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## Barbara Ward

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Transcript of Lady Jackson's Speech December 7, 1970

It is because like drowning, it's a difficult thing to go through. And also because the introduction usually reminds me at least of how very very long my life has been. I'm reminded of a Czech friend who, no, who was a Polish friend, when Germany invaded Poland he was caught by the Germans. He then managed to escape and he was caught by the Russians. He then managed to escape and was made to get into the Polish army in the Middle East. He was then sent to Britain and then he was sent back to France and he was recaptured by the Germans and taken back and recaptured by the Russians and at the end of it, he said, "I feel as though I have lived for 200 years." And this is the sort of feeling you have when you recall some of the things that have happened and the reason I bring this up is that I have a nasty feeling that one's going into another cycle, and a great deal of what I've been learning in the last 20 years, is about to be out of date, again. And so another cycle in this life that feels like 200 years, is about to begin. And this is because when you look at problems of survival and problems of development - one's beginning to have to look at them, in a quite different way from even three years ago. And if there is, well, one of the great editors of "The Economist," a man called Walter Badgert once coined the aphorism-- that there is nothing more difficult to change than an idea. And if you're over 50 you become attached to your ideas and the idea of changing them becomes more and more horrendous. It's much easier to do it young, but the thing is, to keep the habit, because we're going to live in a world in which this ability to see what new problems are coming up is probably one of the preconditions of survival. And at the moment, I think there's no doubt that the changing patterns of our world predicament is something that sends us all back to school, whether we've been here for 200 years or not. We're all back to school because the changes on such a scale and coming

at us from such new angles that we have got to begin to learn all over again. Now, what I have to say tonight is rather groping and very far from certainties and only I think perhaps sharing with you some of the problems that I feel now I have to cope with in whatever time's left. In other words, it's new because the predicaments are new and what I would have said about development even 3 years ago, I feel less certain about saying it today. Now, this is partly because the whole of humanity is entering what we should, I suppose, call the Technological Order. And it is as different from anything that's gone before as was the emergence of neolithic man, the coming of agriculture, the whole creation of specifically human societies. But in the last 150 years with the pace that has steadily increased, and is now the pace of the tiniest circuit inside the largest computer, at that speed we are changing again. And we're creating all around ourselves something which is beyond any human experience and that is: what happens when little by little man remakes his whole environment and then finds himself living inside what is no longer a natural world, but a manmade world and a world in which more and more of his capacities, as it were, have got a side which is technologically organized. That has been going forward with much greater speed since the second world war and pure on one side by nuclear power and on the other by the infinite series of inventions that come to us from space explorations, it's going forward with much greater rapidity in the future. And this technical order, whether we like it or not, is embracing the whole of humanity and it is creating a new kind of planet in which the experiences of man and what man does to man with man and to his own environment are changing with more rapidity than we can even observe. So that is why this freshness of mind, this ability to learn, this readiness, even 200 years old to begin changing what one thought, that I think is possibly the first condition

of survival in this technological order. But the great question is, and this is the one I want to explore with you tonight is, is the technological order a working system which now embraces about 20% of the human race living in North America, Europe, and Russia, and Japan. And is it a technological order of which the great weakness is, that it has not yet been spread to the rest of mankind and that, therefore, the biggest challenge ahead is between - to coin a phrase - the rich nations and the poor nations. The poor nations being defined as those who have not yet crossed the technical threshold. And if you'd asked me even 3 years ago I would have said yes. That's pretty accurate definition of the problems of survival in our technological order and that is that the split between the rich and the poor, between the technologically advanced and those that have not yet come into this whole system of advanced science and technology, I would have said that was the big, the big challenge. The fact that America with 6 % of the population of the world commands 40% of the world's income and resources I would have said was one of the great challenges of our time. And indeed, you know one reason why I've written so many books as I have to let on, it's very much the same book written over and over again, which is a very convenient way of writing a lot of books. The trouble is that some of the ideas have got to stay the same and I would have said up until quite recently, that this was a great challenge and the way you got out of it was by helping the developing peoples to accumulate the capital, to learn the new technologies, to apply science to their own dilemmas, and to enter into the heritage of greater wealth which comes undoubtably from technical inventiveness and scientific command. Well, that's one version of the predicament. But, now we might, in fact, be having to ask ourselves another question. And that is: is the predicament rather different? Is it that within the 20%, who have, if you like,



set in motion and fully - become fully absorbed into this technological order. Is the possibility that it isn't a wholly workable system in itself? And, that, therefore, to spread it to the rest of humanity might be merely to spread to those who can still avoid some of its worst mistakes, the absolute certainty of sharing them. And you can see that this is a very different dilemma from what we would have been discussing 3 years ago. And yet, it seems to me that this is inescapably the questions that we have to ask when we look at some of the consequences of our new technology. And I would like, I think, perhaps, to define my sense of unease, my sense of new questions coming up by going back to Francis Bacon, who warned us, perhaps unknowingly, at the very beginning of the technological order that knowledge is power. And if you pick out of nature that mathematical command of the law of energy and mass which enables you then to manipulate more materials and energies, knowledge is power in a most real sense because it's the power to change, the power to develop, the power to adapt. But, if at the same time, you take that power, and going back again to Francis Bacon and say that what you will serve are the idols of the market and the idols of the tribe, the tremendous expansion of commercialism on the one hand and the tremendous expansion of national sovereignty on the other, and, if at the service of a drive of nationalism which tends to root itself in hate, a drive of commercialism which is to some extent rooted in greed, are we likely from anything as blind as that to produce the good society? And are we not now, with the nuclear arms race on the one hand and the pollution of the environment on the other, are we not suddenly beginning to count the cost of a technology which has got a little out of humane control, because it's been serving very potent idols with emotions attached to them which are not always friendly with human survival. So this is the kind of question that I want to...

that I would like to explore, and I would like to begin by suggesting that whether you take the view that the great problem of survival is between spreading a technological order which is more or less working or the deeper problem is do we have to correct profoundly, our technological order? In either side, whichever version you take, the 1970's look like being periods of a great deal of pressure, a great deal of accumulated obstruction and therefore possibly of violence and certainly of - it's a situation as Abraham Lincoln would have said, "piled high with difficulty." And that piling up of difficulty is something which we confront. Now, the reason for it in one sense is quite clear. As you move toward the creation of this new scientific and technological order, one of the things you have to do, is you have to accumulate capital. The reason for this I won't go into, but it simply is you've got to pay for waiting in order to install the new technologies which once installed are immensely more productive. Adam Smith began with the pinmaker, the man who, by inventing a little machine then made a thousand pins a day whereas before he made about fifteen. But you have to wait a little to install the machine and that waiting period has to be paid for with people's savings, which is capital. Therefore, the basis is this ability to save. But the process of wrenching out to society the capacity to save, the capacity to invest these savings, in technologically competent ways, to bring the education into - of technology and science into your society creates enormous disruptions and one of the disruptions is due to the fact that in nearly all traditional societies, people have got to the idea of just taking over. There wasn't any unlimited expansion of wealth possible beyond a successful harvest, and if your population got up that limit, why you pretty well got as far as you could go. And so the few rich people who lived on the very small surplus, and the mass of people who didn't expect very much better, well they jogged along. There were very unpleasant times like peasant wars and things

like that, but within this society, people had some sense of where they belonged, and very often society had arranged a whole series of safety nets into which you fell in times of disaster. The lord of the manor was responsible, your neighbors were responsible, the church was responsible, so it was nasty brutish and short, if you like, as Hobb said it was, but it had a certain stability. Then, comes capital, science, technology, organized by the people who've got the drive and the energy sufficient to do it. And the successful, the entrepreneurial, the vigorous, the healthy, the fortunate and the already rich pull ahead. And behind them they pull along this mass of people who are more and more disordered in their traditional way of life, who stream into the new factory towns, who create the working force of this early industrialism, and their life, and any of you who've picked up Dickens and Balzac, you can see what their lives were like in these infernos which were the early industrial cities. And by the time you got to the 1840's, you were in trouble... because you've got just enough of the new system to uproot the old, but not enough of the new system to satisfy the people who were streaming into it. And that's why the 1840's were a time of immense revolutionary pressure culminating on the one hand in the revolution of 1848 and on the other of course in the Communist manifesto which began the Marxist interpretation, the counter-interpretation of history, if you like, which is still with us. But it was in that period when people were being pulled out of their old society and pushed into the new one and when the rewards went almost wholly to those who were entrepreneurial, or fortunate or already rich and the mass of the people got very little out of it indeed, it was that period that you had the most radical pressure. Thereafter, for a whole series of reasons, the pressure somewhat abated. People got used to living in cities, they got used to the idea of their own strength as they worked together in trade unions, you had philanthropist growing up like Lord

\_\_\_\_\_, you had the whole movement of socialism, social democracy, and gradually, out of this very raw situation which I've described with the utmost caricaturish brevity, out of that situation, you did get a larger share of mass consumption, more and more people drawn into society. As the Marxists bitterly found out, the creation as they said of a bourgeois world which included----- and 70% of the people. And then if you like what we would have thought until quite recently, a very fortunate society compared with much that had gone before. Now, what I think we confront in the developing world now in the 1970's, is this process of transition from the traditional to the modern technological society. And contrast more savage, more bitter more difficult than anything that was known in the 19th century, among the developed peoples of that time, the North Atlantic peoples. Because now the difference is between the process of this adjustment made a hundred years ago and now just underlined at every point how difficult the whole changeover is.

Now, compared to one hundred years ago, just let's take one or two of the differences between this process of being drawn into the technological order, the capitalist system, state or private it makes no difference here, from the point of view of the organization of society itself, though it does to some of the emphasis on education and welfare. But just the process of being drawn from traditional society into the modern technological order; and just compare, doing it now with doing it 100 years ago.

First of all, what ought to be one of the great deliverers, if you like, which is the fact that epidemic diseases have largely been brought under control. That has turned out like so many of the great human inventions to be a double-edged sword. In the 19th century when people came into the cities, they died. The death rate in

cities was much higher than the death rate in the countryside and you've only got to read any Victorian novel to know there is always a deathbed and that they're always dying of typhoid, inevitably, even the Prince Consort. Well, if he could die of it, everybody could. So you had this sort of deathwatch in the cities, in fact, I think London had cholera as late as the 1860's. So you never had an increase in the labor force, crowding into the towns, of more than probably about 1% a year... it may even have been less. But now having cleared up the epidemics as you all very well know, world population in the developing world is going up by never less than 2.5%, usually 3%, and the work force is growing by nearly 2% a year... that's double the problem of the Victorian period. So, that's number one.

The second thing is that when they come into the big cities the technology has changed in a hundred years and in the 19th century you still had a very great demand for unskilled labor. By the time the machines became more sophisticated, by that time the family size, the labor-force size had started to stabilize. By then when you got the need for more technically trained workers to work more sophisticated machines, which demanded more capital which was growing, and less labor which had stabilized, you'd got a fair balance in the cities. I don't mean that it was perfect but you still have the ups and downs of the trade cycle. But there was a fair balance.

Well now after a hundred years of development of industry and capital in tensive (?) forms what you've got is throughout the developing world an immense need for capital which is being consumed away by a growing population and not anywhere near the same need to jockey for jobs because the whole technological forms of our society are now not designed to absorb labor, on the contrary they are designed to save it. And so the people who streamed into the cities are in fact coming again and

again into a new industrial system which is not, in fact, providing the jobs that are needed for this massive increase in an urban population ahead of the industrial processes to absorb them. And in fact as David Morse recently reminded the ILO just before he left, in some of the big cities of the developing world now, 20-25% of the people are out of work most of the time and the younger untrained, the figure may go up to 30 and 40%. Now wherever in the developing world, you have something comparable that is the movement of the people into the cities without the skills and ahead of the jobs, for example, black citizens in this country moving into the northern cities, the Algerians coming to Paris, the Jamaicans coming to London, you get something of the same problem and that is, a work force that forms in cities before in fact you've got the industrial structures or the service structures even to absorb them. And that growing unemployment is now realized to be the basic challenge of development in the 1970's and 1980's and it stems from an inappropriate technology applied to a perfectly different profile if you like, of capital and labor. And that's not the end of it, because in addition to this you've got still though this may change, relative stagnation in agriculture so that the cities are growing twice as rapidly as the population itself, you've also got the fact that poor people, and they're poor because they're - they have not yet entered into the productive cycle of modern technology, are not very good markets for industrialization. And then you get the real difficulty and that is they are coming into a world which is already completely organized by the already industrialized and wealthy nation. 40 million people came out of Europe and crossed the Atlantic to free land and new jobs in the United States. And they could do that because the United States began with 5 million people in a whole continent. In a sense, Soviet Russia had something of the same advantage and not

such good weather when they moved across Siberia opening up its mineral resources. But where can the developing people of the world go now, when you remember that in the 19th century all the reserves of temperate land were taken over by the white man in the course of his spread. This tiny tribe of west Europeans who spread right round the world and ended up 20% of people in control of 80% of the resources. This is a 19th century phenomenon. It came on top of 18th century colonialism if you like, but a large part of it was settlement and the most successful, the most advantaged the most prosperous migration in the whole of human history. Well, the migrations are happening now, but they're not happening across oceans to freshland and to open fields and to new jobs, they're happening inside the developing world, from the despairing land to the despairing cities. And these migrations are not migrations of hope, they've become migrations of despair. And they are against the background of such lopsidedness because they are still against the historical context of the division of the world between the 19th century fortunate settlers and colonists and the 20th century people who can't move. Now it's against that background that even if your interpretation of where we are now is that all we need to do is to spread the technological system...it's against that background that one has to say that the 70's could be a period of intense crisis and in the despairing cities of the developing world, all this obstruction begins to work, begins to produce violence where the guerrilla and the hijacker whom we already see as a dark shadow on the face of time become the dominant figures in what would begin to be a sort of - not a peasant war but an urban war. Something that is already as it were on the fringes of our consciousness that could grow in the 70's and 80's to be a dominant and tremendously pervasive fact of banditry and guerrilla fighting. As in all cycles of collapse, for example in the great cycles of collapse in China over the last two or three millenia. When you get



obstructions of that degree, you tend to get the violence of the poor and the violence of the weak and that is always banditry. We call it banditry, but it's because spasmodic and because it's guerrilla type. But it can, particularly in societies which are organized with the fragility of the modern megalopolis, it could become, of course, a destructive force which we've not known in such a fashion since the late middle ages. Now that's a possibility, but of course there are those who would say well... now really... come on... this is just scare stuff. If you in fact look back to the 1840's what happened? Anyone writing in 1840 would say My God, the whole thing is just coming apart! How are we going to survive? Europe is tearing itself to pieces. There are the wicked Communists on the one hand and there are all the falling regimes on the other, and the next thing is we're going to have anarchy, we're going to have disorder, we're going to have collapse. Well, what did we have... fifty years of an incomparable Victorian boom. When the idea of progress was born, when the idea of optimistic futures was born, when people probably added more rapidly to their income than at any other time. Well aren't you being unduly scary, they'd say... look, look, you're very well describing problems of transition, but you're forgetting in fact that through the processes of tremendous technological change and growth through the invention of new scientific breakthroughs that hadn't even been dreamt of in the 1840's, new chemicals, the whole of the Leibig revolution in fertilizers, the whole of the development of steel making new processes, the coming of electricity, behind that the motor car. What kind of technological promise may not lie ahead, aren't you being just incredibly gloomy about the opportunities? And aren't you really behaving exactly like all those prophets of despair in the 1840's who went around saying the system can't last? And Marx wasn't the only one. Nearly everyone was saying, oh no, it can't last. Well, brother, did it last? on the contrary, it went on, if you like,



to some of its biggest triumphs and, in fact, to the spread of this system into a worldwide commercial exchange, into a worldwide pattern of development, and really to read back into history, only the imminence of collapse is to behave in a thoroughly unhistorical way. Let us rather take the projections of the more optimistic observers, let us take those projections and let us extrapolate to the year 2000, the kind of growth rates which have been possible in the developing world over the last 15 years of 5 and 6%. Let us say with a little better organization and experience, they push it up to 7%...that this will be just ahead of population growth and that, in fact, we are going to see not only the sort of extraordinary postwar success of Japan which is growing we know by 12 and 15% in fact, a 7% growth rate in Japan is a recession believe you me...in other words, you are not telling us about the success stories that exist. And Korea, and Taiwan, and Turkey and Greece, Israel, you name it, all round even to Brazil and Columbia and Venezuela, they're all up in the 6 and 7% rate of growth. Why this discouragement when it may well be that what we will see over the next 20 years is a continued growth of prosperity in the developed world, I mean, the predictions made by the Hudson Institute that by the year 2000 the average per capita income in the United States will be \$10,000 a head and \$8,000 in Europe and probably by that time \$15,000 in Japan. These kinds of projections in the developed world just portray a long future of felicity toward which we are hastening... meantime in the developing world, the successful operators will themselves break through, they'll pop up, they'll go through the sound barrier to modernization. And before you know where you are, not only one third, but two thirds of humanity will be through to the joys of technological society and we will have another long Victorian boom. We don't know what we'll call it this time - an Elizabethan boom whatever you like... anyway, it will be a long boom shall we say. So why this discouragement? I think

the problem here is that there are two problems. The first is that the long Victorian boom was predicated upon this enormous input of new resources. In other words, what the people of 1848 did not foresee was the opening of the entire prairie system of North America and South America to feed Britain and Europe. They did not foresee that you could right round the planetary economy and wherever there was a mineral resource, you would be able to pop in your minds and your system of exchange to bring it out. That you would be able as Europe became filthier and filthier, under the impact of these great advantages in technology you would be able to grow unlimited palm nuts in Africa and wash their dirty faces. In other words, all kinds of things open up...in the 50's and 60's and 70's and 80's... which were an unparalleled input of almost, not entirely, but almost free resources into this massive industrial system. And therefore the break-through to what Rosteau would call the sustained growth...the break-through to the sustained master of the new technology, that came about because of the happy circumstances that you could go right round the world, you could take the entire planet over and run it for the 20% of the people who were in the (dear Senator hi...he's not going to introduce me, he's going to wind me up...laughter...well he's missed the first horror story but he's in time for the second) anyway, I say that the real optimists forget this enormous input of resources that made the world economy tick, that established the pattern that 80% of the resources were controlled by 20% of the people, and they forget that this is still where we are. Now, is there any possibility as one looks forward over the next period to say that we are going to do anything comparable to that kind of input. Yet, it's perfectly arguable that we could because you see one of the enormous changes is the sheer scale of the new technology, the new availabilities of capital, the enormous break-through of energy in the chemistry revolution, in our whole knowledge of what it takes to manipulate and use the resources of the planet. And there is absolutely no

reason in a rational world why we should just stop spending 180 billions each year on arms, and begin to spend, well let's be modest, let's say just 80 billions on development and 80 billions a year on developments, well my friends, that would perhaps roughly be equivalent to the input into our economy in the 19th century of all its spare land and all its temperate farming resources. It happened then by chance and we didn't know what we were doing, but in a rational world, we would draw some conclusion we would say, what is the capital input equivalent to the amount of push we got when we were doing this difficult transition, let's get down to it and let's provide it. There's no reason why not, clearly because the technologies are there and provided that we went carefully about it with our knowledge of what the green revolution can do, of what would happen if we built new cities, if we linked agricultural change with decentralized industrialism, etc. etc. that's something I'll come back to, a little later on. There is no reason why you shouldn't have a sort of comparable Victorian boom based upon this time a consequent thought-through and rational transfer of resources. And this would again meet the point that I think one would have to act and that is one reason why the Victorian boom was also a social period of advance was this would also meet those points of justice, of sharing, of a wider social responsibility which though extremely inadequate, nonetheless turned some of the corners of western society during these critical times of change. It's not inconceivable... all I can say is... at the moment we are not in fact thinking on this scale and that nothing like this is stirring in the minds of our leading politicians. We have in fact at the moment rather retreated from the concept of economic assistance/development and we are not at the moment though I think this could change we are not in any way weighing the scale of our response to the size of our planetary dilemmas. So that's point number one.. we could do it. And we could possibly make the Victorian scenario, I believe that's a phrase, that's an in word, we could make the scenario

work if we really followed the pattern of what happened in the 19th century which is on the one hand an enormous input of resources and on the other a very considerable energy of reform, if we did that at the planetary level. But having said that, I think we would then have to admit that we come to another problem.. I'm just looking at the time because I don't want to go on too long.. on this subject, dear Lord, one could go on to midnight. Now the second point is, okay we decide to make these transfers and we decide by an immense effort of reforming energy and practical vision to rapidly incorporate the two thirds of humanity who are not yet over the technological threshold.. we determined to do it. And then we begin to look at some of the consequences, we look at the population figures, but that I think has some relevance here because our own economic history suggests that you begin to make a real dent upon rapid population growth when you begin to introduce some of the more modern structures of the technological society. For one thing you increase education, for one thing you actually educate more women which has quite an effect though you know it's not always popular. You also have writing expectations of various kinds and you have alternate activities so there are all kinds of reasons why the slope tends to go off. So it may be that one of the hopes of the future in this bounding and incredible increase in population, you know the figure that it took... it took five billion years to get the first billion human beings. The next billion took 150 years, the third billion took forty, the fourth billion's going to take 15 and the fifth and sixth billion I think are down to about seven. Well that's an exponential curve of such extraordinary rapidity that the biologists are now warning us that by the middle of the next century if we are up to 50 billion, well that's the limit... even on going back to the conditions of the cave. So there is here some... unless the developing world follows the curve, if you like, of the developed world then we might go back to the

older modifications of population which were cholera, typhoid, war, pestilence and famine and starvation with an occasional cyclone thrown in. So there are methods of control but they're ones we are trying rationally to eliminate. But if you do some other curves upwards which again the biologists are beginning to do, you come upon quite new aspects of our interdependence in this single planetary system of which we have absolutely no idea. First of all, I mean let's pick them up. First of all, do we know what 7 billion people even if we only allowed their standard of living to get up to the \$2000 which is enjoyed in Europe now, would their consuming power be such that the whole raw material cycle upon which this particular economy depends would begin in fact to be running out, that's point number one. Secondly, unless we made absolutely drastic...drastic attacks on the basic problem of waste and pollution might we by the year 2010 have started so irreversible trends of corruption and decay that we would see our biosphere dying around us? Because one of the troubles here is the threshold phenomenon and that is it looks perfectly alright for about 30 years and then quite suddenly you discover that by the tiny steps of thirty years, you reach something that can no longer be reversed. I mean take Lake Erie, you all know about Lake Erie, it would now take 40 billions to bring it back to life. Well now 40 billions of course is nothing, I mean it's just half one year's arms expenditure. Therefore any rational people would obviously spend 40 billions on Lake Erie instead of on arms, that's clear. I hope that's clear to everyone, but the fact remains that unless it's spent fairly soon, you will get to the point where billions upon billions upon billions couldn't bring it back to life because this little thing biological life is still irreversible in its final forms. And biological death is something we can't reverse. We can only reverse just so long as the processes are reversible. And in many fields we could get without noticing on the threshold system to a whole series of steps that would so

denature our biological environment that we would find that we might have a nominal standard of living about \$5000 a year per person but everybody would be wearing gas masks as they already do in downtown Tokyo. So these dilemmas which weren't apparent to us three years ago are beginning to be brought up with increasing urgency not by the politicians, you know our senators, no, no not yet, but by the biologists, by the people who are looking into this and are shrinking back with horror from what they see. I mean let me tell you another example and that is I don't think people knew it all this...probably ten years ago they didn't, but in trying to follow up the oxygen cycles upon which all life depends, upon which the biosphere itself, without it, the biosphere would become like the moon as liveable-on as that. At least one quarter of this supply comes from little creatures called fetal-plankton who operate right on the surface of the ocean. That's their habitat and they have to be in living relationship with the sun's energy in order to do the transformation which releases the oxygen. I'm not enough of a biologist to tell you how it's done, but fortunately they know so it doesn't matter. But put over them enough slicks of oil, enough gunk and garbage the kind of garbage that Thor Hyerdahl discovered as he crossed the Atlantic and you might inadvertantly discover that you had reduced the world's supply of oxygen by one quarter while you were increasing its population by a billion every seven years. Well this is an equation which you can imagine will not work out and this thing of killing those living resources which sustain us in ways which we did not know because we'd not biologically ever made the equations, that is the reason why some of the more simple ideas of just extending our kind of society to the rest of the world just begin to look like a rather bad bet. And that the situation is much more complicated than we thought. And it's a situation that goes way back behind politics and ideology, I mean Moscow is as filthy as Manhattan and the river Volga is even...well, the river



Volga shall we say it's worse than the Cayuga River which twice set fire to itself which I think is a record for a river, I must confess. Well anyway, if you go through the Soviet Union it's quite clear that any system based upon rapid technological advances through massive industrialization whether it's public or private is doing these things to the total biosphere. And that behind the possibility of extending this system to 7 billion people lies the possibility of the multiplication of so many Lake Eries. The destruction of so many forest, the erosion of so much land, the spread of so much concrete, the growth of so many fumes, the gradual transformation of the whole of our planetary abiance into either a glass house which will melt the polar icecap which of course would solve a great many problems between America and Russia because they would both be 12 feet under water. Or alternatively freezing us by endangering the radiation from the sun. Now these sound like science fiction ... of course it sounds like science fiction, but who would guess that Lake Erie is nearly dead? And it is the cumulative effect of extending this kind of civilization to that number of people that make the new dilemmas of development. And this is why that to the development economist, the solution of only five years ago which was hurry up, let's do better and let's extend the system, because then at least you have a sort of equal base of power and economic resources. So that you end the tremendous lopsidedness and begin to repeat at the planetary level some of the great acts of social justice of the 19th and 20th century. It is more complicated than that. (It is more complicated than that.) because unless we change our system it's arguable it's not one that ought to spread. When you've said that you run into a tremendous political dilemma which is already apparent in the discussions for instance for the UN Environment Conference. And that is the developing peoples are saying, "Oh, so that's your little game, Ha! You've invented pollution just in time to prevent us from industrializing ... very clever, but

we're going to industrialize and if it means pollution, well, baby, you'll just have to stand it, okay?" And the feeling of resentment among developing peoples for these whites who hogged 80% of the world's resources and then turn round and say, "Huh, don't do what we've done. We've already polluted half the human situation, but you mustn't do it, you must be good and primitive and pure in effect. You know, I mean really, they feel about that the way many of them feel about the extreme advocacy of birth control by respectable white ladies, so often, with perfect tailors and blue hairdos who go round telling people not to have children. Well okay, but the Brazilians say "We're going to have the children because we're going to be as big as you. . . it's childish if you like, but it's simple as that." And so the politics of the new round of environmental difficulties, the politics that are going to underlie the proper solution of this question are quite new factors in human politics and one for which neither the Americans nor the British nor the Europeans nor the Russians nor indeed the Japanese who are more polluted than anybody per square inch, they don't at the moment have an answer to these dilemmas, so in addition to these problems of imbalance, we now have the new, but possibly exhilarating because more human problem of how do we over the next fifty years contrive to take this technology which we have blindly allowed to serve the nation and its fears and commerce and its greeds, without any sense of its human purposes, how do we now drag ourselves back from this fatal course, because fatal it is, and begin to create a technological order which can be spread to the whole of humanity with reasonable hope that we can all survive together. We are not going to renege on science and technology, they are masterful, masterful instruments, they are power in the good sense. The fact that they are also the Probethian fire against which the gods have warned us that is also part of the human predicament, that man is a creature, and man is an inventor, and man is eternally



curious and man has created these instruments. The question is whether he can now get them on to some kind of rational and humane control. Now there are some very optimistic signs, I think. First of all, here in the United States, in a society where the search for the standard of living has taken more material forms than anywhere else, not because we and other countries are better, but you, in fact, are more technologically advanced. I mean I'm not saying that because America's materialism is so much greater than any others, it merely represents the fact that you were better at it. And when anyone's got half the chance now, look at Europe, it's going exactly the same way. Look at the poor Russians...ghastly...the agony with which the Russians long for motor cars. They don't know what they're going to get, but they're going to get it. You know, poor old Krushchev used to say for years, you've got to have taxis or busses but they couldn't hold out. And now the streets of Moscow are going to be full of good old bourgeois traffic blocks and they're going to have the great privilege of every advanced bourgeoisie of doing nothing but breathing your neighbors fumes. So, it's coming in Russia, too, so again it's not ideological, but what you have happening here in the United States, is a certain retreat from consumerism on the part of some of the young. A sudden signal that man liveth not by beer cans alone. A certain signal that it is possible to have the good life without an accumulation of thingeyness which puts the garbage through the roof, which pollutes the rivers, which destroys the entire environment and which basically has no final relationship to the last best end of man. I think that that emergence, if it will stay, if every single student developing his sense of the ecological predicament will stay with it and grow into a voter who'll give some senators absolute hell unless they're on the side of a proper and respectful use of man's resources, then it's probably the most optimistic thing that's happened. Because if you have people who

see the point, that the unlimited pursuit of things as such, is bound to produce either through inflation or through corruption of the environment, just exactly the evils we are trying to prevent, then you can begin to take all manner of rational steps to prevent it. I mean let me cite you one or two. You can make motorists pay a market price for the most scarce thing in the world which is pure innercity space. Probably every car going to an inner city like Manhattan should pay a thousand dollars a day for being there and it's surprising how quickly that would reduce the number of people who want to come into the middle of Manhattan. But on market principles, of course, it would be absolutely accurate because the space is very scarce. And I must say I always protest to my friends in the motor manufacturing industry of the total socialism that is practiced in this section of the economy...with complete subsidy and total disregard to market principles. And this, I think is one of the things we shall have to apply if we're going to have motor cars in cities. Take another thing...and that is that we have .....almost by chance, it is a tradition in our consumer society that the consumer never pays the full cost of what in fact he consumes. We have a very arbitrary picture of cost..on the one hand, we allow that advertising which we need to want which we don't yet want...that is a deductible business expense. On the other hand, the pure filth made in the river by the affluent that isn't a deductible cost at all. So we've really got to change it round and tax the advertising and put the pollution into the cost of the consumer good. Well, there'll be shrieks, of course but isn't that a more rational way of dealing with the situation in which you'll bring consumerism under some kind of control. And if we had a pattern quickly now, the poor old Russians might be able to clear up the Volga because otherwise I see no hope of them inventing these various devices by which consumerism can be brought under control. Take another great thing that is clear once you think about it rationally. And that is you can not really get decent cities

for the next 100 million people in America or the next 200 million people in Europe unless you begin to have an urban policy as opposed to a by-product policy. At the moment, cities are the by product of every other kind of decision...to have an industry, to have railway system - well, not a railway system - a road system, to have a new airport, even a university, and then the city sort of grows up as best it can at the dictates of a private land market. What you get then is the horrors of the center city with these tremendous...I call them phallic symbols I must say these buildings they put up which are simply ornaments to urban megalomania and always built without any relationship whatsoever to the movement system that has to serve them. And then out and out and out as far as the motor car can take you, the spread city in which Chicago joins Milwaukee, and then joins Pittsburgh to try to form that splendid megalopolis Chi-Pitts. And then San Diego joins San Francisco to form San San and then last of all Boston joins Washington to form Bos-Wash, which will be as nasty as it sounds. So, is this a way to run a rational country? Of course not...it's simply that it's the by-product of the market and not a thought out industrial policy.

Now take another aspect of this...and this is where the biologists are really getting more and more disturbed. If you encase the human being within these megalopoloi, if you encase him as we are doing now, so that even his desperate desire to get to the non-urban which takes the form of this pathetic surge of motorcars out each weekend to beaches that are corrupted and to mountains that are overcrowded and into the traffic jams on the way back. Unless we can reconsider our city environment, we might do something which is much more desperate even than killing a river. We might begin reversing the process by which we've become human. One doesn't want again to be scary about this, but frankly I'd rather listen to the biologists and the poets on this than just the scientists and what Dickens called the calculators. I'll

tell you why...if you look back on the creation of the human being, the human thing, it was nourished by space, nature, the green world, animal life, clear streams, tremendous vistas of sky, a whole infinite variety of forms, shapes, colors, scents with which he was surrounded. Can we be certain that if we reverse it, if we enclose him in something as barren as the moon, stinking with pollution, full of the most dreadful smells, without beauty, with none of those prairie sunsets, with nothing but these pyramids of stone, are we not sure, are we absolutely certain that we're not reversing his humanity? Can we be sure? And is it not possible that the drug culture which comes out because of the enormous thinness of people's internal life so that they turn to the fantasmagoria of drugs in order to live internally, is that possibly one of the reactions, the first reaction to an environment so meager that man's desperate need to dream, desperate need to be enriched, is somehow killed? Well, we can't be sure. And we should take very good care if what we're doing is not only killing the rivers, but killing the human spirit as well. Now if we begin to take these preoccupations into consideration, if we begin to have less consumerism, better cities, more control over the whole of the recycling of our materials, we are going to begin to get forms of a technological society which could be spread to the whole of humanity without too much risk. And if which, on the contrary, because so much of two thirds of our humanity is not yet spoiled and degraded by these risks, they could be an immense source of enrichment...for the world society that is come that is with us already. In other words, you turn back not to prevent the spread of science and technology, not keep concentrations of power simply among the developed peoples, but for something else, and that is to give the power and to give the opportunity but to do it within the cycle of a true human order. It's no good saying wait, wait...you know, we've made terrible mistakes, don't make it, it doesn't

work like that. We have to begin some of the processes of reversal before, I think, we can be fit partners in this new creation... of a technological order which will also be human. I think it can be done, because I say I see this change among young people. this readiness in quite fresh ways at what makes people human and what makes society human. Both in the participation they demand and in the directness and the honesty they seek, in this revulsion against barret-like criminal cities, and a revulsion against a consumerism which substituted just consumption for all these inner instincts of man. Something that reaches out perhaps to the more Rennaissance values; that could see a standard of living, would not just be in what could be registered in an economic GNP, but it might be an enormous enlargement of those capacities of man for play, for dance, for music, for the arts which became somewhat repressed because at last the whole of the modern technological began in Geneva not in Florence. And by that unhappy chance, it was the men of the Reformation and not the men of the Rennaissance that set us on our way. And though they were very good solid hard-working burgers, they did regard pleasure and the arts as very dangerous things. And maybe that was a sort of bias put in if you like into the beginning of our technological society and one which if we recognize, we can now correct by seeing a standard of living including an immense increase in those spiritual esthetic pleasures which are the right inheritance of man. And which if you have lived as I have in Africa have not yet been destroyed at the simple level, and you can have more joy at an Obawassiam festival for three weeks of dancing and poetry making and ceremonies and rituals which you do yourself than you can in three years of watching television. So I think the possibilities of reversal are there and there's an immense amount of freshness in the world which is still unspoiled. If we recognize, we who have got the power, but are losing the poetry, could recognize that an alliance is

possible. I wish I didn't sound so vague because all this is so new that I don't think yet we know quite where we should go. We can be clear about some things... I mean let's be perfectly clear about one thing. And that is, 180 billion dollars a year spent on the technological instruments of destruction is absolute insanity. Now you can blow Russia up for 30 billions a year and Russia can blow America up for about 20 billions because the costs are not so high over on that side. For the time being then, let's settle for just being able to blow each other up once, shall we? Because in point of fact, all the nonsense in the arms race at the moment is postulated on the fact that one side or the other can get in a successful first strike. Well, the biologists know all about the successful first strike. The successful first strike will put so much radiation into this earth's precious biosphere that the attacker will merely just disintegrate more slowly than the attacked. So let's have no more nonsense about this... these ridiculous arms games or these foolish men in Washington and in Moscow. I mean playing war games with the survival of this previous biosphere. Let them remember the biological and ecological facts which never enter into any of the negotiations. And if they won't then let citizens begin by saying enough is enough as the old lady said to the judge after 26 years of marriage and he asked her not to divorce, enough is enough. I would say that if they can't be content with blowing each other up once, well honestly, you know, give it up. And if we could get the arms bill down by even half, then maybe we could begin to put the balance into more beautiful cities which would be experimental, cities in which the beauty would be there and life and justice and community. After all they say of the great capital city of the songs that wherever you went, you were never out of the sound of music, the sound of water, and the scent of flowers. Compare that with any downtown in our modern world. Well, let's say that we have 40 billions each year for new cities,

that Lockheed doesn't want SST because you're going to lose jobs on something that's going to pollute the upper air. Let's have some good urban traffic system for heaven's sake, let Lockheed go to work on those. Let's get back this technology under some kind of human control and not leave it any longer to idiotic generals and idiotic commercial firms. I mean let us get away from the lunacy while there is still time. Because it is lunatic to want to be able to blow up this planet 20 times over. Because that's what the nuclear armament is now, 20 times over at least and now with MERV's and all these other things, you know, that they're inventing, they want to do it a hundred times over. But how far can lunacy go without the citizen saying enough. And this once again, one comes back to the United States with tremendous encouragement much more encouragement than in Russia. There's no student body in Russia what will get them out of Czechoslovakia, not yet. But here at least there was a great movement of opinion that stopped the upper escalation of a mistaken war. And if that can be done, it can be done again. And it can be done by citizens who are not any longer scared by the immense bogies of a worldwide Communist plot when there are as many communisms as there are nations, dear Lord. But are much more concerned for the biological integrity of their society, and for the possibility of human beings continuing to be human over the next hundred years. I think this is a very appropriate time and an appropriate place to think these thoughts. Because after all, it was Adlai Stevenson who made the first proposal of the stopping of atomic tests which, if they'd gone on in the pitch that they were in the 1950's, would by now probably have condemned a hundred million children to cancer. And that was stopped in some measure because at a time when it was grossly unpopular when he was, in fact, despised and denounced by our present president, he announced that it was a unilateral act that America should make. How about a unilateral halving now,



how about the negotiators going into this weary, weary round of whether it's 200 or 300 or just 30 times over, but just halving the arms budget. Something that would save possibly not a hundred million children, but the entire human race...from the possibility of genetic death. And again this is a good place to say these things because to me, looking at your prairie country, seeing your sunset tonight, I think it's worth preserving. And I think that the kind of imagination that was nourished in Adlai Stevenson by this is worth keeping too. So citizens, all of you, stay with it, if you're young, be as committed to this at 50, at 60 as you are today. And if that kind of commitment is there, your perfectly irresistible because this is an open society in which the citizen can say his say and thank God that there are so many signs that America is a responsive, lively and open society still, and that you still bully your senators...and by God you will. Thank you.