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## Speaker's Remarks

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**M**ine is an anthropocentric view and I see the problems of global survival in terms of mankind and our possible future. I am concerned with the physical survival of the planet but wish to be comforted that it will be inhabited by us, or creatures descended from us, and who are in our image. I wish to contemplate a planet that has more than a superficial resemblance to the one I know—one in which my grandchildren and their grandchildren can have the opportunity to realize their life potential to the fullest. Thus physical survival is not enough, the planet must survive and support a life of quality for people.

When I was a child, my fairy tales and nursery jingles spoke about a man on the moon; indeed I could see his face, and later science fiction almost convinced me that there were little green men on Mars. I have long passed that stage, but the exploration into space, the pictures of the moon surface and the brilliant technological feat of placing Sojourner on Mars caused me to reflect more deeply on our place in the cosmos. I thought of the solitude of our situation—it appears that we are the only humans in the universe and there is a great responsibility on us to maintain our home. The image of earth resembling in any way the beautiful but stark terrain of Mars is not something I wish to contemplate.

This sense of personal responsibility for Earth is in some way tempered by the knowledge that there are major destructive forces in nature that make us look puny. I come from the

Caribbean and have seen the destruction wrought by hurricanes. The Soufrière volcano of Montserrat shows how a whole island can be made almost uninhabitable and there is a deep fear of total destruction there. We see shades of Krakatoa—one of the largest volcanic eruptions of modern time—which some 114 years ago almost completely destroyed a tropical island and killed over 30,000 people. This may yet be repeated.

In more recent times the results of El Niño are far removed from what might be expected from a phenomenon named after the holy child. Extreme climatic conditions are being experienced all over the globe—with floods occurring where there were droughts, and once fertile land is parched for lack of rain. El Niño brings in its wake severe economic loss and ecological changes in our region that lead to an overpopulation of rodents, which bring their zoonotic diseases with them. The outbreaks of Hanta virus infections in several countries of the Americas and deaths from plague in Peru are evidence of this.

We have learned to suffer, or live with, these natural disasters and have developed a science of prediction and mitigation, as well as prevention of the most severe effects. I speak with some knowledge of this, as one of our more successful programs in the Pan American Health Organization is dedicated to technical cooperation exactly in this area.

But the major concern that is well known to this audience is that people's technology and the

drive to utilize it have caused changes in the balance of nature, and evidence is accumulating steadily of the negative impact of human activity on our environment. I recall when this was brought forcibly to my attention as I read Rachel Carson's book *The Silent Spring* (1962) for the first time some 30 years ago. Her introductory fable must be a classic. She writes: "On the mornings that had once throbbled with the dawn chorus of robins, catbirds, doves, jays, wrens and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh. . . . No witchcraft, no enemy actions had silenced the rebirth of new life in this stricken world. The people had done it themselves."

There is no shortage of the apocalyptic view and predictions of the horrible effects of people's injustice to nature. The realization of the gravity of the situation, and the responsibility to halt the slide has called out many voices. There are the voices of faith and those of science, which I hope to show are now converging.

This faith is derived partly from accepting that many humans are increasingly passing from what has been described as associative thinking—in which there is consideration of individual facts and phenomena, to a process of true understanding of a totality. The thesis that the nature of our evolutionary development condemns us to be concerned only with the here and now is being tempered with a possibility that it may yet be feasible to direct attention to a future that is propitious for our own immediate survival and that of the species.

I was moved by the recent efforts of many of the faithful to develop a new social consensus. Hans Küng, in his book *Yes to a Global Ethic* (1996), claims that "the common factor in all contributions is that for the sake of peace among humankind at both the local level—and the global level—reflections on an ethic common to all human beings is more than ever necessary." The book contains an impressive declaration adopted by a parliament of thousands of persons from the world's religions that began by saying: "The world is in agony. The agony is so pervasive and urgent that we are compelled to name its manifestations so that the depth of this pain may be made clear. We condemn the abuse of

Earth's ecosystems. We affirm that a common set of core values is found in the teachings of the religions and these form the basis of global ethics."

These religious leaders further affirmed that certain measures must be taken to realize this ethic: "It is the communities of faith who bear a responsibility to demonstrate that such hopes, ideals and standards can be guarded, grounded and lived." But to realize this global ethic and give substance to faith, actions must be buttressed by science. In the same manner that science and the technological imperative that derives from its intrinsic beauty have led to much of the destruction, in a similar vein science can and must play a role in reversing the damage, and producing and maintaining a better state. I have faith in the capacity of science. I am aware of the intense debate about climate change and its effects on global survival. Much of that debate turns around the reliability of the various scientific estimates, but I have faith that the physical and social scientists will find or negotiate a solution. This faith that I have is more akin to the concept in the Bible, found in Paul's letter to the Hebrews, "Faith is the assurance of things hoped for, the conviction of things not seen."

If global survival is to mean more than ensuring some physical continuity and improvement, and we seek to ensure that there is life worth living for its human inhabitants, then we must consider the health of humanity as essential for that kind of survival. I have faith that we can improve global health. There is general acceptance of health as a human value, and a growing understanding at all levels of the major determinants of human health. Health is mainly the result of our interaction with a variety of factors in the physical, social, political, and cultural environments. Our genetic makeup, our behavior, and the health services provided are other contributors. There is a very close relation between our health and our physical environment that dates from Hypocrites, although many of the mechanisms of causality are only now being explained. Some still escape us. We believe, for example, that environmental exposure to chemical agents may produce disease, but it is estimated that only about one-fifth of chemicals in use have been tested for carcino-

genic or other toxic potential. Health and a safe environment are only two of the things that interact and contribute to human development, which is after all one of the key requirements for global survival.

The gains in health, when measured by the usual indicators, have been impressive in recent times. Infant mortality rates continue to fall, and life expectancy to rise—at least in all the countries of the Americas. Overall, there is less malnutrition. These improvements have been due to the technological advances derived from our science, and a better understanding of the basic biology and nature of disease. Our scientists produce better vaccines and drugs to treat illnesses, previously without remedy. Mental illnesses represent one classic example of the improvement of understanding at a basic level and the therapeutic regimes now available. Depression, for example, is now a disease eminently treatable by nonspecialists. The information sciences are revolutionizing health and care. There is more rapid collection and dissemination of data; the democratization of health information is upon us and the transmission of images through tele-medicine will make some services available to areas that were hitherto inaccessible. If expenditure is a marker for the importance of health, the Americas should be reasonably pleased as some 7 percent of gross domestic product (GDP) is spent on health.

But there are major problems that constrain further, or more rapid, progress in health and they must be dealt with if lack of health is not to be an impediment to global survival. There is still an enormous burden of infectious diseases—the old traditional ones and those that are new, emerging, or re-emerging. Malaria still kills hundreds of thousands every year; children still die needlessly from diarrhea or respiratory infections. The new disease of human immunodeficiency virus leading to acquired immune deficiency syndrome (HIV and AIDS) continues to plague us and devastates large populations in Africa. The news that mortality rates from AIDS have fallen in this country is welcome and we look forward to similar successes in the rest of the world. Tuberculosis has resurged to remind us forcibly of our arrogance in believing that the availability of magic antibi-

otics could allow us to forget its ravages. It is a chilling thought that AIDS probably will not be the last great epidemic of infectious disease to strike man. Chronic diseases and injuries are steadily coming to the fore in all countries of the world as major causes of mortality and morbidity. This increasing burden of illness from chronic disease is not due exclusively to the demographic transition with more persons living longer lives.

Taking the long view, I can see some possible solutions to the problems of disease. I can foresee our science elucidating the cause of many diseases whose nature now is obscure. I can envisage better diagnostic methods and better treatment regimes. I can predict greater application of the social sciences to address some of the major problems that result from the internationalization of health risks—problems such as those associated with the use of tobacco. It will also take the disciples of law, marketing, economics, and sociology to deal effectively with these problems. But some of the real dangers that confront us as we address these problems are the persistent relics of reductionism, and the tendency to see disciplinary purity in the sciences that address public health. All the major improvements in the health of large numbers of people have been as a result of the interplay of numerous scientific disciplines. The successful immunization campaigns that led to the eradication of smallpox from the world, the elimination of poliomyelitis from the Americas, and progress here in eliminating measles have depended on disciplines as diverse as molecular biology, social marketing, economics, and refrigeration engineering.

But the most pernicious and troubling problems are those related to poverty and the attendant inequality. There is inequality that is unjust and is termed inequity, and it is inequity in health and microenvironmental conditions that is particularly troubling. There are gross differentials among and within countries. Children in rural areas of our countries have reduced life chances compared with those in urban areas. There is a close correlation between income inequality and health outcomes in our countries. It is a matter of concern to us that the economic recovery of the 1990s seems to have brought

more inequity to Latin America and the Caribbean. We would expect that as average income rises, that of the poor might rise more, but there is a suggestion that indeed the gap may be widening with damaging effects—particularly on the children of the poor.

The disciplines to address these problems come from the social sciences, among which I include health. It will be necessary to explain the nature of the relationship between social differential or inequity and health and conversely to establish whether investment in health alone can be a mechanism for reducing the gap. This gap has implications beyond health and, when it is played out among nations, gives rise to the social instability and movement of people that threaten global peace.

These remaining problems must not detract from the advances described above. The faith that there can be global survival grounded in a global ethic should be based on the fact that positive changes have been wrought by science. I am sure there are similar examples in fields other than health. Faith need not be blind; it can be based on an appreciation of the positive good that has come from science.

But it is not sufficient to postulate that faith can draw on science; there has to be a greater understanding of the nature of the issues and particularly the hopes to be derived from the sciences. This is everyone's job—agencies like ours have a responsibility to collaborate, to pool knowledge and effort, and to stimulate the development of knowledge in the public. It is perhaps easier to have expressions of faith from the public than to show that some of that faith can derive energy from the sciences. Perhaps this is because we technocrats have confused the issues and it is perhaps good to recall Einstein's view when he said that "the whole of science is nothing more than a refinement of everyday thinking." I wish some of this everyday thinking would incorporate the idea that the anthropocentric view of global survival can be grounded in faith and supported by science.

## References

- Carson, R. 1962. *The Silent Spring*. Boston: Houghton Mifflin.
- Küng, H. *Yes to a Global Ethic*. London: SCM Press.