UNESCO

NIER

Organisation des Nations Unies
pour l'éducation, la science et la culture

*United Nations Educational,
Scientific and Cultural Organization*

*An International Symposium
Commemorating the 50th Anniversary
of Japan's Participation in UNESCO*

3 July 2001 – Tokyo, Japan

Message
to the Children
of the Twenty-first
Century . . .

National Institute for
Educational Policy
Research of Japan

Organisation des Nations Unies
pour l'éducation, la science et la culture
United Nations Educational,
Scientific and Cultural Organization

Message
to the Children
of the Twenty-first
Century . . .

Introduction

2001, the first year of the twenty-first century, marks the 50th anniversary of Japan's membership in UNESCO, the United Nations organization that has special responsibility for education, science and culture. Established in 1946, following the end of the Second World War, UNESCO was founded in order to promote collaboration between nations in furthering universal respect for justice, for the rule of law and for human rights and fundamental freedoms, notably through developing education, encouraging co-operation and exchange in science and assuring the conservation and protection of the world's tangible and intangible heritage. Japan has actively participated in the Organization's activities since its foundation; UNESCO now has 188 member states.

Among UNESCO's most important activities are its educational programmes. Today, 870 million people throughout the world are illiterate, and the Organization's Education for All programme includes an important literacy component, as well as activities aimed at developing educational methods and contents worldwide. However, UNESCO also works in other areas, such as in the natural sciences, in the social and human sciences, in communication and in cultural development and conservation, all in the spirit of the Organization's Constitution, which speaks of strengthening, and building upon, 'the intellectual and moral solidarity of mankind'.

UNESCO's World Heritage programme, for example, well known throughout the world thanks to the World Heritage List of outstanding examples of mankind's cultural and natural heritage, helps to save this heritage from natural and man-made destruction. In addition, the Organization's activities in conserving and protecting the world's inheritance of books, works of art and culture in its widest sense – from threatened languages to disappearing customs – are important parts of this work. In a context of rapid globalization, UNESCO is striving to preserve our common heritage, so that children may enjoy it in the twenty-first century.

This book, the text of which is taken from an international Symposium held in Tokyo in 2001 to commemorate the 50th anniversary of Japan's membership in UNESCO, has been published in order to shed light on some of the many challenges that we face as we enter the new century, and to pass on a *Message to the Children of the Twenty-first Century.*

Contents

Kenji Tomioka
Director-General,
National Institute for Educational Policy
Research (NIER) (Japan)

I am very pleased to have the opportunity to say a few words on behalf of the organizers of this important event. The people of the twenty-first century will face great and diverse challenges, and our children will have to meet these challenges and do their utmost to find solutions to them. Thus, we adults should also do our best to minimize the negative legacy of the twentieth century, and we should pass on to our children and to posterity, as positive a legacy as we can. We need to empower children and to impart wisdom to them, in order that they can face up to and overcome these challenges. How, then, can we empower our children? What kind of wisdom should we hand down to them?

Since I became Director-General of the National Institute for Educational Policy Research (NIER), I have sought opportunities to discuss such matters with intellectuals from all over the world. Last year, I met Koïchiro Matsuura, Director-General of UNESCO, in Paris, and I shared my ideas with him. He offered me UNESCO's support as co-host of this international Symposium marking the 50th anniversary of Japan's joining UNESCO, the first decade of the twenty-first century also having been designated the International Decade for a Culture of Peace and Non-violence for the Children of the World.

The Symposium has also been supported by the Ministry of Education, Culture, Sports, Science and Technology and by the Japanese National Commission for UNESCO. I would like to express my gratitude to Mr Matsuura, to Ms Toyama, Minister of Education, Culture, Sports, Science and Technology, to Dr Hirayama, Chairperson of the Japanese National Commission for UNESCO and to Mr Shirakawa, Secretary-General of this National Commission, for all their efforts to make this Symposium a success.

I would like to offer my warm thanks to the speakers, who have come to Tokyo from every corner of the world, and to Mr Isomura, the moderator and co-ordinator of the Symposium. I would also like to thank the Ministry of Foreign Affairs, the United Nations Information Centre, Tokyo, and Nippon Hoso Kyokay* (NHK) for their support, help and assistance.

* Japan Broadcasting Corporation

Preface

Atsuko Toyama
Minister of Education, Culture, Sports, Science and Technology of Japan

The children of the twenty-first century will face many challenges. What should they be learning to help them overcome these challenges, and how should they be learning? These are long-standing issues for our ministry. They are questions that are particularly important now, as values continue to diversify and the world continues to change.

Today, six themes will be put forward for discussion, but I think that these six themes are linked by the concept of harmony. A commitment to harmony can render apparently contradictory matters compatible, and it can strike a balance between different value systems. The first theme to be presented today, for example, 'Humanity's Common Values', and the fifth, the 'Diversity of Identities and Cultures', seem at first glance to contradict each other. Similarly, the second theme, 'Conservation of the Global Environment', seems to involve two different things, the first relating to economic and national development, and the second to managing the negative impact of economic development on the environment. The same can be said about the fourth theme, the 'Ethics of Science and Technology', since if we want to avoid irreversible change, the development of the technology of the life sciences needs to be tempered by ethics. Yet all these themes, and here I would include also the third, 'Equal Access to Education, Resources and Opportunities', and the sixth, 'Lasting Peace throughout the World', require not confrontation but harmonious co-operation. This idea of harmony in place of confrontation in solving our various problems is one that Mr Matsuura, with us here today, emphasized in his inaugural address as Director-General of UNESCO in 1999, and this concept is reflected in UNESCO's initiatives to promote dialogue among civilizations, as originally proposed by President Khatami of Iran.

For Japan, the 50 years of our membership in UNESCO have been a period of progress in education and a period of high economic growth. Of course, the content and methods of education have been reviewed to meet changes in society, but today we still face significant problems. Violence in schools is increasing, for example, and some have even spoken of the 'collapse of our schools'. The individual capacities of students have been neglected, and there is a danger that education will appear 'obsolete' to students, or as unable to catch up with the far-reaching changes taking place in society.

In order to cope with these problems and to meet future challenges, we are now promoting an Educational Renewal Plan for the twenty-first century, and six pieces of legislation related to educational reform have recently been approved by Parliament. In order to ensure that we all have a better future, we need to search for what is right now; we need to find harmony between different, sometimes apparently conflicting elements, without either denying or blindly continuing in our past traditions.

It is sometimes said that Japan has a unique culture because of the country's geographical and historical conditions. In the development of Japanese culture, Japan has introduced many things from China and from other foreign countries, our ancestors choosing not to confront other cultures, but rather to accept and to assimilate them. Our culture has developed in harmony with other cultures. However, today we face new challenges, notably regarding the protection of cultural diversity in an age of globalization. Therefore, it is fitting that Mr Matsuura, a man from a country having a unique culture, should lead UNESCO into the twenty-first century in coping with these challenges.

I sincerely hope that this Symposium, sponsored by UNESCO and the National Institute for Educational Policy Research, will make an intellectual contribution to the solution of these challenges.

Koïchiro Matsuura
Director-General,
United Nations Educational, Scientific
and Cultural Organization (UNESCO)

**Designed to celebrate
50 years of the
membership of Japan in
UNESCO, today by far the
largest supporter of the
Organization, the present
Symposium is an occasion
to reflect upon the
achievements of the past
half-century in helping the
countries of the world to
free themselves from
poverty, ignorance and
violence in their various
forms. It is also an
occasion to identify
present and future
priorities, among them the
six fundamental principles
for a Culture of Peace
presented in UNESCO's
Manifesto 2000 and the
protection of our cultural
diversity, which is the soil
of our common human
development.**

I feel deeply honoured to have the opportunity to greet this distinguished audience and to address from Japan, on this special occasion, the children of the twenty-first century.

Today's event celebrates the five decades of Japan's membership in one of the key agencies of the United Nations system: Japan joined UNESCO precisely 50 years ago, on 2 July 1951. UNESCO was the first international organization that Japan joined after the Second World War; in other words, it occurred prior to its membership of the United Nations. The spirit of peace expressed in the ideals and mission of UNESCO touched a chord with the Japanese people of that time as they strove for a new beginning after a devastating world war. The resemblance between UNESCO's Constitution and that of Japan, both emphasizing the supreme importance of peace, was one of the reasons why Japan joined UNESCO as a first step to its return to the international community.

UNESCO had been created just five years earlier, in 1946. Japan was its 55th Member State. At that time, the contribution rate of Japan was just 1.8 per cent, whereas the rate for the United States was 35 per cent, that for the United Kingdom was 12.9 per cent, followed by 6.8 per cent each for France and China. Fifty years later, among 188 Member States, Japan is by far the largest contributor to UNESCO with its contribution rate standing at 22 per cent. This represents a more than ten-fold increase in 50 years. These facts are significant for two main reasons: first, they show the strength of Japan's particular commitment to UNESCO and, second, they demonstrate the importance that Japan places upon the responsible fulfilment of its role in international society and in the pursuit of peace.

My own life illustrates how international events can touch us quite personally. The vision promoted by UNESCO since its foundation is the vision that I have tried to make my own since my childhood in a small village of Yamaguchi prefecture. For those of us growing up in Japan during the years immediately after the Second World War, under the harsh conditions of food shortages and material deprivation, peace came to assume a vital importance. For us, the desire for peace was not abstract or distant, but was immediate, real and alive. We could almost taste it. The yearning for peace
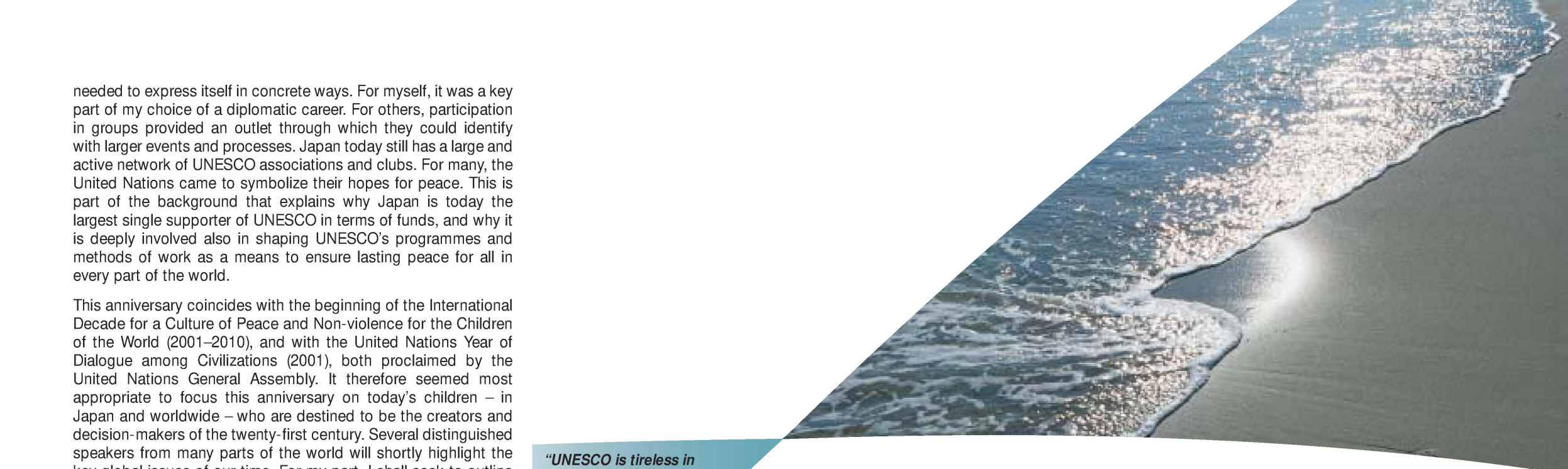
needed to express itself in concrete ways. For myself, it was a key part of my choice of a diplomatic career. For others, participation in groups provided an outlet through which they could identify with larger events and processes. Japan today still has a large and active network of UNESCO associations and clubs. For many, the United Nations came to symbolize their hopes for peace. This is part of the background that explains why Japan is today the largest single supporter of UNESCO in terms of funds, and why it is deeply involved also in shaping UNESCO's programmes and methods of work as a means to ensure lasting peace for all in every part of the world.

This anniversary coincides with the beginning of the International Decade for a Culture of Peace and Non-violence for the Children of the World (2001–2010), and with the United Nations Year of Dialogue among Civilizations (2001), both proclaimed by the United Nations General Assembly. It therefore seemed most appropriate to focus this anniversary on today's children – in Japan and worldwide – who are destined to be the creators and decision-makers of the twenty-first century. Several distinguished speakers from many parts of the world will shortly highlight the key global issues of our time. For my part, I shall seek to outline some of the major challenges that the children of the twenty-first century will face.

As children of the twenty-first century, no matter where you are and how different you may be, you have at least one thing in common: you all embody our hope for the future. It is our hope that you will carry on doing what the preceding generations (your parents, grandparents and other ancestors) have done well; more than this, we hope that you will do even better, far better, than us. Looking back, we are rightly proud of humankind's many accomplishments, particularly those of the twentieth century. In many ways, however, it was a terrible century marked by war, destruction, disorder and human suffering of huge proportions. But it was also a century of positive change and great potential: there were important developments concerning national self-government, democracy and social reform, as well as scientific-technological advances affecting everything from space travel and personal computers to agricultural output and basic health care. Additional achievements include our growing awareness concerning environmental protection, the safeguarding of cultural heritage, and other common concerns in which children and young people, in Japan and across the world, have taken a strong interest and sometimes a leading role.

On the other hand, societies in all parts of the world continue to be threatened by poverty, violence, intolerance, armed conflict, ignorance, global warming, drug abuse and crime, all of which adversely affect the quality of our lives. For its part, UNESCO is tireless in emphasizing that poverty, ignorance, and violence are the prime causes that put human security at risk; wherever these evils appear, human dignity and social justice are diminished.

"UNESCO is tireless in emphasizing that poverty, ignorance, and violence are the prime causes that put human security at risk".

As we begin the new century, therefore, our top priority must be the eradication of poverty, ignorance, and violence, each of which acquires new dimensions and new meanings in a world characterized by globalization.

UNESCO's most important task has been, and remains, that of helping all countries in the world to free themselves of poverty, ignorance and violence in whatever form they take. Our main instrument in this effort is education, carried out not only through kindergartens, schools, colleges and universities but also through out-of-school and non-formal methods. The chief educational goal pursued in the past century was the provision of greater access to education. We must now go beyond this and become ambitious for other educational achievements, especially lifelong learning and equitable access to quality education for all. In the twenty-first century, we will need education that responds effectively to the diverse aspirations and changing needs of individuals and societies so that all can participate and all can contribute to the best of their abilities.

Five years ago, in 1996, the International Commission on Education for the Twenty-first Century, under the chairmanship of Jacques Delors, issued its report to UNESCO. Four pillars of education were identified by this report: learning to know, learning to do, learning to live together and learning to be. All four pillars are vitally important, but none more so today than learning to live together, which has become one of the most difficult challenges

facing us in our increasingly globalized world. Education, we must remember, is not just about the head but also about the heart. We must ask fundamental questions of ourselves. For example, of what value are advances in knowledge and understanding if they are put at the service of hatred, discrimination, violence and selfishness? Of what use are the new information and communication technologies if people are unwilling to exchange ideas, refuse to listen to each other, or show disrespect toward others' cultures and opinions? And how can we move on towards a peaceful and democratic future if we cannot let go of beliefs deriving from a militaristic or authoritarian past? Education, particularly through learning to live together, must provide answers to such questions.

Today's adults are becoming increasingly aware of these issues; they know that to educate you is the best investment they can make. It is for this reason that virtually all countries have committed themselves firmly to make education their top priority, to respect your right to education, and to help you learn to live with together. This commitment was voiced most recently at a major world conference, the World Education Forum, held in 2000 in Dakar (Senegal) to promote Education for All. It is for everyone, as citizens in our respective countries, to hold our national authorities accountable for delivering the promises they freely made in Dakar.

On a more personal note, may I add that from my own experience as a learner and as father of my children, I recognize how essential it is not only to have access to education but also to develop a love for learning. To learn is a capacity we all have, a capacity central to our definition as humans, but to use and develop this capacity requires great and sustained effort – by society as a whole and by each of us individually. As we become increasingly a part of the information or knowledge society, being educated becomes an even greater necessity, not only for personal success but simply in order to survive and function in the fast-changing social environments around us. As our societies and economies become increasingly globalized, you, the children of the twenty-first century, will become globalized too. By providing an education that is centered on human values, we seek to ensure that globalization will be 'humanized' by you. This is our hope.

UNESCO cannot achieve this alone, of course. We need collaborators such as the National Institute for Educational Policy Research (NIER) of Japan, a close partner in efforts to extend education to all and to help poor countries to improve the quality of their education. Through seminars, workshops and professional expertise, NIER has helped many countries better plan their secondary education, initiate computer education, develop scientific and information literacy and promote education for international understanding. Such work is undertaken in other countries by similar institutions and by governments. Together we thus work each day to ensure that you, the children of the twenty-first century, will all have access to learning. This is your basic

"Virtually all countries have committed themselves firmly to make education their top priority, to respect your right to education, and to help you learn to live with together".

right as a human being, whether you are a girl or a boy, and regardless of the colour of your skin, ethnic origin, religion or the social status of your family.

To make education possible and to allow the full benefits of education to be achieved, we need one thing above all: *peace*. Regrettably, in many regions of the world, peace remains fragile. To help preserve peace in all its dimensions is therefore an abiding challenge for the international community in general and for UNESCO in particular. To achieve this, we need the commitment of every person, adult or child; each of us can contribute to making peace a reality. Let me recall the six fundamental principles of a culture of peace and non-violence that were formulated by several Nobel Peace Prize laureates as UNESCO's *Manifesto 2000*. These principles are:

1. Respect all life. Respect the life and dignity of each human being without discrimination or prejudice.
2. Reject violence. Practise active non-violence, rejecting violence in all its forms – physical, sexual, psychological, economic and social, in particular towards the most deprived and vulnerable such as children and adolescents.
3. Share with others. Share time and material resources in a spirit of generosity to put an end to exclusion, injustice and political and economic oppression.
4. Listen to understand. Defend freedom of expression and cultural diversity, giving preference always to dialogue and listening without engaging in fanaticism, defamation and the rejection of others.
5. Preserve the planet. Promote consumer behaviour that is responsible and development practices that respect all forms of life and preserve the balance of nature on the planet.
6. Rediscover solidarity. Contribute to the development of your community, with the full participation of women and respect for

democratic principles, in order to create together new forms of solidarity.

More than 75 million people, including millions of children and young people, have signed this *Manifesto* in various parts of the world, pledging thereby to live and act by its principles. In September 2000, two representatives of Japanese high school students came to UNESCO Headquarters in Paris to place directly into my hands the *Manifesto 2000* signed by one million Japanese citizens. The campaign to collect signatures was organized by the National Federation of UNESCO Clubs in Japan, but the greatest success was to raise awareness among ordinary Japanese citizens of the importance of cultivating a culture of peace. Signatures to the *Manifesto* are still being collected across the world thanks to the efforts of thousands of schools, associations and other organizations. If you have not signed up, do not delay! More importantly, I invite all of you to adhere to the principles enshrined in the *Manifesto*. Moreover, I encourage all children of this new century to learn early in their lives, through their personal involvement, what democratic behaviour means and how it works in one's family, one's school, one's community, and one's country, and at the world level too. UNESCO's experience with the World Parliament of Children confirms our belief that you, the children, are keen observers of the world around you and, despite your young age and relative lack of experience, are very much aware of its positive and negative features. Although you are not yet ready for the exercise of political responsibilities, you often understand instinctively what truly matters.

Thus, many of you are aware of the vital importance of protecting our environment, and you are increasingly teaching adults to respect it too. You are also in many ways the true partisans of cultural diversity. Culture, in all its rich diversity, is the real source of our knowledge and creativity; it is, therefore, of great importance for each society to know and appreciate its own culture(s) along with those of other societies. Human development is nourished by the constant interaction of the world's many cultures. All cultures participate in this because all cultures have something to offer and something to learn from others. All cultures have value, and we therefore must ensure that they can interact in a spirit of equity and respect. Your understanding of this and your readiness for action in this regard are clearly reflected in the great success of UNESCO's World Heritage education programme and the publication known as *World Heritage in Young Hands*, in which many Japanese schools and UNESCO associations are involved.

Soon it will be the turn for you, the children of the twenty-first century, here in Japan and worldwide, to become leaders and to make important decisions on all the matters mentioned in my speech. I wish you to be well prepared for this. As Director-General of UNESCO, I take the opportunity of this solemn celebration to commit myself personally to helping you meet these expectations.

"In September 2000, two representatives of Japanese high school students came to UNESCO Headquarters in Paris to place directly into my hands the Manifesto 2000 signed by one million Japanese citizens".
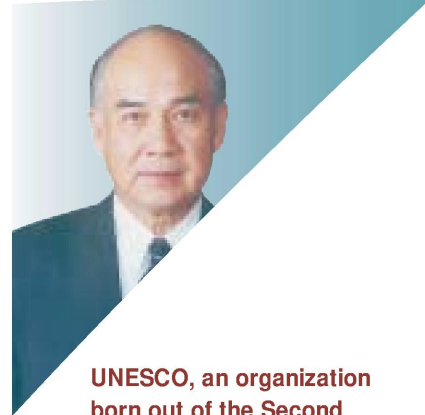
"All cultures have value, and we therefore must ensure that they can interact in a spirit of equity and respect".

Vichai Tunsiri
*Former Deputy Minister
of Education of Thailand*

UNESCO, an organization born out of the Second World War with a remit to construct peace in the minds of men through educational, scientific and cultural development, exists to promote certain core values that are common to all mankind. These values include democratic values – the rule of law and popular participation in government – as well as a commitment to human rights, environmental protection, membership of local, national and international communities and to a Culture of Peace through peaceful conflict-resolution.

Since its foundation, UNESCO's main task has been the construction of peace in the minds of men, and Japan, one of the Organization's leading members, has always been at the forefront in carrying out this sacred task. Since joining UNESCO 50 years ago, Japan has diligently endeavoured to promote the Organization's objectives, working side by side with other Members, and never wavering in its wholehearted support for all of UNESCO's activities. It is therefore a great honour for me to congratulate the Japanese Government and people for taking such a leading role in UNESCO, and I sincerely hope that this role will continue to be blessed with success and prosperity.

Today is an important day for the Japanese people, particularly for the young. Gathered here to celebrate the 50th anniversary of Japan's membership in UNESCO, we celebrate that anniversary in the hope that the next 50 years will be just as prosperous, or even more prosperous, than the past 50 have been. We choose today to recall the efforts valiantly made by our predecessors to promote peace through educational, scientific and cultural development in Member States. We celebrate this 50th anniversary with the aim of constantly reminding ourselves of the sacrifices and hard work undertaken by our predecessors to preserve peace in the second half of the twentieth century. The children of today, still unborn when the Second World War ended in 1945, will be unaware of the hardships of the mid-twentieth century, an estimated 50 million people having been killed during that war, with a further 20 million dying in subsequent minor wars. Even today, war has not been eliminated, and we should look upon our meeting here as an occasion for the regeneration of our resolve to work yet more arduously for peace, so that the world of the twenty-first century will be a safer place in which to live.

Three centuries ago, the philosophers of the Age of Enlightenment hoped that rationalism and scientific progress would lead the world towards peace and social justice. They assumed that man, once liberated from social bondage and free to pursue his individual happiness, would live in peace. This rationalist movement in philosophic thought dominated western thinking over the following three centuries, terminating in the counter-culture movement of the 1960s, where each individual felt free to determine his own good

and values and to abandon core or common social values. This denigration of common values and over-reaction against traditional values and authority led to undesirable outcomes, such as increasing divorce rates, rising teenage pregnancies, increased drug addiction and social alienation.

However, society is not as the Enlightenment philosophers imagined it; on the contrary, it is a living organism in which a swing in one direction will lead to a counter-swing in another. Thus recently a counter trend towards 'communitarianism', which, as the name suggests, stresses not individualism but communal values, has started to gain ground in the United States. Amitai Etzioni, the American sociologist, speaks in his book *The New Golden Rule* about certain 'core values', for example, which must be shared if society is to survive. Without such shared values, he says, society will become increasingly fragmented, shared values constituting the basis of the moral order of society. Without this moral order, society will perish. Given that core values, or values common to humankind, should be the basis for the moral order of society, what then should these core values be? In answer to this question, I propose the following five sets of core values:

Democratic values

One cannot deny the triumph of democracy in the present day and age. Democracy has become a necessary requirement not only for good governance, but also for a desirable way of life. Democracy is a necessary and indispensable condition for an 'open society' of the kind evoked by the great philosopher Karl Popper.

Democracy incorporates a number of values, but to my mind it rests on three pillars: first, the rule of law, second, popular participation in government and third, basic human rights. These three pillars I would like to call the 'triangle of conditions' for democracy and the open society, and I would single out the rule of law as the essential condition without which the latter two would be impossible. The rule of law is the first necessary element for democracy, and it is all the more so for developing nations and for newly emerging democracies.

Human rights and responsibilities

A second set of core values for the national and international community is human rights and responsibilities. According to the Report of the World Commission on Culture and Development, entitled *Our Creative Diversity* and edited by Javier Pérez de Cuéllar, former Secretary-General of the United Nations, the idea of human rights reflects a basic moral concern to protect the integrity and to respect the vulnerability of human beings, and it can be shown to be included as a part of all major traditions of moral teachings.

"The idea of human rights . . . can be shown to be included as a part of all major traditions of moral teachings".

However, this universal concept of respect for human rights need not be understood solely in its western variant of a sometimes excessive individualism. On the contrary, *Our Creative Diversity* underlines the fact that 'rights have to be combined with duties, options with bonds, choices with allegiances, and liberties with responsibilities.' Teaching human rights should include teaching human responsibilities, which include responsibilities towards one's family, towards one's community, towards one's nation and towards the international community.

Environmental protection and the reduction of consumerism

A subset of core values is environmental protection and more judicious consumerism. An emerging moral concern of our day is the trend towards the increasing destruction of the world's natural resources, not only through increasing deforestation, but also through the increasing pollution of the environment.

However, the developing countries should not be blamed for this, since the source of man's exploitation of nature is to be found in the larger development of global capitalism, which values materialism and economic competition. Indeed, as Gandhi once said, the world's natural resources are sufficient for mankind's basic needs but not for mankind's greed. Yet the economic teachings of the capitalist system extol greed and acquisitiveness

as necessary virtues of capitalist society. Therefore, the protection of the environment should be combined with a campaign for a more modest style of living, which would include an element of self-sacrifice on the part of the rich, as well as the reduction of consumerism, or a more judicious consumerism.

Attachment to family, and to local, national and international communities

A fourth set of core values is the attachment to family and to local, national and international communities. Again, Etzioni has talked of the necessary balance between autonomy and communitarian values. When promoting 'autonomy', whether at an individual or group level, 'communitarianism', or community values, should also be promoted.

"Before one can be a good global citizen, one needs to be a good local citizen".

What is being proposed here is that an emphasis should be put on family values in teaching. The family, as the basic unit of society, should be re-examined and seen in a new light. Moreover, pupils should be enlightened as to the importance of the local community and of its subcultures, and they should also be enlightened about the relationship between the local community and the national and international communities. Before one can be a good global citizen, one needs to be a good local citizen. Without an attachment to the common good of the local and national community, one cannot really be attached to the common good of the international community.

Commitment to peaceful conflict-resolution and fair negotiation

Finally, there should be a fundamental commitment to peaceful conflict-resolution and to fair negotiation, as pointed out, once again, by *Our Creative Diversity*.

"The message to our children is that they should direct their attention to . . . respect for basic human rights being combined with responsibility towards the family, the community and the nation".

Apart from the skills necessary for conflict management, which have to be taught to the younger generations, education should be directed at building a 'Culture of Peace'. Such a culture, as was pointed out by former Director-General of UNESCO Federico Mayor, is 'a process by which positive attitudes to peace, democracy, and tolerance are forged through education and knowledge about different cultures'. A cultural approach to the study of politics, economics and sociology is therefore highly recommended in the higher-education policies of UNESCO Member States, since a proper understanding of the cultural aspect, or element, in the politics, economics and social systems of each nation is a great asset in the resolution of conflicts between nations.

In conclusion, then, I propose these five sets of core values as necessary and indispensable elements of the moral basis of the national and international community. The message to our children is that they should direct their attention to these five sets of core values, a respect for basic human rights being combined with responsibility towards the family, the community and the nation. Personal autonomy and political participation should be combined with due respect for the rule of law. A commitment to environmental protection should include not only the prohibition of policies harmful to the environment, but also the discouragement of consumerism and the profit motive in political, social and cultural activities: capitalism and technology should be given a human face, so to speak. Economic competition should be not only free but also fair, and technology transfer – or technology sharing – should be a necessary element of fair trade. A well-balanced commitment to one's local community and to the national and international community is also a necessary element in fair negotiation and in peaceful conflict-resolution. The construction of peace in the minds of men through education and the socialization of young people should therefore give due emphasis to these five sets of values.

Finally, we should remember the warnings given by Gandhi, which are the seven deadly sins of most people in history. These warnings are against:

1. politics without principles;
2. pleasure without conscience;
3. wealth without work;
4. knowledge without character;
5. commerce without humanity;
6. science without humanity;
7. worship without sacrifice.

I would add an eighth warning against globalization without a human face. This is the eighth sin we have to fight against.

United Nations Millennium Declaration, September 2000

We consider certain fundamental values to be essential to international relations in the twenty-first century. These include:

• **Freedom.** Men and women have the right to live their lives and raise their children in dignity, free from hunger and from the fear of violence, oppression or injustice. Democratic and participatory governance based on the will of the people best assures these rights.

• **Equality.** No individual and no nation must be denied the opportunity to benefit from development. The equal rights and opportunities of women and men must be assured.

• **Solidarity.** Global challenges must be managed in a way that distributes the costs and burdens fairly in accordance with basic principles of equity and social justice. Those who suffer or who benefit least deserve help from those who benefit most.

• **Tolerance.** Human beings must respect one other, in all their diversity of belief, culture and language. Differences within and between societies should be neither feared nor repressed, but cherished as a precious asset of humanity. A culture of peace and dialogue among all civilizations should be actively promoted.

• **Respect for nature.** Prudence must be shown in the management of all living species and natural resources, in accordance with the precepts of sustainable development. Only in this way can the immeasurable riches provided to us by nature be preserved and passed on to our descendants. The current unsustainable patterns of production and consumption must be changed in the interest of our future welfare and that of our descendants.

• **Shared responsibility.** Responsibility for managing worldwide economic and social development, as well as threats to international peace and security, must be shared among the nations of the world and should be exercised multilaterally. As the most universal and most representative organization in the world, the United Nations must play the central role.

Source: Paragraph 6, *United Nations Millennium Declaration,* New York, United Nations, 2000 (United Nations document, A/RES/55/2).

Edward S. Ayensu
President, Pan-African Union for Science and Technology (Ghana)

The connections between human activities and the global environment are today coming under increasing scrutiny, as the need for economic development puts increasing pressure on our global life-support system. Dwindling natural resources, the destruction of natural habitats and species, pollution, climate change and ozone-layer depletion are some of the issues we have to face together. UNESCO can play its part by promoting respect for the global environment and by showing ways of combining economic growth with environmental protection.

It is a great pleasure and a great honour to be invited by UNESCO and the Japanese National Institute for Educational Policy Research to participate in this International Symposium celebrating the 50th anniversary of Japan's membership of UNESCO. The theme of this Symposium is of special significance, because it calls for a 'Message to the Children of the Twenty-first Century'. The message is that they should get ready to assume the mantle of responsibility and to become the custodians of the issues embodied in the six major themes of this Symposium, which is itself part of the International Decade for a Culture of Peace and Non-Violence for the Children of the World.

Before focusing on the conservation of the global environment, I should like to register my congratulations to Japan for being such a staunch member of the United Nations family and of UNESCO in particular. Japan's support, both intellectual and financial, has not passed unnoticed. The unobtrusive elegance with which Japan has supported various UNESCO activities during the past 50 years is an example that many countries with means and capacity should emulate. This is because, compared to 50 years ago, the challenges facing the global environment have become more complicated and more dangerous.

The connections between human activities and the global environment are now under increasing scrutiny. It is therefore essential that the leaders of the world pay particular attention to the major environmental issues facing today's world, issues which include dwindling natural resources, the destruction of natural habitats and species, waste disposal and pollution, climate change and ozone-layer depletion. It is essential too that they pay proper attention to the development of management strategies for tackling these issues.

I have been asked to address a topic that I know is of great concern to Japan. The children of the world are going to be the custodians of the global environment and of global resources in the very near future, and because of their late start in taking up this stewardship they will have to be armed with a radically new approach for ensuring the sustainable management of the global environment. Current and future technological innovations are

going to play a key role in assisting today's children to manage the global environment with pragmatism and respect for the one earth on which we all reside.

This new era of environmental understanding should include the consideration of other global challenges, such as poverty alleviation, consumer behaviour and material progress – issues that all concern economic growth and sustainable development. In addition, the children of the new era should take into consideration ethical issues, such as the protection of our common heritage, equality, common security and a rule of law that takes into consideration the concepts of common patrimony and the quest for inter-generational equality.

As we are all aware, the deterioration of the environment in many regions of the world continues at an alarming rate. A number of problems facing our planet, including the depletion of the ozone layer, acid rain, the greenhouse effect and the movement and illegal disposal of hazardous waste, continue to haunt us. In my part of the world, poverty continues to place enormous pressures and demands on our natural resources. The search for wood to be used for fuel, for instance, continues to destroy our forests and savannahs, while the absence of pollution-abatement technologies constitutes a major stumbling block for our economies. Although such technologies are available, the limited financial resources of poor countries often force them to compromise on the protection of the environment and to use the funds available to meet the urgent basic needs of their people instead.

The relationship between human society and the earth's natural resources is becoming crucial, with the world's population now standing at around six billion people and global Gross Domestic Product (GDP) in the US$30 trillion range. It is obvious that human activities continue to put increased pressure on the global life-support system.

In June 2001, Kofi Annan, Secretary-General of the United Nations, reminded us that 'We have all shared the fragile ecosystems and precious earth resources, and each of us has a role to play in their conservation. For us to continue living together on our planet we must collectively assume responsibility.' He made this statement on World Environment Day when launching the United Nations Millennium Ecosystem Assessment, an attempt to produce the first global report card on our environment. The Secretary-General added that the new study would fill significant gaps in the knowledge required to preserve the planet's health.

In recent years, leading scientists have been mobilized throughout the United Nations system to address critical global environmental issues by undertaking comprehensive global assessments to guide decision-makers. For example, under the sponsorship of the United Nations Environment Programme (UNEP), and co-ordinated by the International Soil Reference and Information Centre in the Netherlands, we have for the first time

"This new era of environmental understanding should include the consideration of other global challenges, such as poverty alleviation, consumer behaviour and material progress".

carried out a baseline study, using a consistent methodology, to estimate global soil degradation. This assessment has helped us to understand and appreciate the degree, type and causes of human-induced soil degradation that has occurred since the Second World War. Similarly, UNEP has launched a Global Biological Assessment to provide a baseline that underpins our current knowledge about the world's biological diversity. This work has been undertaken by leading scientists from both the developed and the developing nations.

Perhaps one of the major initiatives exemplifying the involvement of the world's scientists has been the International Panel on Climate Change (IPCC) established by UNEP and the World Meteorological Organization (WMO) in 1998. Their highly publicized assessments have placed the IPCC in a leadership role in efforts to control climate change. The work of these world-class scientists, who include many Japanese, especially in the calculation of carbon-dioxide emission pathways leading to a dangerous destabilization of atmospheric concentrations, should not be undermined by decision-makers because of national political expediencies.

Another major global concern that we have to address is the status of the world's supply of freshwater. The finite nature of freshwater resources is not in dispute. What is very worrisome is that the world demand for freshwater has continued to rise by an average of 2.5 per cent per year since the 1940s, which, by all calculations, is faster than the rate of human population growth. This should be of great concern to us all because the current loss of water is approaching 5,000 cubic kilometres per year, which is obviously not sustainable according to the 1997 United Nations assessment of the global supply of freshwater. In addition, it has become increasingly evident that forest resources and soils will also need to be exploited sustainably if we are to maintain economic growth and improve the security of present and future generations.

In conclusion, I would like to share my inner feelings about the way in which I see the world today. There is no doubt in my mind that we are caught in a vicious circle between economic growth and the conservation of the global environment. In addition, there is an analogous tension between the maintenance of national sovereignty and the push towards a global society. What role can UNESCO play to resolve these tensions to the productive good of humanity? It is my belief that, in an era of increasing interdependence, our children should be taught to understand that UNESCO, an organization originally established to preserve and advance our scientific, technological and cultural values, should serve as an overarching instrument that will bring about a respect for our global environment and at the same time assist us in ensuring the sustainable development of our resources. Such matters continue to be our common global challenges.

"The world demand for freshwater has continued to rise by an average of 2.5 per cent per year since the 1940s, which, by all calculations, is faster than the rate of human population growth".

Agenda 21

Source: Paragraph 1.1, *Agenda 21*, adopted at the United Nations Conference on Environment and Development (UNCED), Rio de Janerio, Brazil, 3–14 June 1992 the 'Earth Summit'.

Humanity stands at a defining moment in history. We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which we depend for our well-being. However, integration of environment and development concerns and greater attention to them will lead to the fulfilment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. No nation can achieve this on its own; but together we can – in a global partnership for sustainable development.

Implementing Agenda 21

Source: Implementing Agenda 21, Report of the Secretary-General, New York, United Nations Economic and Social Council, 19 December 2001 (E/CN.17/2002/PC.2/7 Introduction, para. 2).

The outcomes of the UNCED* project – a vision of development balanced between humanity's economic and social needs and the capacity of the Earth's resources and ecosystems to meet current and future needs – is a powerful long-term vision. However, ten years later, despite initiatives by governments, international organizations, business, civil society groups and individuals to achieve sustainable development, progress towards the goals established at UNCED has been slower than anticipated, and in some respects conditions are actually worse than they were ten years ago.

* United Nations Conference on Environment and Development (the 'Earth Summit'), Rio de Janeiro, June 1992.

Dragoljub Najman
*Former Assistant Director-General for
External Relations, UNESCO*
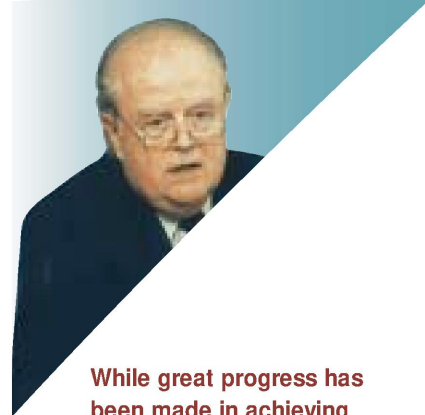
While great progress has been made in achieving universal education, a fundamental human right, over one billion people worldwide are still illiterate, and past world education targets have been sorely missed. Demand for education in future will increase, and, in order to meet this, educational resources will have to be used in a more effective way and the considerable promise of the new technologies exploited to the full, both areas in which UNESCO has a leading role to play*.

My message to the children and young people of the twenty-first century is to encourage them to become active combatants in the war against ignorance and poverty and to struggle for a better quality of life through education. In this, I feel sure that they will do better than our generation has done, but in order to achieve this task it is essential for them fully to understand what is at stake when we talk about education.

The right to education

First of all, education is recognized universally as a fundamental human right. It is mentioned as such in Article 26 of the Universal Declaration of Human Rights adopted by the United Nations General Assembly in December 1948 and in subsequent documents, such as in the 1966 International Covenant on Economic, Social, and Cultural Rights and in the 1989 Convention on the Rights of the Child.

Massive progress has been made toward realizing this right to education, but educational deprivation is still widespread among adults. While in industrialized countries the average adult over the age of 25 has had 10 years of schooling, in developing countries, the comparable average is only 3.9 years. In some 30 countries, 25 of them in Africa, the average is less than two years, with hundreds of millions of children and adults missing out on the chance of schooling or dropping out from the educational system before they have acquired basic knowledge. In the world today there are more than 1.5 billion adults and children who are either illiterate or who will grow up to be so since they are not in the educational system. The poverty that exists in such countries will increase the future number of illiterates, and it will decrease the number of children enrolled in primary education. Our goals today are to achieve universal education in every country of the world and to set up a specific educational programme for those who are today illiterate and without help will remain so.

However, past targets have been sorely missed. The Second United Nations Development Strategy, for example, adopted in 1971, aimed to institute universal primary education by 1980. However, by the 10th Jomtien World Conference on Education for

* For the full text of this paper, see Appendix.

All in 1990, this deadline had been pushed back to 2000. The 1990 World Summit for Children similarly adopted a formal target for universal enrolment in education by 2000. Now it is 2001, and we still have not achieved these targets. At the World Education Conference held in Dakar, Senegal, in April 2000, a new set of targets was established; I hope that some of these can be achieved.

The 'World Educational Complex'

Many of you will have heard talk of the world military-industrial complex, but very few people have researched the 'world educational complex', a powerful, human-made system aiming to provide education. According to the latest statistics, the total number of children and students enrolled in formal education stands at more than 1.25 billion people. If you add to this figure the world's approximately 60 million teachers, you have a world educational complex that involves more than 1.3 billion people, by far the largest single human group on record. Perhaps this complex, or system, is not the wealthiest the world has seen, yet, again according to the latest statistics, it is a system that spends more than US$1,400 billion a year in public funds on education. However, while the developed countries spend a little more than US$1,000 per citizen per year on education, developing countries spend not quite US$43 a year per citizen.

The world educational crisis

Thus, the world education complex is in crisis, and this crisis has five features.

The world education system suffers from *internal inefficiency*, which means that we are producing failure through education. Imagine that the construction industry calculated that 50 per cent of bridges would collapse two days after their construction, or that 50 per cent of houses would collapse, or, in healthcare, that 50 per cent of people entering hospital would not leave alive. Obviously, such calculations would be absurd. And yet this is precisely how our educational system operates, fixing internal objectives and then being completely unable to reach these through the normal functioning of the system. If we want to achieve a change in world educational results, we need first dramatically to improve the educational system's internal efficiency.

Secondly, and just as importantly, is the *external efficiency* of the education system. Educational systems alone cannot produce human beings – women and men – fully able to enter the economy, and this is true for developed and developing countries alike.

The third characteristic of the system is the extraordinarily *rapid quantitative development of educational systems* that the world

"My message to the children and young people of the twenty-first century is to encourage them to become active combatants in the war against ignorance".

"Our goals today are to achieve universal education in every country of the world and to set up a specific educational programme for those who are today illiterate and without help will remain so".

has seen over the past half century or so. In 1950, there were a total of 34 million children in secondary education. By 1997, this figure had risen to almost 400 million. At university level the increase has been even more striking. In 1950, there were some 6 million students in higher education; by 1997, there were more than 88 million – a 15-fold increase. Today, we need to change the content of education in order to accommodate a new type of student. We cannot put 2 or 3 times more liquid into the same bottle, or in fact 15 times more liquid, and expect things to continue smoothly.

The fourth characteristic is the *increasing demand for education* everywhere in the world. Today, some 22 per cent of the world's population is in some form of school, either as students or as teachers.

Finally, both specialists and non-specialists acknowledge that the *inertia of our educational systems* is a worrying problem. Life is changing at fantastic speed, but educational systems are not changing with it, particularly with regard to the use of technology, and this is a particularly worrying feature of the crisis. From time to time, this crisis in world education has led to popular demonstrations or violence, 1968 in Paris and elsewhere in Europe being but the best-known example. These have occurred due to the problems our educational systems have had in adjusting themselves to the world around them and to the need for change.

Education for all

There are today some 1.5 billion people outside the formal educational system. These include about 900 million adults aged 15 and over, around 250 million children who are either not in school, or are in school for an insufficient period and leave illiterate, and, according to the latest statistics of the OECD, increasing numbers of people who go to school, but who then fall back into illiteracy. Perhaps 300–400 million people around the world fit into this category. All these people need education; literacy, aside from being an important thing in itself, also leads to economic advantages and a better quality of life.

Unfortunately, foreign assistance alone cannot educate all the world's people, particularly since development assistance has been dropping. At the time of the United States Marshall Plan, set up immediately after the Second World War, official development assistance stood at 2.5 per cent of the GDP of the industrialized countries; today, that figure has dropped to only 0.24 per cent. Therefore, we need to learn how to do more with less, and to learn how to use the resources allocated to education better, in order to use that money in a meaningful way and to ensure that it does indeed increase the enrollment of more children in education.

In conclusion, I should like to make two final points. The first of these concerns the considerable promise held out by the increased use of information technologies in schools. This will require a lot of energy, because the educational system suffers from inertia, and it tends to resist the intrusion of technologies commonly available elsewhere. The second concerns the need to concentrate our efforts on those who have never been to school, on those who are illiterate, and on those who will become illiterate, since population growth rates are going increasingly to affect poor countries, with the result that they will not be able to educate all of their populations. These countries will need, therefore, to develop educational policies that can lead to a better quality of life for such people, and our responsibility is to create an alternative educational policy in order to cope with the increasing numbers of people who will never go to school and who will never learn how to read and write.

Article 26 of the Universal Declaration of Human Rights

1. Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.

2. Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.

3. Parents have a prior right to choose the kind of education that shall be given to their children.

Source: Universal Declaration of Human Rights, Adopted and Proclaimed by the General Assembly of the United Nations on the Tenth day of December 1948, Final Authorized Text. New York, United Nations, 1950.

Dakar Framework for Action

Source: The Dakar Framework for Action, Education for All: Meeting our Collective Commitments, Adopted at the World Education Forum, Dakar, Senegal, 26–28 April 2000, para. 7.

We hereby collectively commit ourselves to the attainment of the following goals:

(i) expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;

(ii) ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality;

(iii) ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programmes;

(iv) achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;

(v) eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality;

(vi) improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

Tsutomu Kimura
*President, National Institution
for Academic Degrees (Japan)*

The last century was a time both of seemingly miraculous scientific advance, notably in medicine, electronics, transportation and nuclear power, yet it was also a time when man's destructive capabilities were massively enhanced. Nuclear weapons have brought with them the threat of catastrophic destruction, and industrial development has brought environmental contamination and degradation in its wake. In order to balance the pitfalls with the advantages of scientific and technological advance we need an enhanced sense of our common values, harnessing the benefits of science for the good of all.

I will begin by stating that I have spent the last 33 years working in a university observing the activities of UNESCO from the outside, so to speak. My title is 'Ethics of Science and Technology', and looking back over the twentieth century, I have been amazed by the extraordinary, diverse experiences that mankind has lived through.

In the first half of the century, two world wars, involving most of the countries and peoples of the world, devastated sections of the planet; in the second half, a cold war, again involving most of the world's nations and peoples, divided the planet into two armed camps that lived, following the development of nuclear weapons, under the threat of a third, immeasurably more destructive, world war. If a third world war does indeed break out, and if nuclear weapons are used, then all living organisms, including mankind, will probably be eradicated.

Yet, aside from this story of destruction, if I were asked to describe the twentieth century, I would say that it was the century of scientific and technological advance. Such advance included the development of nuclear power, the growth of the aviation and then space industries, the development of long-distance mass transportation, semiconductor development, major advances in information technology, medicine and pharmaceuticals, as well as the eradication of fatal diseases such as polio and smallpox. Mankind benefited in many ways from these advances, despite their negative features, such as the use of the nuclear bomb at Hiroshima, where many thousands of innocent citizens died, and the 1986 accident at the Chernobyl Nuclear Power Station in Ukraine, which indicated that technology is not always controllable. Similarly, acid rain and industrial waste have led to the contamination of air, water and soil around the world, and most environmental destruction has also been brought about by the development of science and technology. We at first thought that AIDS would be a localized disease, but now it is a global pandemic, due in part to the development of long-distance mass transportation.

Thus today, at the threshold of the twenty-first century, we face many pressing global issues, many of them brought about by mankind through its neglect of the pitfalls of science and

technology. In addition, while science and technology are part of the modern civilization that the entire world now shares, not all mankind shares the benefits of science and technology equally, notably in the developing world. Thus, while the benefits of science and technology are not there for all to benefit from, its pitfalls are a burden for all mankind. Today, we need to tackle global issues one by one, and we need to make every effort in order to ensure that all share the benefits of civilization.

I should like also to talk for a moment about culture, since I mentioned the idea of civilization earlier. Whereas civilization is, or should be, universal, culture by its very nature cannot be, since it is the unique activity of one race, society or community. A famous Japanese linguist once said that just as each person has his or her own character, so each society has its own proper character, which is its culture. As a result, each society has its own unique language, religion, art and customs, and it also has its own unique set of values, which are those features of a culture that tell us what we should, or should not, do.

Nevertheless, the role played by global civilization in the development of local cultures is also very important, and it should not be forgotten. Japan, for example, had almost no contact with the West until the latter half of the nineteenth century, and so a unique Japanese culture grew up for over 300 years in isolation, as it were. In 1868, however, with the Meiji Restoration, the country's legislative, judicial, administrative, educational and economic systems were reformed as a result of the challenges offered by western civilization. As the Minister of Education stated earlier in this Symposium, this interaction between traditional Japanese culture and modern western culture led to the development of modern Japanese culture. Western civilization had a great influence on Japanese traditional culture, and this led to the birth of a different culture. Through their interaction with the cultures of the west, including those of the Netherlands, the United Kingdom, France, Germany and the United States, the Japanese people have accepted western values.

Today, we are seeing a new kind of cultural interaction represented by the rapid development of globalization, and this has led to major concerns being expressed about twentieth-century global civilization. The mass media was a product of the twentieth century, and as a result of this and of the development of communications that has gone with it, such technology now influences all nations, despite local differences in social systems or cultures. My concern is that this new form of global civilization is largely unsupported by basic concepts of value or of culture. In particular, as people's lifestyles become increasingly standardized across the globe, their unique values, ethics and religious beliefs are becoming less and less important. Today, it is time for us to reconsider our traditional values, and to choose what are, or what should be, common values from among them. These should then be conveyed to future generations.

"While the benefits of science and technology are not there for all to benefit from, its pitfalls are a burden for all mankind".

"Today, it is time for us to reconsider our traditional values, and to choose what are, or what should be, common values from among them".

Furthermore, we need to build a culture that can be shared by everyone. UNESCO is leading the way in this endeavour through its efforts to safeguard and preserve the world cultural heritage and in its efforts to preserve the intangible cultural heritage in particular. This is one activity that should be looked at in our quest for common values. Education is another area that we need to look at. Most countries of the world have almost identical curricula in basic education, and this fact could be used in efforts to establish a culture common to all. In fact, it was with this in mind that UNESCO's International Commission on Education for the Twenty-first Century proposed four pillars of education in its report entitled *Learning: The Treasure Within* (Paris, UNESCO, 1996). These pillars are learning to live together, learning to know, learning to be and learning to do, and they deserve fresh emphasis. If these pillars are accepted by all the peoples of the world, whatever their cultural origins may be, then, I believe, we will be able to select those aspects that are common to all people and all societies, enabling us to build a common code of ethics for mankind in science and technology.

Lastly, children have limitless potential, and they should be taught the many possibilities of science and technology. At present, young people's indifference to science and technology is growing, causing many to ponder why this should be the case. After all, young people commonly enjoy electronic and industrial products that are the direct results of scientific and technological

advance, such products being almost undreamed of at the beginning of the twentieth century. We, who remember a time when electronic products were unavailable, tend to look on these new items with amazement and awe, while at the same time being fully aware of their negative aspects. The children of today, on the other hand, seem all too often to take such things for granted, and, since they are not amazed by the development of science and technology, they cannot fully understand their importance. My point is that unless one has a good understanding of past developments and advances, one cannot deepen one's understanding of the value of science and technology. We need to make our children more historically aware, and to teach them how the world got to be the way it is today.

Bioethics

1. Bioethics is today a key issue in the protection of human rights and fundamental freedoms. It plays a predominant role in the social choices that need to be made in order to bring together scientific progress and the inalienable primacy of respect for human dignity, integrity and freedom. Nevertheless, this concern must take into account the imperative of freedom of research.

. . .

4. Governments of Member States and legislators with whom decision making ultimately rests, have major responsibilities in this regard. In this process, they must see to it that citizens have an opportunity for informed, pluralistic public debate, and must take into account the various schools of thought, value systems, historical and cultural backgrounds, and philosophical and religious convictions that make up our various societies. Clearly, bioethics must be based on the practice of democracy and the active participation of all citizens.

. . .

6. There is a close relationship between science and the future of humanity, and this relationship will to a large extent determine the global equilibrium. International law and its effective application have an increasingly important role to play in these areas. States need to strengthen their international exchanges regarding the ethical and legal implications of life sciences research and applications in order to conclude such agreements as are necessary on these matters, which are so crucial for all humanity.

Source: Excerpts from the communiqué of the Round Table of Ministers of Science on 'Bioethics: International implications', held at UNESCO, Paris, 22–23 October 2001.

Universal Declaration on the Human Genome and Human Rights

Article 1

The human genome underlies the fundamental unity of all members of the human family, as well as the recognition of their inherent dignity and diversity. In a symbolic sense, it is the heritage of humanity.

. . .

Article 13

The responsibilities inherent in the activities of researchers, including meticulousness, caution, intellectual honesty and integrity in carrying out their research as well as in the presentation and utilization of their findings, should be the subject of particular attention in the framework of research on the human genome, because of its ethical and social implications. Public and private science policy-makers also have particular responsibilities in this respect.

. . .

Article 21

States should take appropriate measures to encourage other forms of research, training and information dissemination conducive to raising the awareness of society and all of its members of their responsibilities regarding the fundamental issues relating to the defense of human dignity which may be raised by research in biology, in genetics and in medicine, and its applications. They should also undertake to facilitate on this subject an open international discussion, ensuring the free expression of various socio-cultural, religious and philosophical opinions.

Source: Universal Declaration on the Human Genome and Human Rights, Paris, UNESCO, Twenty-ninth General Conference, 1997.

Aminata Dramane Traore
Former Minister of Culture and Tourism of Mali
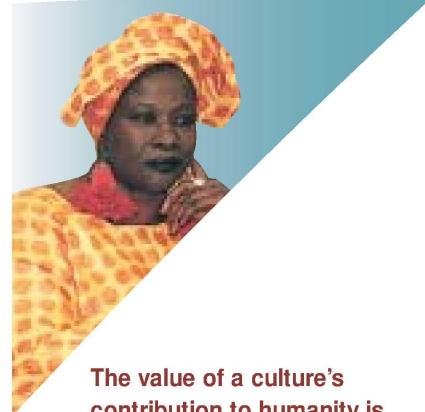
The value of a culture's contribution to humanity is often measured by financial and economic indicators alone, downplaying contributions made by the African continent and by the developing world. Yet social problems and growing inequalities in the developed countries have called this form of measurement into question, indicating that the value of a culture should be seen not only in its capacity to produce, but also in cultural, social and human terms. Seen in this perspective, the contributions made by Africa and by the developing world regain their true significance.

Allow me, first of all, to congratulate the Government of Japan and the organizers of this Symposium, who could not have chosen a more significant and creative topic than a 'Message to the Children of the Twenty-first Century'. As the only woman among the foreign members of the panel, I bring my woman's sensitivity, my desire for a child and my need for a future for this child. These are the words that we, the women of Mali, sing to pay homage to the children and to life and hope:

For the child: I have come for the child.

Man, why don't you give me a child?
Man, when you are no longer around,
What will these clothes you cover me with be good for?

Man, why don't you give me a child?
When you are no longer around,
What will the money you give me be good for?

Man, why don't you give me a child?
When you are no longer around,
What will the gold you dress me with be good for?

Man, why don't you give me a child?
I have come for the child, Man,
Why don't you give me a child?

Allow me to thank the Director-General of UNESCO, whose exciting and demanding task consists in fostering culture as both the yeast and leverage of a new world where money is tending to become the sole benchmark, leaving human needs to one side. The words sung by the women of Mali contradict these monetary values, calling for the primacy and superiority of human beings and their deeply rooted need for a child.

Life does not depend solely on physical and mental health. It also depends on frustrating death, a certain thing for all, by giving birth. Sterility is considered to be a curse in my country, while a woman who gives birth feels strong and rich in spite of life's difficulties.

She becomes fulfilled when the educational system allows that child to become literate and responsible. My joy is huge when I recite the following words, an African proverb, for the children of the twenty-first century: *A mother hen can only provide her baby chicks with the grains she has previously gathered.*

What have we learned that may be of use to this century's children, this new century where challenges hover, and where does this faith in children as guarantors of our future come from?

The social rupture in the so-called developed countries today is such that we may well wonder about the linear and cumulative nature of progress, asking ourselves whether economic and financial indicators are as meaningful as they claim to be. For, had these indicators been cultural, social or human, then the African continent might indeed have been seen as having made large contributions to the rest of the world. I am one of those who believe that we are not truly poor in Africa; rather, our resources have been plundered and turned from fulfilling our vital needs. We have a rich notion of human beings and of social links, and this allows us to speak to the children of the twenty-first century in the following terms:

Supreme and insurmountable riches: that is what you, the children of Africa, are, and always will be. This is so because each and every one of you comes from a source called culture. This means diversity, creativity and dynamism. These features provide the world's cultures with undepletable riches equitably distributed among all the peoples where they find the answers to most of the challenges of life. In the old days, in the days before a particular and uniform idea came to cover the whole world with its veil of obscure intolerance, the peoples knew how to respond to their education, health, housing, food and other needs. Granted, these solutions were not always perfect. But besides being socially and environmentally relevant, they had the privilege of providing for everyone. People existed, decided and took their own lives in their hands.

My country, for example, is listed among the poorest of the planet, but back in the fourteenth and fifteenth centuries it was extremely dynamic, as stated by many Arab explorers and authors. Professor Ki Zerbo indicates that diplomats, traders, scientists and scholars used to go to Timbuctu, a city with thousands of students where books were traded as a highly profitable business. My people of Mali keep a very strong memory of the pride of those days, which contrasts with the gloom and bitterness they have today in the wake of the educational system's failure and the country's dropout and illiteracy rates.

From one aggression to the next, from the trade in Africans to the neo-liberal economic reforms imposed upon us, without forgetting colonization, of course, Mali, like the rest of the continent, has lost its true north as well as its ability to think and decide for itself.

"Had these indicators been cultural, social or human, then the African continent might indeed have been seen as having made large contributions to the rest of the world".

Political and economic violence have been bundled with symbolic violence. The consequences of this situation are serious. From an economic perspective they hamper initiatives, and from a political one they prevent the blooming of a responsible civil society.

Children of the world, just imagine that in Africa and elsewhere the cultural rights of the peoples were respected and that they were in a position to search for their own heritage. Then, their quest for an alternative to ignorance, poverty and human suffering would be considerably alleviated. Mali, and the rest of the African continent, would then become a huge building site where the peoples could start the reconstruction work they are calling for in a climate of togetherness and pride. Then, hundreds of millions of African men and women presently excluded from the production system but who only wish to live proudly and work, could start to explore their own knowledge and know-how, both old and new. Stemming from this melting pot of knowledge, both sustainable and meaningful responses could crop up. Beware: economic exclusion is the true cause of the political instability and conflicts dooming Africa.

Do not turn your eyes away from this tragedy hitting one of the regions of the world that has largely contributed to the wealth now circulating all over our planet without having been paid for. Slavery, commodity prices and the obligation to pay interest on debt are like so many drains depleting Africa of its contents and hampering its ability to negotiate.

Children of the world, in the face of this situation, fight against it; force others to find a solution to the debt and readjustment programmes so that millions of children are not deprived of education, health, water and a future. Capital, technology and private investment are lost in the face of this tragedy if they are not deeply rooted in culture and are not focused on social costs. It is impossible, ladies and gentlemen, to improve on the present and to invent the future with the recipes and the means of others. The impoverished, debt-ridden and dependent peoples are, first of all, people deprived of their initiative, victims of the cultural arrogance of those who have. That's why Africa wants to live differently, to live without losing its soul and without losing its culture, which is an element of the planetary culture.

Finally, know that you can only attain knowledge of your own personality by meeting with others. Knowing yourself is essential if you want to take up your own position. Knowing others is an enrichment factor: it is the way for you to love them and to respect them. The new generations will need to claim their right to utopia and creativity without carrying with them any type of complex.

Ladies and gentlemen, the twentieth century has granted many hopes and committed many hideous crimes. Under no circumstances should the twenty-first century be the simple continuation of this era of conquest and economic, cultural and

"Knowing yourself is essential if you want to take up your own position. Knowing others is an enrichment factor".

political dominance. Our children have the means of acting and living otherwise. We, the adults, have the duty to create the conditions for them to do so, so that our species and other species may continue. The homage paid by the women of Mali to the children finds an echo in our justified faith in them.

UNESCO Universal Declaration on Cultural Diversity

Identity, Diversity and Pluralism

Article 1 – Cultural diversity: the common heritage of humanity

Culture takes diverse forms across time and space. This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind. As a source of exchange, innovation and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature. In this sense, it is the common heritage of humanity and should be recognized and affirmed for the benefit of present and future generations.

Article 2 – From cultural diversity to cultural pluralism

In our increasingly diverse societies, it is essential to ensure harmonious interaction among people and groups with plural, varied and dynamic cultural identities as well as their willingness to live together. Policies for the inclusion and participation of all citizens are guarantees of social cohesion, the vitality of civil society and peace. Thus defined, cultural pluralism gives policy expression to the reality of cultural diversity. Indissociable from a democratic framework, cultural pluralism is conducive to cultural exchange and to the flourishing of creative capacities that sustain public life.

Article 3 – Cultural diversity as a factor in development

Cultural diversity widens the range of options open to everyone; it is one of the roots of development, understood not simply in terms of economic growth, but also as a means to achieve a more satisfactory intellectual, emotional, moral and spiritual existence.

Anwarul Karim Chowdhury
*Ambassador and Permanent
Representative of Bangladesh
to the United Nations*

UNESCO's Constitution contains a vision to change the world for the better by changing the minds of human beings, working to replace war and violence with a culture of peace. Its initiatives in the fields of education, science and culture all have this in common: the promotion of principles of democracy, tolerance and international solidarity. These are values that have been enshrined in the Declaration and Programme of Action on a Culture of Peace, which was adopted by the United Nations General Assembly in September 1999.

The topic of this presentation goes to the core of the values embodied by UNESCO, to the famous preamble to the Constitution which states that 'since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed.'

Since its inception, UNESCO has been working to promote world peace without necessarily making the headlines. UNESCO does not promote the kind of grand schemes that, once they have hit the front pages, are forgotten and do not deliver. On the contrary, what UNESCO offers instead is a vision, a vision to change the minds of human beings by promoting education, culture, science and communication, in order that every individual will in future stand up for the causes of peace, tolerance and understanding. This vision has a special relevance for children, for if the message of peace reaches the heart of every child today, there will be no war tomorrow. I am glad that this Symposium is sending this message to children, and I will come back to what peace should mean before I close.

True peace begins with the individual, for if individual minds are full of hatred, misunderstanding and misgivings, there can be no lasting peace, and the last century provides ample evidence of that. The twentieth century was the most violent in the history of mankind, people being killed or wounded in the name of country, ethnicity, religion or belief, or because they appeared to be different. All of us suffered in this culture of war and violence.

Yet, even though the twentieth century was filled with hate and violence, the power of non-violence was also evident. People came together for peace even in the midst of conflict, and they worked and sacrificed for understanding and tolerance. Individuals such as Mahatma Gandhi, Martin Luther King Jr., and Nelson Mandela gave us hope that a new beginning was possible. UNESCO promotes and must be the engine of this new beginning, which is that of a culture of peace. Such a culture will consist of a set of values, attitudes and ways of life based on the principles of freedom, justice, democracy, tolerance, solidarity and the respect for diversity, dialogue and understanding. The need for such a culture was recognized by the United Nations General Assembly when it adopted the Declaration and

Programme of Action on a Culture of Peace in September 1999; thus, what began as a small project run by UNESCO in post-conflict situations has become a wide-ranging vision subscribed to by all United Nations Member States.

The Declaration and Programme of Action provides us with a clear set of guidelines. It is a universal document in the true sense of the term, transcending borders, cultures, beliefs and societies. It identifies actors who have a role in advancing a culture of peace, and, in addition to states and international organizations such as the United Nations and UNESCO, it includes parents, teachers, religious and community leaders, artists, professors, journalists and students, all of whom have come together to promote its ideas. Such ideas begin with education, other areas being sustainable development, human rights, equality between women and men, democratic participation, advancing understanding, tolerance and solidarity and international peace and security.

It was an honour for me to chair the nine months of negotiations at the United Nations that led to the adoption of the Declaration and Programme of Action. I will always treasure and cherish the experience. For me, this was the realization of my personal commitment to peace and my humble contribution to humanity. However, the adoption of this document was only a first step. Ultimate success will rest on the strength of the partnerships built for its implementation. We need a 'grand alliance' for a culture of peace, and civil society has a very important role to play in any such alliance. Without its proactive role, we can never involve communities and societies in the building of a global culture of peace.

The strength of our collective commitment to promoting a culture of peace worldwide will now be tested, as the United Nations is observing the International Decade for a Culture of Peace and Non-violence for the Children of the World 2001–2010. It has been heartening, meanwhile, to see the wide acceptance of the Declaration and Programme of Action. Two examples come to mind. Firstly, in a report on conflict prevention presented to the United Nations in 2001, Secretary-General Kofi Annan highlighted the fact that the United Nations General Assembly had adopted the Declaration and Programme of Action on a Culture of Peace, in which it called on Member States, civil society and the whole United Nations system to promote activities related to conflict prevention. Within its wide area of responsibility, the General Assembly could promote a culture of conflict-prevention in the multifaceted activities of the United Nations system. As in the case of its recent resolution on culture of peace activities, the General Assembly could also address the conflict-prevention dimension of a number of items on its current agenda, such as disarmament, human rights, humanitarian assistance, democratization, environmental degradation, terrorism, HIV/AIDS and international law.

"True peace begins with the individual, for if individual minds are full of hatred, misunderstanding and misgivings, there can be no lasting peace".

"Peace should mean that every child has the opportunity . . . to realize his or her potential and look to the future with anticipation and hope".

Secondly, when the United Nations Security Council sent a special mission consisting of representatives of all fifteen members to Kosovo and Belgrade, it saw first-hand how a culture of peace could help people overcome generations of ethnic mistrust and intolerance, contributing to the creation of a multiethnic Kosovo. The mission's report was especially vivid, noting that 'the people of Kosovo, of all communities, should not allow the past to pull them back and should look ahead, encouraged by the potential of the future. Promoting a culture of peace and nonviolence is crucial for the success of these efforts.'

I mentioned earlier that I would come back to what peace should mean to children. Peace should mean that every child has the opportunity to learn and to play and to participate in what happens around him or her; it means that every child should be able to realize his or her potential and look to the future with anticipation and hope. No child should be subjected to violence. No child should be compelled to take up arms and kill. No child should witness atrocities or be abducted or raped. No child should be forced to flee his or her home in search of safety or livelihood. No child should be denied a future.

If children are to share a better world tomorrow, the challenge now is to break the cycles of poverty, exclusion, intolerance, discrimination and violence. Peace is the best legacy children can

inherit, and this is the message we have to send out to all. The message must also reach children, who have their own ideas to give and contributions to make. In the Declaration and Programme of Action on a Culture of Peace, we have a strategy allowing us to act meaningfully to ensure that peace does indeed come about. What we need is the momentum to move things in the right direction, and this can come only from a grand alliance for a culture of peace.

As we take this movement forward, I call upon all of you to take up the challenge of peace. I see individuals all around me who are members of communities and who would find it beneficial to resolve their differences in peaceful ways. I see educators and young people who could teach and learn and spread the virtues of peace. I see representatives of governments and civil society and international organizations. If we are serious about translating words into reality, if we take the message of a culture of peace into our minds and act accordingly, the new beginning we seek will not remain beyond our reach.

Article 1 of the Declaration and Programme of Action for a Culture of Peace

A culture of peace is a set of values, attitudes, traditions and modes of behaviour and ways of life based on:

1. Respect for life, ending of violence and promotion and practice of non-violence through education, dialogue and cooperation;

2. Full respect for the principles of sovereignty, territorial integrity and political independence of States and non-intervention in matters which are essentially within the domestic jurisdiction of any State, in accordance with the Charter of the United Nations and international law;

Source: Declaration and Programme of Action on a Culture of Peace, Article I, New York, United Nations, 1999 (A/RES/53/243).

3. Full respect for and promotion of all human rights and fundamental freedoms;

4. Commitment to peaceful settlement of conflicts;

5. Efforts to meet the developmental and environmental needs of present and future generations;

6. Respect for and promotion of the right to development;

7. Respect for and promotion of equal rights and opportunities for women and men;

8. Respect for and promotion of the right of everyone to freedom of expression, opinion and information;

9. Adherence to the principles of freedom, justice, democracy, tolerance, solidarity, cooperation, pluralism, cultural diversity, dialogue and understanding at all levels of society and among nations; and fostered by an enabling national and international environment conducive to peace.

John S. Toll
*President, Washington College,
and Chancellor-Emeritus and Professor
of Physics, University of Maryland
(United States)*
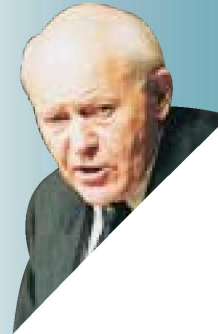
The twentieth century, which saw scientific advance in every field, leading to longer, more fulfilling lives, also saw the danger that the developing world would be left behind and would not share in the benefits of increasing global prosperity and interdependence. It is this inequality, the source of conflict and instability, that is our greatest challenge today, and UNESCO, together with other agencies of the United Nations system, is well placed to tackle it, drawing on the talents and goodwill of men and women throughout the world.

It is a great honour for me to participate in this Symposium. To all of you, let me say that you have hope. I wish to associate myself with all of the statements the preceding speakers have made to thank our sponsors for inviting us to this Symposium. Like Ambassador Chowdhury, my topic is also that of lasting peace throughout the world, and I associate myself fully with his eloquent remarks and would hope to build on them.

We are fortunate today to live in a relatively peaceful era of world history, one in which, in advanced countries such as Japan, life for most people is greatly improved over that of their ancestors. The wonders of science have given us better diets and medical care, lengthening the normal healthy life span. With advanced technology, an ordinary individual today can accomplish by him- or herself what a century ago would have required about twenty-four servants. Most routine tasks can now be performed by machines. With improved education throughout our lifetimes, great opportunities for fulfilling lives have emerged. Strong economies provide many challenging jobs and amazing products. Many people now have the leisure to develop their talents, to enjoy creative activities and to be helpful to others.

Such progress in the developed world seems to be accelerating as more scientists make more discoveries, and more inventors further advance technology. Indeed, the acceleration of progress has become so great that Alvin Toffler labeled our situation one of 'future shock'. Yet, dizzying as such progress sometimes seems, potential opportunities for improved life continue to grow rapidly.

Dramatic improvements in communication via the Internet and the amazing ability to store and to process information have drawn the whole world together. National barriers are breaking down. People of different nations are much more connected today than people in neighbouring provinces or cities were in the past. Our economies are becoming intertwined as businesses span national boundaries, and many products involve parts or ingredients from several countries. Increasingly, we in the developed world are becoming one 'human family', strongly interdependent on one another.

However, there are serious defects in this emerging 'one world'. First, the underdeveloped parts of the world have not shared in

many of these benefits. Disease, population growth, and lack of education, technology and funds have left poor countries far behind wealthy nations such as Japan and the United States. The rich are getting richer and the poor are becoming poorer.

The United Nations and its various agencies, especially UNESCO, offer the best means for attacking this inequality. These agencies are bringing the benefits of freedom, education, technology, medicine and culture to much of the underdeveloped world. The work of UNESCO, for example, has been amazingly effective in building new communities, offering better crops and businesses and expanding schools and communications. But investment in UNESCO and in other United Nations agencies is far too small at present. We have a long, long way to go before we have a true sense of one world, one which will provide the opportunity for a fulfilling life for all members of the human family. We have to work constantly to improve the operations of international agencies, to enhance their support and prestige and to utilize the United Nations whenever it can be used effectively.

Nevertheless, we have seen great benefits from international collaboration at every level. I see it in science. Recently, I spent time with three scientists – Hideki Shirakawa from Japan, and Alan Heeger and Alan MacDiarmid from the United States. Together, they won the Nobel Prize in Chemistry in 2000, having come together from different scientific disciplines and from different countries to solve problems they could not solve separately. Together, they made discoveries concerning electrically conducting polyacetylenes that have great potential economic benefits. That is just one example. It is through such open international co-operation that discoveries are made, partnerships are built and progress is achieved. Similarly, in business we see that as economic barriers are reduced and co-operation increases, everyone benefits.

Yet the need for more progress is urgent. Just as science has given us great potential for improvement, so has it also increased our peril. Here in Japan you have cause to know the awful destructive power of nuclear weapons, but today's thermonuclear weapons are hundreds of times more destructive than were the bombs that destroyed Hiroshima and Nagasaki. Nations now have the ability to destroy all cities, and even to make the whole planet dangerously radioactive, perhaps even to eliminate life completely, leading to the unstable situation of the Cold War when the superpowers found that their main defense was the threat of mutual destruction. Under the current world structure, no convincing alternative to this has yet been demonstrated, yet this balance is inherently unstable: in a nuclear conflict everyone will suffer, with a relative advantage being given to the aggressor. We need a more constructive way than reliance on mutual fear to prevent a catastrophe like thermonuclear war, and the potential destructiveness of biological weapons may be equally vicious.

"We have a long, long way to go before we have a true sense of one world, one which will provide the opportunity for a fulfilling life for all members of the human family".

We have an interval for progress, now that the Cold War has abated. We should seize this opportunity to forge a more effective deterrent to disastrous destruction. We should move as rapidly as we can to extend the United Nations' authority whenever beneficial and to give the United Nations the powers necessary to settle international disputes. When peace is disrupted by an outbreak of violence, the United Nations should be able to step in and to take control of the disputed region. The United Nations needs a small standing army with volunteers from many nations that can quickly occupy a territory when clashes break out, so that peace can be maintained while negotiations take place.

To make such actions acceptable requires a growth in international consciousness. This is the best way to avoid an increase in country expenditure on their various national armies and defense systems. One particularly encouraging trend has been the increasing number of democratic governments throughout the world. This has a special importance, as Spencer R. Weart has shown in his studies of history summarized in his wonderful book *Never at War;* he concludes that democratic governments rarely initiate aggressive attacks on each other, so this is an additional reason for encouraging the increase of free governments throughout the world.

Promoting democratic societies is also important for many other reasons. In many cases we see how autocratic regimes suppress

not only individual freedoms but also the economic advance of their peoples. This point has been dramatically demonstrated in many examples in recent years, as in the contrast between the stark dictatorship and poverty of the Democratic People's Republic of Korea and the booming freedom and economy of the Republic of Korea.

As we lower the barriers among and within nations, many of our international entities will grow in importance. Many businesses will be increasingly international, with ownership shared by citizens of many countries. As tariffs and other artificial restrictions decrease, we will all benefit and loyalty to the world community can grow.

It will take continued effort to build international interchanges at all levels, for example in commerce and communications, in student and scholarly exchanges and in cultural sharing. In Japan you are setting an excellent example. This Symposium demonstrates the importance you give to building the mechanisms that draw the human family together. You have hosted the United Nations University headquarters, for which you should be especially praised. You have demonstrated more restraint than other nations in expenditure on defense, preferring to use your resources in positive ways to build the economy and freedom and to meet human needs.

Let us hope that your example of support for United Nations agencies and for positive investment in human needs will inspire others toward a stable, peaceful world.

Let me end with an important point for young people. Most citizens have loyalties on several levels: to the *gun* or town in which they live; to the *ken* or prefecture or state; to the country; and to the United Nations. Today, most people will affirm that their strongest commitment is to their country. I hope that, when you young people become leaders, your strongest loyalty will be to the United Nations, which will then have gained the authority to settle all international disputes. However, this transition requires your hard work, careful negotiation and determination.

In the United Nations General Assembly today, the vote of a tiny nation with a small population has the same legal power as the vote of a major nation like Japan, the United States, or China, and a dictatorship has the same voting strength as a democracy. Few leaders would ever be willing to give final authority to such a body. But the major power of the United Nations is vested in the Security Council. There, five nations now have the power of veto. Such a structure is unable to resolve any dispute if one of these five nations is involved and is opposed. So we need both to strengthen support for the United Nations under its current structures with the renewed leadership of Kofi Annan, and, at the same time, we need to work to amend the United Nations Charter so that power will be shared in an equitable and realistic way. We need to give the United Nations the final authority to resolve

international issues. We should also seek a provision such that the entitlement to a vote in the United Nations requires that voting nation commit itself to maintaining, or to evolving towards, a democratic society. Most other matters can be left to be determined within each member nation, much as you do here in Japan today. I hope all of us will leave this Symposium determined to work in every way we can to strengthen the United Nations along the lines I have described. This will give us the best chance to create lasting peace throughout the world.

"I hope that, when you young people become leaders, your strongest loyalty will be to the United Nations".

**Kofi Annan
Nobel Lecture**

In the twenty-first century I believe the mission of the United Nations will be defined by a new, more profound, awareness of the sanctity and dignity of every human life, regardless of race or religion. This will require us to look beyond the framework of States, and beneath the surface of nations or communities. We must focus, as never before, on improving the conditions of the individual men and women who give the State or nation its richness and character.

. . .

From this vision of the role of the United Nations in the next century flow three key priorities for the future: eradicating poverty, preventing conflict, and promoting democracy. Only in a world that is rid of poverty can all men and women make the most of their abilities. Only where individual rights are respected can differences be channeled politically and resolved peacefully. Only in a democratic environment, based on respect for diversity and dialogue, can individual self-expression and self-government be secured, and freedom of association be upheld.

A summary of the discussion at the Symposium is presented in this section.

Moderator: Hisanori Isomura, Special Advisor to UNESCO, NHK newscaster, President of the Japanese Cultural Institute in Paris

Panelists:
Edward Ayensu, *President of the Pan-African Union for Science and Technology*
Dragoljub Najman, *Former Assistant Director-General for External Relations, UNESCO*
Aminata Dramane Traore, *Former Minister of Culture and Tourism*
John S. Toll, *President of Washington College*
Vichai Tunsiri, *Former Deputy Minister of Education*
Anwarul Karim Chowdhury, *Ambassador and Permanent Representative of Bangladesh to the United Nations*
Tsutomu Kimura, *President of the National Institution for Academic Degrees.*

The diversity of identities and cultures

Two issues emerged from discussion of the diversity of identities and cultures. The first was the perceived threats to cultural diversity, and the second was how to ensure dialogue and understanding between different cultures.

At the G8 Kyushu Okinawa Summit 2000, the Japanese and French governments argued that cultural diversity, being the individual traditions, customs and languages of different societies, should be respected and protected. However, this resolution was opposed by the United States and the United Kingdom. If present trends continue, people across the world will all be eating hamburgers, wearing jeans and listening to Western rock music at the expense of their own local customs and traditions. Similarly, as cultural diversity disappears, the diversity of global languages will disappear, English becoming the sole vehicle of communication. The speakers agreed that it was important both to respect and to protect cultural diversity, such diversity notably being a source of personal and social enrichment.

However, while it is important to respect cultural diversity, it is also important to agree on certain 'core values' that hold across cultures: tolerance and the respect for other traditions and cultures, for example, in order that global dialogue and understanding can take place. One thing that should be avoided, and that UNESCO in particular should work against through its educational and cultural programmes, is 'cultural fundamentalism', the belief that certain cultures, languages, or traditions, are 'better' than others. Cultural fundamentalism and intolerance of this sort led to the destruction of the giant statues of the Buddha at Bamiyan in Afghanistan in April 2001. UNESCO should take the lead in promoting core values, such as tolerance, the protection of cultural diversity and of cultural heritage, in order that the peoples of the world may live in peace with each other in a climate of mutual respect.

Commonly held 'core values' are likely to be controversial, yet they can nevertheless be identified. Such values should be those that support the construction of the 'open society', which is a form of democratic society that values freedom of speech, support for human rights and the tolerance of different opinions. These core values are 'part of the mainstream of the globalized world', and they also include other values, such as the need to preserve and protect our global heritage, natural resources and environment. These core values can be inculcated and reinforced through education, fundamentalism being a result of poverty and a lack of education, which can cause people to become isolated and unprepared for dialogue with others. Educational curricula should therefore teach young people to respect each other's culture and to learn about other cultures, languages and traditions, since through greater knowledge comes greater respect and understanding.

Discussion also focused on the controversy surrounding Samuel Huntington's thesis, expressed in his book *The Clash of Civilizations and the Remaking of the World Order*, that 'clashes of civilizations' are likely to be the cause of future conflict. Huntington identifies seven 'civilizations', of which Japan is one, and he says that these civilizations are likely in future to clash since they subscribe to different values. The speakers rejected Huntington's thesis. Future conflict, they felt, was likely to have economic causes, and therefore the real task ahead of us was to reduce economic inequalities. Over the past 50 years, the gap between rich and poor, and between the developed and developing world, has massively increased, and this growing inequality can only lead to growing risks of conflict.

The speakers concluded that while it was important to respect and protect cultural diversity, it was also important to establish dialogue between different cultures, so that common values and interests could be identified. Dialogue was the way out of the danger of cultural fundamentalism, which disrespects the cultures and traditions of others and is the fruit of poverty and a lack of education. Therefore, UNESCO should join to its message of the

need to preserve and respect cultural diversity a further message underlining the importance of inter-cultural dialogue and understanding in the pursuit of common goals, such as the reduction of poverty, of economic inequality, of unequal access to education and the need to protect cultural heritage and the environment, in order that the risk of future conflicts can be reduced.

The use of the new technologies, particularly in education, could help to bring about this climate of tolerance and understanding. Education means opportunities, and in the developing world in particular, the new technologies could help societies 'to jump' stages of development that the West had gone through, becoming able to educate a great number of people very rapidly.

Equal access to education, resources and opportunities

Education, identified as the single most important means towards enhanced life opportunities and the preservation of cultural diversity and inter-cultural tolerance, currently faces a crisis of finance and resources. Yet, despite the challenges faced by the educational system in many parts of the world, the integration of the new technologies into education, making possible distance-learning and non-formal education, will lead to greater efficiency and productivity, allowing far more people to be educated than ever before.

Today's 'educational complex' – the educational system considered as a whole – employs and serves more people than any other man-made system, yet it also faces severe challenges. More than 1.5 billion people throughout the world, a quarter of mankind, are illiterate, either because they received no education, or because they received inadequate education. These people, both adults and children, need access to education if they are to improve their life-chances, and this can be given only by the use of new technologies and non-formal kinds of learning. Many societies, notably India and Ireland in recent decades, have dramatically improved their economic outlook and competitiveness through effective education. In India, the Indian Institute of Technology (IIT) produces engineers and scientists that are in demand throughout the world, as do Irish universities and polytechnical institutes. Japanese and American companies now routinely outsource software development to India as a result, greatly stimulating the Indian economy and giving people the opportunity to participate in increased prosperity.

In order that the benefits of education can be generalized, there should be a greater commitment to the use of new technologies and to non-formal methods of learning. Computer-assisted learning using the new information technologies is inexpensive and can be tailored to the needs of the individual student. The weakest and the strongest student can simultaneously be given the education they need, allowing education to be individualized

and students swiftly to reach their potential. Non-formal methods of learning, which include mobile schools visiting remote villages, for example in Bangladesh, have dramatically improved basic education, especially among girls. This is an example of how innovative methods of education can impact not only on individuals' life-chances, but also on the future shape of the economy and society, as girls too achieve the kind of educational results that traditionally tended to be denied to them.

However, although the benefits of the increasing use of information technologies in education were agreed upon, doubts were raised about the future content of education. Education was also about developing humanistic feelings, healthy relationships with others and a certain vision of the world; it was not only about learning how to use technology. Similarly, education could sometimes neglect its responsibility to the cultivation of individuality, particularly at times of national development when the common education of all was required. In Japan, for example, national development needs after the Second World War meant that average performance had been raised through a uniform system of education given to all. The result was that individual needs had sometimes been neglected, and moves are afoot to correct that.

Finally, the need for an enhanced commitment to education on the part of politicians and societies, particularly in the developing world, was insisted upon. Education needs to accomplish more with fewer resources, given the increasing demand; the new technologies, together with more non-formal education, may provide the means to meet that demand. However, politicians and decision-makers also need to realize that education does not yield directly on investment in the way that some other sectors of the economy do. They need to see things in a longer-term perspective. Though one might have to wait longer to see the fruits of investment, these will come in the shape of increased productivity and a better-trained, more productive work force.

The global environment and the ethics of science and technology

An issue that is becoming increasingly urgent for the international community, and will likely become more so, concerns the use of results of scientific advances. Technology is neutral, and can be used for good or for ill, but we must understand that we have only one planet, and that if we pollute and destroy this one through our activities, there will be nowhere else to go. With this in mind, the speakers raised issues having to do with food security, the effects of pollution and global warming, genetic manipulation and increasing and more generalized consumerism.

Currently, the industrialized countries are responsible for the vast majority of global pollution and environmental degradation. Forests are being destroyed in the developing world to feed the

industrialized countries' appetites. Pollution from the industrialized world affects all of us, in that it can lead to global warming and climatic extremes. These can cause disastrous flooding and other forms of natural catastrophe, and the poor pay for these and suffer their consequences. Though there have been many international summits to discuss these issues, results thus far have been few.

The global effects of free-market economics also need greater attention. At present, the developing countries supply raw materials to the developed countries, who pay free-market prices. However, the developing countries' economies are dependent on the sale of these raw materials, often on a single crop, or monoculture, such as coffee, cocoa or tea. Therefore, if prices for this crop fall, the economies of the developing countries suffer greatly. Meanwhile, most of their arable land has been given over to growing crops for export, leading to land degradation and loss of capacity for food production.

The developing countries are very vulnerable both to fluctuations in the price of such primary goods and to international capital flows, which are now outside political control. The financier George Soros, in his book *The Crisis of Global Capitalism*, has made certain criticisms of the current situation, and we need to attend seriously to these. However, we also need to recognize that at present the behaviour of the global market is beyond the control of any national government or group of governments; therefore, in order to minimize financial crises as a result of global financial shifts or changes in the consumption of primary goods, we need to be more modest in our consumption patterns and expectations. A developing country such as Thailand should not seek to close itself off from the global economy; rather, it should remain economically open while seeking to become more self-reliant and more balanced in its internal economic development, notably through being less reliant on just one sector, like export crops, for example.

Finally, the stakes of scientific and technological advance are high, since the world's population is continuing to grow and is likely to stand at 10 billion by the year 2050. This growing population needs to be fed, and it may well be that forms of intensive farming that are criticized today, and that have had consequences for food security, such as feeding cows on animal-derived feed instead of grass or hay, will have to be continued or extended. Similarly, experiments in genetic modification or manipulation may have to continue in order to come up with new drugs and medical treatments, or to develop new, more efficient strains of wheat, rice and other crops. Both these issues have profound ethical implications, even contradicting certain ethical precepts that forbid genetic modification or manipulation or that forbid feeding animals the processed remains of other animals. It will be up to the future generation to decide how such ethical contradictions can best be solved.

Concluding remarks

The panelists were invited to make some concluding remarks about what they saw as the main issues facing future generations and the children of the twenty-first century. Their remarks focused on the promises and threats of science and technology, the need to protect and preserve cultural heritage and cultural diversity, notably through deepening young people's awareness of their inherited values and responsibilities along with the increasing interdependence of our world, which, if it is to prosper in peace, is going to need an enhanced commitment to international co-operation and solidarity, particularly in education.

Science and technology bring both threats and opportunities. Among these threats is mutual destruction through conflict; among the opportunities is the potential of ensuring greater wealth, health and quality of life through new discoveries and approaches. Technology is like fire: it can be used to cook a meal or it can be used to burn down a building. It is up to us how we choose to use it. One example of how the development of science and technology might in future be used to solve current problems lies in the potential utilization of the marine environment, currently under-utilized, to grow food. Another is how genetic manipulation could yield new medicines and medical treatments. We need to be open-minded about such scientific advances, judging each one on its merits and choosing the most profitable and ethically acceptable course.

The need to protect and preserve cultural heritage and cultural diversity and to understand and deepen our cultural identities and values is also important. Cultural heritage and diversity are the sources of who we are and of the sense we have of ourselves; our self-understanding and values are the only guides we have as to how we should conduct ourselves. An enhanced awareness of such things can help us all to live in peace through free dialogue with each other, and a commitment to education, and the avoidance of intolerance, can help achieve this goal. It is important that young people, especially in Japan, feel secure in their own values and traditions and do not blindly copy others.

Today we live in a 'global village'. The world is becoming increasingly interdependent and interconnected, and this means that decisions should be taken in the interests of all and not in the interests of just one nation or group. This means an enhanced commitment to dialogue, tolerance and understanding. In realizing this enhanced commitment, education and educational solidarity among nations have an important role to play. But so does a commitment to reducing economic inequality, to reducing consumerism and to protecting our common environment and resources.

Finally, more effective ways must be found to bring these ideals about. UNESCO and the United Nations system as a whole have an important role to play in realizing them, and over the years the Organization has reached an impressive series of decisions and analyses of our common challenges and problems, incorporated, for example, in the Universal Declaration of Human Rights, the Declaration of the Rights of the Child and the Development Decades. The problem has been how to enforce decisions that have been made and how to realize the hopes that such texts contain. This too will be a task for future generations.

Tetsuhisa Shirakawa
*Secretary-General of the Japanese
National Commission for UNESCO*

On behalf of the Japanese National Commission for UNESCO, I would like to thank you all very much for attending this international Symposium to mark the 50th anniversary of Japan's membership in UNESCO.

The theme of the Symposium was 'Message to the Children of the Twenty-first Century', which is a very important one, both in scope and in depth. Our panel discussion revolved around three points: the diversity of identities and cultures; equal access to education, resources and opportunities; and the preservation of the global environment and the ethics of science and technology.

The UNESCO charter declares that 'the purpose of the Organization is to contribute to peace and security by promoting collaboration among the nations through education, science, and culture'. A decade after the end of the cold war, we still suffer from poverty, regional conflict and degradation of the global environment. We have many challenges to cope with. UNESCO is actively tackling such global problems, and the young people of the twenty-first century should be given a clear message enabling them to face up to their responsibilities and to cope as well as they can with these and other issues.

We have heard a stimulating and fruitful discussion about what kind of activities UNESCO should undertake in the twenty-first century. I think we have given a sense of direction to UNESCO activities for the future, and we, the Japanese National Commission of UNESCO, are ready to co-operate with and contribute to such activities.

Thank you once again for your participation in today's Symposium.

References

Books

Delors, Jacques (ed.). *Learning: The Treasure Within, Report to UNESCO of the International Commission on Education for the Twenty-first Century.* Paris, UNESCO Publishing, 1996.

Etzioni, Amitai. *The New Golden Rule: Community and Morality in a Democratic Society.* New York, Basic Books, 1997.

Huntington, Samuel P. *The Clash of Civilizations and the Remaking of World Order.* New York, Simon and Schuster, 1996.

Pérez de Cuéllar, Javier (ed.). *Our Creative Diversity: Report of the World Commission on Culture and Development.* Paris, UNESCO Publishing, 1996.

Popper, Karl. *The Open Society and Its Enemies.* 2 vols. Rev. ed. London, Routledge, 1962, 1968.

Soros, George. *The Crisis of Global Capitalism: Open Society Endangered.* New York, PublicAffairs, Perseus Books Group,1998.

Toffler, Alvin. *Future Shock.* New York, Random House, 1970.

Weart, Spencer R. *Never at War: Why Democracies Will Not Fight One Another.* New Haven, Connecticut, Yale University Press,1998.

World Heritage in Young Hands. Paris, UNESCO Publishing, 1998.

Dialogue among Civilizations, The Round Table on the Eve of the United Nations Millenium Summit. Paris, UNESCO Publishing, 2001.

Conventions, Declarations and Resolutions

Universal Declaration of Human Rights. Adopted and proclaimed by General Assembly resolution 217 A (III) of 10 December 1948.

International Covenant on Economic, Social and Cultural Rights. Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966.

Convention on the Rights of the Child. Adopted by General Assembly resolution 44/25 of 20 November 1989.

Declaration and Programme of Action on a Culture of Peace. Resolution adopted by the General Assembly on 6 October 1999.

United Nations Millennium Declaration. Resolution adopted by the General Assembly on 18 September 2000, A/RES/55/2.

Agenda 21. Adopted at the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, 1992 (the 'Earth Summit').

Universal Declaration on the Human Genome. Adopted by the General Conference of UNESCO at its twenty-ninth session on 11 November 1997.

Global Agenda for Dialogue among Civilizations. Adopted by the General Assembly on 21 November 2001, A/RES/56/6.

Dragoljub Najman
*Former Assistant Director-General
for External Relations, UNESCO*

The message to the children and young people of the twenty-first century is to encourage them to become active combatants in the war against ignorance for a better quality of life through education. They can achieve this task only if they fully understand what the situation is today and what must be done.

The right to education

Education is recognized as a *fundamental human right* in three important international treaties on economic and social rights. Free, universal, compulsory primary education for all is among the most clearly defined of all rights in Article 26 of the Universal Declaration of Human Rights adopted by the United Nations General Assembly on 10 December 1948. Education must be perceived and treated as a right that belongs not just to a specific age group – confined to childhood and youth – but to all age groups, extending from the moment of birth to old age. Providing this right may take many forms.

The right to education was promulgated in the International Covenant on Economic, Social and Cultural Rights (1966), and was repeated in the Convention on the Rights of the Child (1989). Both treaties state that secondary and higher education should be made accessible to all, with the progressive introduction of free education. The International Covenant on Economic, Social and Cultural Rights also recognizes the right of people who did not complete primary education to a basic 'second-chance' education.

• Massive progress has been made towards providing these rights, but educational deprivation is still widespread among adults. In industrialized countries, the average adult over age 25 had ten years of schooling in 1992. In the developing world, the comparable average figure was only 3.9 years, while in 30 countries – 25 of them in Africa – the average was less than two years. These figures speak loudly and clearly that hundreds of millions of adults missed the chance for schooling or dropped out before they had acquired basic literacy or numeracy.

• Almost 1.5 billion children and adults are either illiterate or on the way to becoming illiterate. That figure would even be higher if one were to apply a more rigorous definition of illiteracy: experts consider that a minimum of 6 years of primary education – as opposed to the 4–5 years currently used – is required for acquiring literacy permanently.

• Dropping out before completing five or six years of primary school means that the cost of those years of education is almost completely wasted – for the country and for the family.

• Unabated poverty will cause an even further increase in the absolute number of illiterates and a decrease in the rate of children enrolled into primary education. Recognizing the right to education is above of all a matter of equity. Unfulfilled educational rights have different consequences.

They affect females more than males, rural populations more than urban, the poor more than the rich, and ethnic minorities more than dominant majorities. Ensuring educational rights for all is synonymous with ensuring equity in education.

Achieving universal primary education should be a top priority objective for every country. Thus far, however, serious slippages have occurred with respect to earlier targets and commitments set by the international community for universal primary education. For example, according to the second United Nations Development Strategy adopted in 1971, universal enrolment was to be achieved by 1980. By the time the Jomtien World Conference on Education for All was held in 1990, this deadline had been pushed to the year 2000 (although this now referred to completion as well as to enrolment). The 1990 World Summit for Children adopted a more formal target for universal enrolment by 2000, but reduced the completion target to 80 per cent. The 1994 International Conference on Population and Development then rolled the target back by fifteen years to 2015.

The World Education Forum in Dakar, Senegal (April 2000) adopted a Framework for Action which states the following goals:

1. expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;

2. ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality;

3. ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes;

4. achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;

5. eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality;

6. improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

If the international community wants to achieve these very ambitious goals, it should take radical measures in formal education and even more so in the education of those who are and who will continue to be illiterate.

The world educational complex

One often encounters the so-called 'military and political complex' in the media. The articles describe the pressure exerted by the complex on the governments of the United States or of the Russian Federation, or even on governments of lesser powers. We all know what the 'military and political complex' is, and many of us have a definite opinion about its influence and the way in which it is exercising its pressures.

On the other hand, very few people realize that there is a world educational complex. Very few people even in education realize the power of that complex or how many people it represents. The figures speak for themselves. The total enrolment at all levels of formal education reached the incredible figure of

1.25 billion pupils and students in 1997. That figure is to be compared with the 620,658,000 pupils and students at all levels of education in 1970. This represents an increase of more than 600 million pupils and students enrolled in education systems of the world in the past 30 years. During the same period of time, the number of teachers has increased from 26 million in 1970 to 59 million at all levels of education in 1997. The world educational complex can therefore be estimated at 1.3 billion students and teachers in 1997.

The world educational complex may not be the world's richest system, but it does spend considerable amounts of money. In 1997, the total public expenditure for education amounted to almost US$1,400 billion. It is interesting to disaggregate this figure and see that more than $1,170 billion was spent in the OECD countries and about $200 billion in the developing countries. In other words, $1,038 per citizen in developed countries and $43 in the developing countries!

In order to get a fuller picture of the world educational complex, one should add all aspects of informal education on the one hand, and on the other, private spending for education that is not included in the amounts spent as public expenditure on education. There is no doubt that we are dealing with the biggest complex in the world, in fact with the biggest system that is governing the lives and the future of millions of human beings. That system, 'the world educational complex', is in a state of ongoing crisis.

The world educational crisis

It would be an error to consider that the world educational crisis began in 1967 when that term was used for the first time at the Williamsburg Conference, where a text entitled 'The world educational crisis' was presented. The author was Philip Coombs, at that time Director of the International Institute for Educational Planning created by UNESCO. A number of senior staff members of the Education Sector at UNESCO contributed to the drafting of the document. When the term 'world educational crisis' was used at the Williamsburg Conference, neither the participants nor those who had contributed to the drafting of the document had foreseen that a mere six months after the Conference students in developed and developing countries alike would take to the streets and – in a more or less brutal way – demonstrate their dissatisfaction with both the educational system and with society in general.

Looking with hindsight at the events of 1967 and 1968, it is interesting to recall the debates that surrounded the term and the world crisis itself. Among those who participated in those discussions was a strong minority objecting to the utilization of the word 'crisis' to describe the situation of educational systems. However, a majority felt that the word 'crisis' was appropriate. They appeared later to have been correct. From Berkeley and Paris, to Kinshasa and Addis-Ababa, the totality of the educational system, starting with higher education and finishing with secondary and sometimes even other forms of education, entered in an open crisis. The public saw in a very clear way the internal contradictions of the educational system and the world became aware that something had to be done about education in all countries of the world.

Many people think that after the violent events of the late 1960s, the world educational crisis was over. Nothing could be further from the truth. The slightest event affecting the educational system pushes students and sometimes even teachers out into the streets. In recent years, there have been a number of examples showing how complicated and difficult it is to deal with educational systems, demonstrating in fact that the world educational crisis is still a reality and that administrators, politicians and educators must be aware of its existence, continue to analyse its causes and try to find solutions.

But let us look more carefully at the exact characteristics of the world educational crisis. Five basic elements constituting the 'world educational crisis' have been identified in the sections that follow.

Internal inefficiency

Of course, we are speaking here only about formal education, for which we have measuring sticks and the capacity to measure input and output, where well-defined formal objectives exist, and where we can quantify them through marks, examinations, classes, levels and transitions throughout the various levels of education.

I think that the problem of the internal inefficiency of educational systems is certainly one of the most serious elements of the world educational crisis. We should all reflect for a moment on what would happen if more than 50 per cent of all the bridges built in the world collapsed the day after they have been inaugurated, what would happen if more than 50 per cent of all sick people entering hospitals left them in the direction of the cemetery, what would happen in the world if more than 50 per cent of all houses built collapsed a few days after they had been built. I am absolutely certain that events like this would trigger the creation of special tribunals condemning the engineers, the doctors and the architects to long-term prisons, at the very least.

Somehow, in our educational systems, we have become accustomed to the same type of events, and yet we consider them to be normal.

The internal inefficiency of the system is related to objectives that the system has set for itself:

- the system defines the level of knowledge necessary to pass from one grade to another;

- the system defines the level of knowledge necessary for the various exams;

- the system decides which marks pupils should have in order to pass from grade 1 to grade 2, from grade 2 to grade 3, and so on;

- the system decides the final level which pupils and students should reach after each of the cycles of general and technical education.

And after all these parameters have been set by the system itself, the only conclusion to be reached is that the direct result of these system-defined criteria and levels are causing children to repeat classes and drop out of the system. We can safely assume that, in a majority of cases, we are not dealing with stupid or incapable children. These results are the net result of a badly planned educational system, of under-qualified teachers, of a system which has, as an objective, elitist selection as the goal.

Taken together, drop-outs and repetition raise the cost of education for both the country and the families. Twenty-five sub-Saharan African countries are investing at least 50 per cent more for each primary school 'graduate' than would be the case with non-repeaters or drop-outs.

Considering educational spending, we can easily understand that there are actually billions and billions of dollars being spent to produce repeaters and drop-outs. We have to look at the problem of repeaters and drop-outs both from an educational point of view and from the point of view of psychological consequences on students and pupils, on the one hand, and on the other, on the financial and economic consequences which are raising the costs of education and producing waste.

Repeating grades occurs most frequently in Africa, where more than one quarter of primary school pupils in many countries are repeating a grade. Repeating is often a way of making sure a child obtains a place at secondary school, when room is limited, but it adds one or several extra year(s) onto family costs and tax-payers' burdens – and takes up a school place that could be made available to an out-of-school child.

Reducing drop-out rates will require a careful study of the reasons why pupils drop out. Often these will be the very same reasons why other children do not enroll at all. In developing countries, children often leave school prematurely to earn wages or work on the family farm. In most of Asia, more than 80 per cent of children complete primary school. But in Africa, drop-out rates are high: in 1994, only 67 per cent of the children enrolled in primary education finished a four-year cycle. The average for industrialized countries is 96 per cent, while it drops to 74 per cent for all developing countries.

The key to reducing repetition rates resides in early remedial strategies: monitoring performance regularly or targeting additional help for children who are falling behind. Longer-term reforms are also needed, such as the reform of curricula and better training and 'upgrading' of teachers. Reducing drop-outs and increasing enrolment are certainly socio-economic concerns, but they also indicate the need to make schooling more relevant and more challenging for students.

In addition to changing curricula and teaching methods, other measures that are possible include lowering and eventually abolishing fees for primary school enrolment. In rural areas, school hours and term times should be changed so as to fit in more closely with the rhythm of family needs for children's labour at home and in the fields. In areas where malnutrition is high, schools should offer a nutritious meal so as to lower family food costs. This would also improve children's performance: no one can learn on an empty stomach.

External inefficiency

In fact, educational systems are not able to adapt themselves to the needs of society and of their environment, although it is also true that the society is unable to express with any degree of precision its needs in relation to the educational systems. Corporations, administrations, factories and enterprises are unable to specify the profiles of the 'products' that they would like to receive from the educational system.

But on the other hand, the gap that separates the educational system from real life is so wide that there is no justification whatsoever for the present state of affairs. We are not talking here about production, enterprises, factories, corporations only; we are not talking about the training of people for a professional life. This is a relatively easy task for the educational system. What is at stake is the overall training of men and women, the role of the educational system in preparing children, students and adults not only for the life of today but for the life of tomorrow. When we analyse the role that educational systems are playing today in the training of people who will live in our societies tomorrow, we must come to the conclusion that their share in that process is constantly decreasing. People are being educated and trained by the environment, by the media, by the family. The role of formal education is becoming more and more limited. The question we must ask, therefore, is: how long will societies continue to finance educational systems that train and produce children and students whose profile does not correspond to the needs of their society?

To sum up, educational systems are not preparing men and women, young and old, for life. And not only do they not prepare them for life today, they do not even try to prepare them for life tomorrow.

Rapid quantitative development of educational systems

One could, as a matter of fact, speak about an explosion in educational systems. It is a world phenomena and it concerns both the developed and the developing countries.

I will mention just a few figures. In 1950, there was a total of 34 million students in all secondary education institutions in the world. Twenty years

later, they were 160 million; in 1997, almost 400 million. In other words, in 50 years, the number of students at the secondary level in the world has been multiplied by twelve.

In 1950, in the entire world, there were only 6 million students in higher education institutions. In 1970, they were 28 million; and in 1997, more than 88 million; which means that in the same 50-year period, the number of students in higher education institutions was multiplied by almost fifteen.

This quantitative explosion in world educational systems is producing a series of effects which have not yet been fully analysed and which have to be taken into account when formulating policies at the national or at the international level.

Increase in demand for education

Education has become an area that motivates people, and we can really speak here about 'masses'. Today, 22 per cent of the citizens of this planet are engaged in the formal educational system. This represents an incredible mass of people that is increasing daily, and there is practically no end to the ever increasing demand for education. Without going into too many details at this stage, we know that this demand is directly motivated by the demand for a better life, more earnings and more participation in the political and social life of the society. The demand for education should not be considered as an irrational demand for something that is not going to bring concrete results. This ever increasing demand for education has to be seriously taken into account when planning the future economic development of countries, in particular social development. We cannot foresee at this stage if there will ever come a point at which the demand for education will be considered as saturated.

Inertia of educational systems

This is probably the most important aspect of the educational crisis. There are a number of historical and socio-economical circumstances that have created the inertia of educational systems. It is a problem which I have tried to study for a number of years and I have attempted to identify some of is causes. I believe that the main reason for this inertia is that they have been historically – and remain essentially – labour intensive systems, much like agricultural systems in the past. For many centuries, both systems were based on human work or labour; in the one case, this was intellectual work, while on the other it was physical labour (the distinction is not essential for my demonstration). It is clear that changes in the production process occur more easily – and I would say less painfully – in systems that are capital intensive.

Of course, I am not equating the production of automobiles with educational systems. I am only trying to analyse the objective processes. It is much easier to change the final product by changing the instructions given to machines in a highly automated factory, than to change the production process or the final product in a factory where labour is provided by human beings.

It is therefore not surprising that changes in education have been so slow. It is not accidental that the same resistances encountered, in many parts of the world, to the introduction of machines, of automation, of a more sophisticated production process in agriculture are encountered when changes in education are at stake. 'My father planted wheat or corn (or any other product) this way and I will do the same' is a familiar phrase, and you hear the same thing in education: 'I went to school; that school was good for me the way it was. Why isn't the same school, with the same methods and the same type of education, good or even better for my child?'

Radical changes in the agricultural sector occurred when agriculture started slowly shifting from labour-intensive activity to capital intensive activity.

This was the result both of the development of technology and of the need for much higher productivity to feed the more than six billion people on our planet today. Capital- and machine-intensive agriculture will enable us eventually to feed decently the totality of the planet.

Similarly, it is by introducing a new element into the educational process that we will be able to change the educational system and reduce their inertia. The new elements to be introduced are information and communication technologies (ICTs).

Education for all

In order to achieve the important objective of education for all, we must candidly assess the present situation and see clearly what should be done. There are today in the world more than 1.5 billion illiterates.

- 900 million adults over the age of 15;
- 250 million children who are either not in school or will leave school before the end of the primary education and are, therefore, going to join at the age of 15 the group of adult illiterates;
- more than 300 million adults who have been to school, but who have lost the ability to read and write.

My estimate is that the above figures will increase over the years because of the population growth that will occur essentially in the least developed countries of Africa and Asia. In these countries, we should not expect any dramatic increase of financial resources allocated to education; the opposite will probably take place. Official development assistance (ODA) is rapidly decreasing. Consider the following figures:

- At the time of the Marshall Plan (1947–51), the United States spent 2.5 per cent of its GNP on foreign assistance per year.
- In 1960, industrialized countries devoted 0.51 per cent of their combined GNP to ODA.
- In 1980, this figure dropped to 0.38 per cent.
- In 2000, this spending fell to a mere 0.24 per cent.

There is no hope that this amount will increase in the years to come. We should not count on increased ODA for education.

Does this mean that the situation is hopeless? My answer is 'no'. But it means that we should explore resolutely new ways of achieving the goal of education for all. Some of these new ways are described below.

Doing more with less in formal (school) education

Further linear development of formal educational systems is totally impossible. This applies to developed and developing countries. What do I mean when I say that the linear development of educational systems is impossible? Formal educational systems are governed by three equations, are applied across the board by all managers and administrators of educational systems. They may be summed up as follows.

- To add 30 children to primary education, you need one additional primary school teacher and 40 m^2 of new school buildings.
- To add 30 new students to secondary schools, you need 1.3 new teachers and about 60 m^2 of new school buildings.
- To add 10 new university students, you need one new university professor and about 100 m^2 of new education buildings.

Ministers of education and educational administrators must transform the above three equations into non-equations by finding ways and means to educate more children and more students with fewer teachers and by building fewer new educational facilities.

We should also analyse the length of the school year and see exactly how many working days children and students spend in schools and in higher learning institutions. Out of 365 days in a normal calendar year, most children and students in a variety of countries spend in the school no more than 170–180 days. In other words, the length of a school year in real working days in educational institutions corresponds to roughly half of the calendar year.

Educational administrators, managers of educational systems and ministers of education, could, by counting the number of real working days in a school year, put facilities, teachers, laboratories, libraries and so on to much better use.

An important analysis should be devoted to carefully examining the number of years that children and students spend in general education, or what we might call pre-university education. The present system, which is applied in most countries of the world, requires children and young people to spend between twelve and thirteen years in primary and secondary education before reaching institutions of higher learning. It is interesting to note that general education in the United States and the Russian Federation lasts for a total of only ten years, after which young people go on to higher education institutions. Reducing the length of general education to ten years did not prevent either the Americans or the Russians from launching people to the moon and achieving high scientific results in their research institutions. Very substantial savings could be made by educational systems, which would, after careful analysis, reduce the total number of years which children and students have to spend in general education before reaching institutions of higher education.

The next reform should be concerned with changing the configuration of both the school day and of the school week. One should carefully analyse the need for children to spend almost the totality of the day and very often six days a week in classrooms.

The next set of measures concerns the need to distinguish the function of the school as a parking place for children and students from its purely educational function. This holds especially at the pre-primary and primary levels, but also sometimes at the level of secondary education. Indeed the length of the school day and the length of the school week often respond to the need to have children and students somewhere while their parents are working. Educational research has already shown us many years ago that the knowledge children acquire at various levels of education could be acquired in a much shorter time than is being spent in school institutions today.

It is important to distinguish between the two functions because the role which the school is playing as a parking place can first of all, most of the time, be performed outside of school rooms, school premises or school buildings: in parks, in the forest, in the fresh air, in leisure-time activities. In addition, for the parking place function of the school, qualified primary- or secondary-school teachers are not necessary, but simply adults to take care of children and students while they are involved in sports or other activities. It goes without saying that separating the two functions could produce huge savings from the point of view of the utilization of school premises and school buildings.

This brings us to the need to carefully analyse the rate of utilization of school buildings, laboratories and school libraries in each country and region, and in each school district and town. This analysis should show the percentage of utilization of a variety of school buildings, but it could also be used to indicate how their utilization could be rationalized and to what extent, in fact, a school district, a town or a school system needs new school buildings, new laboratories or new libraries.

I once analysed the needs for new buildings for the national university in the capital of a small Asian country, and I arrived at the conclusion, along with the President of that university, that the rate of utilization of university buildings was about 22 per cent. I obtained this result very easily by noting down the number of days, weeks and hours when the school buildings, the laboratories and the libraries were totally empty, without any students attending courses, doing exercises or reading in the library. In many countries, especially developing countries, the situation is similar to that small Asian country I was mentioning above. It is difficult to justify requesting public funds for additional buildings while present structures are utilized at such a low rate.

A further measure which should be contemplated when discussing the reduction of costs and transforming the equations quoted above into non-equations, is a careful analysis of the number of working days and weeks of teachers at all levels. It would be interesting in the various school districts, individual schools or countries to determine the real workload of teachers at the primary, secondary and higher education levels. The analysis of the teaching load at various levels should of course include the problem of using the school as a parking place. The question of how much time teachers at various levels spend in order to perform the duties of guardians of parking blocks and how much time they spend performing educational and instructional duties is pertinent here.

Teacher-pupil ratios should also be reassessed. The first question which one may ask is whether an underdeveloped country can afford the same teacher-pupil ratios as developed countries. The second question is whether there is pedagogical justification for teacher-pupil ratios in the first place. In fact, over the years, through the actions of teachers' unions, lowering teacher-pupil ratios have been pursued as an objective. However, educational research has not come up with any proof that, by simply decreasing the teacher-pupil ratios, better pedagogical results are achieved. Indeed, educational research has demonstrated that the teacher can successfully work with individuals if the group does not exceed eight or nine students. When there are ten students or more, individual work with students in the class becomes impossible and the teacher is obliged to work with the group as a whole. From that point on, whether the group numbers 15, 20, 25, 30 or even 35 makes very little difference, from a pedagogical point of view. However, teachers, for easily understandable reasons, prefer to have fewer students at a time. But this has nothing to do with firmly established results of pedagogical research, nor with the final performance of individual children or students in a class.

The next important measure that should be contemplated by educational systems is the increase of fluidity and, therefore, of profitability of the system by taking all or some of the measures proposed below.

- The most obvious measure would be the reduction and progressive suppression of repeating, first in primary education and then in secondary education. The fact that repeating has been totally eliminated in a number of both developed and developing countries is the best evidence that this objective can be reached. Children in country A are certainly no more intelligent than those in country B. The problem is one of a political resolution: a decision must be made to *modify and adapt curricula to the children* and not to continue with the desperate fight of adapting the children to the curricula and, if one cannot achieve this, to force the children to repeat. Repeating is a plague in all countries where it still exists, and especially in the countries where a high percentage of children and adolescents are forced to repeat. It is not only a waste of money but a waste of human resources and it very deeply affects the personality and future of children and young people who, through no fault of their own (in a vast majority of cases) are obliged to repeat a grade during their school education.

- The corollary to the suppression of repeating, and a step in the direction of increasing fluidity would be more rapid promotion of gifted children through the educational system. Rules should be established by which children could skip from grade 1 to grade 3, then to grade 5, etc., if they show exceptional capabilities and if they have the required psychological and physical maturity to skip a certain number of grades. Systematically promoting children who are gifted not only represents a potentially huge amount of saved money, but it also prevents those children from feeling bored in an environment which, for a variety of reasons, is below their level of interest.

- And finally, drop-outs must be reduced. The problem of drop-outs is of course much more difficult to solve than the problem of repeaters. There are many reasons why children drop out of the school system. And many of these reasons are not linked to the educational activities in the system, but have deep social and economic causes. However, we must confess that not enough research has been done on drop-outs, and that making educational systems profitable and fluid will require, first of all, careful analysis of the reasons that lead students to drop-outs, and then the establishment and the promotion of a series of measures leading to the progressive reduction of the number of drop-outs.

The promise and potential of ICTs

After so many decades of open or hidden resistance, the time has finally come for a massive utilization of information and communication technologies (ICTs) in education. Information and communication technologies are an instrument for reducing costs and increasing the efficiency of educational systems. The utilization of advanced forms of educational technology, in particular television, closed-circuit television and computers, has shown very satisfactory results from the following points of view:

1. Educational technology increases the efficiency of the system. Indeed, the utilization of computers in education prevents and practically excludes repeating as a phenomena in the educational process.

2. Educational technology contributes to a large degree to speeding up the educational process and can be a very helpful tool in implementing policies aimed at reducing the length of educational cycles.

3. More importantly, computers and computer-assisted instruction enable the system to ensure individual instruction of a quality that can seldom be reached by individual teachers and professors.

One of the central objectives of using ICTs in education must be to educate illiterate students and those who remain out of the reach of traditional educational systems. Nation-wide education demands an effective machinery for dissemination, offered by modern information and multimedia technologies – radio, television, video-recorder, telephone, satellite, computer and global networks.

ICTs are becoming cheaper and also more versatile and durable. Electricity is no longer an absolute requirement for their operation with the advent of solar- and wind-powered equipment. Interactive technologies have a considerable potential for empowering people at all levels of society to help themselves and be trained. The broadcast media can reach scattered farmers or nomads in rainforests or deserts. Radio and TV can offer a standardized product that places a poor village in a remote area on equal footing with a city suburb. Media can be used to train teachers and facilitators as well as students. Once introduced, they can be combined with person-to-person contact through a network of tutors or facilitators. The knowledge revolution implies that a substantial portion of the workforce will be telecommuting in some form in just a few year's time. It will be indispensable for the educational system to prepare its students both through the content of the curriculum and through the use of the very same media in classroom situations.

Another objective of utilizing new technologies becomes increasingly apparent as economies change. If education is indeed a life-long right, extending beyond a well-defined phase of early life, it must increasingly permeate the life-periods of work and retirement. As people change jobs and require retraining more frequently, periods of employment will be interspersed with periods of further education and training, combining 'knowledge of acquaintance' with 'knowledge about' – 'a sandwich system'. This will produce even more dramatic change in a society increasingly dominated by telecommuting. To that end, experiments were carried out for alternative approaches to build up the demand pressure from below, to rescue education from the dominance of a curriculum imposed from above by teachers and administrators. Two other factors also argue in favour of introducing new technologies into the educational process. The first is the accelerated speed of the explosion of knowledge, putting increasing pressure on learning capacities. The second is the spread of multi-cultural societies, which put conflicting demands on the education systems coming from different cultural groups.

Education systems need to be more flexible, so that unemployed people can claim benefits while taking courses. The flexibility of new technologies means that people of any age can acquire further qualifications of any kind, with a much wider range of short, modular courses. These should include feedback mechanisms for a permanent adaptation of educational contents and curricula, and be organized in such a way as to allow mass utilization.

However, the poorest nations of the world are not sharing in the telecommunications revolution – the digital divide between industrialized and developing nations is widening instead. Most of the world has never experienced what readily accessible communications can do for society and the economy. New funds will clearly be required to help poor countries build telephone networks, which are basic to the evolution of the communications sector. Public-private partnerships might be able to establish new opportunities and generate requisite investment.

For an alternative policy in education

At the beginning of this article I mentioned the size and importance of the world education complex. Now, let me come back to the 1.5 billion people who have either never been to school or who have relapsed into illiteracy over the years.

My assessment is that their numbers will increase, even if we do succeed in some of our long-term goals. It is those people who most need education, and they are our biggest challenge today. We cannot ignore their existence and their plight. What is at stake is not illiteracy, however important that may be; at stake is *education for a better quality of life*.

Education for a better quality of life is something new in this discussion. We have been concentrating on formal education and its problems. We were concerned about illiteracy, lifelong education and so on. It goes without saying that those concerns of ours will not and should not disappear. What is required here is a totally new approach – this is why I use the term of 'alternative education policy'.

We should start with mobilizing governments and public opinion in order to bring these issues into centre stage. We should then proceed with studies of what should be the content of education of illiterates for a better quality of life. A few suggestions would be nutritional education, health education, HIV/AIDS prevention, family planning education and education related to improvement of agricultural production, all aimed at a better quality of life. Last but not least, we should devote money, time and research in order to identify the most appropriate delivery systems for each concrete situation. Here ICTs will probably play a decisive role, but we need new types of access, new adapted hardware, new methods of conveying messages and so on.

In short, I am advocating the establishment of specific structures, departments and administrations for the education of those who are and will potentially remain illiterates, and of course for those who will, for a variety of reasons, join this already enormous group. If we are really committed to the concept of education for all, the time has come to aim at the 25 per cent of humankind, which is not only the poorest segment of the world population, but also represents those who are still totally deprived of education.

Photos