

**Text of remarks by Maurice Strong
Public Welfare Medal Recipient
National Academy of Sciences Awards Ceremony**

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I cannot adequately tell you how deeply moved and grateful I am to the Academy and especially the selection committee at the honour you have just bestowed upon me. I accept it as a tribute to all of those whose support and advice over the years have made possible whatever contributions I have been able to make in improving the human condition and our prospects for the future. No honour do I value more highly. I treasure particularly the association it accords me with this great institution of science and the larger scientific community from which I have derived such inspiration and guidance in my own life and work. Indeed, I am pleased that my loving and wonderfully supportive wife, Hanne and my family I am sharing this memorable occasion with so many members of the scientific community and others whose friendship, support and guidance have meant so much to me. May I take this opportunity to express my profound thanks to all of you.

From my earliest childhood, I have always been fascinated by nature and our relationships with it. My own encounters with nature growing up on the prairies of western Canada and then with the Inuit peoples of the far North led me to explore the world of science to help me understand better the exciting and complex phenomena I observed and experienced.

“The world is made for man, not man for the world”, Francis Bacon wrote four hundred years ago. This remained the dominant attitude of man toward nature until recent times and still today conditions the attitude of many. But in the nineteenth century the negative impacts of the Industrial Revolution and the increased urbanization, which arose from it evoked a concerned response from small groups of scientists and citizens. This was the precursor of the conservation movement and the broader concepts of the environment and sustainable development as we now know them.

In the United States, Henry David Thoreau dramatized the damaging effects on the human spirit of the encroachment of industrial and urban life into the wilderness areas of New England. George Perkins March of Vermont, in his monumental book “Man and Nature: the Earth as Modified by Human Action” documented the systemic and pervasive impact of human activity on nature and how it reverberated to undermine human welfare. Theodore Roosevelt was the first “environmentalist” President of the United States and a champion of what we now call “sustainable development” of natural resources long before either of these concepts was known. These pioneering visionaries focused primarily on conserving nature and natural resources. The environment and sustainable development movement we now know embraces a broader range of issues through which human activities impact on the quality of life in the cities and towns, the health effects of

pollution, contamination of the food chain, and threats to the earth's life-support systems through such global phenomena as climate change, ozone depletion and accelerated loss of biodiversity.

The UN Conference on the Human Environment in Stockholm in 1972 put the environment issue on the global agenda and affirmed its inextricable link with development, focusing particularly on the poverty and development needs of developing countries. It underscored the imperatives for new dimensions in cooperation and equity in North-South relations. This has been a major focus for my own country, Canada. I know that our International Development Research Centre values highly the cooperation it has established with the National Academy. And our new Prime Minister, Paul Martin, who is going to Washington in the next few days, is giving high priority to enhancing the role of science in both our domestic and international programs.

The scale and intensity of human activities has reached the point where we are fundamentally and perhaps decisively impacting on the conditions on which life as we know it depends. In a very real sense we have become the agents of our own future. It is an awesome responsibility for which we are as yet ill-prepared. Exercising this responsibility will require new dimensions of international cooperation that in turn calls for changes in attitudes, behaviour and institutions. It does not require, as many contend, world government, but rather a system of cooperative relationships through which governments, business, science and other key players can join to ensure effective management of those issues critical to human survival and well-being which no nation can manage alone.

The current multi-lateral system, of which the United Nations is the essential centrepiece, provides the basic framework for such a system. Secretary-General Kofi Annan, who is providing such inspired and innovative leadership during one of the most difficult periods in the history of the UN, is leading the drive to revitalize and reform the organization. This must include better methods of bringing non-state actors into the processes of managing issues on which they have significant influence.

Fundamental to the effective functioning of such a system is the role of science. We must look to science to illuminate major risks, vulnerabilities and opportunities, and to provide the ingredients for the technologies and processes through which we manage them. The National Academy of Sciences has done an extraordinary job in performing these functions for the United States and establishing cooperative relationships with its counterparts throughout the world. Indeed, its leadership and support for the International Council of Scientific Unions (ICSU) and the Scientific Committee on Problems of the Environment (SCOPE) was a major factor in enabling us to obtain the guidance of the international scientific community for both the Stockholm Conference and the Earth Summit. I want to recognize with immense gratitude the initiative, vision and relentless drive of Dr. Tom Malone in making this happen.

I congratulate the Academy, and its President Dr. Bruce Alberts for taking the lead in establishing the Inter-Academy Panel and Council, consisting of the world's leading Academies. These are extremely timely and important initiatives, which will immensely strengthen the capacity and the credibility of the worlds' scientific community to guide the decisions and actions by which the human future is being shaped. It also enables academies in developing countries to contribute to scientific studies affecting their interests, which they would not be able to undertake themselves, and to protect and reinforce in their own countries respect for their autonomy and professional integrity.

Most Academies have only limited resources for funding their international work. I suggest that this need could be addressed, at least in part, by the establishment of an international foundation for science, which could draw upon the experience of your National Science Foundation. Its purpose would be to mobilize funding for major scientific projects and programs on issues of global importance undertaken cooperatively through such organizations as the Inter-Academy Council and ICSU. I can think of no better investment that could be made in the human future and I am prepared to work with you to make it happen.

What a sad paradox it is that - in a world of unprecedented wealth and knowledge where people everywhere long for peace, security and a better life - so many continue to live in poverty and suffering, while the rich increasingly live in fear and insecurity. Yet a disproportionate share of our wealth is spent on war and preparations for war and so little on addressing its fundamental causes, the promotion of peace, and prevention of conflict. It is surely sobering to reflect that the last century in which science has produced such immense breakthroughs in human knowledge and the development of human capabilities, has also been the bloodiest ever. As Robert McNamara pointed out, in the twentieth century there were "six times as many deaths per war as in the nineteenth" and that whereas at the end of the nineteenth century approximately ten percent of war deaths were civilian, in the wars of the 1990's some seventy-five percent were civilian - primarily the elderly, women and children. Sadly, this continues to be the case. We possess the knowledge and the means to bring a better life to all humankind, yet we have not demonstrated the wisdom or the moral fortitude to do so. This is surely a challenge to the moral basis of our technological civilization.

The Swiss theologian and philosopher Hans Klüng, as quoted in the seminal report of the Carnegie Commission on Preventing Deadly Conflict, stressed the importance of the humane approach to a treatment of all peoples and areas of life which we must extend to all of the forms of life with which we share this Earth.

The fact that knowledge is now the main source of power and comparative advantage in the economic and security fields have made science the primary driver of the forces that are determining the conditions of our life and its future course. But this very success has imposed new constraints on science, as the incentives to convert its fruits into intellectual property limit the free interchange of ideas and research results amongst scientists which have been one of the great traditions of science and a main contributor to its advances. I am attracted to an idea that emerged from a recent discussion amongst leading scientists

who proposed that basic research be undertaken on a fully cooperative basis and its results become common property while competition and intellectual property rights be applied to the technologies that result from it. This may seem a remote and even naïve prospect under today's conditions. But it surely is a goal that should be pursued in respect of those areas that have major impacts on the public welfare and the human prospect. Clearly, this will only occur when those with the power to effect such a fundamental change are prepared to accept that it is in their larger interest to allow the common good to prevail over their immediate special interests.

The great Albert Einstein, speaking in 1930 in Pasadena, said: "If you want your life's work to be useful to mankind, it is not enough that you understand applied science as such. Concern for man himself must always constitute the chief objective of all technological effort - concern for the big, unsolved problems of how to organize human work and the distribution of commodities in such a manner as to assure that our scientific thinking may be a blessing to mankind and, not a curse." Surely this challenge is even more important and more relevant today. Einstein also had a deep interest in the importance of education in removing the misunderstandings and hatreds which help to make war not only possible, but often even popular. He said: "To my mind the main task is how generally to improve the education of the young." It is, after all, through education that the skills and the values of science are transmitted and multiplied. It is my belief that the prospects of peace and security are inextricably linked with the environment and sustainable development issues to which so much of my own life has been devoted. Thus, I am concentrating so much of my attention on the UN's role in conflict prevention and helping to extend and develop the work of the University for Peace, established by resolution of the United Nations General Assembly to serve the peace and security goals of the UN Charter through education, training and research.

Finally, let me say that the main lesson I have drawn from my own experience in helping to foster international cooperation in dealing with this complex of issues is the need for a major shift in the motivational basis of our current behaviour. People and nations are motivated not only by their immediate self-interests but by their deepest moral, ethical and spiritual values. That is why I joined with the Mikhail Gorbachev and many others to develop the Earth Charter, drafted by a committee headed by the distinguished American scholar Steven Rockefeller and representing various faiths and belief systems, setting out basic moral and ethical principles to guide the conduct of people and nations toward the Earth and each other. The combination of the moral principles it enshrines with the power of science could, I am confident, enable us to avoid the ominous risks and realize the unprecedented opportunities which we now confront. Our response to this challenge will clearly determine the future of our civilization.

This award provides new impetus to my own determination to continue to do everything I can, working with and guided by you, to ensure that we take the pathway to the promising future which is within our grasp.