

ADDRESS BY AMBASSADOR THEODORE M. HESBURGH, CHAIRMAN,  
U.S. DELEGATION TO THE UNITED NATIONS CONFERENCE  
ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

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It is only proper that this beautiful city by the Danube, a witness of so many great historical events, should be the site to compose the new contours of our future. For centuries Vienna has been a center of culture and of far-reaching diplomatic decisions. In remembrance of things past, the sieges and the symphonies, the genius of Sigmund Freud, of Ignaz Semmelweiss, of Conrad Lorenz, of Ernst Mach, of Lise Meitner, Vienna recalls the vicissitudes of time and the versatility of man.

Today, this city is one of the capitals of the United Nations system, host for the headquarters of the UN Industrial Development Organization and of the International Atomic Energy Agency. Both are symbols of the potentialities of progress yet both remind us of the perils of modernity. The growth of industrialization accompanied by unwanted pollution, the search for atomic energy for peace haunted by nuclear hazards, reveal not only the possibility of technology but also its ambivalent qualities -- hence the uncertainty of result, the ambiguity of promise, and the necessity of high moral purpose.

Again, here in Vienna, only two months ago, with the signing of SALT II, new evidence emerged that the spirit of cooperation for peace may ultimately prevail over the awesome spectre of nuclear disaster.

The treaty is an inspirational witness to a central thesis of our times, that defines man first by his responsibility toward his brothers and toward history. This is the human imperative of the modern age.

This imperative is the only commanding criterion with which we may rein the rapid, exponential advances of technology -- but it is also the human imperative that makes these advances possible. Science and technology are knowledge and power that must find their true meaning and direction in the total life of mankind.

Technological progress is more than a chronology of inventions. It must be an enactment of human rationality in history, a portrayal of some vision of the good life and the choice of preferred means for moving toward it.

Modern science is changing man's view of himself. We no longer see ourselves as merely a cog in a Newtonian world of determinism with man's role reduced to that of an observer -- at best a beneficiary, often a victim. We view this modern world not as static but as constantly changing, with man -- and woman -- as free and responsible agents affecting that change. Science and technology have become a distinctly human experience, an adventure and a challenge to create a better world.

We went to the moon a decade ago. The true reward of that endeavor was not what we found on the moon's surface, but rather the view it afforded us of our own planet. From that distant perspective we were able to recognize for the first time the delicate fragility and beauty of this gemlike spaceship that we call home. In fact, we now know earth as more beautiful from afar than up close.

Science and technology are not the guarantors of civilization; they only guarantee the possibility of civilization. Fast cars or fast breeders, synthetics or cybernetics do not a civilization make. Unless our existence reaches beyond the frivolities of materialism and becomes a life enriched with meaning, science and technology will not be hallmarks of progress; they will only be the trappings of modernity. The pursuit of scientific excellence must be based upon the pursuit of human goals.

But can we really call ours a civilization

- when one-fourth of this earth's population lives in abject poverty, starving, idle and numbed by ignorance?
- when in this century alone over one hundred million people have fallen victim to wars?
- when millions today are denied their basic human rights because of their political convictions, religious beliefs, ethnic origin or economic status?
- when advances through technology often mean in many societies new forms of discrimination against women?

Today the world is facing critical shortages on many fronts. We live under the recurring threat of global energy crisis, the depletion of our nonrenewable resources and the despoilment of our environment. Our ecosystem is strained by a dramatic population growth, our security threatened by the continuing arms race and our well-being jeopardized by inflation and monetary chaos.

Does this mean that we have reached the limits of our growth? Have we indeed exhausted the possibilities of science and technology for the benefit of mankind or have we exhausted only our spirit? I hope this conference will be a living testimony that we have exhausted neither our knowledge nor our spirit and that we can turn our collective vulnerabilities into a world of interdependence -- a world of interdependence among nations as well as between man and his ecosystem.

Indeed, ours is an imperfect world. The global economy is not working as well as it should for either the poor or the rich countries.

The patterns of worldwide technology generation, diffusion and utilization lack the cohesion that would incorporate and benefit the majority of people.

We have not yet found the right mix between scientific excellence and needed technologies. Given the vast potential of the developing world, it is an anomaly that around 95 per cent of all research and development is conducted in the industrialized world.

It is even more tragic that only one per cent of the world's research and development on health, agriculture, housing and industrial technology is spent on the needs of the poorest half of this earth's population. Nations spend six times as much on military research as on energy research. Even most developing countries spend more on armaments than on health and education.

It is an imperfect world in which scientists and technicians from the developing countries do not partake of the latest and the best or the most economical and most appropriate technologies. It is a terrible waste that millions of illiterates and uneducated cannot participate in our technological progress either as beneficiaries or creators of new implements to make their lives better.

It is an imperfect global economic order that does not fully benefit from the robust and dynamic role of international business and industry and has not yet found the right balance between the interests of private enterprise and of the developing countries.

Just as modern science is changing man's view of man, so are the new relationships among nations -- between North and South -- changing our perceptions of global and national interests. This change is healthy, this change is good, and we need not fear it. As our Secretary of State, Cyrus Vance, said: "We cannot let ourselves be diverted by the myth

that if we encourage change, or deal with the forces of change, we only encourage radicalism." We intend to encourage this change, to quote the Secretary again, "with a positive, long-term strategy toward the Third World." So let us continue this dialogue for change at this conference.

First, we must work to make the industrialized countries more responsive to the aspirations of the developing countries so that the advances in science and technology in the North will be of greater benefit to the South.

Second, we must increase the participation and the stake of the developing countries in the world economic order, including global technology circulation.

Third, we must create a more equitable relationship between the developing countries and international private enterprise, so that in the global transfer of technology the interest of both is enhanced.

The task of this conference is not one of restating the errors of the past but of weaving science and technology into the fabric of the future, the fabric of development. We need collaboration, not confrontation.

The question is not whether we should do something, but how will we accomplish it?

How can we best mobilize the imagination and energies of the scientific community to launch new major efforts to eradicate the worst aspects of poverty by the year 2000?

How can we cooperate in building indigenous science and technology capacities in the developing countries -- without which there is neither self-reliant growth, nor self-sustaining economic progress?

How can we correct current imbalances in the global market of technology, so that the developing countries may select what they need -- and reject what they do not -- from the international supermarket of products and processes?

How can we best strengthen scientific and technological cooperation so as to ease global pressures on food and water supplies, energy sources and raw materials, and deal effectively with the problems of population growth and the deteriorating environment?

None of these challenges can be met by any nation alone. But what we have done, individually and collectively, for the development of science and technology, and with science and technology for development, is a good beginning.

Over the past thirty years, for example, the United States has contributed more than \$100 billion in development assistance. This year our assistance has risen to nearly \$7 billion. No element of our foreign assistance fails to involve in some form our sharing of scientific knowledge, technical skills or technological hardware:

- The core of U.S. cooperation continues to be the application of technological know-how to increase food production in the developing countries.
- We intend to make substantial and real increases, over the next five years to our contribution to the Consultative Group for International Agricultural Research. And we invite other nations to join us in this effort.
- Eighty per cent of our development aid goes to countries where per capita income is below \$300 a year, to give the masses of people greater access to production technologies, preventive health care, family planning, and basic education.
- To strengthen the science and technology infrastructure in the developing countries, we have assisted well over 100 universities and more than 300 vocational schools. Each year we help tens of thousands from the developing countries to study in U.S. and third-country institutions of higher learning.

We have and will continue to share with the developing countries the advances we make in our most sophisticated technologies. For example,

- the U.S. foresees investing \$24 million in a new six-year program to test the effectiveness of satellites as a medium of educational broadcasting and improved communication in remote, rural areas;
- the U.S. will take the initiative to bring together the operators of remote sensing satellites, as well as the users, to develop an international system. We believe that satellites should be operated so that all can have easy access to the data and so that information can be collected without unnecessary duplication and for maximum mutual benefit. The objective is to ensure developing countries improve their access to information for the use and management of forests, rangelands, water supplies, soil preservation and the identification of new mineral and water resources;
- the U.S. is significantly expanding its renewable energy assistance and is working on cooperative methods of applying advanced technologies, including solar technology, to the energy needs of the developing countries.

In the application of science and technology for development, foreign assistance cannot be a substitute for self-reliance. People who are ill fed and in ill health, without shelter and without jobs, do not need paternalistic redemption. They need tools and trades, capital and opportunities, help to help themselves to meet their own basic needs.

The building of the developing countries' capabilities and their infrastructure in science and technology must be the first critical step to eliminate the worst aspects of poverty and to elevate the developing countries to full partnership in the global scientific and technological enterprise. Education at all levels is at the core of human development, the key to a higher quality of life.

We have and will, therefore, assist in strengthening local scientific and technological infrastructures, managerial, technical and general education programs, research institutes, standardization activities, extension and information services, laboratory supply and equipment centers and training activities.

Technical assistance and the export of expertise must rely on local capacity to define problems and establish priorities.

In order to respond to the challenge of building such indigenous capacity, we are establishing, at the personal initiative of President Carter, a new Institute for Scientific and Technological Cooperation. The Institute's principal functions will include:

- enlisting developing countries' assistance in establishing research and development priorities;
- long-term research and development on critical development problems;
- building international cooperative linkages within the scientific and technological community;
- marshalling research and development activities of various U.S. public and private agencies;
- facilitating greater attention by U.S. scientific and technical institutions to joint research, training and other cooperative activities; and
- involving the private sector in the United States in efforts to improve science and technology for development.

We cannot seriously contemplate more just and equitable patterns of scientific and technological cooperation without the developing countries possessing the leverage of scientific knowledge and information. Substantial amounts of information residing in the public sector have already been made available to developing nations. In addition, much of the technology in the private sector is available through public information systems describing these technologies, or the sources from which such technologies can be obtained.

But we should not pretend that all is well in the international market of technology. Technology is often sold as a product that can be least afforded by those who most need it. Transferred technology is often inappropriate to local needs, as well as wasteful, and insensitive to environmental impact. Such transfers are bad business. But at the same time we cannot ignore that private enterprise has always been a major source of innovation, a major actor in the diffusion of technology and an indispensable factor in the economic growth of the developing countries. We must, therefore, continue our dialogue about a wide range of measures that enhances the negotiating capability of the developing countries in their acquisition of foreign technologies, and strengthens their participation in the market of technology, not only as consumers but also as producers.

Through new initiatives and through continuing programs, we must find at this conference and in the years ahead new grounds and new mechanisms for cooperation. President Carter in his message to this conference spoke of science and technology for development as a "joint venture". The awesome challenges that we all face, developed and developing countries alike, make this joint venture a global imperative. The United States notes, therefore, with pleasure the declaration of Bucharest in which the developing countries reaffirmed their willingness to work with a sense of urgency to assure the success of this conference.

We inhabit a planet with finite resources, one ecosphere, and one common destiny. In this interdependent world, we are all developing countries. The differences between the North and the South, between the East and the West, are minimal in contrast to the enormity of the common tasks facing mankind.

We are, therefore, prepared to join reasonable ventures that strengthen worldwide scientific and technological cooperation. We strongly believe that this will be a shared effort -- where universal values are the organizing principles for research and development, where the value of knowledge and technological hardware is measured by their contribution to the larger concerns of human welfare.

Science and technology should open new frontiers and new opportunities to enjoy all of the beauty and boundless elements of this planet Earth.

Our generation must be the guarantors of this new tomorrow. It is our task to usher in this new age, to tend the soil and plant the seed which will bring forth bountiful fruit. And our harvest will be threefold: a new realm of reason -- a new realm of reality -- a new realm of rights.

Let us invent this realm of reason. For the efforts we make are not a zero-sum game in which the gains of those who seek equality and parity would automatically register as a loss for those who now possess more. In this realm we can prove the mutual benefits thesis -- that advances in any part of the world are for the benefit of all.

Let us accept the realm of reality. This reality dictates that we become aware of the coming crises of the global commons. While our material resources may dwindle, our traditional energy sources may run dry, there is one inexhaustible and always renewable resource: our ingenuity, our imagination, our knowledge and technology and especially our common human aspirations that can convert all these into a new world.

And let us, with the aid of science and technology, construct a new realm of human rights. A new realm

- where the international spirit of cooperation places basic rights at the centerpiece of our agenda for the 21st century;
- where freedom is the hallmark, equality of men and women will be the cornerstone, and justice the watchword;
- where the benefits derived from the world's resources know no special beneficiary nor will they be confined by any national border as long as there are people in need.

So, Madame President, let us make our tomorrow a world full of sharing, where the freedom to explore, the freedom to create and the opportunity to share in the fruits of our labor will be the true hallmarks of civilization.



## AMBASSADOR THEODORE M. HESBURGH

Father Theodore M. Hesburgh, 62, is a renaissance man of this modern technological age. Among the few civilians who have ever flown beyond the speed of MACH-3, he was a founding member of the International Atomic Energy Agency and participant in an expedition to the South Pole.

Now Chairman, with the rank of Ambassador, of the United States Delegation to UNCSTD, Father Ted, as his friends call him, has spent a life time championing the cause of the poor, the suffering and the victims of persecution and discrimination. Ordained as a Holy Cross father, in 1943, he has been President of the prestigious University of Notre Dame for the past 27 years. His vocation as a priest, concerned with the fate of his fellow men, is combined with the discernment of a scholar to seek after the causes and not only the symptoms of our global problems. And he has the practical sense of a statesman who has the ability and skills to get things done.

He has been a pioneer, as Chairman of the Overseas Development Council, to review and redirect U.S. foreign aid policies to make development assistance more responsive to the aspirations of the Third World and to the needs of the poor. He has traveled widely in the developing countries -- not as an expert dispensing advice -- but as a learner, a listener and participant in the daily life and work of those for whom development is the only chance for survival. He has been to the barrios of urban squallor in Chile, to the communes in the People's Republic of China and the refugee camps of Palestinians. Everywhere, with the deepest of convictions, he has been a messenger of hope -- hope that with the material resources it has, the technical skills it possesses and the political will it must muster, mankind will eliminate the worst aspects of poverty by the next millennium. As a man of practical ideas, he brings his same message to the Board of Directors of the Council on Foreign Relations, of which he is a member, and to the Board of Directors of the Chase Manhattan Bank, to which he was named several years ago.

A leading figure in the American education scene, an author of numerous books, he has been a teacher and

professor, founding member and President since 1952 of the Woodrow Wilson National Fellowship Corporation, Chairman since 1977 of the Rockefeller Foundation. He was for six years a member of the Carnegie Commission on the Future of Higher Education, the Board of Directors of the American Council of Education, the Institute for International Education, the United Negro College Fund and many others. He is President of the Association of American Colleges.

Greatly respected by Presidents and members of Congress, and trusted to bring his unflinching moral standards to public life, he has again and again been called on to exert his influence and energies in molding human rights policies and practices in the United States. He was Chairman of the Civil Rights Commission in the late 60s and early 70s at the very time when racial tensions in his country threatened to slow down the rapid advances against segregation and discrimination. He was a member of this Commission for 15 years.

In partial recognition of his untiring labors, he was recipient of scores of awards and honorary degrees, including the Presidential Medal of Freedom, the highest civilian decoration in the U.S., the Navy's Distinguished Public Service Award, the Charles Evans Hughes Award of the National Conference of Christians and Jews, the American Liberties Medallion of the American Jewish Committee and the Gold Medal of the National Institute of Social Sciences.