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*Plenary Session 102: "Dialogue among Political Leaders, Scientists and Industrialist"*

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It is a pleasure to be here; it is always a pleasure to come to Japan. I love the people and I love the food.

I think often people have the idea that scientists can pretty much fix anything; that as soon as you have some major problems going on in the world, there is going to be some technological fix that will take care of it. And in some cases that is correct. I think clearly in the case of health care there have been many things that have come out of my discipline, have come out of related disciplines that have done wonders in terms of keeping people alive. The mortality rate from breast cancer keeps going down and down and down. Many of the world's diseases, we now seem much better to deal with than we ever used to.

Unfortunately, we cannot afford to pay for all of the health care that we would like. And that is a major problem that doesn't have a simple technological fix, as far as I can tell. It is probably needing a political fix. Same goes in terms of food. We can certainly grow enough food to feed everybody, but we have a major problem in terms of distributing it. And I think we often have a major problem on the food front in terms of the fact that some technological fixes, like recombinant DNA technology, to make genetically modified foods, have found themselves running afoul of political considerations.

In Europe there has been a massive movement on the part of the green party to prevent genetically modified foods from entering not just the food chain in Europe, but much more disastrously the food chain in Africa. These are political decisions. These are things that the politicians decided were something they wanted to get some mileage of, and were not really scientific decisions. I think we have reached a point where we need to think more carefully about how we select the very best politicians!

And I want to give you an example, because I am pretty certain no one else is going to do this, and of course this whole symposium can get very repetitive if you are not careful. I am a great believer in diversity, and we know that diversity is a very good thing. People tend to think of it in terms of rain forests, and in terms of natural diversity. I want to draw your attention to an example of human diversity. Any time you want to find someone who is really good at doing something, perhaps the very best at doing something, you need to start off with a population of individuals where there is tremendous genetic variation. Because when you look across the set of traits that humans have, there is a very nice Bell curve of talents and it is right on the very edges of this bell curve, where you find the people who are just terrifically talented at doing things.

One place where such an experiment has been done is in Africa and relates to marathon running. It turns out that you don't need very much by way of natural resources to run a marathon and be very good at it. In fact, if you come from Ethiopia the odds are you don't even need a pair of shoes. As a result of this, there has been a natural selection taking place within Africa and we find that the very best marathon runners in

the world now are of direct African descent. In fact they are so good, that in many of the so-called "open" marathons that are run in the US, the organizers won't let the Africans compete because they win all the time!

Just think what would happen if one could go to Africa and select not for marathon runners, but select for great politicians. People like Nelson Mandela, who I think stands head and shoulders above almost any other individual I have met. I was fortunate enough to meet him, because the year I won the Medicine prize he won the Peace prize and we had a very nice meeting at the Nobel Foundation in Stockholm. Mr. Mandela was a man of just extraordinary good nature, someone who had brilliant political skills, a truly excellent politician despite coming from the most abysmal circumstances. Another example of an extraordinary politician is presently under house arrest in Burma, Daw Aung San Suu Kyi: another person who seems to have tremendous political skills and exceptional personal integrity. So I would very much advocate trying to find some better ways to select our politicians.

Now, it is often said that it would be a good thing if more scientists became politicians. But I am not actually convinced of that. My experience has been that as soon as scientists enter the field of politics, they tend to forget all their science and they become politicians. I think Margaret Thatcher in the UK, who was trained as a chemist is a good example of someone who left her chemistry behind as soon as she arrived in the Houses of Parliament. Immediately upon acquiring some power, she cut the money that was available for science. Scientists per se are simply not the answer either.

I would like to just mention one other thing that I am particularly concerned about at the moment, and that is the economic crisis that we have just gone through. I think that when you look at what has gone on; that this entire crisis was driven by a tremendous amount of greed on the part of a small number of people, a relatively small number of people. And many people say well greed is just a natural human trait. I don't believe it is. I think greed is a trait that is learned, it is something that we learn in school, and it is something that is very often connected not just with money, but with all sorts of natural resources. It is something that we in the West have not had a particularly good way of dealing with. We have tended to exploit the rest of the world whenever we could, in ways that, I think, are not terribly good.

It costs about 10 times the resources to keep someone alive in the west as opposed to someone in one of the developing countries. This is something that we need to change. It would be very good if we could find a way to teach our children that money is not everything. I believe the people who are happiest in the world are the ones who get up on a Monday morning and say "I have to go to work", and on a Friday afternoon, they say "Oh Dear, do I have to stop working already?" It is not the people who have accumulated massive amounts of money; it is the people who are happy in their own personal lives. And I think if we can find some ways within our education system, within our cultural system, within the media, not to keep adulating the people who are fantastically rich, we would probably do a lot of good for our children.

Thank you.