REDISCOVERING
Our Place in Nature

by Dr. David Suzuki

David Suzuki is one of the world's foremost authorities on genetics, ecology, and sustainable development. The author of more than 30 books, Dr. Suzuki's public fame stems primarily from his stint as host of the popular TV shows "The Nature of Things" and "A Planet for the Taking." He is a full professor at the University of British Columbia in Vancouver and the Chair of the David Suzuki Foundation. He has received numerous distinctions and honorary doctorates.

The following is an abridged version of Dr. Suzuki's keynote address on April 9 to the 2000 CHAC/Salvation Army annual convention in Victoria.

During the 1970s and 1980s, when the environmental movement exploded around the world, we forgot in large part that there were human beings involved in many of the issues. We forgot that we were part of the problem and must ultimately be part of the solution. I think the exciting aspect of the environmental movement today is that we no longer see a separation between issues concerning communities, people and the planet. We have come to understand that if we don't deal with issues of poverty, hunger, injustice and insecurity, we are not going to save the environment, because all these problems are interlinked. And if we lack spiritual values, we cannot learn to live in balance with the rest of Creation.

We are unlike other mammals because not only do we have a lot of people, we have a lot of technology.

The issues you are dealing with at this convention are central to the question of whether we will ultimately achieve sustainable communities and a sustainable planet.

The new millennium: a cause for celebration?

We recently celebrated the end of the 20th century and the beginning of a new millennium. There is much to celebrate, especially over the last 100 years. The achievements of humankind have been absolutely amazing, from antibiotics to telecommunications, genetic engineering, computers and space travel. The past decade alone saw the longest period of peacetime economic growth in human history. It's not surprising that many people in the industrialized countries of the world ushered in the year 2000 with great expectations of endless growth, change and progress.

But the celebrations of last New Year's Eve masked a far darker reality. While we boast of some 500 multi-billionaires on Earth, 3 billion people—half the population of the planet—struggle to survive on less than $3 a day. Surely we should measure human progress not in terms of the obscenely wealthy but on the state of the most vulnerable, the poorest and the most frail in our society. By that criterion, I think we have much to hang our heads for, not celebrate, over the last 100 years.

Could it be that the spectacular economic gains of the last few years are an illusion created by robbing future generations of their rightful legacy? I fear that our progress has been acquired by tampering with the biological, physical and chemical features of the planet that are the very source of our survival and our existence and that should be our legacy to all future generations.

From species to super species

Throughout virtually the entire history of humanity's existence on Earth, nature was vast, abundant and endlessly self-renewing. We were one species among millions, all sharing in the planet's productivity. We weren't very different from other species, and not very impressive in physical terms. We did have one great advantage over other creatures: the most complex structure in the known universe, the human brain. That brain gave us a tremendous memory, a capacity for remembering and a sense of curiosity and inventiveness.

A mere ten thousand years ago, humanity underwent a fundamental shift called the agricultural revolution. No longer were we hunter-gatherers and nomads; now we had a dependable source of food, and we could begin to establish permanent settlements and to differentiate tasks. But nature remained our touchstone, our reference, our source of inspiration and living.

It was in the last century that humanity underwent an absolutely revolutionary shift, turning into what I have called a super species. (My latest book is entitled *From Naked Ape to Super Species.*) This occurred through the conjunction of a number of factors, the most obvious being our numbers.

When Jesus Christ was born, it is estimated that there were 200 million human beings on Earth. It then took almost 2000 years to reach the first one billion people. When I was born in 1936, we had just doubled to two billion and today we have over six billion. In my lifetime the population of the planet has tripled. Nothing in a finite world can continue to grow indefinitely and exponentially. The only question is how much higher can it go before nature dictates a huge population crash.

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We are now the most numerous mammal on the planet. But, unlike other mammals, we have the added muscle power of technology to increase our impact on the earth.

From cars to computers, birth control pills and space travel, virtually the entire history of modern technology has been developed within the last 100 years. At the same time that our numbers have been increasing, our technology has been rising even more steeply. But there's more. We have acquired a tremendous consumptive appetite.

We are hyper-consumers. We consume at least ten times as much per person as people did at the beginning of the last century. It's ironic to me that in the 19th century consumption meant wasting away. That's exactly what is happening to the planet today.

One of the most humiliating statistics I know is that in the last 40 years the average size of a Canadian family has decreased by 50 percent while the average size of a Canadian house has doubled. Why? Because we are super-consumers and we have a lot of stuff. But nobody asks, "How much is enough? Does all this make us happier?" The average house built today in Canada has one bathroom per occupant. When I grew up in the 1940's and 1950's in Ontario, there were six of us in one house with one bathroom. Yet I don't remember lining up.

Consumption is driven by the global economy, which sees the entire planet as a potential resource for transnational corporations and all of humanity as a potential market for their products. The combination of these factors—the explosive increase in human numbers, our enormous rise in technological power, our tremendous consumptive demand, and the global economy that feeds it—has made us into a super species. Suddenly, we are able to alter the planet on a scale that no other species in 4 billion years has been able to do. And in the process, we are undermining the life support systems of the Earth.

State of the Earth today

Since the industrial revolution 200 years ago, human beings have added 30 percent more carbon dioxide to the atmosphere. At this rate, we are going to double the amount by 2050. The overwhelming consensus of climatologists is that global warming is real and occurring at a rate that will have disastrous consequences.

Our use of artificial fertilizers has doubled the amount of nitrogen in the soil and completely altered the community of life that gives soil its fertility. Rain and irrigation cause the nitrogen to run off and pollute rivers, lakes and oceans with catastrophic blooms of plankton and algae.

Our one species has now taken over 40 to 50 percent of the land area of the Earth and changed it by clear-cut logging, damming, farming, cities and highways. We are now using over 50 percent of the readily available fresh water on the planet. Some 70 percent of marine fishes used by humans are now being fished at the absolute maximum or are already in serious decline. The northern cod off Newfoundland are commercially extinct. British Columbia's salmon are disappearing in dozens of rivers.

We are causing the sixth major extinction in Earth's history, driving 35 to 50 thousand species out of existence every year. Twenty percent of all bird species are already extinct. I have been at meetings where biologists are talking about the consequences of losing 50 to 80 percent of mammals and birds in the next 100 years! And we have altered ecosystems around the world by deliberately or accidentally introducing new species.

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When I travel to different parts of the world, I seek out elders, people who are 70 or 80 years old and I ask them, "What was it like here when you were a child?" Everywhere I go—the Serengeti, the Amazon, Vancouver—the answer is the same: "It used to be so different." There used to be trees as far as you could see, birds in numbers you can't imagine, rivers teeming with fish. But there aren't anymore.

Our elders are a living record of the enormous changes that have

happened to this Earth within the lifespan of a single human life. You only have to project the trajectory of change in their lifetimes into the future and ask, "If we continue at that rate, what are we leaving for our children?" Until very recent times our collective impact was so small, it didn't matter what we did. But today we don't have that luxury because taken all together humanity's impact is too powerful for the Earth to absorb.

The limits of knowledge

I began my media career in 1962. When I was given a chance to do some television, I thought, "I'll explain to Canadians why science is so important and they'll see that they have to support it more generously!" It was completely selfish on my part. Fortunately, I was derailed from that intent by a woman whom I've never met but who had an enormous effect on my life.

Her name was Rachel Carson and in 1962 she published a book called *Silent Spring*. In it, she argued that human beings are an integral part of nature. When we use powerful pesticides to kill insects, we are mistaken if we think it will not ultimately affect us. As a result of *Silent Spring*, millions of people, including me, became involved in what became the first "green wave" of the environmental movement.

I was concerned then with issues like clear-cut logging, toxic industrial pollution, nuclear power and nuclear weapons. I believed that the problem was very simple. Human beings were taking too much out of the environment and putting back too much toxic chemicals and waste. The solution was to regulate and then enforce the regulations.

But as those struggles went on, I began to realize that something didn't make sense. How can we regulate when our knowledge is so limited?

The sense of attachment of indigenous peoples to the Earth is fundamentally different from ours.

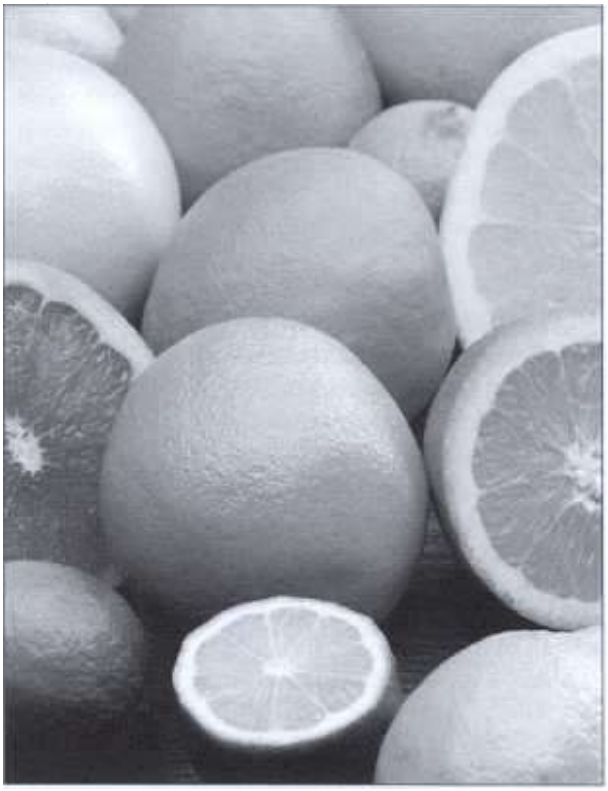
When DDT was synthesized, the inventor was awarded the Nobel Prize, because it was perceived to be a chemical that killed insects but didn't harm other animals. It was only many years later, after DDT had been used all over the world, that biologists discovered a phenomenon called "biomagnification": as you go up the food chain, the DDT becomes concentrated hundreds of thousands of times. We couldn't regulate DDT at the time it was first invented because we didn't know enough to predict what the effects would be.

The same thing happened with CFCs. We manufactured CFCs by the millions of pounds and used them and they wafted up in the atmosphere. Years later we discovered that in the upper atmosphere CFCs destroy ozone. We didn't know about these effects, so how could we regulate them?

Mark my words: genetically modified organisms are going to be exactly the same thing. It's one thing to do experiments in a test tube. It's another thing to allow genetically modified creatures into the wild and into our food. All kinds of things are going to happen that we can't predict because our knowledge is so limited.

Earth, air, fire and water

In the late 1970s, I did a nature program on the battle over logging on the Queen Charlotte Islands. Interviewing a young Haida artist, I asked him, "Why are you fighting so hard against logging when your communities have 80 percent unemployment and logging brings money into



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your community?" He said, "If they cut the trees down, we won't be Haida any more. We'll be like everyone else."

That answer changed my life. I was confronted with a fundamentally different way of looking at the world. To the Haida, people don't end at their skin or their fingertips. Being Haida means being intimately connected to the land, air, water, trees, fish and birds.

Since then, I have travelled to many parts of Canada and the world, meeting indigenous people. Their sense of attachment to the Earth is fundamentally different from ours. I realized that there was something to learn from aboriginal people. They call the Earth their Mother and believe that we are made of the four basic elements of the cosmos: earth, air, fire and water. This actually is true not simply in a metaphoric or poetic way, but in a scientifically accurate way.
When a baby leaves its mother's body, the very first thing it needs is a breath of air, and from that point on it will breathe 20 to 40 times a minute until its final gasp on its death bed. Air, to me, is the most sacred element you can imagine because it is what keeps us alive. We *are* air in the most literal sense. We share it not only with each other, but with the worms and snakes and birds and trees. We are all a single skin of life on the surface of the planet held together by this wonderful matrix of air.

What intelligent creature, knowing that air is a sacred substance, would use it as a toxic dump?

Coal miners used to take canaries down in the coal mines. When the canary keeled over, they didn't stop to debate whether it was dangerous, they got out of there as fast as they could. Today our children have become canaries! When I was a boy growing up in the 1940s I never heard the word "asthma." Now one of every five children under the age of four in Canada has asthma. The real solution to asthma is not a better puffer. It's to clean up the air!

We are also water: 60 percent of our bodies by weight. Every day we have to eat food and drink fluids to make up for the water that we lose. Our bodies know exactly how much we need. The hydrologic cycle of evaporation, condensation, evaporation means that every glass of water we drink has millions of molecules from the oceans of the world, the canopy of the Amazon forest, the steppes of Russia, the grasslands of Canada.

Water, like air, is a glue that links all of us around the planet. Yet again we use water, this sacred element, as a toxic dump. It doesn't make sense!

We are also earth. Every bit of the food that we eat for our nutrition was once alive. Our relationship with food is one of the most intimate we have with another creature. We take food into our bodies and make it into our very substance. Yet we douse our plants and animals with chemicals—pesticides, herbicides, hormones—and think somehow that we are immune. Why don't we realize that we are ultimately spraying ourselves?

And we are fire. Life needs energy. Every bit of the energy in our bodies we use to grow and move comes from sunlight. Plants absorb sunlight, transforming it into chemical energy that can be stored so that creatures like us can eat plants and recover it. Every bit of the energy we liberate by burning oil, gas, coal, wood and peat is actually sunlight captured by plants. We are fire because we are made up of sunlight.

The ultimate miracle for me is realizing that the delivery mechanism for these four basic elements—earth, air, fire and water—is life itself, the diverse web of living things that biologists call "biodiversity."

Four billion years ago, before there was any life on Earth, the air was absolutely poisonous, rich in carbon dioxide with no oxygen. It was only when plants discovered photosynthesis and began to use sunlight to store energy that oxygen was created as a by-product. Over millions of years, plants changed the atmosphere from a carbon dioxide-rich one to an oxygen-rich one.

To this very day it is the web of green things on Earth that transforms the air, cleansing it of carbon dioxide and putting in oxygen. It is the diversity of organisms that gives us water. It's tree roots, soil fungi and bacteria that filter the water to make it clean and drinkable. Life creates the soil we depend on to grow our food. Life recovers all of that energy from the sunlight flooding the Earth and repackages it for our use. Life creates, renews and cleanses the basic elements that all life needs for survival.

Yet one super species is now transforming all those things. We're using air, water and soil as a toxic dump. We're burning energy too quickly for the Earth to absorb its by-products. And we are attacking the web of biodiversity and destroying the very source of our basic elements. It is suicidal. It's urgent that we recognize the sanctity of the basic elements that sustain us.

Love and a sense of the sacred

Our biological needs are clean air, clean water, clean soil, and clean energy, and biodiversity will deliver those things to us. But we are also social creatures, and one of the astonishing things I have discovered is that the most fundamental need we have as social animals is love.

Love is the very force that humanizes us, that makes us capable of empathizing with other human beings and allows us to realize our full human potential.

We need to understand that there are forces far beyond our ability to comprehend.

If you look at studies on children who grew up during troubled times in places like Cambodia, Rwanda, Bosnia or Rumania, who have had food, clothing and shelter but have not been loved, you find that they are fundamentally crippled physically and psychically. They die sooner than children who have been given love.

There are many communities in Canada today that are sadly unable to provide the kind of environment where children can grow up assured of love. Chronic unemployment leads to violence, drug abuse, high levels of suicide and heart attacks. Yet we live within an economic system that considers unemployment necessary to provide a work force. I believe that we must strive for full employment because it is key to providing the conditions for our children to experience love.

We need to ensure security. Without security, justice and equity, a society is unable to maximize the opportunity for love. Our societies must promote the growth of strong families and love.

But we are not only biological beings and social creatures—we are spiritual animals. Here is where I feel that we have the greatest need of all in this millennium. We have come to believe that we are the very reason why life on this planet exists, that nothing is sacred.

But we need a sense of the sacred. We need to understand that there are forces far beyond our ability to comprehend, let alone control or manage. We need to understand that we came from the natural world and will ultimately return to the natural world.

We need to relearn that nature is the creation and that it is a sin to defile what the Creator has given us for our lives and for future generations. We need to redesign the way we live and rediscover our true values. That is the challenge facing us at the beginning of this millennium, a challenge you are grappling with here. I thank you for the theme and the sessions you are holding here because we desperately need inspiration from the faith community. We have lost something precious that we need today more than ever. ■