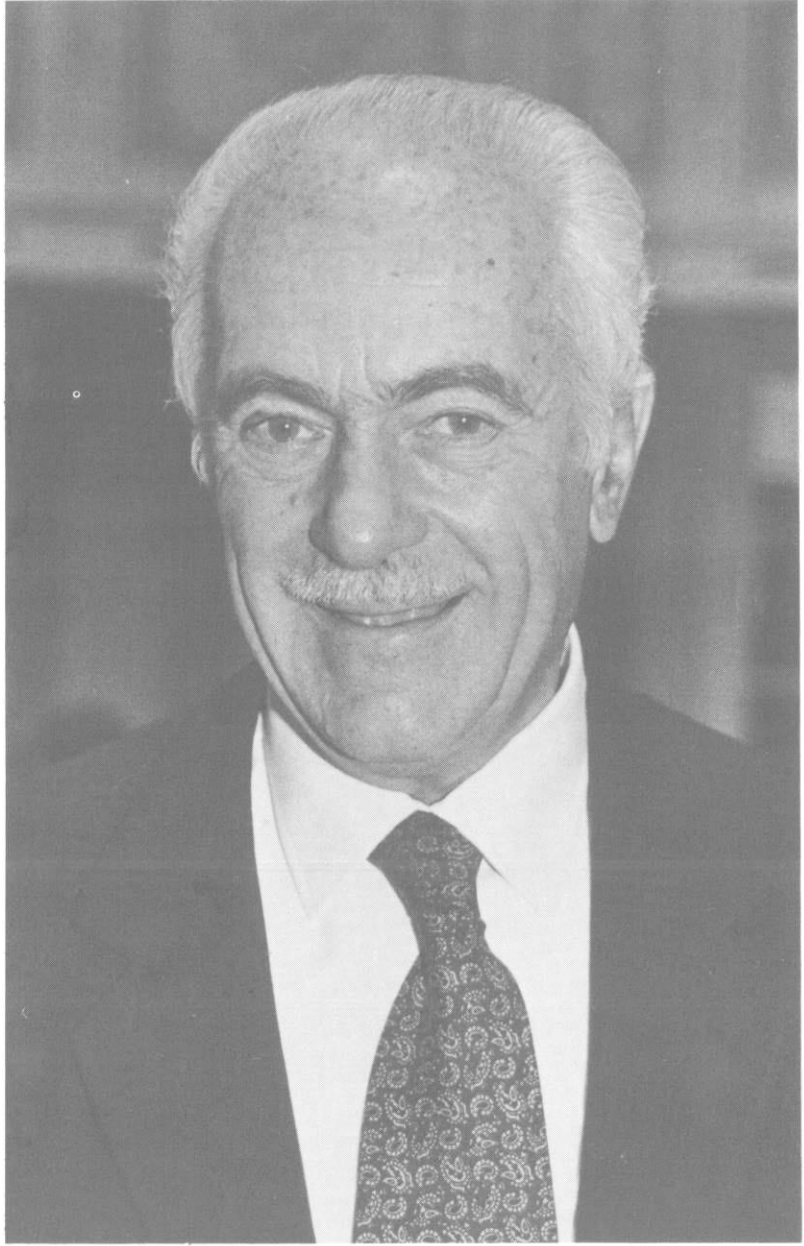


Facing Unprecedented Challenges: Mankind in the Eighties

Aurelio Peccei

IIASA DISTINGUISHED LECTURE SERIES /2

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FOREWORD

ROGER E. LEVIEN, *Director*
International Institute for Applied Systems Analysis

In 1976 the U.S. National Academy of Sciences received a contribution to be used for

...the furthering of research, in an international setting, and addressed to the methods and concepts of systems analysis broadly conceived...

...to support research, or the presentation and discussion of research, bearing on problems of an interdisciplinary, international and worldwide character, both with regard to the individuals participating in the research or its discussion, and to the problems of world society to which the findings are hoped to be applicable.

It felt that an activity benefiting the International Institute for Applied Systems Analysis (IIASA) would be consistent with the intentions of the gift.

The Institute proposed that the gift be used to sponsor a Distinguished Lectureship, an annual event to “further research in the methods and concepts of systems analysis broadly conceived” and to strengthen IIASA’s role as a forum for presenting, exchanging, and discussing the results of such research, with an emphasis on the international and interdisciplinary character of systems analysis.

The first lecture in this series was given in 1979 by an IIASA alumnus, George B. Dantzig, on “The Role of Models in Determining Policy for Transition to a More Resilient Technological Society.” It took place in the Ceremonial Hall of the Austrian Academy of Sciences, IIASA’s National Member Organization for Austria.

This year, however, we had the pleasure of having the second Lecture in this series in the magnificently renovated former imperial theater in the Laxenburg Conference Center, adjacent to the Institute.

This year’s lecturer, Dr. Aurelio Peccei is also, in a sense, an IIASA alumnus dating back to the days before the Institute came officially into being, when he played an important role in the negotiations. During that period he worked closely with our Council Chairman, and it is appropriate, therefore, that Academician Gvishiani provide the Introduction to Dr. Peccei’s lecture.



INTRODUCTION

JERMEN GVISHIANI, *Chairman of the Council*
International Institute for Applied Systems Analysis

Aurelio Peccei is well known in the industrial world, where he has contributed to many successful undertakings – among others, top positions in Olivetti, Fiat, and Italconsult.

In recent years he has contributed a great deal to drawing world public opinion to the global *problématique* – the challenges facing all mankind. He is a founder – and is now the President – of the Club of Rome, whose activities are well known.

Since he is among those who inspired the idea of IIASA and who contributed actively and fruitfully to its realization, his being with us today is an important event for us. We have always felt a deep appreciation for his continuing attention to the Institute's activities, and for his acute opinions and good advice.

I have had the privilege of knowing Dr. Peccei for many years. I have always been deeply impressed by the tremendous energy and talent that he directs toward pursuing goals and objectives in which he believes, and by his strong dedication to the well-being of people. Everything that he has done and is doing now is driven by this high spirit. For example, it led him to join the Italian resistance movement during the Second World War in order to fight the Nazi occupation of his country.

Dr. Peccei's hallmark is his humanistic approach to the problems confronting the contemporary world, be they economic, technological, managerial, international, political, or global – his conviction is that humans are essentially good. This belief in human quality stands out when one reads his writings, especially his most recent book *The Human Quality* – which I find important and timely. I am happy to say that the Russian translation of this book – which appeared recently in the USSR – met a warm welcome and prompted great interest. I greatly appreciate Dr. Peccei's confidence in me as an editor of the Russian translation. On behalf of the numerous Soviet readers, I would like to thank him for the opportunity to get acquainted with his thoughts and ideas. I hope that more of his work will be published all over the world, thus contributing to a better mutual understanding and a closer cooperation among peoples and nations.



FACING UNPRECEDENTED CHALLENGES: MANKIND IN THE EIGHTIES

AURELIO PECCEI

We are about to leave 1980 – a dark and embattled year – and a decade of conflict and concern. We are entering a period that will represent a new phase in human history – a decade full of events and developments that we cannot yet measure. And we are entering this new decade with a certain hope, but with many worries.

What I will say will be divided into three parts. The first one will consist of some preliminary observations about the future. The second will review certain negative influences that drag our society downward – the danger side of the challenge of the eighties. The third part will discuss some exigencies – some imperatives – that should be perceived and understood, and responded to, if we are to turn around the situation that worries us – the opportunity side of the challenge of the eighties.

THE FUTURE

My preliminary observations about the future are three.

(1) The eighties will be a period of extreme alternatives for the better or for the worse, unprecedented in human experience. Humanity is in fact now at the hinges of history and facing its challenges. It is caught in a gigantic tangle of world-spanning problems of all kinds: demographic, political, social, ecological, security, and psychological problems, orders of magnitude bigger, more complex, and more difficult than ever before. And these problems confront us all, rich and poor, socialist and capitalist, countries old and new, large and small, east, west, north, and south.

On the other hand, humankind possesses an immense and growing patrimony of information, scientific knowledge, technological knowhow, managerial skills, experience, equipment, and financial means that previous generations never dreamt of. Also, it possesses a fund of moral forces, all of which are very badly applied – even very badly known – but, where applied effectively, could turn the situation around.

The outcome will depend on all of us who will live in this decisive decade of the eighties, on our behavior, and on what we will be doing, whether we let the problems overwhelm us, or instead devise and implement solutions to them. Further, what we will do in the eighties will influence the future for a long time to come.

We are in a period of discontinuities: some trends will come to an end soon, other trends will start.

We face tremendous responsibilities; all of us must share in facing them manfully and effectively.

(2) What will the nature of the future be? It is not something predetermined, as if it were encoded in a great ledger of destiny for us to try to decipher – nor does it obey arcane forces. The future is plainly and simply a product of man, a product of what billions of people either do or not do – and, if they do something, how they do it throughout their lives.

If the future is the product of our disorders, pettiness, or lack of foresight, it will be miserable. On the contrary, if it is the resultant of our efforts to make it better than the present, the world will be a beautiful place to live, work, and love in.

Thus, the future is something that, within reasonable limits, we can invent, design, and build, according to what we want. It will be an invention – surely the most important and difficult invention that modern man has to make.

(3) My third observation deals with the commonality of our future. In spite of the growing number of its inhabitants, the world is growing smaller with respect to their power and their expectations, while it grows more integrated and interdependent. In other words, the world is becoming one. The unity of the world – the oneness of humankind – is no longer just a flight of fancy or just rhetoric; rather, it is a reality, and tomorrow this reality will be even more evident than it is today.

If the world is becoming one, then the future must also be only one. The gaps and disparities, which we decry today without doing very much to reduce them, cannot exist in the world of tomorrow. This means that we all have a vested interest, not only in our own future, but also in the future of others.

If we put these three observations together, they say: the future is no longer what it used to be; it is the main business of humankind. This fact is something we have to grasp: the future is the main business for all of us.

NEGATIVE INFLUENCES

It is sad but necessary to have to review the negative factors that bring our society into difficulty, toward dangerous precipices.

Here I shall base my remarks on the thinking of The Club of Rome. This Club was founded in 1968 during a period that was *la belle époque*. People believed then in the miraculous virtues of technology, and in the almost unlimited possibilities of economic expansion. The Club of Rome's first report, *The Limits to Growth**, challenged these

*See Meadows *et al.* (1972).

views; it took issue with the self-complacency of industrial society. It brought home some uncomfortable truths, it provided some salutary shocks. And it was totally ridiculed – but it opened a phase of self analysis that has brought us to a higher level of understanding.

In 1978, on the tenth anniversary of the Club's founding, we had a meeting to assess what had happened during the preceding decade, a fleeting moment on the clock of history. We issued a warning that, despite all of the fantastic technological and scientific progress, the overall human condition had declined during the preceding decade. The next year, just a year ago, we reviewed the world's situation once again – the situation of the four and a half billion people living on this planet – and reconfirmed our analysis. We had hoped that our first assessment would have been wrong. However, this new assessment found that the decline in the human condition was accelerating. No major problem of the world – not one – had been attacked seriously, and new problems, even more complex and threatening, were emerging. If this trend is not stopped, we said, it will push mankind toward greater and greater crises, and finally into disaster.

At the same time, we listed the ten principal entwined factors that were bringing mankind along the road to decline.* There is not space here to go into them, but I should say that they represented an appreciation, not a mathematical proof of their correctness. Indeed, we hope that they will be disproved, that someone will say, on an adequate basis, "No, the situation is much better, this factor is not as important as you said it was."

Sometimes I am asked which of these ten factors are the most frightening. In my view there are four that are so menacing as to be considered in the forefront.

- The most frightening and immediately pressing problem arises from the grotesque and foolish belief that security can be bought with more arms. Driven by this belief, with demented lucidity, men produce more powerful engines of destruction and rely more and more on a balance of terror, while the history of man – indeed, the history of life itself – shows that there is no equilibrium lasting forever. Thus, the equilibrium of terror will one day be broken, somehow or other.

A few figures underline what I am saying. We know that the "overkill" capacity that man has stored in his nuclear arsenals today is equal to an endowment for each man woman, and child in the world today of an equivalent of four tons of TNT. Military expenditures in 1980 will exceed the unthinkable limit of \$500 billion, a sum which, if converted to a pile of dollar banknotes for each day's expenditure, would exceed the height of Mount Everest. But even this does not satisfy us: we engage forty percent of our scientists in defense work (according to Swedish estimates), and we spend sixty times more to equip each soldier than to educate each child.

*For a complete list and accompanying discussion, see Peccei (1979).

I personally do not believe that a nuclear holocaust will bring us to our end. However, if we escape it, there is another bomb waiting for us: the human bomb.

- A species that is unable to control its own numbers, as is our case, is doomed – or it will be brought back to size by forces outside its control.

Here again we have figures. It has been estimated that *homo sapiens* appeared on earth one million years ago – ten thousand centuries. During the first 9,999 centuries – up to the year 1900 – the world population grew to 1.6 billion. However, in the eighty years since 1900 the population of the world has multiplied by a factor of three, and in the remaining twenty years of this century an additional population will be added that is greater than the one that accumulated through man's first 9,999 centuries. A curious fact: someone has calculated that, since man's beginnings 10,000 centuries ago, altogether seventy billion people have lived on the earth. It is, of course, a rough calculation, but, if it is correct, the present population of 4.5 billion is more than six percent of all of the humans who have ever lived.

However, if we calculate, not the number of people, but what they consume from our natural resources, we discover that, since the present population will live twice as long as their forefathers and consume natural resources at ten times their rate, the population presently living on the earth will consume during its lifetime more than all of its ancestors put together.

- The third major factor undermining the human situation on our planet is the devastation of nature – the divorce of man from nature. The stronger man has felt that he was, the more he has attacked nature and isolated himself from it, with the result that he has overexploited it and trampled it under foot, thus wounding and weakening his own environment.

For this factor we also have well known data. The four major biological systems supporting human life, the oceanic fisheries, the great pastures, the forests, and the agricultural soils, are all under stress; despite more and better technologies, the productivity in each is declining, having started to decline some time ago. According to the UN Food and Agriculture Organization, the advancing deserts threaten one tenth of Latin America, one fifth of Asia and Africa, and one fourth of Australia. They also estimate that, of the five to ten million plant and animal species on the earth today, some ten to twenty percent will disappear by the end of this century.

What the impact of these trends will be on human ecology – on the capacity of the earth to support today's 4.5 billion people, the 6.3 billion in 2000, and the larger billions of the twenty-first century – is unknown.

- The most important of the four factors, in my view, is man's retarded and unbalanced cultural development. Modern man has rapidly and radically transformed his small corner of the universe, but he has failed to make a parallel adjustment in himself: he has kept his old concepts of the world – of himself and his place in it – that he inherited from past centuries. He has not updated his values, his taboos, his totems, his ways of thinking, or his modes of action. So he has gotten out of step with the realities of his own doings.

All of the earth's species adjust to mutations in their environment by genetic evolution, failing which they disappear. However, in our species genetic evolution would be too slow. Man must either learn to evolve culturally, or he risks disappearing.

These four factors are some of the entwined forces that threaten our position in the world. However, it is a mistake to think of these factors – and others we could list – in isolation; rather, the economic factors are linked to the ecological factors, security arises from our social situation, and so on. It would be an equally great mistake to ignore – or minimize – the combined impacts of these factors when they reinforce each other.

WHAT WE CAN DO

If the world situation is as I have described it – and I hope it is not, but remains to be proved one way or the other – what can our different societies do, what should or must they do, to counteract these negative factors and bring the overall situation under control? There are, of course, thousands of things that have to be done at all levels, local, national, regional, and global, in thousands of sectors.

However, we must consider that, despite all the things that can, should, or must be done, our societies – or at least some of them, and certainly the world as a whole – are frightened by a subtle and insidious danger: that of political paralysis. This phenomenon can be seen in many parts of the world at the national level. With apologies to my Polish friends, I think that this phenomenon occurs in their country; with due respect to my compatriots, it also occurs in Italy; and in other countries as well. We sometimes say that modern world problems are either too big or too small for governments, or the governments are too big for small problems or too small for big problems.

To cite further examples, the United Nations activities are in a state of paralysis. Many international negotiations suffer from this illness. We see with great dismay that the Madrid Conference on European Security and Cooperation is partially stalled. There are also the UN global negotiations that should start in January 1981, which have been in

preparation for such a long time: they should discuss the Third Development Decade – but the first two Decades have ended in frustration. Since August of this year, worthy people – colleagues of ours – have been trying to find out how this global negotiation should be carried out. However, as we meet here today, there is no agreement, not even on the preliminaries of procedures and the agenda; there is paralysis.

To mention a further example: many of you know the Brandt Report,* which suggests a North–South summit to be convened in Mexico during the summer of 1981. This meeting should unblock the dialogue between North and South, but no one knows yet what the agenda will be or what results this important summit meeting could have.

Thus, as we consider what we can do, we have to acknowledge that, owing either to the complexity of the problems confronting us or our incapability of understanding them, we are moving toward a situation in which we will not find the political will, the imagination, or the spirit of cooperation among ourselves to pursue policy strategies. So, the world is in a great predicament because, on the one hand, there are thousands of things that should be done, and on the other, there is an incipient paralysis in the policy machinery that should produce solutions.

There are three orders of fundamental exigencies that, if satisfied – or if there were steps toward their satisfaction – could help greatly to obtain desirable world objectives; they would complement normal national policies, and they would tend to overcome this world paralysis. I shall list them in increasing order of importance. The first is the necessity on crisis issues to devise and implement policies and strategies inspired by regional and global views; the second is the exigency of making the world system governable (at present I must admit it is ungovernable); and the third is to learn how to govern it (when to learn how to govern the world means that we have to learn how to govern ourselves).

The need for regional and global views

The first exigency is that of adopting regionally or globally inspired approaches, policies, and strategies on critical issues beyond the normal national policies as an initial basis for action. Here are a few examples of what should be done.

**North–South: A Programme for Survival*. Report of the Independent Commission on International Development Issues, Willy Brandt, *Chairman*. Pan Books, London and Sydney, 1980.

A world environmental conservation strategy is needed and has been studied. A very beautiful document was issued in March 1980* by the scientists of the International Union for the Conservation of Nature; it is convincing, it is simple to apply, and there are no fundamental difficulties presented by its application. Its aim is to advance the achievement of sustainable development by conserving living resources.

Another need is for a world food strategy, or, to put it in another way, food security. Here the aim is to utilize more intensely and more rationally all of the available resources – soil, water, energy, climate, technology, and money – to increase food production, and to store, process, transport, and distribute food worldwide, thus forestalling hunger once and for all. It is possible; the studies have been made.

Then there is the need for an integrated worldwide energy policy and strategy. I realize that I am speaking in a house where this has been given profound study – but I suspect that you have not covered all of the aspects of policy and strategy that should be adopted by producing and consuming countries, or by regions. Such policies are something that IIASA should study—at least as a provocation.

A world disarmament strategy is needed. Even if one limits himself to technical measures, he can see hundreds of things that have been discussed for a long time, and that can and should yield agreement: ratify SALT II; or modify SALT II partially and then ratify it; start negotiations on SALT III; implement the nonproliferation treaty more strictly; conclude negotiations on reducing conventional armaments; restrict and control the world's arms trade; strengthen the instruments for resolving conflicts.

Although some work has been done, there is still the necessity of devising world planning methods and techniques. This is a new venture on which IIASA could take an initiative. The aim should be to learn how to reach and maintain a modicum of compatibility and coherence among the goals, policies, and strategies of all human groups. It is impossible for the world to work well when all the groups go their ways as if the world were generous and big enough to accommodate all their expectations.

We could also speak of reforming the international monetary system – and many other examples where regional and global considerations must be made.

All of these measures, and their policy strategies – as well as many more – are indispensable to the alleviation of the world crises; but they are not sufficient. If there is not a

*See *World Conservation Strategy – Living Resource Conservation for Sustainable Development*, IUCN, Gland, Switzerland, 1980. Or *How to Save the World – Strategy for World Conservation*, Robert Allen, Kogan Page, London, 1980.

fundamental evolution in the human system, a cultural advancement of the people themselves, humanity cannot be set on a saner and safer course – which brings us to the second, higher-level exigency.

Making the world system governable

The second exigency is to make the global system governable, which it is not today. The two major obstacles that have to be faced and progressively but rapidly removed are these: the first is the East–West tension, and the second is the North–South structural imbalance.

When I speak of East–West tensions I understand the East to be represented by the Council of Mutual Economic Assistance (the Soviet Union plus the eastern European socialist countries), and the West to be western Europe plus North America (the United States and Canada).

No progress in the world, no change for the better, no global policy strategies, no reduction of North–South gaps is obtainable, and no great future can be designed, if the present tension between East and West continues. *Détente* is not enough, not even coexistence. We must move – we can move – from latent confrontation to active cooperation. We must convince ourselves that this shift is possible, not utopian – and we must catalyze our convictions into action.

I have discussed this idea over the last two years with many people from both East and West, and I am confident that, after the black year of 1980 is over, old contacts can be resumed and new ones made, and that, if East and West can make a global assessment of the world situation and its prospects, they will see the way to cooperate, because this is the only thing to do in their own interests, even apart from the interests of mankind generally.

From such a global assessment we should move – we will move – gradually to some kind of global management that will be a tremendous step forward. This East–West cooperation is within our reach; it can turn the tables during the next decade.

Similarly, the North–South imbalance prevents progress. Look at the map: in the North there are four giants plus one – North America (the United States and Canada), western Europe, the Soviet Union and eastern Europe, Japan, and China – all economic and technological giants, all formidable, all with tremendous possibilities within their own control. In the South there are almost 120 states; they are not united, they are of medium

and small size, and some are ministates. Economically the biggest are Brazil first and India second, both a little bigger than Spain and a little smaller than Italy, just two provinces of Europe. They are no match in any competition or negotiation with the North. If this setup is not changed, if the South does not understand that in its own interest it has to unite in its own way and according to its own culture, there is no possibility of a dialogue.

Fortunately, people are beginning to consider this situation. Last May the Club of Rome took the initiative of calling together in the great hall of the United Nations a big meeting to see whether there is a possibility of approaching unity in regional and inter-regional ways, since the new international economic order that everyone says he wants is stalled.* This initial meeting has been followed by many others. However, in the temple of national sovereignty, the United Nations, there was almost a unanimous consensus that we must try other ways, particularly in black Africa and Latin America. However, the idea that the small countries of the South must band together, coagulate, establish communities, unions, and coalitions, is taking hold.

The two movements to unblock the present stalemated relations between the East and West, and between the North and South, will have to start independently – but eventually they will merge. Will this be sufficient? I do not think so, because the protagonist, man himself, has not made the cultural evolution that is necessary. We must, all of us, learn what it takes to control, to govern, and to live with this new world of immense complexities, new dimensions, exceptional speeds, and continuous interdependencies, which is totally different from the world in which we still live culturally.

Learning to govern the world system

To govern this new world we must first learn how to govern ourselves, an exigency that can be subsumed under three points: the survival exigency (we must learn how to live in harmony with the realities, the real world, not the world as we think it should be); the moral exigency (we must learn how to fulfill our responsibilities to our successors and to the other forms of life that are totally dependent on us, and on which we, in the final analysis, will be dependent); and the quality-of-life exigency (we must learn how to develop our own potential, a goal we invoke often but do little to bring to reality).

*For the results of this meeting, see United Nations Institute for Training and Research (1980).

Thus, we are presented with a tremendous *problématique*. The point of entry into it – and here I must beg your indulgence – cannot be science, the economy, or – as we seem to think today – energy; rather, the point of entry is the human being, and what he can do with science, the economy, energy, and everything else. If the point of entry is not the human being, we will be lost, we will see another world, not the world in which we are protagonists.

In this respect, we must consider two things:

(1) The first is that modern man – and this includes you and me – is unfinished. All of us – even the most deprived who live at the margins of society and who may be illiterate – have a natural endowment, a latent potential, a neglected capacity for understanding, inventiveness, and creativity that we have never developed, or that we have developed only partially.

(2) We must understand that, if we develop everything else and fail to develop this potential fully, the world will become a more difficult place, we will become weaker, and thus less able to face its problems, and the gaps we see today will widen. We must focus effort on becoming better persons, both ethically and existentially, if we are to be able to live with the new world that we create.

In order to put human development in the forefront, where we think it belongs in the eighties, the Club of Rome has started two projects in order to provoke discussion and debate and stir up curiosity and criticism.

• One is a project called “No Limits to Learning.” You will recall that the Club’s first project dealt with the limits and constraints of our environment and was called “The Limits to Growth.” By contrast, this new project – probably with some exaggeration – says that there are no limits on our capacity to learn.* As established by brain specialists – confirming what our common sense tells us – there are immense margins in our learning capacities, a fact that puts the accent not on education, but on learning.

The higher our position in society, the more we have to learn, all of us – and in a rapidly changing mass society this learning must be anticipatory. It is not enough to catch up with the situations of today, because in the meantime those of tomorrow will be running away from us. Whether we wish it or not, we are in a society where the centers of decision and the structure of power have changed, and where people want to participate. Not only must individuals learn to participate more effectively, societies must learn what it takes to be effective societies today.

*See Botkin *et al.* (1979).

In the past it was enough to learn how to keep the situation of society as it was and to improve it incrementally – but now the learning, unlike the past, must be innovative. Now we must learn how to innovate both prudently and boldly at the same time. Activities aimed at finding uses for these ideas have been started in many countries – Venezuela, France, Italy, and the United States, among others – and the bishops of the Catholic church see this approach as one they must learn to use.

- The second Club of Rome project intended to provoke thought and change is called “Forum Humanum.” It has as its aim involving young people in inventing, designing, and eventually building a new future – one that will be theirs. It is not people like me that will be the users of this future, the young people will be its users.

The young people are more numerous: they are the largest segment of society. At present 36 percent of the world population is less than fifteen years old, and 60 percent is less than thirty years old; in some countries these proportions are larger.

The young are better prepared than we are: they are better educated, they are purer of heart and mind, they are readier for unity across all frontiers – rational, ideological, and religious. We are trying to establish a network of small groups of young people in different parts of the world, in such places as Dar-es-Salaam, New Delhi, Buenos Aires, St. Paul, Cambridge (in the US), Salamanca, Rome, Geneva, and Tokyo. The young people in this network will jointly try to imagine the kind of society they would like to build, say, from 2000 onward, as realistically as possible. To our shame we must admit that we have never tried to do this – we hope that they will show us the way.

CONCLUSION

I am especially happy on this occasion, which has been made possible by IIASA’s gracious invitation for me to come to speak to you, for three reasons.

First, Vienna is a key city nowadays, importantly because East and West meet here, and because North and South find it convenient to talk to each other here. Here the ground is being prepared intelligently for useful future developments. I do not want to mention names, but I can say that some of our best leaders are found here.

Second, IIASA is the right place to start new, bold research ideas and ventures in the interest of mankind.

Third, I have the illusion that I may have cast here some seed that may one day blossom.



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DR. AURELIO PECCEI

Dr. Aurelio Peccei has had a distinguished career in industry, conservation and international affairs, and also as a consultant on major world problems.

From 1930 to 1973 he was a member of the Fiat company in Turin, and was founder of Fiat Industries in Argentina in 1953; he was Chairman of the Board of Fiat Concord in Buenos Aires from 1953 to 1973. He was Managing Director of Ing. C. Olivetti & Co. S.p.A., Ivrea, from 1964 to 1967, and Vice-Chairman from 1967 to 1973. He was Managing Director of Italconsult in Rome, from 1957 to 1969, Chairman of the Board from 1969 to 1976, and Honorary Chairman from 1978 to the present.

He was the founder member of the Club of Rome in 1968, and has been a member of its Executive Committee ever since. He is Chairman of the Committee for Atlantic Economic Cooperation, Paris, and of the National Institute of Architecture in Rome. He is a board member of the following organizations: the World Wildlife Fund, Geneva; the International Institute for Environment and Development, London; the International Ocean Institute, Malta; the Population Institute, Washington, D.C.; the Centre d'Etudes Industrielles, Geneva; the European Management Forum Foundation, Davos; the Business International Corporation, New York; the International Federation of Institutes for Advanced Study (IFIAS), Stockholm.

He is the author of *The Chasm Ahead* (1969) and *The Human Quality* (1977). Of his many achievements he would like above all for it to be recorded that he was a convinced freedom fighter in the Resistance (in Italy) during the Second World War, but that he rates justice as more precious even than freedom; and that he considers human beings to be fundamentally good and therefore capable of saving themselves if only they can be led to understand how their universe has changed.