D. in ethnobotany from Harvard. Through the Harvard Botanical Museum, he spent over three years in the Amazon and Andes as a plant explorer, living among fifteen indigenous groups in eight Latin American nations, and collecting over 6000 botanical specimens. He traversed the Andean Cordillera at fourteen points, and twice descended the Amazon from source to mouth. In Haiti he investigated folk preparations implicated in the creation of zombies, an assignment that led to writing *Passage of Darkness* (1988) and *The Serpent and the Rainbow* (1986), a bestseller which appeared in ten languages and was later released by Universal as a motion picture. His other books include *Penan: Voice for the Borneo Rainforest* (1990), *Nomads of the Dawn* (1995), *The Clouded Leopard* (1998), *Shadows in the Sun* (1998), *Rainforest* (1998), and *One River* (1996), nominated for the Governor General's Literary Award for Nonfiction, Canada's most prestigious literary prize. *Light at the Edge of the World* will be published in February 2002 by the National Geographic Society. Most recently his work has taken him to Peru, Borneo, Tibet, the high Arctic, the Orinoco delta of Venezuela and northern Kenya.

Dr. Davis has published over one hundred scientific and popular articles on subjects ranging from Haitian voodoo and Amazonian myth and religion to the global biodiversity crisis, the traditional use of psychotropic drugs, and the ethnobotany of South American Indians. He was host and co-writer of *Earthguide*, a 13-part television series on the environment that aired on the Discovery Channel. Since 1994 he has served as Vice President for Ethnobotany and Conservation at Andes Pharmaceuticals, and is on the boards of several NGOs dedicated to conservation-based development and the protection of cultural and biological diversity. In 2000 he was appointed to a three-year term as Explorer-in-Residence at the National Geographic Society.

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