

NOTES FOR REMARKS

BY

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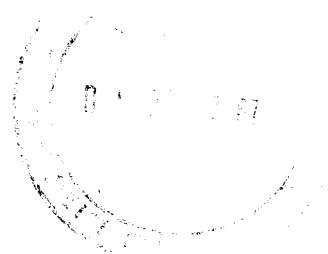
to the

CANADIAN STUDENT PUGWASH
NATIONAL CONFERENCE ON "RESOLVING GLOBAL PROBLEMS INTO THE
21ST CENTURY: HOW CAN SCIENCE HELP?"

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Handwritten notes or signatures in the bottom right corner, including the name "A. Head".

Let me say at the very outset not only that I'm honoured to be here, but that there is no other audience in Canada that I'd rather have the chance of addressing. I'll not ask whether that feeling is mutual, but I do have a request to make. This speech of mine will last about half an hour. If you finish before I do, please don't let me know.

Like most forms of human activity, speeches should be divided into sections. Shakespeare wrote plays in five acts; a university year consists of two semesters; a baseball game has nine innings and hockey three periods -- except for the Stanley Cup final when, until game seven, there were two parts to the game: the first, when Edmonton built up a big lead, and the second, when Philadelphia overtook it.

In this speech there will be three parts or messages. Each, I hope, will have some connection with the others. The first is the simplest, yet the most deceptive: it relates to time. How to take timely decisions. How to avoid the well-known accusation "too little, too late".

This is the Woody Allen section of the speech. In one of his films, he said "When I was kidnapped, my parents snapped into action. They rented out my room."

Acting too quickly may be something that occurs in the movies, but it seldom happens in the real world of politics -- the real world that affects you and me every minute of our lives. Here there is often a tendency to do nothing, or to wait, or to conduct lengthy investigations. Sometimes, delay can be deadly.

Let me offer a few examples. In the course of the past century, the nutrient content of prairie soils in Canada is estimated to have diminished by 50%, largely as a result of farming practices. Without effective counter-measures, experts agree that the same halving is likely in the course of the next century, possibly reducing the quality of the soil to an irreversible condition of infertility. Those counter-measures should be initiated now. But they will be expensive in capital terms: financial capital, human capital, political capital. One can understand political leaders, elected as they are on

a five year term, choosing to leave these problems to their successors. Who can blame a Premier or a Prime Minister, after all, if he or she decides that the immediate capital demands for current problems don't permit the investment of funds in support of such a distant objective? And how many voters will congratulate a leader for that kind of long-term dedication if she or he does invest?

Another example: In a number of places in Canada, underemployment and resource extraction or processing coincide. During periods of low commodity prices, and fiercely competitive international markets, the economic survival of the companies in these industries depends on efficient, low-cost production techniques. Every effort must be made to ensure that unnecessary practices and expenses are avoided. If a by-product of the exploitation process is a pollutant dangerous to the health of the work force and the surrounding communities, remedial steps are necessary. But in some instances, the accumulative effect of those practices or those pollutants will not reach dangerous levels in the course of the present generation. Even the broadest judicial interpretation of the common-law principle of "reasonably foreseeable" is not sufficient to

link present owners with future residents by a "duty of care" requirement. And if it were otherwise, the costs of prevention might well be such as to force the industry out of business, discharging workers in a region lacking alternate sources of employment. In many instances, the effect of current acts will not be felt until after the departure of the responsible actors. Were a government to redefine the term "hazardous" and insist that industries halt such offensive practices, employers and employees would jointly resist. And who could disagree with them?

Other examples of this type of dilemma will come to the minds of most of you: the destruction of rain forest ecologies (not all of them in the tropics); the gradual disintegration of the ozone layer; the apparently relentless rise of global mean temperatures. Those actors of yesteryear who contributed to these consequences in many instances had no way of knowing where their acts would lead.

None of us in this room can claim ignorance, however. We either know, or can make ourselves aware, of long-term linkages because the evidence now abounds. We needn't worry that we are acting like Woody Allen's parents

if we claim foresight and demand more action. Mexico City is literally sinking as the vast underground aquifer on which it rests collapses following the exhaustion of the ground water. At current rates of destruction of moist tropical forests, it is estimated that living species of all kinds are becoming extinct at rates hundreds, perhaps thousands, of times faster than the natural rate. Rainfalls in North America have been recorded with pH levels below 2, more acidic than vinegar or lemon juice. The destructive effects on lakes and forests are well-known to us.

Perhaps I'm approaching the problem from the wrong direction. Perhaps the difficulty is not lack of foresight but a too-short attention span. Why is our attention span so short? Why would Woody Allen's parents rent out his room as soon as he disappeared? Well, for one reason, I suppose, human attention is quickly diverted. For another, nowadays, our standard of temporal measurement is increasingly influenced by television units: one hour programmes, one week intervals. Again, as scientists develop the means increasingly to measure accurately faster speeds and shorter time periods, our interest is captured by precise, almost momentary imagery: micro-seconds, millimetres. And,

certainly, in democratic regimes, where electoral periods range from two to six years, both politicians and businessmen find it inconvenient to think, plan, or act in longer segments. Fiscal years and electoral mandates become, de rigueur, the maximum fraction of time for analysis and reflection. Events of longer duration are ruled out as impractical.

In all honesty, too, we have to admit that time measurements are tough and often judgmental. Is the world we live in today a more wholesome, more secure, more civilized place than it was a year ago? An honest answer would acknowledge that the interval is too short to make a meaningful appraisal. Increasing the period doesn't make the question an easier one. Is the world a better, or worse, place than it was 25 years ago, or will be 25 years in the future? Easier, perhaps, to answer but almost without meaning. Why? Because those intervals, sadly, are so far beyond the operational limits of most decision-makers that they are quite irrelevant to what they think and do. A century ago, such indifference to time was perhaps without meaning. Today it could be suicidal. This morning, I

invite you to focus, even if only fleetingly, on time spans beyond the familiar.

The history of humankind is the proud record of many brilliant accomplishments: the arithmetic concept of zero, Mozart's piano concertos, the courageous voyages of exploration by Cartier and Champlain, the discovery of insulin by Banting and Best, the political symmetry of the United States Constitution. That same history is as well the bleak account of stupidity and savagery, of hypocrisy and chicanery. Barbarity has never lacked its proponents, acting always for the greater glory of something - God, sovereignty, ideology, markets. Examples abound: the Children's Crusade, the inquisition, the slave-trade, Hitlerism, Stalinism.

Arrogance and ignorance, daring and resolve; these have been ingredients of mankind's quest for permanence. They have led to technological achievements beyond the imagination of any prophets, and standards of living in the industrialized nations more comfortable than any in history. They have also decimated the tropical rain forests, advanced alarmingly the African deserts, and

engineered a nuclear Damocles' sword that places in jeopardy the very continuance of humankind.

Few of these accomplishments -- be they positive or negative -- are measurable as constants on a monthly or even annual scale. How, even, does one measure the comparable cost-benefit ratio of a growth economy and a polluted environment, of a functioning deterrent to war and the threat of a nuclear holocaust, of protected local industries and growing third-world anguish? Are we able even to discern major trends in time to modify them? Can the world develop the equivalent of time-lapse photography to permit decision-makers to observe the long-term effects of seemingly anodine activities and actions? How can we project into the future the effects of activities not yet undertaken?

Brock Chisholm, the Canadian who was the first Director-General of the World Health Organization, argued that the ability to see ahead, and to plan accordingly, was an ingredient of maturity. Infants, he said, may anticipate their next meal, but no more. Pre-schoolers can look forward to special events like birthdays or Christmas.

Adolescents are already planning their life-work, and mature adults take steps to contribute to a preferred future for their own offspring. It is the transfer of this forward view from the individual to the community as a whole that is now needed.

The expression "about as exciting as watching paint dry" is often used to indicate the absence of excitement. There's not much excitement in tracking the changing pH values in fresh-water lakes, or in measuring the degradation of prairie soils. And particularly not for politicians, because the variation in any four year period is minor. Who, then, is to speak for the future, for Brock Chisholm's great grandchildren? Who can be held responsible for the fact that those prairie soils have lost so much of their nutrient content? Do we have any sort of mechanism to ensure that that rate of deterioration will not continue?

Looking forward for a period of one or two decades is understandably difficult for governments accountable at the end of four or five year periods. Nevertheless, we must never forget that the greatest of statesmen kept their eyes firmly on distant horizons. Churchill and Roosevelt,

in the depths of World War II, looked ahead. In August 1941, aboard HMS Prince of Wales anchored in Placentia Bay, Newfoundland, they issued the Atlantic Charter which called for post-war political and economic objectives which, at San Francisco in 1945, were melded into the United Nations Charter: renunciation of force, political self-determination, economic collaboration, a system of general security, disarmament.

It is that kind of forward look, of responsibility for the future, that I invite you all to think about. To help you do so, especially as you contemplate environmental issues, let me read to you the words of a great 19th century English social commentator, John Ruskin. He wrote:

"God has lent us the earth for our life; it is a great entail. It belongs as much to those who are to come after us; and we have no right, by anything that we do or neglect to do, to involve them in unnecessary penalties, or deprive them of benefits which are theirs by right."

The same message, in more modern language, comes from a 20th century Spanish humanist, José Ortega, as a response to those who claim that our most important task is to prepare militarily against those we decide may be aggressors. Said Ortega:

"Patriotism is not so much protecting the land of our fathers as preserving the land of our children."

Six weeks ago the World Commission on Environment and Development issued its report. The Chairman of the Commission is Prime Minister Gro Harlem Brundtland of Norway. She introduced the report with the ominous warning that current environmental changes "outstrip our present ability to cope; our financial and political institutions are out of step with the workings of nature."

Part two of this speech takes on a different geometric form -- not linear in a temporal sense, but

spatial in a physical sense. This is the part that tells you this planet really is a single ball of wax, that events and activities are inter-connected and, whether looked at in an aggregated or disaggregated sense, must always be considered holistically. Samuel Johnson of dictionary fame was talking about something else but he had the message right when he wrote to a scholar and said:

"Your manuscript is both good and original, but the part that is good is not original and the part that is original is not good."

There must have been a time in the past when events in one part of the globe were unrelated to consequences elsewhere. Then again, perhaps not. Perhaps one simply assumed there was no connection because one was not aware. How, after all, in centuries past would anyone have thought that decisions taken or activities commenced on one continent could possibly have any effect elsewhere? If the Chinese invented gunpowder for local purposes, of what impact could that be in countries still dependent on bows and arrows? If one carried vegetable matter half-way round the world, who was to connect it with subsequent

infestations of pernicious weeds or pests? Even in our own lifetimes we have been surprised by evidence of the singleness of this planet. In the late sixties, New Zealand scientists were shocked to find DDT in the fat of Antarctic penguins, more than 1,500 miles distant from the nearest inhabited land. The Brundtland Commission reported the sober circumstances that human numbers and human technology now has the power radically to alter planetary systems.

The stimulus for much of this change comes largely from the burgeoning world population. In 1900, that population was 1.7 billion. In 50 years it doubled to 2.5 billion. On July 11 of this year it will pass 5 billion. By the year 2000 the World Bank predicts another billion and a quarter.

In the two hours this morning that I shall be away from the IDRC building, the large computer-controlled population clock in the lobby -- one that I invite you all to come and see -- will have recorded a net world population increase of 18,500. We must never allow ourselves to think of those human beings as mere statistics. Each is one of God's creatures, entitled to a life of hope and happiness

and health; a life enriched and enlivened by music and literature and art. Yet know how pitifully small will be the percentage of those born this morning that will live to their sixth birthday, and how few of those will enjoy even a fraction of the creature comforts that we rightly assume should be available for all humans, not just those born by accident into affluent Canadian families. The missing benefit to us of productive, creative persons is scarcely imaginable: songs not composed; novels not written; constructive, cooperative activities not undertaken. Poverty anywhere diminishes each of us.

It is scarcely possible for a Canadian teenager to comprehend the burdens of responsibility shouldered by children in most developing societies -- girls caring for younger brothers or sisters by age 6, boys herding goats and cattle by the same age, boys and girls carrying firewood and water for many kilometres and working in the fields if living in the countryside, or scrounging for food and begging in the streets if city-dwellers. Developing country children seldom have a childhood as we think of it -- filled primarily with laughter and games and affection.

Responsibility for sheer survival visits early. With it comes frustration and -- in the awareness of immense wealth elsewhere -- envy and bitterness. An accumulation of factors which led the World Bank to describe rapid population growth as "a brake on development".

Nowhere is this brake more evident than in the metropolitan areas of the developing countries. In 1960, for example, there were three cities in Africa with populations of more than 500,000. Today there are 28. Worldwide, mega-cities are overwhelmingly in the South. Of the 25 cities in the world with a current population of more than 7 million, 16 are in developing countries, including the largest, Mexico City, at 18.1 million. By 2000, Mexico City is projected to grow to 26.3 million -- the population of Canada -- and 45 of the 60 largest cities will be in the South, 18 of them larger than 10 million.

Faced with numbers of this magnitude, the provision of basic services on an equitable basis becomes absolutely impossible. Squalour and depravity increase. Political instability grows. And the future is placed in jeopardy. By 2000, 51.2% of the world's population will be

urban. And that population will be young. Half of all people alive at the turn of the century will be under the age of 25. In the developing countries, 35% of the total population will be under 14. In ever-increasing numbers these youths find themselves on the streets: abandoned, uneducated, unemployed, alienated from any societal norms, without any loyalties except to their own gang.

In a recent report on the subject of street children, The Independent Commission on International Humanitarian Issues said "The fate of the street generation is inseparable from the uncertain fate of cities. Bursting or decaying, they were never built with the needs of children in mind. Today, the notion of man as the measure of all things has long vanished from urban life, and huge urban agglomerations have become increasingly inhuman and unmanageable." One hundred years after Dickens, the phenomenon of street children has returned in numbers far in excess of anything known to Oliver Twist.

Each of you must soon decide the comparative weight of threats to our political stability, economic health, and national independence: from the armed forces of

the Warsaw Pact, or from the billions of deprived persons in the developing countries. You have a responsibility to decide because Canadian governments will soon be taxing you for purposes that demand your understanding, and your support or your opposition. You will be asked to choose whether you wish to contribute to the welfare and a rising standard of living for youth -- as farmers in Alberta have recently opted by helping Nicaraguan peasants -- or whether your futures depend primarily on the acquisition of increasingly sophisticated and expensive weapons systems.

It is not a clear-cut, either-or choice. Life seldom offers such simple alternatives. Yet the Brundtland Commission revealed clearly that there are two overwhelmingly potent threats to the continued existence of the human race. One threat takes the form of a few apocalyptic minutes of a nuclear exchange; the other the much slower, but more probable destruction of the life-support systems of the planet in our frantic efforts to sustain ourselves. Each must be addressed; each demands equal attention and equal treatment. The consequences of current disparities abounds.

More land has been cleared for settled cultivation in the past century than the accumulated total since man first practiced sedentary agriculture in the valleys of the Tigris and Euphrates Rivers in the dawn of pre-history. Maurice Strong last week in Ottawa quoted estimates that in the tropical areas today ten trees are cut down for every one that is planted. In Africa, he said, that ratio is 29 to 1.

The Brundtland Commission employed the following example, one of many:

"Western Ecuador is reputed to have once contained between 8,000 and 10,000 plant species, some 40 and 60 per cent of them endemic. Given that there are between 10 and 30 animal species for every one plant species in similar areas, western Ecuador must have contained about 200,000 species. Since 1960, almost all the forests of western Ecuador have been destroyed to make way for banana plantations, oil wells, and human settlements. The number of species thus eliminated is difficult to judge, but the total could well number 50,000 or more - all in just 25 years."

The destruction is not limited to rainforested areas. According to the U.N. Environment Programme, the desert in Sudan has extended by a 90 to 100 kilometre belt across the entire country in just 15 years. In the past 50 years the Sahara Desert has swallowed 650,000 square kilometres of former grazing lands, an area the size of Manitoba.

The human race became ascendant millions of years ago, and began its slow quest to civilize itself several thousand years ago, because of its ability to adapt, to learn from its own mistakes and to overcome error. Never until now, however, has humankind faced circumstances of its own design which threaten its life support systems worldwide. And never before has it faced the possibility of error that is irremedial if once certain thresholds are crossed - nuclear error and environmental error. It is for your generation to take the decisions that my generation seems incapable of seizing, decisions that require no fresh scientific evidence, but simple humility. Humility to accept we are all God's creatures, that we are not capable of survival without cooperating with one another, that nuclear weapons have absolutely no military value for they

cannot be used without incurring a doomsday scenario, that the carrying capacity of this planet is not infinite.

That's a pretty heavy agenda for a Friday morning - and I'm still only in Part Two. Reminiscent of Woody Allen when he said: "More than at any time in history mankind faces a crossroads. One path leads to despair and utter hopelessness, the other to total extinction. Let us pray that we have the wisdom to choose correctly."

Hopelessness is not my message, nor is it intellectually defensible. Not in an age which has demonstrated such unprecedented accomplishment. In the past 35 years, for example, we have increased the production of cereal grains by 250%. In approximately the same period, life expectancies worldwide have risen from an average of 46.0 years to the present figure of 59.6 years. Infant mortality has fallen from 156 per thousand to 78 per thousand. In this past half-century have been discovered or invented a cornucopia of marvels: nylon and dacron, television, sulfa drugs and penicillin, ball-point pens, helicopters, FM, the electron microscope, magnetic tape recorders, antihistamines, the jet aircraft engine, oral

contraceptives, nuclear reactors, Salk vaccine,
earth-orbiting satellites, VCRs.

Enough, certainly, to prompt me to move to Part
Three, the final section of my paper.

Part Three is about science of several kinds. I
spell it E T H I C S . The words "science" and "ethics"
find their origin respectively in Latin and Greek. Science
springs from a root meaning to know or to decide. Ethics
finds its root in a word meaning character.

The word "world", on the other hand, is derived
from two sources according to Eric Partridge: from the old
Norse 'wer' -- or man as is found in werewolf, and 'ald' the
old Germanic word for age. The combination -- werauld or
world -- becomes thus "the age of the earth inhabited by
mankind".

That definition, of a planet of humans, should not
be lost sight of as we reflect on the remarkable

globe-girdling phenomena prompted by modern applications of science and technology. Technology which conveys the songs of Abba from Stockholm to Jakarta, blue jeans from Winnipeg to Nairobi, and VCRs from Tokyo to Buenos Aires. Even the MacKenzie Brothers from somewhere to somewhere else. These transfers mark a marriage of culture and technology which must be encouraged and stimulated in order to ensure that human concerns gain predominance over ideology.

Human concerns can easily be overlooked because the technological nature of the modern world with instantaneous communications and rapid transportation contributes to an immense gap between those who create and those who utilize. Today's human beings are far removed from medieval concepts of local craftsmen and neighbouring customers. Modern methods of production and distribution permit goods to be manufactured on one side of the world and consumed or used on the other. Should these be designed for wholesome purposes, and used constructively, great benefit can follow as with high-yielding varieties of food plants, or effective vaccines against cruel diseases. Should the end use of the product be destructive, or its utilization other than as intended, there can exist an impersonal gap

which shields the creator and his conscience from any sense of responsibility.

And how easy it is to find distant scapegoats. You're familiar with many of them. 'If only the maintenance engineers at Bhopal had been more competent', 'if only the pharmacists who sell those outdated drugs were able to determine that they are impotent because of exposure to temperature excesses', 'if only those peasant farmers were able to read the pesticide labels and understand the poisonous nature of the substance'. What of manufacturers' responsibility? What of social honesty? What of human conscience? Good questions, all of them. All of them related to ethics. All of them related to other questions which often prompt unwelcome answers.

Why is it, for example, that firewood remains the most popular cooking fuel in Africa - thus contributing to deforestation, or animal dung the standard fuel in South-Asia - thus denying organic fertilization of the soil? Why is it that people crowd into the barrios of South American cities creating the squalour that produces disease and social revolution? Why are factory workers in

South-East Asia willing to work long hours at low wages? The answer in every case is the same - a desperate desire to overcome the crippling poverty that grips them. As the Brundtland Commission has pointed out, it is impoverishment that is now the principal destroyer of a wholesome human environment, and only the easing of the living conditions of billions of poor will lessen the danger.

Okay, say governments. We understand. We'll do what we can to ease that poverty burden. We'll call it foreign aid. Yet here is where we can entrap ourselves in our own good intentions, for in our search for solutions we are not always aware that we often view circumstances only from our own perspective. One such circumstance is the immense debt owed by so many developing countries to international financial institutions and northern banks. These loans were in large measure made when interest rates were 4 or 5%, and when commodity prices were double or triple what they are today. As interest rates soared and commodity prices collapsed, the circumstances surrounding the loans changed dramatically. Too bad, said the bankers, but a deal is a deal; you must learn to be responsible. And so the developing countries began their efforts to repay

-- or at least to maintain their interest obligations. Because these debts have to be serviced in most instances in U.S. dollars, the countries are required to earn the foreign exchange necessary by exporting their own products.

Here is where the going gets rough. In some instances, national debts are so high, and commodity prices so low, that all the foreign exchange earned by exports is still not enough to pay the interest, never mind repay any principal or buy anything such as badly needed spare parts for machinery. The only trading advantage some of these countries have is their comparatively low wages, and these must stay low to guarantee market penetration. As a result, living standards in many countries are at best frozen -- no increases in wages, no government expenditures on social services. The standard of living in a number of South American countries is actually lower today than it was ten years ago as a result of the pressure to pay foreign debts. And then, as if all this isn't enough, voices in the United States Congress criticize the South Americans as unfair traders. Why? Because those low wages give them an unfair pricing advantage. 'Pay up', say the bankers. 'Don't compete with our industries', say the politicians.

It's this linkage that I want to emphasize this morning -- the two-way nature of trade, of debt, of environmental impact, of the responsibility which attends upon each one of us. In particular I'd like to stress the responsibility of scientists because much of our future will depend on wise decisions by you and your contemporaries. In the 4th century B.C., Hippocrates designed an oath for physicians which has had an extraordinary impact on subsequent generations of medical practitioners worldwide. The operative words are "I will prescribe regimen for the good of my patients according to my ability and my judgment and never do harm to anyone." There is no similar oath required of engineers or scientists, only medical doctors. If there were such an oath, work might not have been pursued with such zeal on monstrous weapons of mass destruction in nuclear, chemical and bacteriological formats. What do these decent men and women in their white lab coats tell their spouses and their children when they return home from a day's work in the factory or the lab? Do they boast modestly but with pride of their contribution to devices that are designed to bring death and suffering to tens of thousands of people? Or do they distance themselves from the end use, as arms manufacturers always have, arguing that

they only sell weapons to honourable purchasers in defence of freedom? That safeguards and precautions are the responsibility of governments, not businessmen or scientists? Thus do French missiles kill British sailors in the South Atlantic and American sailors in the Persian Gulf; thus do Soviet and Israeli small arms and explosives kill diplomats and tourists in Europe; thus do American weapons kill women and children on farms and in villages in Nicaragua. Thus is the nuclear stalemate which has placed in the world's arsenals the equivalent of all of the firepower expended by all sides in all of World War II. Times 6,000. Let me repeat. Those arsenals now contain 6,000 World War IIs. And still the testing and manufacturing continues. And so continues the work of scientists and technologists. At this moment one out of every four scientists and technologists in the entire world engaged in R & D is working on weapons. Not on nutrition, not on AIDS, not on education, but weapons.

If scientists and technologists are far-removed from the end use of their efforts, so in the modern age are generals and admirals far-distant from the events they direct. How quaint, but how honest, now appears to us the

image of King Henry V personally leading into battle his countrymen at Agincourt, sharing with them the identical risks and perils. How comparatively easy now for commanders-in-chief to dispatch their forces to far-distant places, arguing that principle demands national intervention or military involvement. How easy, too, for industrialists to argue the need for defence contracts to keep the economy purring. And how particularly easy for someone like me to stand up here today and say these things. But how difficult to ensure that changed circumstances are accurately assessed, alternatives prudently considered, policies wisely designed, and responsibility individually assumed.

Without any doubt, technology has been the most effective change agent in the history of humankind. Those changes have not always been for the betterment of the majority of humankind, however. I hope so much that each one of you will not only shape your careers with an eye on the role of science and technology but as well on their potential benefit to the peoples of the world. Not just short-term benefit, not just local benefit, and not just benefit for a few. Benefits instead that are sustainable for decades, that are part of a wholesome global

environment, that are humanistic, benefits in short that are ethically sound.

Science spelled that way - E T H I C S - demands a concept that is both holistic and organic. No modern scientist, I suggest, should regard his or her discipline in any other way. Not since Newton - whose 300th birthday we celebrate this year. Not since Descartes - whose 400th birthday is less than a decade away. Each of these giants approached science from a fundamentally philosophic approach. As I encourage each of you to do. To remember that science is patient observation, attention to detail, precision of measurement, inquiry governed by logic - but all of it set in a human frame.

Woody Allen may have said something about that. I don't know. Someone who did seem to me to capture it well was that great Canadian, Frank Scott -- scholar, civil libertarian, poet -- whose quotation I offer you as you begin your proceedings. It is one which captures time and space and ethics, and my message:



"The world is my country
The human race is my race
The spirit of man is my God
The future of man is my heaven."

Thank you.