ONE

SEASON OF THE BROWN HYENA

"I want all the cultures of all lands to be blown about my house as freely as possible. But I refuse to be blown off my feet by any." — Mahatma Gandhi

ONE OF THE INTENSE pleasures of travel is the opportunity to live amongst peoples who have not forgotten the old ways, who still feel their past in the wind, touch it in stones polished by rain, taste it in the bitter leaves of plants. Just to know that, in the Amazon, Jaguar shaman still journey beyond the Milky Way, that the myths of the Inuit elders still resonate with meaning, that the Buddhists in Tibet still pursue the breath of the Dharma is to remember the central revelation of anthropology: the idea that the social world in which we live does not exist in some absolute sense, but rather is simply one model of reality, the consequence of one set of intellectual

and spiritual choices that our particular cultural lineage made, however successfully, many generations ago.

But whether we travel with the nomadic Penan in the forests of Borneo, a Vodoun acolyte in Haiti, a *curandero* in the high Andes of Peru, a Tamashek *caravanseri* in the red sands of the Sahara, or a yak herder on the slopes of Chomolungma, all these peoples teach us that there are other options, other possibilities, other ways of thinking and interacting with the earth. This is an idea that can only fill us with hope.

Together the myriad of cultures makes up an intellectual and spiritual web of life that envelops the planet and is every bit as important to the well being of the planet as is the biological web of life that we know as the biosphere. You might think of this social web of life as an *"ethnosphere,"* a term perhaps best defined as the sum total of all thoughts and intuitions, myths and beliefs, ideas and inspirations brought into being by the human imagination since the dawn of consciousness. The ethnosphere is humanity's greatest legacy. It is the product of our dreams, the embodiment of our hopes, the symbol of all we are and all that we, as a wildly inquisitive and astonishingly adaptive species, have created.

And just as the biosphere, the biological matrix of life, is being severely eroded by the destruction of habitat and the resultant loss of plant and animal species, so too is the ethnosphere, only at a far greater rate. No biologist, for example, would suggest that 50 percent of all species are moribund. Yet this, the most apocalyptic scenario in

the realm of biological diversity, scarcely approaches what we know to be the most optimistic scenario in the realm of cultural diversity.

The key indicator, the canary in the coal mine if you will, is language loss. A language, of course, is not merely a set of grammatical rules or a vocabulary. It is a flash of the human spirit, the vehicle by which the soul of each particular culture comes into the material world. Every language is an old-growth forest of the mind, a watershed of thought, an ecosystem of spiritual possibilities.

Of the 7,000 languages spoken today, fully half are not being taught to children. Effectively, unless something changes, they will disappear within our lifetimes. Half of the languages of the world are teetering on the brink of extinction. Just think about it. What could be more lonely than to be enveloped in silence, to be the last of your people to speak your native tongue, to have no way to pass on the wisdom of your ancestors or anticipate the promise of your descendants. This tragic fate is indeed the plight of someone somewhere on earth roughly every two weeks. On average, every fortnight an elder dies and carries with him or her into the grave the last syllables of an ancient tongue. What this really means is that within a generation or two, we will be witnessing the loss of fully half of humanity's social, cultural and intellectual legacy. This is the hidden backdrop of our age.

There are those who quite innocently ask, "Wouldn't the world be a better place if we all spoke the same

language? Would not communication be facilitated, making it easier for us to get along?" My answer is always to say, "A wonderful idea, but let's make that universal language Haida or Yoruba, Lakota, Inuktitut or San." Suddenly people get a sense of what it would mean to be unable to speak their mother tongue. I cannot imagine a world in which I could not speak English, for not only is it a beautiful language, it's my language, the full expression of who I am. But at the same time I don't want it to sweep away the other voices of humanity, the other languages of the world, like some kind of cultural nerve gas.

Languages, of course, have come and gone through history. Babylonian is no longer spoken in the streets of Baghdad, or Latin in the hills of Italy. But again the biological analogy is useful. Extinction is a natural phenomenon, but in general, speciation, the evolution of new forms of life, has outpaced loss over the last 600 million years, making the world an ever more diverse place. When the sounds of Latin faded from Rome, they found new expression in the Romance languages. Today, just as plants and animals are disappearing in what biologists recognize as an unprecedented wave of extinction, so too languages are dying at such a rate that they leave in their wake no descendants.

While biologists suggest that perhaps 20 percent of mammals, 11 percent of birds, and 5 percent of fish are threatened, and botanists anticipate the loss of 10 percent of floristic diversity, linguists and anthropologists

today bear witness to the imminent disappearance of half the extant languages of the world. Over six hundred have fewer than a hundred speakers. Some 3,500 are kept alive by a fifth of 1 percent of the global population. The ten most prevalent languages, by contrast, are thriving; they are the mother tongues of half of humanity. Fully 80 percent of the world's population communicates with one of just eighty-three languages. But what of the poetry, songs, and knowledge encoded in the other voices, those cultures that are the guardians and custodians of 98.8 percent of the world's linguistic diversity? Is the wisdom of an elder any less important simply because he or she communicates to an audience of one? Is the value of a people a simple correlate of their numbers? To the contrary, every culture is by definition a vital branch of our family tree, a repository of knowledge and experience, and, if given the opportunity, a source of inspiration and promise for the future. "When you lose a language," the MIT linguist Ken Hale remarked not long before he passed away, "you lose a culture, intellectual wealth, a work of art. It's like dropping a bomb on the Louvre."

But what exactly is at stake? What, if anything, should be done about it? A number of books over recent years have paid homage to the global sweep of technology and modernity, suggesting that the world is flat, that one does not have to emigrate to innovate, that we are fusing into a single reality, dominated by a specific model of economics, that the future is to be found everywhere and all at once. When I read these books I can only

think that I must have been travelling in very different circles than these writers. The world that I have been fortunate to know, as I hope these lectures will demonstrate, is most assuredly *not* flat. It is full of peaks and valleys, curious anomalies and divine distractions. History has not stopped, and the processes of cultural change and transformation remain as dynamic today as ever. The world can only appear monochromatic to those who persist in interpreting what they experience through the lens of a single cultural paradigm, their own. For those with the eyes to see and the heart to feel, it remains a rich and complex topography of the spirit. /

IT MAY SEEM UNUSUAL to begin a celebration of culture and diversity with a nod to genetics, but this is really where the story begins. For nearly ten years my friend and colleague at the National Geographic Society, Spencer Wells, has been leading the Genographic Project, an ambitious global effort to track through both space and time the primordial journey of humanity. What he and other population geneticists have discovered is one of the great revelations of modern science. We are, as Spencer reminds us, the result of over a billion years of evolutionary transformations. Our DNA, encoded in four simple letters, is a historical document that reaches back to the origin of life. Each one of us is a chapter in the greatest story ever written, a narrative of exploration and discovery remembered not only in myth but encoded in our blood.

Every cell in our bodies is charged by a miracle, a double helix of four molecule types, four simple letters, A, C, G and T, linked in complex sequences that help orchestrate every pulse of sentient existence. There are six billion bits of data wrapped and coiled and spun in the darkness of our beings. If the DNA in any human body were to be stretched out in a single line it would reach not just to the moon, but to 3,000 celestial spheres equidistant from the earth. In life, of course, this chain, this mystic inheritance, is broken and bundled into forty-six chromosomes, which pass down through the generations. With each new coupling, each new child, these chromosomes are shuffled and reassembled such that each of us is born as a unique combination of the genetic endowment of our parents.

But vital clues remain. In each cell's nucleus, the Y chromosome, the factor that determines male gender, a sweep of some 50 million nucleotides, passes more or less intact through the generations, from father to son. In each cell's mitochondria, its energy-producing organelles, the DNA also passes more or less intact through the generations, but from mother to daughter. Because of this, and only because of this, these two threads of DNA act as a sort of time machine, opening a window onto the past.

Almost all human DNA, 99.9 percent of the three billion nucleotides, does not vary from person to person. But woven into the remaining 0.1 percent are revelations, differences in the raw code itself that yield vital clues about human ancestry. Inevitably during the transcription

and replication of genetic information, these billions of bits of data, small glitches occur. Where the letter A ought to be, there appears a G. These are mutations, and they happen all the time. They are not cataclysmic. Rarely would a single mutation make for phenotypic changes. A shift in a single letter of the code does not change the colour of the skin, the height of the body, let alone the intelligence and destiny of the person. This genetic drift does, however, remain indelibly encoded in the genes of that individual's descendants. These single inherited mutations are the markers, the "seams and spot welds," as Spencer has written, that over the last twenty years have allowed population geneticists to reconstruct the story of human origins and migration with a precision that would have been unimaginable a generation ago. By studying not the similarities but the differences in the DNA between individuals, by tracking the appearance of markers through time, and by looking at thousands of markers, the lineages of descent can be determined. Two entwined evolutionary trees are being constructed, one through fathers and sons, the other through mothers and daughters, and the entire journey of humanity both in time and space brought into remarkably precise focus.

The overwhelming scientific consensus suggests that all of humanity lived in Africa until some 60,000 years ago. Then, perhaps driven by changing climatic and ecological conditions that led to the desertification of the African grasslands, a small band of men, women, and

children, possibly as few as 150 individuals, walked out of the ancient continent and began the colonization of the world. What propelled the multiple waves of the human diaspora can never be fully known, though presumably food and other resource imperatives played a major role. As populations grew beyond the carrying capacity of the land, they splintered, and some bands moved on. What the DNA record reveals is that as smaller groups split off, they carried only a subset of the genetic diversity originally present in the African population. Indeed, the science indicates that for all human cultures, wherever they ended up, genetic diversity decreases the further both in time and space that a people are removed from Africa. Again, these differences do not reflect phenotype. They do not imply anything about human potential. They are simply markers that highlight a sort of cosmic map of culture, revealing where and when our ancestors took to the open road.

A first wave followed the shoreline of Asia, traversing the underbelly of Asia to reach Australia by as early as 50,000 BP. A second migration moved north through the Middle East and then turned east, dividing once again some 40,000 years ago, sending movements south into India, west and south through Southeast Asia to southern China, and north into Central Asia. From here, out of the brooding mountains at the heart of the world's largest continent, two subsequent migrations brought people west to Europe (30,000 BP) and east to Siberia, which was populated by 20,000 BP. Finally, some 12,000 years

ago, even as a new wave came out of the Middle East into southeastern Europe, and people moved north through China, a small band of hunters crossed the land bridge of Beringia and established for the first time a human presence in the Americas. Within 2,000 years their descendants had reached Tierra del Fuego. From humble origins in Africa, after a journey that lasted 2,500 generations, a hegira 40,000 years in the making, our species had settled the entire habitable world.

BEFORE GOING ANY FURTHER, let me explain why I think this genetic research is so important, for this really provides the foundation for all of the themes and issues that will be discussed in these lectures. Nothing that has emerged from science in my lifetime, save perhaps the vision of the Earth from space brought home by Apollo, has done more to liberate the human spirit from the parochial tyrannies that have haunted us since the birth of memory.

As a social anthropologist I was trained to believe in the primacy of history and culture as the key determinants in human affairs. Nurture, if you will, as opposed to nature. Anthropology began as an attempt to decipher the exotic other, with the hope that by embracing the wonder of distinct and novel cultural possibilities, we might enrich our appreciation and understanding of human nature and our own humanity. Very early on, however, the discipline was hijacked by the ideology of its times. As naturalists throughout the nineteenth

century attempted to classify creation even as they coped with the revelations of Darwin, anthropologists became servants of the Crown, agents dispatched to the far reaches of empire with the task of understanding strange tribal peoples and cultures that they might properly be administered and controlled.

Evolutionary theory, distilled from the study of bird beaks, beetles, and barnacles, slipped into social theory in a manner that proved useful to the age. It was anthropologist Herbert Spencer who coined the phrase "survival of the fittest." At a time when the United States was being built by the labour of African slaves, and the British class system was so stratified that children of the wealthy were on average 6 inches taller than those of the poor, a theory that provided a scientific rationale for differences in race and class was a welcome convenience.

Evolution suggested change through time, and this, together with the Victorian cult of improvement, implied a progression in the affairs of human beings, a ladder to success that rose from the primitive to the civilized, from the tribal village of Africa to London and the splendour of the Strand. The cultures of the world came to be seen as a living museum in which individual societies represented evolutionary moments captured and mired in time, each one a stage in the imagined ascent to civilization. It followed with the certainty of Victorian rectitude that advanced societies had an obligation to assist the backward, to civilize the savage, a moral duty that again played well into the needs of empire. "We happen to be

the best people in the world," Cecil Rhodes famously said, "and the more of the world we inhabit, the better it is for humanity." George Nathaniel Curzon, eleventh viceroy of India, agreed. "There has never been anything," he wrote, "so great in the world's history as the British Empire, so great an instrument for the good of humanity. We must devote all of our energies and our lives to maintaining it." Asked why there was not a single Indian native employed in the Government of India, he replied, "Because among all 300 million people of the subcontinent, there was not a single man capable of the job."

Having established the primacy of race, and the inherent superiority of Victorian England, anthropologists set out to prove their case. The scientific mismeasure of man began as phrenologists with calipers and rulers detected and recorded minute differences in skull morphology, which were presumed to reflect innate differences in intelligence. Before long, physical anthropologists were measuring and photographing peoples throughout the world, all with the deeply flawed notion that a complete classification of our species could be attained simply by comparing body parts, the shape of hips, the texture of hair, and inevitably the colour of skin. Linnaeus, the father of classification, had in the late eighteenth century determined that all humans belonged to the same species, *Homo sapiens*, "man the wise." But he hedged his bets by distinguishing five subspecies, which he identified as *afer* (African), *americanus* (Native American), *asiaticus* (Asian), *europaeus* (European) and

finally a catch-all taxon, *monstrosus*, which included essentially everybody else, all the peoples so bizarre to the European eye that they defied classification.

More than a century after Linnaeus, physical anthropology, inspired by a selective misreading of Darwin, accepted the concept of race as a given. The confirmation of such preconceptions became part of the agenda and duty of both scholars and explorers. Among those who set out to chart the racial saga was a British army officer and explorer, Thomas Whiffen. Travelling down the Río Putumayo in the Colombian Amazon at the height of the rubber terror, he described the forest as "innately malevolent, a horrible, most evil-disposed enemy. The air is heavy with the fumes of fallen vegetation slowly steaming to decay. The gentle Indian, peaceful and loving, is a fiction of perfervid imaginations only. The Indians are innately cruel." Living for a year among them, Whiffen noted, was to become "nauseated by their bestiality." At a time when literally thousands of Bora and Huitoto Indians were being enslaved and slaughtered, he offered advice to future travellers, suggesting that exploratory parties be limited to no more than twenty-five individuals. "On this principle," he wrote, "it will be seen that the smaller the quantity of baggage carried, the greater will be the number of rifles available for the security of the expedition."

Whiffen, whose book, *The North-West Amazons*, was widely read when published in 1915, claimed to have come upon cannibal feasts, "prisoners eaten to the last bit,

a mad festival of savagery ... men whose eyes glare, nostrils quiver ... an all pervading delirium." Other academic explorers of the era, if somewhat more restrained, nevertheless subscribed to what Michael Taussig has charitably called the "penis school of physical anthropology." The French anthropologist Eugenio Robuchon, who also descended the Putumayo, the River of Death, noted that, "in general the Huitotos have thin and nervous members." Another chapter of his book begins: "The Huitoto have gray-copper skin whose tones correspond to numbers 29 and 30 of the chromatic scale of the Anthropological Society of Paris." A footnote in Whiffen's book reads, "Robuchon states that the women's mammae are pyriform, and the photographs show distinctly pyriform breasts with digitiform nipples. I found them resembling rather the segment of a sphere, the areola not prominent, and the nipples hemispherical."

Not everyone was interested in the measurement of breasts and skulls. Those who preferred to look forward to a brighter world distorted Darwinian theory in anticipation of creating a new and better society. Eugenics means "good birth," and the movement that flourished at the turn of the twentieth century called for the selective breeding of healthy and fit individuals, with the goal of improving the gene pool of humanity. By the 1920s this ideal had been inverted into a rationale for forced sterilization and the culling of deviance. If one could improve the gene pool through selective breeding, surely one could achieve the same goal by eliminating from the

stock elements deemed to be undesirable. This was the twisted scientific principle that in time allowed the Germans to justify the slaughter and systematic extermination of millions of innocent people.

Given this sordid history, the ludicrous ambitions of phrenology, the murderous consequences of eugenics, the perennial confidence and hubris of the scientific community even when promoting the most dubious of claims, it is no wonder that many people, notably those from non-Western traditions, remain deeply skeptical of any sweeping theory of human origins and migration. That such research is dependent on the collection and analysis of human blood from remote and isolated populations only further inflames passions and concerns. Indigenous peoples, in particular, are deeply offended by the suggestion that their homelands, enshrined in narrative and myth, may not have been inhabited by their ancestors since the dawn of time. There have even been accusations that the recent scientific revelations about our genetic heritage may prompt open conflict and the forced removal of tribal peoples from lands that they have in fact occupied for all living memory.

I am quite certain that these fears are unfounded. History suggests that dominant groups do not need excuses to ravage the weak, and I do not believe that any theory that emerges from these new studies will somehow tip the balance and in and of itself lead to the disenfranchisement of a people. It is true that the Nazis turned to pseudoscience about genetics and race to

rationalize genocide, but, as Steven Pinker reminds us, the Marxist–Leninists were inspired to equally despicable and devastating acts of genocide by their pseudoscientific fantasies about the social malleability of human nature. "The real threat to humanity," Pinker writes, "comes from totalizing ideologies and the denial of human rights, rather than curiosity about nature and nurture."

Knowledge poses no threat to culture. What's more, these research efforts only generate a certain type of knowledge, defined within a specific world view. Western science by definition rejects a literal interpretation of origin myths that root the Haida, for example, to Haida Gwaii. But that rejection does nothing to quell the spirit of the Haida or to persuade my friend Guujaaw, head of the Council for the Haida Nation, that his people have not occupied the archipelago since human beings emerged from the clamshell and Raven slipped out of the ether to steal the sun. A scientific suggestion that the Haida may have "come from somewhere else" has already been made; it has long been the foundation of orthodox anthropology. But this scientific "truth" does nothing to limit the authority and power of the Haida today. Their ability to deal nation to nation with the Canadian government has little to do with mythic ancestral claims and everything to do with political power, a priori evidence of occupancy at the time of contact, and the ability of leaders such as Guujaaw to mobilize support for his people throughout the world.

Science is only one way of knowing, and its purpose is not to generate absolute truths but rather to inspire

better and better ways of thinking about phenomena. As recently as 1965, American anthropologist Carleton Coon wrote two books, *The Origin of Races* and *The Living Races of Man*, in which he advanced the theory that there were five distinct human subspecies. Little, apparently, had been learned since the time of Linnaeus. The political and technological dominance of Europeans, Coon suggested, was a natural consequence of their evolved genetic superiority. He even asserted that "racial intermixture can upset the genetic as well as the social equilibrium of a group." Coon at the time was the president of the American Association of Physical Anthropologists, a full professor at the University of Pennsylvania, and curator of ethnology at the university's Museum of Archaeology and Anthropology.

That such statements, convenient as they were during the last years of Jim Crow and segregation, were seriously entertained by the academic community as recently as 1965 should certainly give us pause as we consider the implications of the new research in population genetics. But when the science in fact suggests an end to race, when it reveals beyond any reasonable doubt that race is a fiction, it behooves us to listen. We should at least hope that for once the scientists have it right.

And they do. They have revealed beyond any doubt that the genetic endowment of humanity is a single continuum. From Ireland to Japan, from the Amazon to Siberia, there are no sharp genetic differences among populations. There are only geographical gradients. The

most remote society on earth contains within its people fully 85 percent of our total genetic diversity. Were the rest of humanity to be swept away by plague or war, the Waorani or the Barasana, the Rendille or the Tuareg would have within their blood the genetic endowment of all of humanity. Like a sacred repository of spirit and mind, any one of these cultures, any one of the 7,000, could provide the seeds from which humanity in all its diversity might be reborn.

What all of this means is that biologists and population geneticists have at last proved to be true something that philosophers have always dreamed: We are all literally brothers and sisters. We are all cut from the same genetic cloth.

It follows, by definition, that all cultures share essentially the same mental acuity, the same raw genius. Whether this intellectual capacity and potential is exercised in stunning works of technological innovation, as has been the great achievement of the West, or through the untangling of the complex threads of memory inherent in a myth — a primary concern, for example, of the Aborigines of Australia — is simply a matter of choice and orientation, adaptive insights and cultural priorities.

There is no hierarchy of progress in the history of culture, no Social Darwinian ladder to success. The Victorian notion of the savage and the civilized, with European industrial society sitting proudly at the apex of a pyramid of advancement that widens at the base to the so-called primitives of the world, has been thoroughly

discredited — indeed, scientifically ridiculed for the racial and colonial conceit that it was. The brilliance of scientific research and the revelations of modern genetics have affirmed in an astonishing way the essential connectedness of humanity. We share a sacred endowment, a common history written in our bones. It follows, as these lectures will suggest, that the myriad of cultures of the world are not failed attempts at modernity, let alone failed attempts to be us. They are unique expressions of the human imagination and heart, unique answers to a fundamental question: What does it mean to be human and alive? When asked this question, the cultures of the world respond in 7,000 different voices, and these collectively comprise our human repertoire for dealing with all the challenges that will confront us as a species over the next 2,500 generations, even as we continue this never-ending journey.

BUT WHO WERE THESE people who walked out of Africa so many thousands of years ago? What were they like? If we can track their subsequent journey through inherited genetic markers, presumably it should be possible to find a people still living in Africa, a people who never left, and whose DNA therefore lacks all evidence of the mutations that occurred among the successive waves that spread our ancestors throughout the world. As Spencer Wells' research again highlights, such a people have indeed been identified, and they are a culture that has fascinated anthropologists for decades. Living today in the searing sands of the

Kalahari, 55,000 strong scattered across some 84,000 square kilometres of Botswana, Namibia and southern Angola, the San have long been considered the descendants of a people who at one time inhabited the entire subcontinent and much of East Africa. Displaced by successive waves of agriculturalists and pastoral herders, the San survived as bushmen, nomadic hunters and gatherers, men and women whose precise and exacting knowledge allowed their people alone to survive in one of the most forbidding and parsimonious desert landscapes on earth. This extraordinary body of adaptive information, this intellectual toolbox, is encoded in the words and sounds of a native tongue that is a linguistic marvel, a language totally unrelated to any other known family of languages. In everyday English we use 31 sounds. The language of the San has 141, a cacophony of cadence and clicks that many linguists believe echoes the very birth of language. Indeed, the genetic data suggests that this may be the case. The absence of key markers indicates that the San were the first people in what became the family tree of humanity. If the Irish and the Lakota, the Hawaiian and the Maya are the branches and limbs, the San are the trunk, and quite possibly the oldest culture in the world. When the rest of us decided to travel, the San elected to stay home.

Certainly until the early years of the twentieth century, when the impact of alcohol and education, and the false and twisted promises of development, shattered many of their lives, the San had followed the rhythm of their natural world for perhaps 10,000 years. They had

little choice. Their very survival depended on their ability to anticipate every nuance of the seasons, every movement of the animals, the very sounds that plants make as they grow. Water was the constant challenge. In the Kalahari there is no standing water for ten months of the year. Water has to be found in the hollows of trees, sucked from beneath the mud with hollow reeds, or cached in ostrich eggs, plugged with grass and marked with a sign of the owner. For most of the year the only source of water is liquid found in roots or squeezed from the guts of animals.

During the dry season, May through the end of December, the San are constantly on the move. Though they think of themselves primarily as hunters, they survive by eating plants, with each adult consuming 5 kilograms of wild melon a day. When the melons wither, the San find they must dig, and in a desert environment where the body loses 3 litres a day in sweat, it takes more than twenty large tubers, each dug from the sand, to keep a person alive. In the worst months, the Season of the Brown Hyena, the San scrape hollows in the ground, moisten the earth with urine, and then lie completely still beneath a sprinkling of sand, tormented by flies, as they wait out the heat of the day. The sun is not a source of life, but a symbol of death. The time of greatest privation is also the time of promise, for in October begin the Little Rains, the first teasing raindrops heralding the end of the period of drought. For three months, from October through December, the land is tormented by this

promise of rain, which is never enough. Those fortunate to live around permanent water huddle in small encampments. The majority forage by dusk and dawn for roots. The heat continues and dry winds sweep over the brown grasslands, and the spirits of the dead appear as dust devils spinning across a grey and yellow horizon.

Finally, in January arrive the rains and for three months the people celebrate a season of rebirth and regeneration. But in the Kalahari, rain remains relative. Sometimes the clouds swell into massive thunderheads, and crack open the sky to pound the earth with 8 centimetres of rain in an hour. But there are years when the rains simply do not arrive, and precipitation for the entire wet season is as little as 5 centimetres. The people must dig as deep as several metres beneath the surface of the earth to reach an impervious layer where water may sometimes be found. The possibility of dying of thirst is a constant, even in the season of the rains.

In good years the rains bring relative abundance. Pools of water form on the sand, and equipped only with digging sticks, collecting bags, woven nets and ostrich shells to carry water, the people move about in small bands, extended family units that occasionally come together in larger concentrations to celebrate a harvest of fruits or seeds, the presence of game. These wanderings are not random. Each passage traverses known ground, time-honoured territories that resonate with narratives, each granting ownership of a particular resource to a band of people — a resource that might be a tree or shrub,

or a recognized source of honey, the most highly prized of nectars. The Mother of the Bees is the wife of the Great God who created all things. A fount of honey is protected by name, and to violate another's claim is a crime punishable by death.

The favourite time of year is the month of April, the Season of the Hunter. Though plants comprise the bulk of the San diet, meat is the most desired food, as it is the hunt that transforms a boy into a man. By April in most years, the rains have driven away the heat, and the bitter cold of desert winter has yet to set in. There is ripe food everywhere — beneath the ground, upon the vines, on every limb of every tree and shrub. The antelope, having calved their young, are fat and plentiful. Territory is forgotten as the men range across the desert in small hunting parties, walking as far as 60 kilometres in a day, returning to the fire and the families each night. They travel light: short bow and a quiver of arrows made from root bark capped in the scrotum of the prey; fire-making sticks; a hollow reed for sucking water; a knife and short spear; a blob of vegetable gum to make repairs; a sharpened stick for holding meat to flame.

Hunting in teams, the San men watch for signs. Nothing escapes their notice: a bend in a blade of grass, the direction of the tug that snapped a twig, the depth, shape, and condition of a track. Everything is written in the sand. Adultery among the San is a challenge because every human footprint is recognizable. From a single animal track, San hunters can discern direction, time,

and rate of travel. Armed with ingenuity, and living in direct competition with serious predators such as leopards and lions, they manage to kill an astonishing array of creatures. With pits of poisoned stakes they lay traps for hippos. Risking their lives, they run upon the heels of elephants, hamstringing the enormous animals with the swift blow of an axe. Hovering near a lion kill, they wait until the animal is satiated, and then chase the sluggish cat from the carcass of the dead. Birds are snared on the fly with nets. Antelope are literally run to ground, often over a period of days. The San bows are short, with little power and an effective range of perhaps 25 metres. The arrows rarely penetrate the prey. They nick the skin, but generally this is enough, for the arrows are tipped in deadly toxin derived from the grubs of two species of beetles that feed on the leaves of a desert tree, *Commiphora africana*. The San find the beetles in colonies and excavate the cocoons, which they store in containers made from antelope horn. They roll the grubs back and forth between the fingers, softening the insides without breaking the skin. These they squeeze to exude a paste. Sun-dried, the venom, once injected into the blood, provokes convulsions, paralysis, and death.

The hunt is the metaphor that brings us into the very heart of San life. A man who does not hunt remains a child. To marry, a man must bring meat to the parents of the bride. A first antelope kill is the high point of youth, a moment recorded for all time in the skin of the hunter by his father, who makes a shallow incision with bone,

and rubs into the wound a compound of meat and fat, scarring the right side of the body if the kill is a buck, the left if a doe. The tattoo marks the boy with the heart of a hunter — a potent source of magic, for the San do not simply kill game. They engage in a dance with the prey, a ritual exchange that ends with the creature literally making of itself an offering, a sacrifice. Every hunt ends in exhaustion, as the antelope realizes that whatever it does it cannot escape the pursuit of man. It then stops and turns, and the arrow flies.

The meat of large prey is shared among all members of an encampment, the distribution determined not by the hunter but by the owner of the arrow. San men are always giving each other gifts of arrows. The arrow, with its tip of bone, its elegant shaft, its perfect blend of poison, represents the highest achievement of San technology. But its power lies in the realm of the social, for each exchange of arrows establishes bonds of reciprocity that forge the solidarity of San lives. To refuse a gift is an act of hostility. To accept is to acknowledge both a connection and an obligation. The arrow represents much more than a debt that must be honoured by trade, or reimbursed over time. Rather, it secures a lifelong duty that welds the individual to the greater social sphere, brings the youth into the realm of the hunter, and the hunter into the circle of the hearth and the sacred fire.

If the San associate the sun with death, fire symbolizes life, the unity of the people, the survival of the family. Whereas a gift of meat formalizes the betrothal

of a woman, divorce is finalized the moment she simply returns to her family's fire. A mother gives birth in the darkness, and announces the delivery by moving back into the circle of firelight. When an elder grows too old and weak to continue with the people, he is left behind to die, protected from the hyenas by a circle of thorn scrub and a fire at his feet to light his way into the next world. For the San there are two great spirits: the Great God of the Eastern Sky; and the lesser God of the West, a source of negativity and darkness, the custodian of the dead. To ward off the God of the West, to deflect the arrows of disease and misfortune, the San dance around the fire, casting their beings into trance. The vital force of life that resides in the belly rises up the spine as a vapour, touches the base of the skull, diffuses through the body, and spins the spirit into a higher consciousness. The healing dance ends with the hunters around the fire, having teased the flames and the gods by placing their own heads in the burning coals.

LANGUAGE, STEALTH, SPIRIT, adaptive genius — these were the tools that allowed the San to survive the Kalahari. And these too presumably were the attributes that our distant ancestors carried out of Africa. But an ethnographic portrait of the San today, or the San as they lived before the ravages of modern colonialism, still leaves us with fundamental questions: How can we reach back in time to touch the essence of these earth wanderers, these ancestral beings who found their way to every habitable

place on the planet? What did they know? How did they think? What inspired them, beyond the raw challenges of staying alive? What ignited, as my good friend the poet Clayton Eshleman has so beautifully inquired, the "juniper fuse" of the imagination, for surely this must have marked the true moment of human origins, the unfolding of consciousness that led to the creation of culture. At some point it all began.

We know that the hominid lineage dates back in Africa for millions of years: the earliest skeletal remains are those of a three-year-old girl discovered in 2006 in the Afar Desert of Ethiopia by paleoanthropologist Zeresenay Alemseged. He named her *Australopithecus afarensis*, after the place where she was found and where her bones had rested for 3.3 million years. Our own species, *Homo sapiens*, did not evolve until a mere 200,000 years ago. We had direct competitors. The human population ebbed and flowed, and at one juncture we were very nearly extinguished, reduced perhaps to a thousand individuals. But something pulled us back from extinction.

For most of our history we shared the world with another branch on the hominid tree, our remote cousins the Neanderthals, who were descendants of the same progenitor, *Homo erectus*. Neanderthals clearly had awareness. They used tools, and there is evidence of deliberate burial as early as 70,000 years ago. But whether it was an increase in the size of the brain, the development of language, or some other evolutionary catalyst, our species possessed competitive advantages

that ultimately would launch its destiny in an astonishing manner, an explosion of intellect that left Neanderthal man gasping for survival.

The place to witness this primordial flash of the spirit lies beneath the ground in southwest France and beyond the Pyrenees in Spain. By the time the last vestiges of Neanderthal life slipped away from Europe 27,000 years ago, the stunning Upper Paleolithic cave art, created by our direct ancestors, was already several thousand years old. Reaching deep into the earth, through narrow passages that opened into chambers illuminated by the flicker of tallow lamps, men and women drew with stark realism the animals they revered, singly or in herds, using the contour of the stone to animate forms so dramatically that entire caverns come alive even today with creatures long since lost to extinction.

The sophistication of the figurative art found at Chauvet and Altamira, and at later sites such as Lascaux and Pech Merle, is astonishing not only for its transcendent beauty, but also for what it tells us about the fluorescence of human potential once brought into being by culture. The technical skills, the exploitation of red ochre and black manganese, iron oxide and charcoal, to yield a full palette of colours, the use of scaffolding, the diverse techniques to apply the pigments, are themselves remarkable and suggest a relatively high level of social organization and specialization that is echoed in the genius of the Upper Paleolithic tool kit, the elegant scrapers and blades pounded from flint. The use of negative

space and shadow, the sense of composition and perspective, the superimposition of animal forms through time indicates a highly evolved artistic aesthetic that itself implies the expression of some deeper yearning.

I recently spent a month in France in the Dordogne with Clayton Eshleman, who has been studying the cave art for more than thirty years, ever since a fateful morning in the spring of 1974 when he abandoned, as he put it, the world of bird song and blue sky for a realm of constricted darkness that filled his being with "mystical enthusiasm." Like so many observers before him he was dazzled yet perplexed not just by what he saw but how he felt in the sensory isolation of the caves, his imagination suspended between consciousness and the soul of an all-devouring earth, a "living and fathomless reservoir of psychic force." He paid attention not only to what was depicted on the rock, but also to what was missing — the bison and the horse being the most commonly portrayed animals, with carnivores represented the least. The images float in isolation; there are no backgrounds or ground lines. Depictions of people are few, and there are no displays of fighting, no scenes of hunting, no representation of physical conflict.

Northrop Frye struggled in vain to assign purpose to these works. "We can add such words as *religion* and *magic*," he wrote, "but the fact remains that the complexity, urgency and sheer titanic power of the motivation involved is something we cannot understand now, much less recapture." Frye saw the animals portrayed as a

"kind of extension of human consciousness and power into the objects of greatest energy and strength they [the humans] could see in the world around them." It was as if in painting these forms onto rock, the artist was somehow assimilating the "energy, the beauty, the elusive glory latent in nature to the observing mind." We look at the animal forms with human eyes and "suspect that we are really seeing a sorcerer or shaman who has identified himself with the animal by putting on its skin."

Clayton, too, sensed that the cave art did much more than invoke the magic of the hunt. Human beings, he suggested, were at one time of an animal nature, and then at some point, whether we want to admit it or not, were not. The art pays homage to that moment when human beings, through consciousness, separated themselves from the animal realm, emerging as the unique entity that we now know ourselves to be. Viewed in this light the art may be seen — as Clayton has written — almost as "postcards of nostalgia," laments for a lost time when animals and people were as one. Proto-shamanism, the first great spiritual impulse, grew as an attempt to reconcile and even re-establish through ritual a separation that was irrevocable. What is perhaps most remarkable is the fact that the fundamentals of Upper Paleolithic art remained essentially unchanged for literally 20,000 years, five times the chronological distance that separates us today from the builders of the Great Pyramid at Giza. If these were postcards of nostalgia, ours was a very long farewell indeed.

The cave art marked also the beginning of our discontent, the restless quest for meaning and understanding that has propelled the human dream ever since. Our entire existential experience as a species over the past 50,000 years may be distilled into two words: *how* and *why*. These are the departure points for all inquiry, the slivers of insight around which cultures have crystallized.

All peoples face the same adaptive imperatives. We all must give birth; raise, educate and protect our children; console our elders as they move into their final years. Virtually all cultures would endorse most tenets of the Ten Commandments, not because the Judaic world was uniquely inspired, but because it articulated the rules that allowed a social species to thrive. Few societies fail to outlaw murder or thievery. All create traditions that bring consistency to coupling and procreation. Every culture honours its dead, even as it struggles with the meaning of the inexorable separation that death implies.

Given these common challenges, the range and diversity of cultural adaptations is astonishing. Hunting and gathering societies have flourished from the rain forests of Southeast Asia and the Amazon to the dry flat deserts of Australia; from the Kalahari to the remote, icy reaches of the high Arctic; from the broad American plains to the pampas of Patagonia. Wayfarers and fishermen have settled virtually every island chain in all the world's oceans. Complex societies have been built on the bounty of the sea alone, the salmon,

eulachon, and herring that brought life to the First Nations of the Pacific Northwest.

With the Neolithic revolution some 10,000 years ago, humans began to domesticate plants and animals. Pastoral nomads settled the marginal reaches of the planet: the sands of the Sahara, the Tibetan plateau, and the windswept expanses of the Asian steppe. Agriculturalists took a handful of grasses — wheat, barley, rice, oats, millet and maize — and from their bounty generated surpluses, food that could be stored, thus allowing for hierarchy, specialization, and sedentary life: all the hallmarks of civilization, as traditionally defined. Great cities arose, and, in time, kingdoms, empires, and nation-states.

No series of lectures can do justice to the full wonder of the human cultural experience. The very word *culture* defies precise definition, even as the concept embraces multitudes. A small, isolated society of a few hundred men and women in the mountains of New Guinea has its own culture, but so, too, do countries such as Ireland and France. Distinct cultures may share similar spiritual beliefs — indeed, this is the norm in lands that have been inspired by Christianity, Islam, and Buddhism. While language in general tends to delineate unique world views, there are peoples in Alaska, for example, that have lost the ability to speak in their native tongues, yet still maintain a thriving and vibrant sense of culture.

Perhaps the closest we can come to a meaningful definition of *culture* is the acknowledgement that each is

a unique and ever-changing constellation we recognize through the observation and study of its language, religion, social and economic organization, decorative arts, stories, myths, ritual practices and beliefs, and a host of other adaptive traits and characteristics. The full measure of a culture embraces both the actions of a people and the quality of their aspirations, the nature of the metaphors that propel their lives. And no description of a people can be complete without reference to the character of their homeland, the ecological and geographical matrix in which they have determined to live out their destiny. Just as landscape defines character, culture springs from a spirit of place.

Over the course of these lectures I look forward to exploring some of these worlds with you. We'll travel to Polynesia and celebrate the art of navigation that allowed the wayfinders to infuse the entire Pacific Ocean with their imagination and genius. In the Amazon await the descendants of a true lost civilization, the Peoples of the Anaconda, a complex of cultures inspired by mythological ancestors who even today dictate how humans must live in the forest. In the Andean Cordillera and the mountains of the Sierra Nevada de Santa Marta of Colombia we'll discover that the earth really is alive, pulsing, responsive in a thousand ways to the spiritual readiness of humankind. Dreamtime and the Songlines will lead to the melaleuca forests of Arnhem Land, as we seek to understand the subtle philosophy of the first humans to walk out of Africa, the Aboriginal peoples of

Australia. In Nepal a stone path will take us to a door that will open to reveal the radiant face of a wisdom hero, a Bodhisattva, Tsetsam Ani, a Buddhist nun who forty-five years ago entered lifelong retreat. The flight of a hornbill, like a cursive script of nature, will let us know that we have arrived at last amongst the nomadic Penan in the upland forests of Borneo.

What ultimately we will discover on this journey will be our mission for the next century. There is a fire burning over the earth, taking with it plants and animals, ancient skills and visionary wisdom. At risk is a vast archive of knowledge and expertise, a catalogue of the imagination, an oral and written language composed of the memories of countless elders and healers, warriors, farmers, fishermen, midwives, poets, and saints — in short, the artistic, intellectual, and spiritual expression of the full complexity and diversity of the human experience. Quelling this flame, this spreading inferno, and rediscovering a new appreciation for the diversity of the human spirit as expressed by culture, is among the central challenges of our times.